United States Nuclear Regulatory Commission
Attachment IX to Serial: RNP-RA/97-0123
(930 Pages)

H. B. ROBINSON STEAM ELECTRIC PLANT, UNIT NO. 2
TECHNICAL SPECIFICATIONS CHANGE REQUEST TO CONVERT TO THE IMPROVED STANDARD TECHNICAL SPECIFICATIONS

SUPPLEMENT 4

SUPPLEMENT 4
CONVERSION PACKAGE SECTION 1.0
PAGE INSERTION INSTRUCTIONS

Remove and insert the following pages into Enclosure 6 to Serial: RNP-RA/96-0141.

	Remove Page	Insert Page
a.	Part 1, "Markup of Current Technical Specifications (CTS)"	
	1-2 and 1-3	1-2 and 1-3
b.	Part 2, "Discussion of Changes (DOCs) for CTS Markup"	
	1 through 5	1 through 6
c.	Part 3, "No Significant Hazards Consideration (NSHC), And Basis for Categorical Exclusion form 10 CFR 51.22	
	1 through 3	1 through 4
d.	Part 4, "Markup of NUREG-4131, Revision 1, Standard Technical Specifications-Westinghouse Plant, (ISTS)"	
	1.1-2 and 1.1-3	1.1-2 and 1.1-3
e.	Part 5, "Justification of Differences (JFDs) to ISTS"	
	1	1
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	NA	
g.	Part 7, "Justification of Differences (JFDs) to ISTS Bases"	
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h.	Part 8, "Proposed HBRSEP, Unit No. 2 ITS"	
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i.	Part 9, "Proposed Bases to FHBRSEP, Unit No. 2 ITS Bases"	
	NA	
j.	Part 10, "ISTS Generic Changes"	
	NA	

CORE ALTERATION

A1

1.2.6 ~~Refueling Operation~~

Fuel sources or reactivity control components within the reactor vessel

Any operation involving movement of ~~core components~~ when there is fuel in the ~~containment~~ vessel and the pressure vessel head is ~~unbolted or~~ removed.

Suspension of CORE Alterations shall not preclude completion of movement of a component to a safe position

1.2.7 Operating Basis Earthquake

The operating basis earthquake is that earthquake which involves a ground acceleration of 0.10 g horizontally and 0.067 g vertically.

A8

1.2.8 Safe Shutdown Earthquake

The safe shutdown earthquake is that earthquake which involves a ground acceleration of 0.20 g horizontally and 0.133 g vertically.

1.3 OPERABLE - OPERABILITY

Safety

A9

A system, subsystem, train, component or device shall be OPERABLE or have OPERABILITY when it is capable of performing its specified function(s). and when ~~Implicit in this definition shall be the assumption that~~ all necessary attendant instrumentation, controls, normal ~~and~~ or emergency electrical power sources, cooling ~~or~~ and seal water, lubrication ~~or~~ and other auxiliary equipment that are required for the system, subsystem, train, component or device to perform its specified safety function(s) are also capable of performing their related support function(s).

When a system, subsystem, train, component or device is determined to be inoperable solely because its emergency power source is inoperable, or solely because its normal power source is inoperable, it may be considered OPERABLE for the purpose of satisfying the requirements of its applicable Limiting Condition for operation, provided: (1) its corresponding normal or emergency power source is OPERABLE; and (2) all of its redundant system(s), subsystem(s), train(s), component(s) and device(s) are OPERABLE, or likewise satisfy the requirements of this specification.

See 3.8

1.4 PROTECTION INSTRUMENTATION CHANNEL

An arrangement of components and modules are required to generate a single protective action signal when required by a plant condition. A channel loses its identity where single action signals are combined.

A8

1.5 DEGREE OF REDUNDANCY

The difference between the number of operable channels and the number of channels which when tripped will cause an automatic system trip.

Add TABLE 1.1-1 MODE 6 - Refueling

M2

A1

~~1.6 INSTRUMENTATION SURVEILLANCE~~

~~1.6.1~~ ActionS

Action shall be that part of a specification ~~which~~ that prescribes ~~remedial measures~~ required ~~under designated conditions~~ Actions to be taken under designated conditions within specified completion times

~~1.6.2~~ Channel Calibration

Adjustment of the channel ~~output~~ such that it responds, within ~~acceptable~~ required range and accuracy, to known ~~value of the parameter which the channel measures~~ input. Calibration shall encompass the entire channel, including required sensor ~~the~~ alarm ~~on trip~~, interlock, display and trip functions and shall be deemed to include the channel functional test.

A10

INSERT C1.1-1

~~1.6.3~~ Channel Check

A qualitative ~~determination of acceptable operability~~ assessment, by observation, of channel behavior during operation. This determination will include, whenever possible, comparison of the channel indication and status with other independent channels ~~measuring~~ the same variable.

M3

~~1.6.4~~ Channel ~~Functional~~ operational Test (COT)

Injection of a simulated or actual signal into the channel as close to the sensor as practicable to verify that it is operable, including required alarm, interlock, display and~~/or~~ trip initiating action. INSERT C1.1-2

A13

~~1.6.5 Source Check~~

~~A source check shall be the qualitative assessment of channel response when the channel sensor is exposed to a radioactive source.~~

A8

~~1.7 CONTAINMENT INTEGRITY~~

~~Containment integrity is defined to exist when:~~ See 3.6.1, 3.6.2, 3.6.3

L1

Calibration of instrument channels with RTD or therocouple sensors may consist of an inplace qualitative assessment of sensor behavior and normal calibration of the remaining adjustable devices in the channel. Whenever a sensing element is replaced, the next required CHANNEL CALIBRATION shall include an inplace cross calibration that compares the other sensing elements with the recently installed sensing element.

ADMINISTRATIVE CHANGES

A1 In the conversion of the H.B. Robinson Steam Electric Plant (HBRSEP), Unit 2 Current Technical Specification (CTS) to the proposed plant specific Improved Technical Specifications (ITS) certain wording preferences or conventions are adopted which do not result in technical changes (either actual or interpretational). Editorial changes, reformatting, and revised numbering are adopted to make ITS consistent with the conventions in the - Standard Technical Specifications, Westinghouse Plants NUREG-1431, Rev 1 (i.e., Improved Standard Technical Specifications (ISTS)).

A2 The CTS definition of Rated Power can be interpreted to refer to both a steady state nuclear steam supply output and reactor core thermal power. The ITS definition includes only reactor core thermal power, consistent with ISTS. This is an administrative change which provides clarification consistent with the CTS's parenthetical reference to reactor core thermal power and the Operating License, Condition 3.A, specification of Maximum Power Level as reactor power level. Therefore, this change has no adverse impact on safety.

A3 The CTS definition of Hot Shutdown Condition includes the condition with the reactor subcritical and reactor coolant average temperature (T_{avg}) greater than 200°F. The ITS has two MODEs, ITS MODE 3 - Hot Standby and ITS MODE 4 - Hot Shutdown, which collectively cover the same condition. The separation of the CTS Hot Shutdown Condition into the two ITS MODEs is an administrative change to establish consistency with the ISTS, which has no adverse impact on safety. The specific impact of the definition of MODES 3 and 4 in lieu of the Hot Shutdown Condition is discussed with the applicable LCOs when the change results in a more or less restrictive change.

A4 The CTS definitions for Hot Shutdown Condition, Cold Shutdown Condition, Reactor Critical and Power Operation are specified in terms of the reactor being subcritical (K_{eff} <1.0) or critical ($K_{eff} \geq 1.0$). The related ITS MODEs 1 through 5 are specified in terms of K_{eff} either being < 0.99 or ≥ 0.99. Since changing from CTS definitions of operating conditions to ITS definitions of MODEs is not, in itself, either more or less restrictive, this is an administrative change which establishes consistency with ISTS MODE definitions. The specific impact of the utilization of the definitions of MODEs 1 through 5 on the related CTS Condition is discussed with the applicable LCOs when the utilization results in a more or less restrictive change.

A5 The CTS definition for Power Operating Condition is specified as, "When the reactor is critical and the neutron instrumentation indicates greater than 2% rated power." The CTS definition for Reactor Critical is specified as, "When the neutron chain reaction is self sustaining and

K_{eff} = 1.0" without any specification regarding power level. The ITS translates these two operational conditions to MODEs 1 and 2 respectively. MODE 1 is specified in ITS as $K_{eff} \geq 0.99$ and % RATED THERMAL POWER > 5% while MODE 2 is specified in ITS as $K_{eff} \geq 0.99$ and % RATED THERMAL POWER ≤ 5%. The ITS adds a footnote to state that the RATED THERMAL POWER limits in Table 1.1-1 exclude decay heat.

The ITS is silent regarding the specific method to measure reactor power. Since neutron instrumentation is normalized to thermal power calculations, the lack of specificity regarding the measurement of reactor power is inconsequential and thus has no adverse impact on safety. The change from 2% to 5% RTP less decay heat will permit operation at a greater power level prior to entry into ITS MODE 1 than permitted by CTS prior to entry into the Power Operating Condition. The specific impact of the change regarding the ITS MODE 1 and 2 definitions is evaluated for each relevant LCO. Therefore, this change has no adverse impact on safety.

A6 During the ITS development certain definitions which are not part of the CTS are adopted from the ISTS. The definitions are:

ACTUATION LOGIC TEST	AXIAL FLUX DIFFERENCE (AFD)
LEAKAGE	MASTER RELAY TEST
MODE	PHYSICS TESTS
SHUTDOWN MARGIN (SDM)	SLAVE RELAY TEST
THERMAL POWER	TRIP ACTUATING DEVICE OPERATIONAL TEST (TADOT)

The adoption of these definitions results in no technical changes (either actual or interpretational) to the CTS. Therefore, this is an administrative change and has no adverse impact on safety.

A7 The CTS defines Refueling Operation as, "Any operation involving movement of core components when there is fuel in the containment vessel and the pressure vessel head is unbolted or removed." The ITS definition for CORE ALTERATION is the movement of any fuel, sources, or reactivity control components within the reactor vessel with the vessel head removed and fuel in the vessel. The ITS definition for CORE ALTERATION adds additional details regarding what constitutes "movement of core components".

Since these changes are not, in themselves, either more or less restrictive, they are administrative changes to establish consistency with the ISTS definition.

A8 Selected CTS definitions are deleted because the CTS that use these definitions are not retained in the ITS or the equivalent ITS Specification will not use the defined term. Discussions of the

technical aspects of these changes are addressed in the discussion of changes for the specifications where the phrase is used in the ITS. The removal of a definition that is not used in the ITS is an administrative change because it has no impact on the implementation of any existing requirement not addressed in the ITS development and has no adverse impact on safety.

A9 The first paragraph of the CTS definition of OPERABLE - OPERABILITY requires the availability of, "all necessary attendant instrumentation, controls, normal <u>and</u> emergency electrical power." The ITS definition specify, "all necessary attendant instrumentation, controls, normal <u>or</u> emergency electrical power." This is an administrative change because the second paragraph to the CTS definition requires only one source to be operable as long as the redundant systems, subsystems, trains components, and devices are OPERABLE. The second paragraph to the CTS definition is incorporated into ITS Section 3.8.1, (Appropriate discussion of the utilization of the second paragraph in ITS Section 3.8 is provided with ITS Section 3.8.) Thus, the ITS requirements are essentially the same as the CTS. Therefore, there is no adverse impact on safety.

A10 The CTS definition of Channel Calibration does not exclude RTD or thermocouples from the generic description of calibration encompassing the entire channel. The ITS recognize the nature of these devices as non-adjustable and permits the calibration of RTD and thermocouple channels using a qualitative assessment of sensor behavior and normal calibration of the remaining adjustable devices in the channel. Although RTD and thermocouple sensors can have their input/output response characteristics confirmed, these devices are not adjustable and not likely to drift outside of an acceptable range. The specific impact of this change is evaluated with the applicable surveillance requirements. Therefore, this is an administrative change and has no adverse impact on safety.

A11 The CTS definition of Staggered Test Basis requires testing <u>N</u> systems, subsystems, channels or other designated components within one surveillance interval where <u>N</u> is the total number of systems, subsystems, channels or other designated components. The ITS specifies testing <u>N</u> systems, systems, channels or other designated components within <u>N</u> surveillance intervals. The impact of the change in the definition is evaluated for each applicable surveillance. Therefore, this is an administrative change with no adverse impact on safety. This is consistent with the ISTS definition.

A12 The CTS does not include discussions of Logical Connectors, Completion Times and Frequency. These discussions have been included in the ITS to aid in the understanding and use of the ITS. Some conventions in applying the Technical Specifications to unique situations have previously been the subject of differing interpretations. The guidance

in the ITS is consistent with the ISTS and does not conflict or deviate from the CTS. Therefore these changes are considered administrative and have no adverse impact on safety.

A13 The CTS definition of Channel Functional Test states, "Injection of a simulated signal into the channel to verify that it is operable, including alarm and/or trip initiating actions." The CTS definition of CHANNEL OPERATIONAL TEST (COT) states, "A COT shall be the injection of a simulated or actual signal into the channel as close to the sensor as practicable to verify the OPERABILITY of required alarm, interlock, display, and trip functions. The COT shall include adjustments, as necessary, of the required alarm, interlock, and trip setpoints so that the setpoints are within the required range and accuracy."

Use of an actual signal in lieu of a simulated signal can provide some flexibility in actual performance of testing. However, the use of an actual signal in lieu of a simulated signal constitutes an equally valid methodology for testing a channel and does not result in a change to the results of the test. Consequentially, this aspect of the change is administrative.

The COT explicitly includes required interlock and display functions. Although not explicitly stated, the CTS definition for Channel Functional Test encompasses these <u>required</u> interlock and display functions by requiring verification that the channel is OPERABLE.

The COT explicitly requires adjustment, as necessary, of <u>required</u> alarms, interlocks and trip setpoints so the setpoints are within the <u>required</u> range and accuracy. Although not explicitly stated, the CTS definition for Channel Functional Test encompasses this requirement by requiring verification that the channel is OPERABLE. Implicit in the CTS is the requirement to enter appropriate CTS action statements for CTS surveillance tests with out-of-tolerance results. Entry into an action statement requires repair (e.g., adjustment) within a limited time or otherwise comply with the CTS action statement. These are administrative changes which provide additional detail and are consistent with ISTS.

<u>TECHNICAL CHANGES - MORE RESTRICTIVE</u>

M1 CTS Specification 3.1.4, which defines $\bar{E}$ as the average of beta and gamma energy disintegration of the specific activity is revised in the ITS definition to include weighted average and the composition of isotopes to exclude iodine. The additional detail in the ITS definition is consistent with current accepted methodology and that $\bar{E}$ is calculated consistently as a variable that is required to meet ITS

limits. Since this change adds requirements to the CTS that are currently found only in procedures, this change is more restrictive, and has no adverse impact on safety.

M2 CTS 1.2.6 defines Refueling Operation as, "Any operation involving movement of core components when ... the reactor vessel head is unbolted or removed." ITS 1.1 incorporates the ISTS definition for MODE 6 - Refueling, including footnote (c) in ITS Table 1.1-1, "One or more reactor vessel head closure bolts less than fully tensioned."

Since MODE 6 is entered whenever the first reactor head closure bolt is de-tensioned, this change to conform to the ISTS is a more restrictive requirement and is consistent with the NUREG. This change is acceptable since it has no significant impact on plant operations while serving to more clearly define the unit's transition into or out of MODE 6.

M3 The CTS 1.6.4 definition for Channel Functional Test does not specify the point of test signal injection. The ITS 1.1 definition for CHANNEL OPERATIONAL TEST (COT) requires, "... injection of a signal into the channel as close to the sensor as practicable ..." The additional requirement regarding the point of signal injection is a more restrictive requirement upon unit operation and is consistent with the ISTS.

TECHNICAL CHANGES - LESS RESTRICTIVE (GENERIC)

None

TECHNICAL CHANGES - LESS RESTRICTIVE (SPECIFIC)

L1 CTS 1.6.2 defines Channel Calibration to encompass the entire channel, and does not exclude RTDs and thermocouples. For channels with RTDs and/or thermocouples, the ITS definition of CHANNEL CALIBRATION allows performing "...an in place qualitative assessment of sensor behavior..." for these devices. This change is a less restrictive requirement upon unit operations and is consistent with the ISTS. A qualitative assessment of sensor behavior is acceptable for RTDs and thermocouples since the operation of these devices is governed by well understood and predictable physical relationships between the temperature of the sensed medium and the output of the RTD or thermocouple. Additionally, the output of RTDs and thermocouples is not adjustable. These devices are reliable and not subject to drift in the same manner as other sensors. As a result a qualitative assessment of sensor behavior is sufficient to determine its OPERABILITY and acceptability for continued use.

SPECIFICATIONS RELOCATED

None

ADMINISTRATIVE CHANGES
("A" Labeled Comments/Discussions)

In the conversion of the HBRSEP Unit No. 2 Technical Specifications to the proposed plant specific Improved Technical Specifications certain wording preferences or conventions are being adopted which do not result in technical changes (either actual or interpretational). Editorial changes, clarification, reformatting, rewording and revised numbering are being adopted to make the improved Technical Specifications consistent with NUREG 1431, Revision 1, the improved Standard Technical Specifications for Westinghouse plants, including approved generic changes.

Carolina Power & Light Company has evaluated each of the proposed Technical Specification changes identified as "Administrative" and has concluded that they do not involve a significant hazards consideration. Our conclusion is in accordance with the criteria set forth in 10 CFR 50.92. The bases for the conclusion that the proposed changes do not involve a significant hazards consideration are discussed below.

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

   The proposed changes consist of editorial changes and clarification, reformatting, rewording and renumbering of the current Technical Specifications. This process does not involve any technical changes to existing requirements. As such, these changes are administrative in nature and do not impact initiators of analyzed events or alter any assumptions relative to mitigation of accident or transient events. Therefore, these changes do not involve any 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 changes do not involve any physical alteration of plant systems, structures, or components or changes in parameters governing normal plant operation. The proposed changes do not impose or eliminate any requirements. Therefore, these changes do 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 changes will not reduce a margin of safety because they do not impact any safety analysis assumptions. These changes are administrative in nature and, as such, do not impact any technical requirements. Therefore, these changes do not involve any reduction in a margin of safety.

MORE RESTRICTIVE CHANGES
("M" Labeled Comments/Discussions)

The HBRSEP Unit No. 2 Technical Specifications are proposed to be modified in some areas to impose more restrictive requirements than currently exist. These more restrictive changes are being imposed to be consistent with NUREG 1431, Revision 1, the improved Standard Technical Specifications for Westinghouse plants, including approved generic changes.

Carolina Power & Light Company has evaluated each of the proposed Technical Specification changes identified as "More Restrictive" and has concluded that they do not involve a significant hazards consideration. Our conclusion is in accordance with the criteria set forth in 10 CFR 50.92. The bases for the conclusion that the proposed changes do not involve a significant hazards consideration are discussed below.

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

   The proposed changes provide requirements determined to be more restrictive than the current Technical Specifications requirements for operation of the facility. These more restrictive requirements are not assumed to be initiators of analyzed events and will not alter assumptions relative to mitigation of accident or transient events. These changes have been confirmed to ensure that no previously evaluated accident has been adversely affected. The more restrictive requirements being proposed enhance assurance that process variables, structures, systems, and components are maintained consistent with the safety analyses and licensing basis of the unit. Therefore, these changes do not involve any 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 changes do not involve any physical alteration of plant systems, structures, or components or changes in parameters governing normal plant operation. These changes do impose new or additional requirements which are consistent with assumptions made in the safety analysis and licensing basis. The additional requirements include new Surveillance Requirements, more restrictive Frequencies and Completion Times, new LCOs, more restrictive Required Actions and Applicabilities, and other operational restrictions that enhance safe operation. Therefore, these changes do 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 impact or increases the margin of plant safety. Each of the changes in this category, while providing new or additional requirements designed to

enhance plant safety, is consistent with the safety analyses and licensing basis. Therefore, these changes do not involve a reduction in a margin of safety.

LESS RESTRICTIVE SPECIFIC CHANGES
("Lx" Labeled Comments/Discussions)

L1 Change

Carolina Power & Light Company has evaluated the proposed Technical Specification change and has concluded that it does not involve a significant hazards consideration. Our conclusion is in accordance with the criteria set forth in 10 CFR 50.92. The bases for the conclusion that the proposed change does not involve a significant hazards consideration are discussed below.

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

   The proposed change does not involve any physical alteration of plant systems, structures or components, changes in parameters governing normal plant operation, or methods of operation. RTDs and thermocouples are not assumed to be initiators of any analyzed event. Therefore, the probability of an accident occurring is independent of the status of RTDs or thermocouples.

   This change still provides reasonable assurance that RTDs and thermocouples remain OPERABLE and acceptable for continued use. Therefore, this change does not involve an 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 any physical alteration of plant systems, structures or components, changes in parameters governing normal plant operation, or methods of operation. Qualitative assessment of sensor behavior provides reasonable assurance the RTDs and thermocouples remain OPERABLE and acceptable for continued operation. The proposed change does not introduce a new mode of operation or changes in the method of normal plant operation. Therefore, the possibility of a new or different kind of accident from any accident previously evaluated is not created.

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

   The elimination of RTDs and thermocouple sensors from the requirements of the CHANNEL CALIBRATION does not result in a reduction in the margin of safety since the required qualitative assessment of sensor behavior will still identify sensor abnormalities. The output of RTDs and thermocouples is not adjustable and is based on reliable physical relationships between the sensed medium and the sensor output. Therefore, there is no reduction in the margin of safety associated with this change.

CTS

1.1 Definitions (continued)

[1.6.3] CHANNEL CHECK

A CHANNEL CHECK shall be the qualitative assessment, by observation, of channel behavior during operation. This determination shall include, where possible, comparison of the channel indication and status to other indications or status derived from independent instrument channels measuring the same parameter.

[1.6.4] CHANNEL OPERATIONAL TEST (COT)

A COT shall be the injection of a simulated or actual signal into the channel as close to the sensor as practicable to verify the OPERABILITY of required alarm, interlock, display, and trip functions. The COT shall include adjustments, as necessary, of the required alarm, interlock, and trip setpoints so that the setpoints are within the required range and accuracy.

[1.2.6] CORE ALTERATION

CORE ALTERATION shall be the movement of any fuel, sources, or reactivity control components, within the reactor vessel with the vessel head removed and fuel in the vessel. Suspension of CORE ALTERATIONS shall not preclude completion of movement of a component to a safe position.

[1.22] CORE OPERATING LIMITS REPORT (COLR)

The COLR is the unit specific document that provides cycle specific parameter limits for the current reload cycle. These cycle specific parameter limits shall be determined for each reload cycle in accordance with Specification 5.6.5. Plant operation within these limits is addressed in individual Specifications.

[1.14] DOSE EQUIVALENT I-131

DOSE EQUIVALENT I-131 shall be that concentration of I-131 (microcuries/gram) that alone would produce the same thyroid dose as the quantity and isotopic mixture of I-131, I-132, I-133, I-134, and I-135 actually present. The thyroid dose conversion factors used for this calculation shall be those listed in ~~Table III of TID-14844, AEC, 1962, "Calculation of Distance Factors for Power and Test Reactor Sites," or those listed in Table E-7 of Regulatory Guide 1.109, Rev. 1, NRC, 1977, or ICRP 30, Supplement to Part 1, page~~ 5

(continued)

CTS

1.1 Definitions

	DOSE EQUIVALENT I-131 (continued)	192 212. Table titled. "Committed Dose Equivalent in Target Organs or Tissues per Intake of Unit Activity"].
[3.1.4]	Ē - AVERAGE DISINTEGRATION ENERGY	Ē shall be the average (weighted in proportion to the concentration of each radionuclide in the reactor coolant at the time of sampling) of the sum of the average beta and gamma energies per disintegration (in MeV) for isotopes. other than iodines. with half lives > ~~[~~15~~]~~ minutes. making up at least 95% of the total noniodine activity in the coolant.
	ENGINEERED SAFETY FEATURE (ESF) RESPONSE TIME	The ESF RESPONSE TIME shall be that time interval from when the monitored parameter exceeds its ESF actuation setpoint at the channel sensor until the ESF equipment is capable of performing its safety function (i.e., the valves travel to their required positions, pump discharge pressures reach their required values. etc.). Times shall include diesel generator starting and sequence loading delays. where applicable. The response time may be measured by means of any series of sequential. overlapping. or total steps so that the entire response time is measured.
	L_a	The maximum allowable primary containment leakage rate. L_a. shall be [ ]% of primary containment air weight per day at the calculated peak containment pressure (P_a).
[Doc A6]	LEAKAGE	LEAKAGE shall be:

a. Identified LEAKAGE

1. LEAKAGE. such as that from pump seals or valve packing (except reactor coolant pump (RCP) seal water injection or ~~leakoff~~ return). that is captured and conducted to collection systems or a sump or collecting tank:

2. LEAKAGE into the containment atmosphere from sources that are both specifically located and known either not to interfere with the operation of leakage detection

(continued)

Supplement 4

1. In the conversion of the HBRSEP current Technical Specifications (CTS) to the proposed plant specific Improved Technical Specifications (ITS), certain wording preferences or conventions are adopted which do not result in technical changes (either actual or interpretational). Editorial changes which involve the insertion of plant specific terms or parameters are used to preserve consistency with the CTS and licensing basis.

2. The definitions of ENGINEERED SAFETY FEATURE (ESF) RESPONSE TIME (Page 1.1-3) and REACTOR TRIP SYSTEM (RTS) RESPONSE TIME (Page 1.1-5) are not incorporated into the ITS because such response time testing is not part of the current plant licensing basis.

3. The definition for Pressure Temperature Limits Report (PTLR) is not utilized in the ITS. Pressure/Temperature limits in CTS Figure 3.1-1, Reactor Coolant System Heatup Limitations and CTS Figure 3.1-2, Reactor Coolant System Cooldown Limitations are retained in the ITS. ISTS references to the PTLR are modified in the ITS to refer to these figures.

4. The definition for L_a is not adopted in the ITS. The implementation of 10 CFR 50 Appendix J, Option B has resulted in modifications to the ISTS which capture the Leakage Rate Testing Program requirements in ITS paragraph 5.5.16. ITS section 5.5.16 provides a description of L_a which is consistent with the definition of L_a in ISTS Section 1.1, Definitions.

5 The bracketed information in the ISTS definition for DOSE EQUIVALENT I-131 (DEI-131) is modified to reflect the current licensing basis (CLB) regarding dose conversion factors used in this calculation. The CLB for HBRSEP Unit No. 2 requires the use of additional conversion factors specified in RG 1.109 as well as those specified in Table E-7 for the calculation of DEI-131.

SUPPLEMENT 4
CONVERSION PACKAGE SECTION 2.0
PAGE INSERTION INSTRUCTIONS

Remove and insert the following pages into Enclosure 7 to Serial: RNP-RA/96-0141

	Remove Page	Insert Page
a.	Part 1, "Markup of Current Technical Specifications (CTS)"	
	NA	
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	1 through 4	1 through 4
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d.	Part 4, "Markup of NUREG-4131, Revision 1, Standard Technical Specifications-Westinghouse Plants, (ISTS)"	
	2.1-1	2.0-2a
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i.	Part 9, "Proposed Bases to HBRSEP, Unit No.2 ITS Bases"	
	2.0-2	2.0-2
j.	Part 10, "ISTS Generic Changes"	
	NA	

ADMINISTRATIVE CHANGES

A1 In the conversion of the H.B. Robinson Steam Electric Plant (HBRSEP), Unit No.2 Current Technical Specification (CTS) to the proposed plant specific Improved Technical Specifications (ITS) certain wording preferences or conventions are adopted which do not result in technical changes (either actual or interpretational). Editorial changes, reformatting, and revised numbering are adopted to make ITS consistent with the conventions in the - Standard Technical Specifications, Westinghouse Plants NUREG-1431, Rev 1 (i.e., Improved Standard Technical Specifications (ISTS)).

A2 The CTS 2.1 reactor core SL Specification is not stated in terms of a specific point for the temperature measurement, however the referenced CTS Figure 2.1-1 is specified in terms of inlet (i.e., cold leg) temperature. The ITS specifically describes the SL in terms of the highest RCS cold leg temperature. The addition of the specific reference to ". . . highest cold leg temperature . . ." is an administrative detail added for clarity.

A3 CTS 2.1.d is not retained in the ITS. CTS 2.1.d provides administrative details defining when the SLs specified in Figure 2.1-1 and in CTS 2.1.b and 2.1.c are exceeded. This type of clarification is included in the comparable ITS Figure 2.1.1-1. See A4 for additional information. The additional administrative detail regarding CTS 2.1.b and 2.1.c merely reiterate that violating the specified limits is exceeding the SLs. This change is consistent with NUREG-1431.

A4 CTS Figure 2.1-1 does not clearly define the regions of acceptable and unacceptable conditions. Administrative clarifications are included in ITS to delineate the appropriate regions on the figure. This change is consistent with NUREG-1431.

A5 CTS 6.7.1.a specifies that in the event of a SL violation, notification be made in compliance with 10 CFR 50.72. CTS 6.7.1.b specifies compliance with 10 CFR 50.36(c)(i). ITS does not retain these specifications. This change deletes requirements from the Technical Specifications that are duplicative of other regulations. Compliance with applicable regulations is required by the Operating license. Consequentially, this is an administrative change. This change is consistent with NUREG-1431, as modified by TSTF-5.

A6 CTS 6.7.1.c, in the event of a SL violation, specifies notification of NRC Region II within 1 hour. ITS does not retain this specification. 10 CFR 50.72 requires notification of the NRC Operations Center within 1 hour for events requiring declaration of an Emergency Classification, which include SL violations. This change deletes requirements from the Technical Specifications that are duplicative of other regulations.

Consequentially, this is an administrative change. This change is consistent with NUREG-1431 as modified by TSTF-5.

CTS 6.7.1.d, in the event of a SL violation, specifies preparation of a report and delineates the content and review requirement for this report. ITS does not retain this specification. 10 CFR 50.73(a)(2)(ii)(B) requires the submittal of a licensee event report (LER), for events which encompass safety limit violations and specifies content requirements. This change deletes requirements from the Technical Specifications that are duplicative of other regulations. Consequentially, this is an administrative change. This change is consistent with NUREG-1431 as modified by TSTF-5.

A7 The CTS Bases (and References) are not retained in the ITS, but are replaced in their entirety. The ITS includes significantly expanded and improved Bases. The Bases do not define or impose any specific requirements but serve to explain, clarify and document the reasons (i.e., Bases) for the associated Specification. The Bases are not part of the Technical Specifications required by 10 CFR 50.36. This change is administrative, and has no adverse impact on safety.

TECHNICAL CHANGES - MORE RESTRICTIVE

M1 The Applicability for the reactor core SL has been changed to not only include when the reactor is critical, but also when in MODE 2 and subcritical. This is necessary to ensure that the SLs are also met during reactor startup due to the increased potential in this condition for a transient with the reactor operating near normal operating temperature and pressure conditions prior to criticality. This is an additional restriction on plant operation and is consistent with NUREG-1431.

M2 CTS 6.7.1.b specifies compliance with 10 CFR 50.36(c)(1)(i) in the event of a safety limit violation. This regulation requires the reactor be shutdown in the event of exceeding a SL, however this regulation does not explicitly require restoration of compliance with the SL and no time frames are delineated. ITS 2.2.1 and 2.2.2 specify, in the event of exceeding a SL while in MODE 1 or 2, ". . . restore compliance and be in MODE 3 within 1 hour." ITS 2.2.2 specifies, in the event of exceeding a SL while in MODE 3, 4 or 5, ". . . restore compliance within 5 minutes." Due to the importance of operating within the safety limits, explicitly requiring prompt restoration to within the safety limits is necessary. The explicit requirement to restore compliance and the specified time limits are additional restrictions on plant operation and are consistent with NUREG-1431.

TECHNICAL CHANGES - LESS RESTRICTIVE (GENERIC)

LA1 CTS 6.7.1.c, in the event of a SL violation, specifies notification of the Vice President - Robinson Nuclear Plant within 24 hours. This detail is relocated to the Quality Assurance Program Description. This detail associated with the involved specification is not required to be in the ITS to provide adequate protection of the public health and safety, since the ITS still retains the requirement for compliance with the safety limits. This approach provides an effective level of regulatory control and provides for a more appropriate change control process. The level of safety of facility operation is unaffected by the change because there is no change to operational requirements. Furthermore, NRC and utility resources associated with processing license amendments to these requirements will be reduced. Therefore, relocation of this detail is acceptable. This change is consistent with NUREG-1431 as modified by TSTF-5.

CTS 6.7.1.d, in the event of a SL violation, specifies review of the report by the Plant Nuclear Safety Committee (PNSC). This detail is relocated to the Quality Assurance Program Description. This detail associated with the involved specification is not required to be in the ITS to provide adequate protection of the public health and safety, since the ITS still retains the requirement for compliance with the safety limits. This approach provides an effective level of regulatory control and provides for a more appropriate change control process. The level of safety of facility operation is unaffected by the change because there is no change in the operational requirements. Furthermore, NRC and utility resources associated with processing license amendments to these requirements will be reduced. Therefore, relocation of this detail is acceptable. This change is consistent with NUREG-1431 as modified by TSTF-5.

CTS 6.7.1.e, in the event of a safety limit violation, specifies submittal of the report to the NRC, Vice President - Robinson Nuclear Plant and the Manager - Nuclear Assessment section within 14 days of the violation. This detail is relocated to the Quality Assurance Program Description. This detail associated with the involved specification is not required to be in the ITS to provide adequate protection of the public health and safety, since the ITS still retains the requirement for compliance with the safety limits. This approach provides an effective level of regulatory control and provides for a more appropriate change control process. The level of safety of facility operation is unaffected by the change because there is no change in the operational requirements. Furthermore, NRC and utility resources associated with processing license amendments to these requirements will be reduced. Therefore, relocation of this detail is acceptable. This change is consistent with NUREG-1431 as modified by TSTF-5.

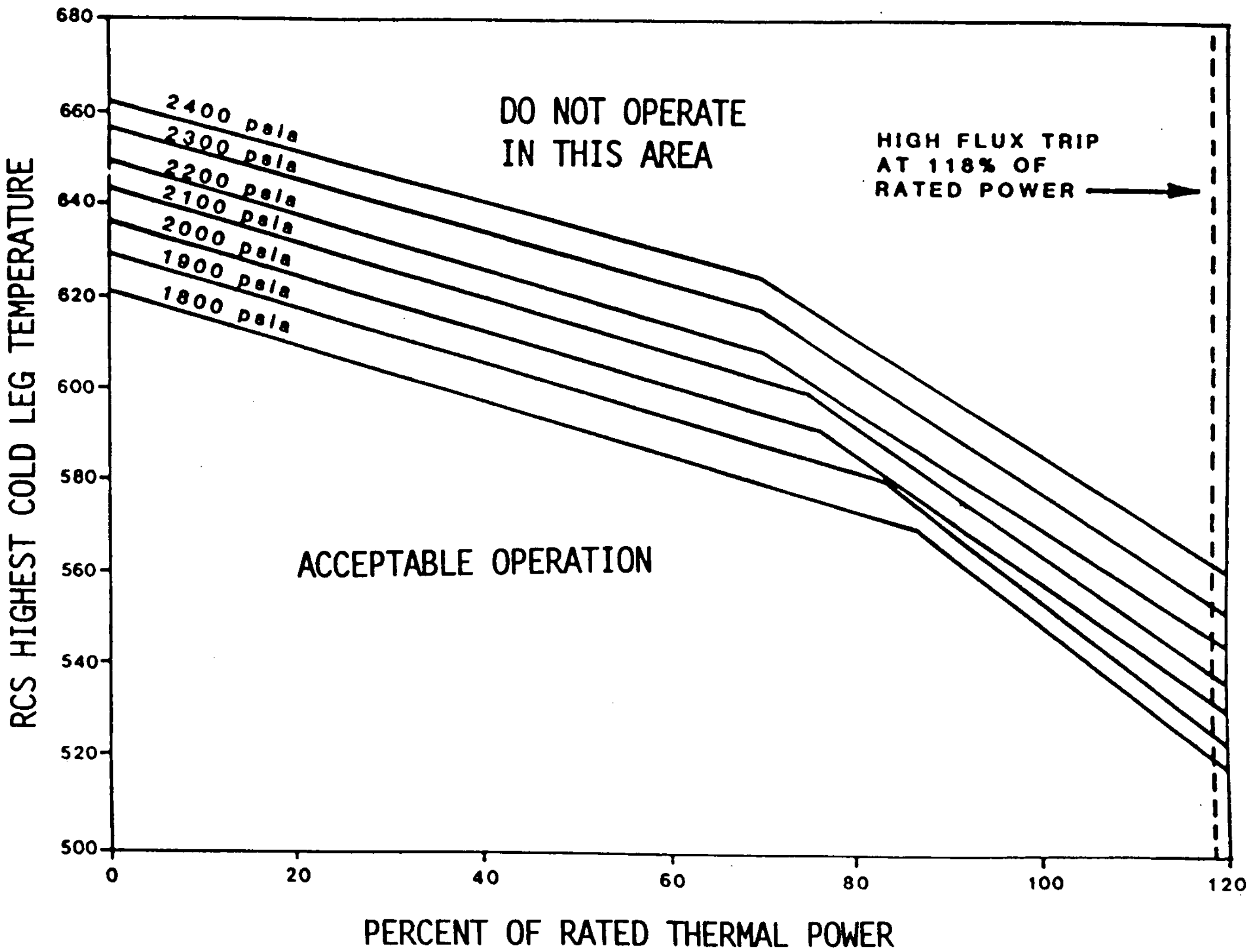
TECHNICAL CHANGES - LESS RESTRICTIVE (SPECIFIC)

L1 The CTS Applicability for the RCS pressure SL is specified as "with fuel in the reactor vessel." The ITS Applicability is specified as "MODES 1, 2, 3, 4, and 5." The ITS does not require the SL to be met with fuel in the vessel with one or more reactor vessel (RV) closure bolts less than fully tensioned or with the head removed. In this condition the unit is in MODE 6. LTOP requirements are applicable in MODE 6 and requires two OPERABLE PORVs with setpoints set to ≤ 400 psig. With two OPERABLE PORVS with setpoints ≤ 400 psig, it is highly unlikely that the RCS can be pressurized greater than the 2735 psig due to the relief capability afforded by the two PORVs. With the head removed, it is not possible to pressurize the RCS greater than the 2735 psig. This change is consistent with NUREG-1431.

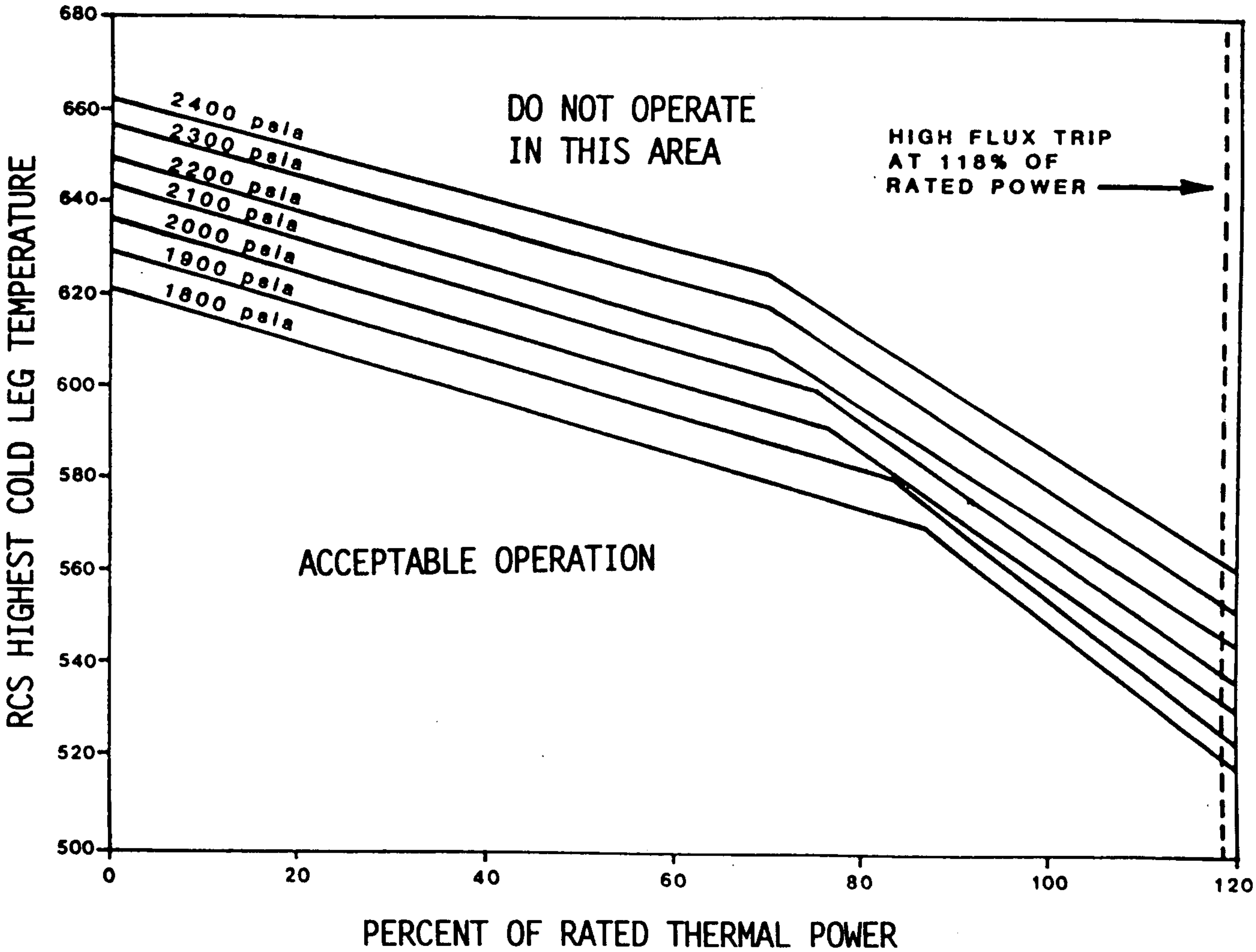
RELOCATED SPECIFICATIONS

None

Insert I



Insert II 2.1-1



NOTE: BASED ON A MINIMUM RCS FLOW OF 97.3 x 10^6 lbm/hr

Figure 2.1.1-1 (page 1 of 1)
Reactor Core Safety Limits

SUPPLEMENT 4
CONVERSION PACKAGE SECTION 3.1
PAGE INSERTION INSTRUCTIONS

Remove and insert the following pages into Enclosure 9 to Serial: RNP-RA/96-0141.

	Remove Page	Insert Page
a.	Part 1, "Markup of Current Technical Specifications (CTS)"	
	3.10-1	3.10-1
	4.1-6	4.1-6
b.	Part 2, "Discussion of Changes (DOCs) for CTS Markup"	
	7 through 12	7 through 12
	8a and 8b	8a and 8b
c.	Part 3, " No Significant Hazards Consideration (NSHC), And Basis for Categorical Exclusion from 10 CFR 51.22	
	11 and 12	11 through 14
d.	Part 4, "Markup of NUREG-4131, Revision 1, Standard Technical Specifications-Westinghouse Plants, (ISTS)"	
	3.1-17, 3.1-18 and 3.1-19	3.1-17, 3.1-18 and 3.1-19
	-	3.1-19a and 3.1-19b
e.	Part 5, "Justification of Differences (JFDs) to ISTS"	
	2 and 3	2 and 3
f.	Part 6, "Markup of ISTS Bases"	
	B 3.1-50 and B 3.1-51	B 3.1-50 and B 3.1-51
	Insert B 3.1.7-2 (no page number)	B 3.1-51a and B 3.1.51b
g.	Part 7, "Justification for Differences (JFDs) to ISTS Bases"	
	4	4
h.	Part 8, "Proposed HBRSEP, Unit No. 2 ITS"	
	3.1-16 and 3.1-17	3.1-16 and 3.1-17-
	-	3.1-17a and 3.1-17b
i.	Part 9. "Proposed Bases to HBRSEP, Unit No. 2 ITS Bases"	
	B 3.1-46 and B 3.1-47	B 3.1-46 and B 3.1-47
	-	B 3.1-47a and 3.1-47b
j.	Part 10. "ISTS Generic Changes"	
	NA	

3.10 REQUIRED SHUTDOWN MARGINS, CONTROL ROD, AND POWER DISTRIBUTION LIMITS

Applicability

Applies to the required shutdown margins, operation of the control rods, and power distribution limits.

Objective

To ensure (1) core subcriticality after a reactor trip and during normal shutdown conditions, (2) limited potential reactivity insertions from a hypothetical control rod ejection, and (3) an acceptable core power distribution during power operation.

Specification

3.10.1 Full Length Control Rod Insertion Limits

See 3.1.5 3.1.6 3.1.8

3.10.1.1 (Deleted by Change No. 21 issued 7/6/73)

3.10.1.2 When the reactor is critical, except for physics tests and full length control rod exercises, the shutdown control rods shall be limited in physical insertion as specified in the CORE OPERATING LIMITS REPORT (COLR).

3.10.1.3 When the reactor is critical, except for physics tests and full length control rod exercises, the control rods shall be limited in physical insertion as specified in the COLR. Control rod bank insertion beyond the limits specified in the COLR shall be corrected within the time criteria established by the axial power distribution methodology or within one (1) hour, whichever occurs sooner. If bank insertion is not restored to the specified limits (i.e., within one (1) hour or within the time criteria established by the axial power distribution methodology, whichever is sooner) the reactor shall be placed in the hot shutdown condition utilizing normal operating procedures within six (6) hours.

3.10.1.4 At 50 percent of the cycle as defined by burnup, the limits shall be adjusted to the end-of-core values as specified in the COLR.

A1

TABLE ~~4.1-1 (Continued)~~
~~MINIMUM FREQUENCIES FOR CHECKS, CALIBRATIONS AND TEST OF INSTRUMENT CHANNELS~~

Channel Description	SR 3.1.7.1 Check	SR 3.1.7.4 Calibrate	SR 3.1.7.2 SR 3.1.7.3 Test	SR 3.1.7.1 Remarks
9. Analog Rod Position	S (1,2)	R	M	(1) With step counters Once within 4 hours (M27) (2) Following rod motion in excess of six inches when the computer is out of service
10. Rod Position Bank Counters	S (1,2)	N.A.	N.A.	(1) Once within 4 hours (M27) Following rod motion in excess of six inches when the computer is out of service (2) With analog rod position
11. Steam Generator Level	S	R	M	
12. Charging Flow	N.A.	R	N.A.	
13. Residual Heat Removal Pump Flow	N.A.	R	N.A.	
14. Boric Acid Tank Level	D (1)	R	N.A.	(1) Bubbler tube rodded weekly
15. Refueling Water Storage Tank Level	W	R	N.A.	
16. Deleted				
17. Volume Control Tank Level	N.A.	R	N.A.	
18. Containment Pressure	D	R	B/W (1)	(1) Containment isolation valve signal
19. Deleted by Amendment No. 85				
20. Boric Acid Makeup Flow Channel	N.A.	R	N.A.	

See ITS 3.3.1

Add LCO 3.1.7 and ACTIONS

L6

Supplement 4

Specification 3.1.7

are additional restrictions on plant operation and are consistent with NUREG-1431.

M17 CTS required actions comparable to ITS 3.1.6 RAs A.1.1, A.1.2, B.1.1, B.1.2, and B.2 do not exist. With control bank insertion limits not met, RA A.1.1 require verification that SDM is within limits within one hour. RA A.1.2 requires initiation of boration within one hour to restore SDM to within limits. RA A.2 requires the control banks be restored to within limits within 2 hours. Requiring either verification of SDM or initiation of action to restore SDM is necessary since available SDM may be significantly reduced. Requiring restoration of the control banks to within limits within 2 hours is necessary to prevent remaining in an unacceptable condition for an extended period of time. With control bank insertion limits not met, RA B.1.1 require verification that SDM is within limits within one hour. RA B.1.2 requires initiation of boration within one hour to restore SDM to within limits. Requiring either verification of SDM or initiation of action to restore SDM is necessary since available SDM may be significantly reduced. RA B.2 requires the sequence and overlap be restored to within limits within 2 hours. Requiring restoration of the sequence and overlap to within limits within 2 hours is necessary to prevent remaining in an unacceptable condition for an extended period of time. If any Required Action and Associated Completion Time are not met, RA C.1 requires the unit be placed in MODE 3. The requirement to place the unit in MODE 3 is necessary to place the unit in a MODE outside the Applicability of the specification. The inclusion of these RAs is considered reasonable to ensure operation within the bounds of the applicable safety analysis. These are additional restrictions on plant operation and are consistent with NUREG-1431.

M18 CTS surveillance requirements comparable to ITS SRs 3.1.6.1, 3.1.6.2 and 3.1.6.3 do not exist. SR 3.1.6.1 requires verification that critical bank position is within limits. This Surveillance is required to ensure that the reactor does not achieve criticality with the control banks below their insertion limits. SR 3.1.6.2 requires periodic verification that control bank insertion is within limits. This SR is necessary to detect control banks which may be approaching there insertion limits. SR 3.1.6.3 requires periodic verification that sequence and overlap are within limits for control banks not fully withdrawn from the core. This SR is necessary to detect control banks which may be outside sequence and overlap limits. These SRs are considered a reasonable verification of the associated requirements. The addition of these SRs is an additional restriction on plant operation and is consistent with NUREG-1431.

M19 Not used.

M20 CTS required actions comparable to ITS 3.1.8 RAs A.1, A.2, B.1, C.1 and D.1 do not exist. Lacking specified actions, failure to satisfy CTS 3.1.3.1, 3.10.1.2, 3.10.1.3 or 3.10.1.5 requires compliance with CTS 3.0. CTS 3.0 requires hot shutdown in 8 hours and cold shutdown in 30 hours. ITS 3.1.8 RAs A.1, A.2, B.1, C.1 and D.1 mandate actions in shorter times (i.e., either immediately, 15 minutes or 1 hour). When operating in a physics test exception and SDM is not within limits, RA A.1 requires initiation within 15 minutes of boration to restore SDM within limits and RA A.2 requires suspending the physics test exception within 1 hour. These Required Actions are necessary to require prompt restoration of SDM to within limits as well as promptly restore each applicable LCO to within specification. When operating in a physics test exception and THERMAL POWER is not within limits, RA B.1 requires immediately opening the reactor trip breakers. Opening the reactor trip breakers is necessary to prevent operating the reactor beyond its design limits. When operating in a physics test exception and lowest loop average is not within limits, RA C.1 requires restoring lowest loop average temperature within limits within 15 minutes. This action is necessary to prevent the unit from remaining in a unacceptable condition for an extended period of time. These are additional restrictions on plant operation and are consistent with NUREG-1431.

M21 CTS surveillance requirements comparable to ITS SRs 3.1.8.1, 3.1.8.2, and 3.1.8.3 do not exist. SR 3.1.8.1 requires periodic verification that lowest loop average temperature is ≥ 530°F. SR 3.1.8.2 requires periodic verification that SDM is within limits. SR 3.1.8.3 requires periodic verification that THERMAL POWER is ≤ 5% RTP. These SRs are necessary to periodically confirm unit operation is within the limits of the LCO. These additional SRs are additional restrictions on plant operation and are consistent with NUREG-1431.

M22 Physics tests exceptions included in CTS 3.1.3.1, 3.10.1.2, 3.10.1.3 and 3.10.1.5 do not specify any additional restriction when applying the exception. ITS 3.1.8 imposes additional requirements regarding RCS loop temperatures, THERMAL POWER and SDM requirements. The inclusion of these additional restrictions is necessary to ensure operation is within the bounds of the applicable safety analysis. The adoption of these requirements is an additional restriction on plant operation and is consistent with NUREG-1431.

M23 CTS 3.10.1.6 provides a SDM exception similar to that provided by ISTS 3.1.11. It is not necessary to retain this SDM exception since the measurement technique necessitating the SDM exception is no longer used. The elimination of the SDM exception is an additional restriction on plant operation and is consistent with NUREG-1431.

M24 CTS specifies measurement of control rod timing ". . . from the beginning of rod motion until dashpot entry." ITS specifies ". . . from the decay of stationary gripper coil voltages." The inclusion of the time from the beginning of stationary gripper coil voltage decay is necessary to ensure timing the complete rod trip sequence. This is an additional restriction on plant operation and is consistent with the NUREG-1431.

M25 CTS 3.10.6.3 establishes the action for one control rod inoperable to include changing the boron concentration to obtain an appropriate SDM but does not specify a time limit. RA A.1.1 require verification that SDM is within limits within one hour. RA A.1.2 requires initiation of boration within one hour to restore SDM to within limits. Requiring either verification of SDM or initiation of action to restore SDM is necessary since available SDM may be significantly reduced. The one hour time limit is necessary to promptly require verification or restoration of SDM to within limits. If any Required Action and Completion Time is not met RA A.2 requires the plant be placed in MODE 3 in 6 hours. This Action is necessary to place the unit in a MODE outside the Applicability of the specification. ITS requirement of placing the unit in a MODE outside the Applicability within 6 hours is more restrictive than CTS 3.0 which allows 8 hours to be outside the MODE of applicability. These changes are more restrictive and are consistent with NUREG 1431.

M26 CTS 3.10.4.1 establishes the requirement for control rod drop times but does not establish a related action if the drop times are not met. In this case Specification 3.0 would be entered. ITS 3.1.4 Condition includes control rod drop times not met and the associated Actions and Completion Times apply. These actions require that either the SDM must be verified to be within limit or the boron concentration must be restored within the limit specified in the COLR, within one hour. Requiring either verification of SDM or initiation of action to restore SDM is necessary since available SDM may be significantly reduced. The one hour time limit is necessary to promptly require verification or restoration of SDM to within limits. This change is necessary to establish consistency with other similar shutdown requirements stated in other specifications and is based on operating experience which indicates the times to place the unit in the specified MODE is reasonable. The time limit specified to reach MODE 3 permits the shutdown to proceed in a controlled and orderly manner that is within the capabilities of the unit, assuming that only the minimum required equipment is OPERABLE. This reduces the potential for a plant upset that could challenge safety systems under conditions to which this Specification applies. These changes are more restrictive and are consistent with NUREG 1431.

M27 CTS Table 4.1-1 items 9 and 10 (Analog Rod Position and Rod Position Bank Counters) require a CHANNEL CHECK to be performed. The associated remarks of CTS Table 4.1-1 (Remark 2 for item 9 and Remark 1 for item 10) require the CHANNEL CHECK to be performed following rod motion in excess of six inches when the computer is out of service. ITS SR 3.1.7.1 requires this same CHANNEL CHECK to be performed "Once within 4 hours" following > 6 inches of rod motion when the rod position of the SR represents an additional restriction on plant operation necessary to ensure the surveillance is completed within a reasonable time period after rod motion is complete. The four hour time period is consistent with time period provided in ITS SR 3.1.4.1 for verifying individual rod positions are within alignment limits when the rod position deviation monitor is inoperable.

<u>TECHNICAL CHANGES - LESS RESTRICTIVE (GENERIC)</u>

LA1 CTS Specifications 3.10.8.1, 3.10.8.2, and Figure 3.10-2 provide required shutdown margin values. CTS Specification 3.10.1.4 requires control rod insertion limits be adjusted to the end-of-core values as provided in the COLR at 50 percent of the cycle. These details are not retained in the ITS and are relocated to licensee controlled documents.

The details associated with the involved Specification are not required to be in the ITS to provide adequate protection of the public health and safety because the ITS still retains the requirement for compliance with the limits, and ITS Section 5.6 specifies the scope of the limits contained in the COLR and mandates NRC approval of the analytical methodology. This approach provides an effective level of regulatory control and provides for a more appropriate change control process. The level of safety of facility operation is unaffected by the change because there is no change in the overall operational requirements. Furthermore, NRC and licensee resources associated with processing license amendments to these requirements will be reduced. Therefore, relocation of these details is acceptable.

LA2 CTS 3.10.1.3 requires that the reactor be placed in hot shutdown, and specifies that this be accomplished, "using normal operating procedures." This detail, specifying the manner in which to achieve hot shutdown, is relocated to licensee controlled documents.

The details associated with the involved Specification are not required to be in the ITS to provide adequate protection of the public health and safety because the ITS still retains the requirement for compliance with the Action. This approach provides an effective level of regulatory control and provides for a more appropriate change control process. The level of safety of facility operation is unaffected by the change

because there is no change in the overall operational requirements. Furthermore, NRC and licensee resources associated with processing license amendments to these requirements will be reduced. Therefore, relocation of these details is acceptable.

TECHNICAL CHANGES - LESS RESTRICTIVE (SPECIFIC)

L1 Since there is no action specified for failing to satisfy CTS 3.10.8.1 or 3.10.8.2, the required action is controlled by CTS 3.0. This CTS specification requires the unit be placed in hot shutdown within 8 hours followed by cold shutdown in an additional 30 hours. ITS 3.1.1 RA A.1, specifies initiating boration within 15 minutes to restore the SDM within limits. Both actions result in the addition of negative reactivity and a return to compliance with the assumptions of the safety analysis. ITS 3.1.1 RA A.1 requires timely restoration of SDM. Timely restoration of SDM is preferred to imposing the increased risk associated with a plant shutdown transient. Additionally, mandating shutdown of the unit may not be the safest course of action while sufficient SDM is not available. The proposed change provides an appropriate specific action for failing to satisfy the LCO instead of applying the generic action mandated by CTS 3.0. This change is consistent with NUREG-1431.

L2 This change involves two separate aspects both of which are analyzed separately here.

With the MTC outside the limits provided in the COLR, CTS 3.1.3.3 requires the reactor be made subcritical by an amount greater than or equal to the potential reactivity insertion due to depressurization. Since no completion time is explicitly stated, this specification implies completion as soon as practical. (Although not directly applicable, CTS 3.0 requires hot shutdown within 8 hours. Without a explicit statement of completion time, the comparable completion time in of 8 hours in CTS 3.0 is considered implicitly binding.) With MTC not within the upper limit, ITS 3.1.3 RA A.1 mandates establishment of administrative withdrawal limits for control banks to maintain MTC within the upper limit with a completion time of 24 hours. Provided ITS 3.1.3 RA A.1 is satisfied, no further action is required. While not explicitly stated, establishment of administrative withdrawal limits for control banks to maintain MTC within the upper limit is not precluded by CTS. However, the completion time of 24 hours to establish administrative control banks withdrawal limits is less restrictive than CTS permits.

With the required action or associated completion time of ITS 3.1.3 RA A.1 not met, ITS 3.1.3 RA B.1 mandates being in MODE 2 with $K_{eff} < 1.0$

within 6 hours. This completion time is in addition to the 24 hours permitted by ITS 3.1.3 RA A.1, and is less restrictive than CTS permits.

The proposed change provides a specific action and completion time for failing to satisfy the LCO. The completion time of 24 hours for ITS 3.1.1 RA A.1 provides sufficient time for evaluating the MTC measurement and computing the required bank withdrawal limits. An action to permit addressing the specific condition is more suitable than an immediate plant shutdown, required by the CTS, with the associated increased risk for a shutdown transient.

With MTC outside the limits provided in the COLR, CTS 3.1.3.3 mandates being subcritical by an amount equal to the potential reactivity insertion due to depressurization. With MTC outside the upper limit, ITS 3.1.3 RA B.1 mandates, assuming ITS 3.1.3 RA A.1 and associated completion time not met, being in MODE 2 with $K_{eff} < 1.0$. In this condition, the SDM requirements of ITS LCO 3.1.1 are applicable requiring the SDM be within the limits provided in the COLR. The COLR includes appropriate SDM limits for this condition. Therefore this aspect of the change is administrative in nature.

L3 CTS Table 4.1-3, Item 2 requires verification of each control rods freedom of movement every 14 days during reactor critical operations. ITS SR 3.1.4.2 requires this surveillance to be performed at a 92 day Frequency and excludes control rods that are fully inserted. This is a relaxation of requirements, and is less restrictive. This change is acceptable, however, because the 92 day Frequency takes into consideration other information available to the operator in the control room, and performance of SR 3.1.4.1, which verifies that individual rod positions are within alignment limits every 12 hours and adds to the determination of OPERABILITY of the rods. In addition, not requiring fully inserted rods to be exercised is less restrictive than the CTS which does not have this exception. This change is consistent with NUREG-1431.

L4 For control rod banks inserted in excess of the specified insertion limits, CTS 3.10.3 requires correction within one hour. ITS 3.1.6 RA A.2 permits two hours to restore the banks within limits. However, ITS also requires verification of SDM or initiation of boration to restore SDM within limits within one hour (see related DOC M17). Requiring the verification of SDM or the initiation of boration to restore SDM within one hour in concert with the restoration of control banks to within specified insertion limits within two hour provides some additional time to correct the condition while still restricting operation in this condition to a reasonably short time period. Prompt restoration of the control rod banks to within insertion limits is preferable to a plant shutdown with the associated risk of shutdown transients. This change

is consistent with NUREG-1431.

L5 With the MTC outside the limits provided in the COLR, CTS 3.1.3.3 requires the reactor be made subcritical by an amount greater than or equal to the potential reactivity insertion due to depressurization. Since no completion time is explicitly stated, this specification implies completion as soon as practical. (Although not directly applicable, CTS 3.0 requires hot shutdown within 8 hours. Without an explicit statement of completion time, the comparable completion time of 8 hours in CTS 3.0 is considered implicitly binding.) With MTC not within the lower limit, ITS 3.1.3 RA C.1 mandates being in MODE 4 with a completion time of 12 hours. This completion time is more than the implicit completion time for CTS 3.1.3.3. The requirement to be in MODE 4 is more restrictive than the CTS 3.1.3.3 requirement to be subcritical by an amount greater than or equal to the potential reactivity insertion due to depressurization. This change is considered a less restrictive change and is consistent with NUREG-1431.

L6 In the event the rod position indication requirements of CTS Table 4.1-1 items 9 and 10 are not satisfied, the CTS 3.10.1.5 actions associated with a misaligned rod are required to be taken within 2 hours. Rod position indication instruments do not necessarily relate directly to rod OPERABILITY (e.g. rods aligned within limits) or the ability to maintain rods within alignment limits. As such, it is overly restrictive to assume that rods are misaligned when rod position indication is inoperable. Therefore, ITS 3.1.4 is added to require the Analog Rod Position Indication (ARPI) System and the Demand Position Indication System to be OPERABLE in MODES 1 and 2 and provide alternate ACTIONS to determine rod position or reduce power to ≤ 50% RTP in the event of inoperable rod position indication. Reducing power to ≤ 50% RTP puts the core into a condition where rod position is not significantly affecting core peaking factors. The ACTIONS of ITS 3.1.7 are modified by a Note which allows separate Condition entry for each inoperable rod position indicator per group and each demand position indicator per bank. This Note is acceptable since in conjunction with ITS 1.3, "Completion Times," the ITS 3.1.7 ACTIONS provide appropriate compensatory actions for each inoperable position indicator. In the event one ARPI per group is inoperable for one or more groups, ITS 3.1.7 Required Actions A.1 and A.2 require verification of the position of rods with inoperable position indication by using the movable incore detectors once per 8 hours or require reduction of thermal power within 8 hours. With one or more rods with inoperable position indicators moved in excess of 24 steps in one direction since the last determination of the rod's position, ITS 3.1.7 Required Actions B.1 and B.2 require verification of the position of rods with inoperable position indication by using the movable incore detectors once per 8 hours or require reduction of thermal power within 8 hours. In the

event one demand position indicator per bank is inoperable for one or more banks, ITS 3.1.7 Required Actions C.1.1, C.1.2, C.1.3, and C.2 require verification by administrative means that the all ARPIs for the affected banks are OPERABLE once per 8 hours and require verification that the position of each rod in the affected bank(s) is within required limits (the limits of ITS 3.1.4) once per 8 hours; or require reduction of thermal power within 8 hours. If any of these Required Actions are not met within the associated Completion Time, Required Action D.1 requires the plant to be placed in MODE 3 (a non-applicable MODE) within 6 hours. The time periods provided for completing the Required Actions and are considered to be acceptable based on the low probability of having a rod significantly out of position and an event sensitive to that rod position during the time periods.

RELOCATED SPECIFICATIONS

R1 3.10.7 Power Ramp Rate Limits

This Specifications, or Limiting Conditions for Operation (Chapter 3.0), is not retained in the ITS because it has been reviewed against, and determined not to satisfy, the selection criteria for Technical Specifications provided in 10 CFR 50.36. The selection criteria were established to ensure that the Technical Specifications are reserved for those conditions or limitations on plant operation considered necessary to limit the possibility of an abnormal situation or event that could result in an immediate threat to the health and safety of the public. The rationale for relocation of this Specification is provided in the report, "Application of Selection Criteria to the H. B. Robinson Steam Electric Plant Unit No. 2 Technical Specifications."

This Limiting Conditions for Operation, is relocated to licensee controlled documents. Relocation of the specific requirements for systems or variables contained in these Specifications to licensee documents will have no impact on the operability or maintenance of those systems or variables. The licensee will initially continue to meet the requirements contained in the relocated Specifications. The licensee is allowed to make changes to these requirements in accordance with the provisions of 10 CFR 50.59. Such changes can be made without prior NRC approval, if the change does not involve an unreviewed safety question, as defined in 10 CFR 50.59. These controls are considered adequate for assuring that structures, systems, and components in the relocated Specifications are maintained operable, and variables are maintained within limits. This change is consistent with the NRC Final Policy Statement on Technical Specification Improvements.

LESS RESTRICTIVE-SPECIFIC CHANGES
("L6" Labeled Comments/Discussions)

Carolina Power & Light Company has evaluated the proposed Technical Specification change and has concluded that it does not involve a significant hazards consideration. Our conclusion is in accordance with the criteria set forth in 10 CFR 50.92. The bases for the conclusion that the proposed change does not involve a significant hazards consideration are discussed below.

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

   The change eliminates the requirement to consider rods to be misaligned when rod position indication is inoperable by providing an LCO and associated ACTIONS for rod position indication. This change does not result in any hardware changes. The rod position indication instruments are not initiators of any analyzed event. The role of this instrumentation is in providing the operators information to allow them to determine rod positions and thereby ensure compliance with rod alignment and insertion limits. The requested change does not allow continuous operation in this condition without implementing an alternate method of determining rod position or reducing power to a level where rod position does not significantly affect core peaking factors. Additionally, the consequences of an event occuring with the proposed actions are no more severe than the consequences of an event occurring within the allowed outage time of the current actions. Therefore, this change will 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 introduce a new mode of plant operation and does not involve physical modification to the plant. The proposed change continues to assure that rod position can be determined or requires a power reduction to a level where rod position does not significantly affect core peaking factors. Therefore it 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 change eliminates the requirement to consider rods to be misaligned when rod position indication is inoperable by providing an LCO and associated ACTIONS for rod position indication. The proposed change is acceptable based on the small probability of having a rod significantly out of position and an event sensitive to that rod position during the time period allowed to either implement an alternate method of determining rod position or reducing power to a level where rod position does not significantly affect core peaking factors. Rod position indication instruments do not necessarily relate directly to rod OPERABILITY or the

ability to maintain rods within alignment limits. As such, it is overly restrictive to assume that rods are inoperable (e.g., misaligned) when rod position indication is inoperable. Providing the proposed Actions will minimize the potential for plant transients that can occur during a power reduction or shutdown by providing additional time for (and the option of) implementation of an alternate means of determining rod position when rod position indication is inoperable. In addition, if the alternate method of determining rod position is not implemented within the time frame established in the Required Actions of ITS 3.1.7, ITS 3.1.7 Required Action D.1 would require a shutdown to MODE 3. Requiring a shutdown to MODE 3 places the unit in a non-applicable MODE. As such, any reduction in a margin of safety resulting from the proposed change will be offset by the potential benefit gained by avoiding an unnecessary plant power reduction or shutdown transient when alternate means exist to determine rod position. Therefore, this change does not involve a significant reduction in a margin of safety.

RELOCATED CHANGES
("R" Labeled Comments/Discussions)

Relocating Requirements which do not meet the Technical Specification criteria to documents with an established control program allows the Technical Specifications to be reserved only for those conditions or limitations upon reactor operation which are necessary to adequately limit the possibility of an abnormal situation or event giving rise to an immediate threat to the public health and safety, thereby focusing the scope of Technical Specifications.

Therefore, requirements which do not meet the Technical Specification criteria in the NRC Final Policy Statement on Technical Specification Improvement for Nuclear Power Reactors (58FR 39132, dated 7/22/93) have been relocated to licensee controlled documents. This policy statement addresses the scope and purpose of Technical Specifications. In doing so, it establishes a specific set of objective criteria for determining which regulatory requirements and operating restrictions should be included in Technical Specifications. These criteria are as follows:

Criterion 1: Installed instrumentation that is used to detect and indicate in the control room, a significant abnormal degradation of the reactor coolant pressure boundary;

Criterion 2: A process variable that is an initial condition of a design basis accident (DBA) or transient analyses that either assumes the failure of or presents a challenge to the integrity of a fission product barrier;

Criterion 3: A structure, system or component that is part of the primary success path and which functions or actuates to mitigate a design basis accident or transient that either assumes the failure of or presents a challenge to the integrity of a fission barrier;

Criterion 4: A structure, system or component which operating experience or probabilistic safety assessment has shown to be significant to public health and safety.

The application of these criteria is provided in the "Application of Screening Criteria to the HBRSEP Unit No. 2 Technical Specifications." Requirements which met the criteria have been included in the proposed improved Technical Specifications. Carolina Power & Light (CP&L) proposes to remove the requirements which do not meet the criteria from the Technical Specifications and relocate the requirements to a suitable owner controlled document. The requirements in the relocated Specifications are not affected by this Technical Specification change. CP&L will initially continue to perform the required operation and maintenance to assure that the requirements are satisfied. Relocating specific requirements for systems or variables has no impact on the system's operability or the variable's maintenance, as applicable.

Licensee controlled programs will be utilized as the control mechanism for the relocated Specifications as they will be placed in plant procedures or other licensee controlled documents. CP&L is allowed to make changes to these requirements, without prior NRC approval, if the change does not involve an unreviewed safety question. These controls are considered adequate for assuring structures, systems and components in the relocated Specifications are maintained operable and variables in the relocated Specifications are maintained within limits.

Carolina Power & Light Company has evaluated each of the proposed Technical Specification changes identified as "Relocated" and has concluded that they do not involve a significant hazards consideration. Our conclusion is in accordance with the criteria set forth in 10 CFR 50.92. The bases for the conclusion that proposed changes do not involve a significant hazards consideration are discussed below.

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 which did not meet the criteria for inclusion in Technical Specifications as identified in the "Application of Selection Criteria to the HBRSEP Unit No. 2 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 an appropriate administratively controlled document under licensee control. Therefore, this change does not involve an 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 necessitate a physical alteration of the plant (no new or different type of equipment will be installed) or change in parameters governing normal plant operation. The proposed change will not impose any different requirements and adequate control of 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 impact on any safety analysis assumptions. In addition, the affected requirement will be relocated to an owner controlled document for which future changes will be evaluated pursuant to the requirements of licensee controlled programs. Therefore, this change does not involve a reduction in a margin of safety.

CTS

3.1 REACTIVITY CONTROL SYSTEMS

3.1.8 7 Rod Position Indication

[L6] LCO 3.1.8 7 The ~~[Digital]~~ Analog Rod Position Indication (~~[D]~~ A RPI) System and the Demand Position Indication System shall be OPERABLE.

APPLICABILITY: MODES 1 and 2.

ACTIONS

-----NOTE-----
[L6] Separate Condition entry is allowed for each inoperable rod position indicator per group and each demand position indicator per bank.

CONDITION	REQUIRED ACTION	COMPLETION TIME
[L6] A. One ~~[D]~~ A RPI per group inoperable for one or more groups.	A.1 Verify the position of the rods with inoperable position indicators by using movable incore detectors. OR A.2 Reduce THERMAL POWER to ≤ 50% RTP.	Once per 8 hours 8 hours
[L6] B. One or more rods with inoperable position indicators have been moved in excess of 24 steps in one direction since the last determination of the rod's position.	B.1 Verify the position of the rods with inoperable position indicators by using movable incore detectors. OR	~~[4]~~ 6 hours 9 (continued)

CTS

ACTIONS

	CONDITION	REQUIRED ACTION		COMPLETION TIME	
[L6]	B. (continued)	B.2	Reduce THERMAL POWER to ≤ 50% RTP.	8 hours	
[L6]	C. One demand position indicator per bank inoperable for one or more banks. — — NOTE — — — Only required to be met for bank positions < 200 steps. — — — — Verify the position of each rod in the affected bank(s) is within 7.5 inches of the average of the individual rod positions in the affected bank(s).	C.1.1	Verify by administrative means all [D]RPIs for the affected banks are OPERABLE. A	Once per 8 hours	
			<u>AND</u>		
		C.1.2	~~Verify the most withdrawn rod and the least withdrawn rod of the affected banks are ≤ 12 steps apart.~~	Once per 8 hours	10
			<u>OR</u>		
		C.2	Reduce THERMAL POWER to ≤ 50% RTP.	8 hours	
[L6]	D. Required Action and associated Completion Time not met.	D.1	Be in MODE 3.	6 hours	

<u>AND</u>

C.1.3	— — — NOTE — — — Only required to be met for bank positions ≥ 200 steps. — — — — — Verify the position of each rod in the affected bank(s) is within 15 inches of the bank demand position.	Once per 8 hours	10

CTS

SURVEILLANCE REQUIREMENTS

	SURVEILLANCE	FREQUENCY
~~SR 3.1.8.1~~	~~Verify each [D]RPI agrees within [12] steps of the group demand position for the [full indicated range] of rod travel.~~	~~[18 months]~~

[Table 4.1-1 (9,10)]

14

INSERT 3.1.7-1

Insert 3.1.7-1

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.1.7.1	-------------------NOTE------------------ Only required to be met for bank positions ≥ 200 steps. --- Perform CHANNEL CHECK by comparing analog rod position indication and bank demand position indication.	12 hours **AND** Once within 4 hours following > 6 inches of rod motion when rod position deviation monitor is inoperable
SR 3.1.7.2	-------------------NOTE------------------ Only required to be met for bank positions < 200 steps. --- Verify each ARPI is within 7.5 inches of the average of the individual ARPIs in the associated bank after moving each full length RCCA bank ≥ 19 steps and returning the banks to their original positions.	31 days

Insert 3.1.7-1

SR 3.1.7.3	------------------NOTE------------------ Only required to be met for bank positions ≥ 200 steps. -- Verify each ARPI is within 15 inches of the associated bank demand position after moving each full length RCCA bank ≥ 19 steps and returning the banks to their original positions.	31 days
SR 3.1.7.4	Perform CHANNEL CALIBRATION of the ARPI System.	18 months

8 The word, "more," is changed to the word, "both," because plant design includes two shutdown banks.

9 ITS Specification 3.1.7, Required Action B.1, requires verification of rod position using the movable incore detectors for rods with inoperable position indications that have moved in excess of 24 steps since the last determination of rod position. The bracketed Completion Time of 4 hours is modified to 6 hours. Since the CTS does not include a comparable requirement, there is no current licensing basis for this value. A Completion Time of 6 hours is considered to be a reasonable time in which to perform the required flux mapping and data analysis. A Completion Time of 6 hours still provides sufficient time to complete alternate Required Action B.2, reduction of THERMAL POWER to ≤ 50% RTP within 8 hours.

10 ISTS Specification 3.1.8, Required Action C.1.2, is modified to provide two actions (ITS 3.1.7 Required Action C.1.2 and C.1.3) to address bank positions < 200 steps and bank positions ≥ 200 steps. This change is necessary to address the two different acceptance criteria associated with bank positions provided in ITS Specification 3.1.4 (for bank demand positions ≥ 200 steps, each rod shall be within 15 inches of its bank demand position; and for bank demand position < 200 steps, each rod shall be within 7.5 inches of the average of the individual rod positions in the bank) and the current licensing basis approved in HBRSEP Unit 2 Amendment No. 48.

11 Not used.

12 ISTS Specification 3.1.9, "PHYSICS TEST Exceptions - MODE 1," is not adopted in the ITS. These physics tests are not performed during post-refueling startup testing. ISTS Specification 3.1.11, "SDM Test Exceptions," is not adopted in the ITS. The use of other rod worth measurement techniques will maintain the shutdown margin during the entire measurement process and still provide the necessary physics data verification. Since the N-1 measurement technique is no longer used, the SDM test exception is not necessary. Subsequent Specifications are renumbered accordingly.

13 ITS SR 3.1.8.1 is deleted, and subsequent SRs are renumbered accordingly. Performance of a COT on power range and intermediate range channels is required by ITS LCO 3.3.1, "Reactor Protection System (RPS) Instrumentation," every 92 days (SR 3.3.1.7 and SR 3.3.1.8). The 92 day required Frequency has been determined to be sufficient for verification that the power range and intermediate range monitors are properly functioning.

ITS SR 3.1.8.1 requires a COT within 12 hours prior to initiation of PHYSICS TESTS regardless of whether the COT has been performed within its required Frequency. Initiation of PHYSICS TESTS does not impact the ability of the monitors to perform their required Function, and does not affect the Trip Setpoints or RPS trip capability, and does not invalidate previous surveillances. Therefore, an additional surveillance required to be performed "prior to" this event is an extraneous and unnecessary performance of a surveillance.

14 ISTS SR 3.1.8.1 requires verification that each [D]RPI agrees within [12] steps of the group demand position for the [full indicated range] of rod travel once per [18 months]. This Surveillance Requirement is not included in the HBRSEP Unit No. 2 ITS. Instead, ITS 3.1.7 (Rod Position Indication) includes SRs 3.1.7.1, 3.1.7.2, 3.1.7.3, and 3.1.7.4. SR 3.1.7.1 requires the performance of a CHANNEL CHECK by comparing analog rod position indication to bank demand position indication. SRs 3.1.7.2 and 3.1.7.3 require a test to be performed to verify the rod position indications read within the required acceptance criteria after moving each full length RCCA bank ≥ 19 steps and returning the banks to their original positions. SR 3.1.7.4 requires the performance of a CHANNEL CALIBRATION of the Analog Rod Position Indication System. These SRs are provided consistent with current plant practice and licensing basis reflected in CTS Table 4.1-1 (items 9 and 10) and approved in HBRSEP Unit 2 Amendment No. 48. Amendment No. 48 approved revised control rod position indication systems misalignment limits and requires the following:

> For bank demand positions ≥ 200 steps, each rod shall be within 15 inches of its bank demand position; and
>
> For bank demand positions < 200 steps, each rod shall be within 7.5 inches of the average of the individual rod positions in the bank.

As such, comparisons between the analog rod position indication and the bank demand position indication are only required for bank positions ≥ 200 steps (ITS SR 3.1.7.1 and ITS SR 3.1.7.3) and the acceptance criteria for the monthly tsts vary depending on whether the bank positions are ≥ 200 steps (ITS SR 3.1.7.3) or < 200 steps (ITS SR 3.1.7.2).

3 → 7

BASES

ACTIONS (continued)

1

A.2

Reduction of THERMAL POWER to ≤ 50% RTP ~~puts the core into a condition where rod position is not significantly affecting core peaking factors (Ref. 3)~~. 36

more than offsets the increases in core F_Q and $F^N_{\Delta H}$ due to rod position

The allowed Completion Time of 8 hours is reasonable, based on operating experience, for reducing power to ≤ 50% RTP from full power conditions without challenging plant systems and allowing for rod position determination by Required Action A.1 above.

B.1 and B.2

These Required Actions clarify that when one or more rods with inoperable position indicators have been moved in excess of 24 steps in one direction, since the position was last determined, the Required Actions of A.1 and A.2 are still appropriate but must be initiated promptly under Required Action B.1 to begin verifying that these rods are still properly positioned, relative to their group positions. 6

If, within 4 hours, the rod positions have not been determined, THERMAL POWER must be reduced to ≤ 50% RTP within 8 hours to avoid undesirable power distributions that could result from continued operation at > 50% RTP, if one or more rods are misaligned by more than 24 steps. The allowed Completion Time of 4 hours provides an acceptable period of time to verify the rod positions. 6

C.1.1 ~~and~~, C.1.2, and C.1.3 A 37

With one demand position indicator per bank inoperable, the rod positions can be determined by the DRPI System. Since normal power operation does not require excessive movement of rods, verification by administrative means that the rod position indicators are OPERABLE ~~and the most withdrawn rod and the least withdrawn rod are ≤ 12 steps apart~~ within the allowed Completion Time of once every 8 hours is adequate. 37

that the position of each rod in the affected bank(s) is within 7.5 inches of the average of the individual rod positions in the affected bank(s) for bank positions < 200 steps and that the position of each rod in the affected bank(s) is within 15 inches of the bank demand position for bank positions ≥ 200 steps

37

(continued)

BASES

ACTIONS (continued)

C.2

Reduction of THERMAL POWER to ≤ 50% RTP puts the core into a condition where rod position is not significantly affecting core peaking factor ~~limits~~ ~~(Ref. 3)~~. The allowed Completion Time of 8 hours provides an acceptable period of time to verify the rod positions per Required Actions C.1.1 and C.1.2 or reduce power to ≤ 50% RTP. 5 36

D.1

If the Required Actions cannot be completed within the associated Completion Time, the plant must be brought to a MODE in which the requirement does not apply. To achieve this status, the plant must be brought to at least MODE 3 within 6 hours. The allowed Completion Time is reasonable, based on operating experience, for reaching the required MODE from full power conditions in an orderly manner and without challenging plant systems.

SURVEILLANCE REQUIREMENTS

~~SR 3.1.8.1~~

~~Verification that the DRPI agrees with the demand position within [12] steps ensures that the DRPI is operating correctly. Since the DRPI does not display the actual shutdown rod positions between 18 and 210 steps, only points within the indicated ranges are required in comparison.~~

~~The [18 month] Frequency is based on the need to perform this Surveillance under the conditions that apply during a plant outage and the potential for unnecessary plant transients if the SR were performed with the reactor at power. Operating experience has shown these components usually pass the SR when performed at a Frequency of once every [18 months.] Therefore, the Frequency was concluded to be acceptable from a reliability standpoint.~~ 37

INSERT B 3.1.7-2

REFERENCES

1. ~~10 CFR 50, Appendix A, GDC 13~~ UFSAR Section 3.1.2
2. ~~FSAR, Chapter [15]~~ CP+L Letter, E.E. Utley to NRC, Rod Position Indication System, dated 12/14/79
3. UFSAR, Chapter 15.

ITS INSERT B3.1.7-2

SR 3.1.7.1

Performance of the CHANNEL CHECK once every 12 hours and "once within 4 hours following rod motion > 6 inches when the rod position deviation monitor is inoperable" ensures that a gross instrumentation failure has not occurred. The CHANNEL CHECK of rod position indication is a comparison of the rod position indicated on analog rod position indication channels and bank demand position indication channels. It is based on the assumption that instrument channels monitoring the same parameter should read approximately the same value. Significant deviations between the analog rod position indication and bank demand position indication channels could be an indication of excessive instrument drift in one of the indication channels or of something even more serious. A CHANNEL CHECK will detect gross channel failure; thus, it is key to verifying the instrumentation continues to operate properly between each CHANNEL CALIBRATION.

The channel deviation criterion is based on meeting the requirement of LCO 3.1.4, "Rod Group Alignment Limits," item a. If a channel is outside the criteria, it may be an indication that rod position indication has drifted outside its limit. If the channels are within the criteria, it is an indication that the channels are OPERABLE.

The Frequencies of 12 hours and "once within 4 hours following rod motion > 6 inches when the rod position deviation monitor is inoperable" are based on operating experience. The CHANNEL CHECK supplements less formal, but more frequent, checks of channels during normal operational use of the displays associated with the LCO required channels.

SR 3.1.7.1 is modified by a Note which states the surveillance is only required to be met for bank positions ≥ 200 steps since LCO 3.1.4, item a, limits related to comparison of analog rod position and bank demand position indication only apply for bank positions ≥ 200 steps.

SR 3.1.7.2

Verification that each ARPI is within 7.5 inches of the average of the individual ARPIs in the associated bank after moving each full length RCCAs bank ≥ 19 steps and then returning the banks to their original positions provides adequate assurance that each ARPI is operating correctly. The 31 day Frequency is based on operating experience.

SR 3.1.7.2 is modified by a Note which states the surveillance is only required to be met for bank positions < 200 steps since LCO 3.1.4, item b, limits related to comparison of analog rod position and the average of the individual analog rod position indications only apply for bank positions < 200 steps.

SR 3.1.7.3

Verification that each ARPI is within 15 inches of the associated bank demand

position after moving each full length RCCAs bank $\geq$ 19 steps and then returning the banks to their original positions provides adequate assurance that each ARPI and bank demand position indication is operating correctly. The 31 day Frequency is based on operating experience.

SR 3.1.7.3 is modified by a Note which states the surveillance is only required to be met for bank positions $\geq$ 200 steps since LCO 3.1.4, item a, limits related to comparison of analog rod position and bank demand position indication only apply for bank positions $\geq$ 200 steps.

SR 3.1.7.4

A CHANNEL CALIBRATION of the ARPI System is performed every 18 months, or approximately at every refueling. CHANNEL CALIBRATION is a complete check of the instrument loop, including the sensor. The test verifies that the channel responds to the measured parameter with the necessary range and accuracy. The 18 month Frequency is based on the need to perform this Surveillance under conditions that apply during a plant outage and the potential for an unplanned transient if the Surveillance were performed with the reactor at power.

repeated in the Bases.

35 Demand position indication is not calibrated. The counters are reset to zero when rods are fully inserted prior to startup.

36 The referenced analysis does not include explicit consideration of the effects on core peaking factors of rod position versus power level, and is not retained in the ITS.

37 The Bases for ITS 3.1.7 are revised to reflect changes made to the associated Specification and the current licensing basis approved in HBRSEP Unit No. 2 Amendment No. 48..

38 Not used.

39 HBRSEP is not committed to either Regulatory Guide 1.68 or ANSI/ANS-19.6.1.

40 The word, "more," is changed to the word, "both," because plant design includes two shutdown banks.

41 The boron exchange methodology is the method used at HBRSEP to perform integral and differential rod worth measurements. This method is used to determine the reactivity of individual rod banks, as well as the reactivity of the predicted "worst case" stuck rod.

42 The "average slope method" is used at HBRSEP for measuring isothermal temperature coefficient (ITC).

43 ITS SR 3.1.8.1 is deleted. Performance of a COT on power range and intermediate range channels is required by LCO 3.3.1, "Reactor Protection System (RPS) Instrumentation," every 92 days (SR 3.3.1.7 and SR 3.3.1.8). The 92 day required Frequency has been determined to be sufficient for verification that the power range and intermediate range monitors are properly functioning.

44 The referenced reports are not applicable to HBRSEP.

45 Not used.

46 Not used.

47 Bases are modified for consistency with the scope and content of the associated Specification. This change is based on the need to perform the surveillance following plant evolutions that could cause disturbance of the instruments.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
B. (continued)	B.2 Reduce THERMAL POWER to ≤ 50% RTP.	8 hours
C. One demand position indicator per bank inoperable for one or more banks.	C.1.1 Verify by administrative means all ARPIs for the affected banks are OPERABLE. AND C.1.2 --------NOTE-------- Only required to be met for bank positions < 200 steps. -------------------- Verify the position of each rod in the affected bank(s) is within 7.5 inches of the average of the individual rod positions in the affected bank(s). AND	Once per 8 hours Once per 8 hours (continued)

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
C. (continued)	C.1.3 --------NOTE-------- Only required to be met for bank positions ≥ 200 steps. -------------------- Verify the position of each rod in the affected bank(s) is within 15 inches of the bank demand position. <u>OR</u> C.2 Reduce THERMAL POWER to ≤ 50% RTP.	 Once per 8 hours 8 hours
D. Required Action and associated Completion Time not met.	D.1 Be in MODE 3.	6 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.1.7.1	-------------------NOTE------------------ Only required to be met for bank positions ≥ 200 steps. --- Perform CHANNEL CHECK by comparing analog rod position indication and bank demand position indication.	12 hours **AND** Once within 4 hours following > 6 inches of rod motion when rod position deviation monitor is inoperable
SR 3.1.7.2	-------------------NOTE------------------ Only required to be met for bank positions < 200 steps. --- Verify each ARPI is within 7.5 inches of the average of the individual ARPIs in the associated bank after moving each full length RCCA bank ≥ 19 steps and returning the banks to their original positions.	31 days
SR 3.1.7.3	-------------------NOTE------------------ Only required to be met for bank positions ≥ 200 steps. --- Verify each ARPI is within 15 inches of the associated bank demand position after moving each full length RCCA bank ≥ 19 steps and returning the banks to their original positions.	31 days

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.1.7.4	Perform CHANNEL CALIBRATION of the ARPI System.	18 months

BASES

ACTIONS (continued)

A.2

Reduction of THERMAL POWER to ≤ 50% RTP more than offsets the increase in core F_Q and $F^N_{\Delta H}$ due to rod position.

The allowed Completion Time of 8 hours is reasonable, based on operating experience, for reducing power to ≤ 50% RTP from full power conditions without challenging plant systems and allowing for rod position determination by Required Action A.1 above.

B.1 and B.2

These Required Actions clarify that when one or more rods with inoperable position indicators have been moved in excess of 24 steps in one direction, since the position was last determined, the Required Actions of A.1 and A.2 are still appropriate but must be initiated promptly under Required Action B.1 to begin verifying that these rods are still properly positioned, relative to their group positions.

If, within 6 hours, the rod positions have not been determined, THERMAL POWER must be reduced to ≤ 50% RTP within 8 hours to avoid undesirable power distributions that could result from continued operation at > 50% RTP, if one or more rods are misaligned by more than 24 steps. The allowed Completion Time of 6 hours provides an acceptable period of time to verify the rod positions.

C.1.1, C.1.2, and C.1.3

With one demand position indicator per bank inoperable, the rod positions can be determined by the ARPI System. Since normal power operation does not require excessive movement of rods, verification by administrative means that the rod position indicators are OPERABLE, that the position of each rod in the affected bank(s) is within 7.5 inches of the average of the individual rod positions in the affected bank(s), for bank positions < 200 steps and that the position of each rod in the affected bank(s) is within 15 inches of the bank demand position for bank positions ≥ 200 steps within the allowed Completion Time of once every 8 hours is adequate.

(continued)

BASES

ACTIONS (continued)

C.2

Reduction of THERMAL POWER to ≤ 50% RTP puts the core into a condition where rod position is not significantly affecting core peaking factors. The allowed Completion Time of 8 hours provides an acceptable period of time to verify the rod positions per Required Actions C.1.1 and C.1.2 or reduce power to ≤ 50% RTP.

D.1

If the Required Actions cannot be completed within the associated Completion Time, the plant must be brought to a MODE in which the requirement does not apply. To achieve this status, the plant must be brought to at least MODE 3 within 6 hours. The allowed Completion Time is reasonable, based on operating experience, for reaching the required MODE from full power conditions in an orderly manner and without challenging plant systems.

SURVEILLANCE REQUIREMENTS

SR 3.1.7.1

Performance of the CHANNEL CHECK once every 12 hours and "once within 4 hours following rod motion > 6 inches when the rod position deviation monitor is inoperable" ensures that a gross instrumentation failure has not occured. The CHANNEL CHECK of rod position indication is a comparison of the rod position indicated on analog rod position indication channels and bank demand position indication channels. It is based on the assumption that instrument channels monitoring the same parameter should read approximately the same value. Significant deviations between the analog rod position indication of excessive instrument drift in one of the indication channels or of something even more serious. A CHANNEL CHECK will detect gross channel failure; thus, it is the key to verifying the instrumentation continues to operate properly between each CHANNEL CALIBRATION.

The channel deviation criterion is based on meeting the requirement of LCO 3.1.4, "Rod Group Alignment Limits," item a. If a channel is outside the criteria, it may be an

(continued)

BASES

SURVEILLANCE REQUIREMENTS

SR 3.1.7.1 (continued)

indication that rod position indication has drifted outside its limit. If the channels are within the criteria, it is an indication that the channels are OPERABLE.

The Frequencies of 12 hours and "once within 4 hours following rod motion > 6 inches when the rod position deviation monitor is inoperable" are based on operating experience. The CHANNEL CHECK supplements less formal, but more frequent, checks of channels during normal operational use of the displays associated with the LCO required channels.

SR 3.1.7.1 is modified by a Note which states the surveillance is only required to be met for bank positions ≥ 200 steps since LCO 3.1.4, item a, limits related to comparison of analog rod position and bank demand position inidication only apply for bank positions ≥ 200 steps.

SR 3.1.7.2

Verification that each ARPI is within 7.5 inches of the average of the individual ARPIs in the associated bank after moving each full length RCCAs bank ≥ 19 steps and then returning the banks to their original positions provides adequate assurance that each ARPI is operating correctly. The 31 day Frequency is based on operating experience.

SR 3.1.7.2 is modified by a Note which states the surveillance is only required to be met for bank positions < 200 steps since LCO 3.1.4, item b, limits related to comparison of analog rod position and the average of the individual analog rod position indications only apply for bank positions < 200 steps.

SR 3.1.7.3

Verification that each ARPI is within 15 inches of the associated bank demand position after moving each full length RCCAs bank ≥ 19 steps and then returning the banks to their original positions provides adequate assurance that each ARPI and bank demand position indication is operating

(continued)

BASES

SURVEILLANCE REQUIREMENTS

SR 3.1.7.3 (continued)

correctly. The 31 day Frequency is based on operating experience.

SR 3.1.7.3 is modified by a Note which states the surveillance is only required to be met for bank positions ≥ 200 steps since LCO 3.1.4, item a, limits related to comparison of analog rod position and bank demand position indication only apply for bank positions ≥ 200 steps.

SR 3.1.7.4

A CHANNEL CALIBRATION of the ARPI System is performed every 18 months, or approximately at every refueling. CHANNEL CALIBRATION is a complete check of the instrument loop, including the sensor. The test verifies that the channel responds to the measured parameter with the necessary range and accuracy. The 18 month Frequency is based on the need to perform this Surveillance under conditions that apply during a plant outage and the potential for an unplanned transient if the Surveillance were performed with the reactor at power.

REFERENCES

1. UFSAR Section 3.1.2.
2. CP&L Letter, E. E. Utley to NRC, "Rod Position Indication System," dated 12/14/79.
3. UFSAR, Chapter 15.

SUPPLEMENT 4
CONVERSION PACKAGE SECTION 3.3
PAGE INSERTION INSTRUCTIONS

Remove and insert the following pages into Enclosure 11 to Serial: RNP-RA/96-0141.

	Remove Page	Insert Page
a.	Part 1, "Markup of Current Technical Specifications (CTS)"	
	2.3-1, 2.3-2, 2.3-3, 3.5-12, 3.5-13b	2.3-1, 2.3-2, 2.3-3, 3.5-12, 3.5-13b
	3.10-8, 4.1-5, 4.1-6, 4.1-7, 4.1-7a	3.10-8, 4.1-5, 4.1-6, 4.1-7, 4.1-7a
	4.1-9, 4.1-12, 3.5-14	4.1-9, 4.1-12, 3.5-14
	4.5-1	-
	4.5-2	-
	3.5-15a, 3.5-16, 3.5-17, 3.5-18, 3.5-19a	3.5-15a, 3.5-16, 3.5-17, 3.5-18, 3.5-19a
	4.1-8, 3.5-15a, 3.5-15a	4.1-8, 3.5-15a (sheet1), 3.5-15a (sheet2)
	4.1-8, 3.5-10, 3.5-11, 3.5-1, 3.5-16, 3.5-11	4.1-8, 3.5-10, 3.5-11, 3.5-1, 3.5-16, 3.5-11
	3.8-1, 3.4-5, 4.8-3	3.8-1, 3.4-5, 4.8-3
b.	Part 2, "Discussion of Changes (DOCs) for CTS Markup"	
	1 through 31	1 through 55
c.	Part 3, "No Significant Hazards Consideration (NSHC), And Basis for Categorical Exclusion from 10 CFR 51.22"	
	1 through 40	1 through 55
d.	Part 4, "Markup of NUREG-4131, Revision 1, Standard Technical Specifications-Westinghouse Plants, (ISTS)"	
	3.3-3, 3.3.-4, 3.3-7, 3.3-8, 3.3-10	3.3-3, 3.3-4, 3.3-7, 3.3-8, 3.3-10
	3.3-11, 3.3-12, 3.3-13	3.3-11, 3.3-12, 3.3-13
	Insert 3.3.1-1 (no page number)	3.3.1-13a
	3.3-14, 3.3-15,3.3-16, 3.3-19	3.3-14, 3.3-15, 3.3-16, 3.3-19
	-	3.3-19a
	3.3-21, 3.3-22	3.3-21, 3.3-22
	Insert 3.3.2-1 (no page number)	3.3-23a
	3.3-25, 3.3-29, 3.3-31	3.3-25, 3.3-29, 3.3-31
	Insert 3.3.2-3 (no page number)	3.3-31a
	3.3-32, 3.3-33, 3.3-34, 3.3-35, 3.3-36	3.3-32, 3.3-33, 3.3-34, 3.3-35, 3.3.36
	3.3-37, 3.3-39	3.3-37, 3.3-39
	Insert 3.3.2-4 (no page number)	3.3.2-39a
	3.3-40, Insert 3.3.3-1 (no page number)	3.3-40, 3.3-40a
	3.3-42, 3.3-43, 3.3-44, 3.3-46, 3.3-47	3.3-42, 3.3-43, 3.3-44, 3.3-46, 3.3-47
	Insert 3.3.5-1 (no page number)	3.3-47a
	3.3-48, 3.3-50, 3.3-52, 3.3-53, 3.3-54	3.3-48, 3.3-50, 3.3-52, 3.3-53, 3.3-54
	3.3-55, 3.3-56, 3.3-57, 3.3-58, 3.3-59	3.3-55, 3.3-56, 3.3-57, 3.3-58, 3.3-59

SUPPLEMENT 4
CONVERSION PACKAGE SECTION 3.3
PAGE INSERTION INSTRUCTIONS

Remove and insert the following pages into Enclosure 11 to Serial: RNP-RA/96-0141.

	Remove Page	Insert Page
d.	Part 4, "Markup of NUREG-4131, Revision 1, Standard Technical Specifications-Westinghouse Plants, (ISTS)"	
	Insert 3.3.8-1 pages 1, 2,3, - 4	Insert 3.3.8-1 pages 1, 2, 3, - 4
e.	Part 5, "Justification of Differences (JFDs) to ISTS"	
	1 through 8	1 through 15
f.	Part 6, "Markup of ISTS Bases"	
	B 3.3-16	B 3.3-16
	-	B3.3-16a
	B 3.3-17	B 3.3-17
	-	B 3.3-17a
	B 3.3-35, B 3.3-48, B 3.3-49, B 3.3-50	B 3.3-35, B 3.3-48, B3.3-49, B3.3-50
	B 3.3-52, B 3.3-57	B 3.3-52, B 3.3-57
	Insert B 3.3.3-7 (no page number)	B 3.3-57a
	B 3.3-58, B 3.3-75, B 3.3-78	B 3.3-58, B 3.3-75, B 3.3-78
	Insert B 3.3.2-4 (no page number)	B 3.3-78a
	B 3.3-80, B 3.3-84, B 3.3-85, B 3.3-104	B 3.3-80, B 3.3-84, B 3.3-85, B 3.3-104
	Insert B 3.3.2-9 (no page number)	B 3.3-104a
	B 3.3-108, B 3.3-109	B 3.3-108, B 3.3-109
	Insert B 3.3.2-12 (no page number)	B 3.3-109a
	B 3.3-114	B 3.3-114
	Insert B 3.3.2-13a (no page number)	B 3.3-114b
	Insert B 3.3.2-14 (no page number)	B 3.3-116a
	Insert B 3.3.2-16 (no page number)	B 3.3-117a
	B 3.3-120	B 3.3-120
	Insert B 3.3.2-17 (no page number)	B 3.3-120a
	B 3.3-129, B 3.3-131, B 3.3-134	B 3.3-129, B 3.3-131, B 3.3-134
	Insert B 3.3.3-7 (no page number)	B 3.3-135a
	B 3.3-136, B 3.3-137	B 3.3-136, B 3.3-137
	Insert B 3.3.3-11 (no page number)	B 3.3-137a
	B 3.3-139, B 3.3-140, B3.3-141, B 3.3-143	B 3.3-139, B 3.3-140, B 3.3-141, B 3.3-143
	-	B 3.3- 143a

SUPPLEMENT 4
CONVERSION PACKAGE SECTION 3.3
PAGE INSERTION INSTRUCTIONS

Remove and insert the following pages into Enclosure 11 to Serial: RNP-RA/96-0141.

	Remove Page	Insert Page
f.	Part 6, "Markup of ISTS Bases"	
	B 3.3-147, Insert B 3.3.5-5 (no page number)	B 3.3-147 & B 3.3-147a
	B 3.3-148, B 3.3-149, B 3.3-150, B 3.3-151	B 3.3-148, B 3.3-149, B 3.3-150, B 3.3-151
	B 3.3-152, Insert B 3.3.6-2 (no page number)	B 3.3-152, B 3.3-152a
	B 3.3-153, B 3.3-154, B 3.3-155	B 3.3-153, B 3.3-154, B 3.3-155
	B 3.3-156, Insert B 3.3.6-4 (no page number)	B 3.3-156, B 3.3-156a
	B 3.3-157	B 3.3-157
	-	B 3.3-157a
	B 3.3-158, B 3.3-160	B 3.3-158, B 3.3-160
	B 3.3-161, Insert B 3.3.7-3 (no page number)	B 3.3-161, B 3.3-161a
	B 3.3-162, B 3.3-163	B 3.3-162, B 3.3-163
	Insert B 3.3.7-4 (no page number)	B 3.3-163a
	B 3.3-165	B 3.3-165
	-	B 3.3-165a
	B 3.3-166	B 3.3-166
	-	B 3.3-166a
	B 3.3-167	B 3.3-167
	Insert 3.3.8 (Page 10)	Insert 3.3.8 (Page 10)
g.	Part 7, "Justification for Differences (JFDs) to ISTS Bases"	
	1 through 15	1 through 15
h.	Part 8, "Proposed HBRSEP, Unit No.2 ITS"	
	3.3-6, 3.3-8	3.3-6, 3.3-8
	3.3-13 through 3.3-33	3.3-13 through 3.3-33
	3.3-35, 3.3-36, 3.3-37, 3.3-39, 3.3.40	3.3-35, 3.3-36, 3.3-37, 3.3-39, 3.3-40
	3.3-41, 3.3.43, 3.3-44, 3.3-45, 3.3-46	3.3-41, 3.3-43, 3.3-44, 3.3-45, 3.3-46
	3.3-47 3.3-48, 3.3-49, 3.3-50	3.3-47 3.3-48, 3.3-49, 3.3-50
i.	Part 9, "Proposed Bases to HBRSEP, Unit No. 2 ITS Bases"	
	B 3.3-1 through B 3.3-105	B 3.3-1 through B 3.3-105
	-	B 3.3-105a
	B 3.3-106 through B 3.3-130	B 3.3-106 through B 3.3-130
	-	B 3.3-130a

SUPPLEMENT 4
CONVERSION PACKAGE SECTION 3.3
PAGE INSERTION INSTRUCTIONS

Remove and insert the following pages into Enclosure 11 to Serial: RNP-RA/96-0141.

Remove Page	Insert Page

i. Part 9, "Proposed Bases to HBRSEP, Unit No. 2 ITS Bases"

B 3.3-131 through B 3.3-139	B 3.3-131 through B 3.3-139

j. Part 10, "ISTS Generic Changes"
NA

ITS

A1

2.3 LIMITING SAFETY SYSTEM SETTINGS, PROTECTIVE INSTRUMENTATION

Applicability

Applies to trip settings for instruments monitoring reactor power and reactor coolant pressure, temperature, and flow and pressurizer level.

Objective

To provide for automatic protection action in the event that the principal process variables approach a safety limit.

Specification

[LCO 3.3.1] 2.3.1 Protective instrumentation settings for reactor trip shall be OPERABLE as follows:

2.3.1.1 Start-up protection

[T3.3.1-1 (2.b)] a. High flux, power range (low setpoint) ≤ 25% 24 of rated power.

2.3.1.2 Core protection

[T3.3.1-1 (2.a)] a. High flux, power range (high setpoint) ≤ 109% 108 of rated power

[T3.3.1-1 (7.b)] b. High pressurizer pressure ≤ 2385 2376 psig.

[T3.3.1-1 (7.a)] c. Low pressurizer pressure ≥ 1835 1844 psig.

M1

[T3.3.1-1 (5)] d. Overtemperature Δ T

[NOTE 1]

L1

The OTΔT Function Allowable Value shall not exceed the following Trip Setpoint by more than 2.96% of ΔT span.

$$\leq \Delta T_o \left\{ K_1 - K_2 \frac{(1 + \tau_1 S)}{(1 + \tau_2 S)} (T - T') + K_3 (P - P') - f(\Delta I) \right\}$$

M20

Add Trip Setpoints

Intermediate Range Neutron Flux	25% thermal power
Source Range Neutron Flux	1.0E5 cps
Steam Generator water level low	30%
Coincident with Steam Flow/Feedwater Flow Mismatch	6.4E5 lbm/hr
Turbine Trip low autostop oil pressure	45 psig

[T3.3.1-1(5)]
[NOTE 1]

where:

ΔT_o = Indicated ΔT at rated thermal power, °F;
T = Average temperature, °F;
P = Pressurizer pressure, psig;
K_1 = ~~1.1265~~; ≤ 1.1265 M1
K_2 = 0.01228;
K_3 = 0.00089;

~~$\frac{1 + \tau_1 S}{1 + \tau_2 S}$ = The function generated by the lead-lag controller for T_{avg} dynamic compensation;~~ LA1

τ_1 & τ_2 = ~~Time constants utilized in the lead-lag controller for T_{avg}~~, τ_1 ~~= 20~~ ≥ 20.08 seconds; τ_2 ~~= 3~~ ≤ 3.08 seconds; L2

T' ~~=~~ $\leq$ 575.4°F Reference T_{avg} at rated thermal power;

P' ~~=~~ 2235 psig (Nominal RCS Operating Pressure);

S = Laplace transform operator, sec^{-1};

~~and $f(\Delta I)$ is a function of the indicated difference between top and bottom detectors of the power-range nuclear ion chambers; with gains to be selected based on measured instrument response during plant start-up tests such that:~~

1) For $(q_t - q_b)$ within +12% and -17%, where q_t and q_b are percent power in the top and bottom halves of the core, respectively, and $q_t + q_b$ is total core power in percent of rated power (2300 Mwt), $f(\Delta I)$ = 0. ~~For every 2.4% below rated power (2300 Mwt) level, permissible positive flux difference range is extended by +1 percent. For every 2.4% below rated power (2300 Mwt) level, the permissible negative flux difference range is extended by -1 percent.~~ LA1

2) For each percent that the magnitude of $(q_t - q_b)$ exceeds +12% in a positive direction, the ΔT trip setpoint shall be automatically reduced by ~~2.4% of the value of ΔT at rated power (2300 Mwt)~~

$2.4 (q_T - q_b) - 12$ percent A2

ITS

[T3.3.1-1 (5)]
[NOTE 1]

(3) For each percent that the magnitude of $(q_t - q_b)$ exceeds -17% in the negative direction, the ΔT trip setpoint shall be automatically reduced by ~~2.4% of the value of ΔT at rated power (2300 Mwt)~~. 2.4 $(q_b - q_T)$ - 17 percent

A1 A2

[T3.3.1-1 (6)]
[NOTE 2]

e. Overpower Δ T

$$\leq \Delta T_o \left\{ K_4 - K_5 \left[\frac{\tau_3 S}{1 + \tau_3 S} \right] T - K_6 (T - T') - f(\Delta I) \right\}$$

The OPΔT Function Allowable Value shall not exceed the following Trip Setpoint by more than 3.17% of ΔT span

L1

where:

ΔT_o = Indicated ΔT at rated thermal power, °F;

T = Average temperature, °F;

T′ ~~=~~ ≤ 575.4°F Reference T_{avg} rated thermal power;

K_4 ~~1.07,~~ ≤ 1.06

M1 L2

K_5 ~~=~~ ≥ 0.0 for decreasing average temperature, 0.02 sec/°F for increasing average temperature;

K_6 ~~=~~ ≥ 0.00277 for T > T′ and 0 for T ≤ T′;

S = Laplace transform operator, sec^{-1};

~~$\frac{\tau_3 S}{1 + \tau_3 S}$ = The function generated by the rate-lag controller for T_{avg} dynamic compensation;~~

~~τ_3 = Time constant utilized in the rate-lag controller for T_{avg},~~ τ_3 ~~≤ 10~~ ≥ 9 seconds;

LA1 L2

~~f(ΔI) = As defined in d. above~~

M1

[T3.3.1-1 (9)] f. Low reactor coolant loop flow ≥ ~~90%~~ 91 of normal indicated flow. a. Single loop b. Two loops

A3

[T3.3.1-1 (12)] g. Low reactor coolant pump frequency ≥ ~~57.5~~ 58.2 Hz.

[T3.3.1-1 (11)] h. Undervoltage ≥ ~~70% of normal voltage~~ 3120

2.3.1.3 Other Reactor Trips

[T3.3.1-1 (8)] a. High pressurizer water level ≤ ~~92%~~ 91 of span.

M1

[T3.3.1-1 (13)] b. Low-low steam generator water level ≥ ~~14%~~ 16 of narrow range instrument span.

Specification 3.3.1

A1

TABLE 3.5-2

ITS

REACTOR TRIP INSTRUMENTATION LIMITING OPERATING CONDITIONS

A27

NO.	FUNCTIONAL UNIT	1 TOTAL NO. OF CHANNELS	2 MINIMUM CHANNELS OPERABLE	3 OPERATOR ACTION IF COLUMN 1 OR 2 CANNOT BE MET	APPLICABLE CONDITIONS
[T3.3.1-1(1)] 1.	Manual	2 2	2 2	ACTION 1 B ACTION 8 C	~~Reactor Critical~~ MODES 1, 2 ~~Hot/Cold Shutdown~~* MODES 3, 4, 5 (a)
[T3.3.1-1(2)] 2.	Nuclear Flux Power Range* A. High Setpoint B. Low Setpoint	 4 4	 3 3	 ACTION 2 D ACTION 2 E	MODES 1, 2 ~~Reactor Critical~~ ~~Reactor Critical~~** (b) (c)(d) A30
[T3.3.1-1(3)] 3.	Nuclear Flux Intermediate Range	2	2	ACTION 3 F, G, H	MODES 1, 2 ~~Reactor Critical~~** A28
[T3.3.1-1(4)] 4.	Nuclear Flux Source Range A. Startup B. Shutdown C. Shutdown	 2 ~~2~~ 1 2	 2 1 2	I L ACTION 4 ACTION 5 ACTION 8 K	A31 (d) (e) MODE 2 ~~Reactor Critical~~*** ~~Hot/Cold Shutdown~~ ~~Hot/Cold Shutdown~~* MODES 3, 4, 5 (a)
[T3.3.1-1(5)] 5.	Overtemperature ΔT	3	2	ACTION 6	~~Reactor Critical~~
[T3.3.1-1(6)] 6.	Overpower ΔT	3	2	E ACTION 6	MODES 1, 2 ~~Reactor Critical~~
[T3.3.1-1(2a)] 7.	Low Pressurizer Pressure	3	2	M L10 ACTION 6	~~*****~~ MODE 1 (f)
[T3.3.1-1(2b)] 8.	Hi Pressurizer Pressure	3	2	E ACTION 6	MODES 1, 2 ~~Reactor Critical~~
[T3.3.1-1(8)] 9.	Pressurizer-Hi Water Level	3	2	ACTION 6 M L10	~~*****~~ MODE 1 (f)
[T3.3.1-1(9)] 10.	Low Reactor Coolant Flow A. Single Loop B. Two Loop	 3/loop 3/loop	 2/loop 2/loop	M M ACTION 6 ACTION 6	M50 MODE 1 (g) ~~≤45% of rated power~~ ~~****~~ MODE 1 (h)

Add ACTIONS M49

Amendment No. ~~85~~, 175

Supplement 4

(A1)

ITS

TABLE 3.5-2 (Continued)

REACTOR TRIP INSTRUMENTATION LIMITING OPERATING CONDITIONS

TABLE NOTATIONS

and rods not fully inserted or Rod Control System capable of rod withdrawal. (L35)

(a) * With the reactor trip breakers closed.

(b) ** Below the P-10 (Low Setpoint Power Range Neutron Flux Interlock) setpoint.

(d) *** Below the P-6 (Intermediate Range Neutron Flux Interlock) setpoint.

(h) **** Above the ~~P-10 (Low Setpoint Power Range Neutron Flux Interlock) setpoint or~~ P-7 (Turbine First Stage Pressure Interlock) setpoint and below the P-8 (Low Setpoint Power Range Neutron Flux Interlock) setpoint. (L5)

(f) ***** Above the ~~P-10 (Low Setpoint Power Range Neutron Flux Interlock) setpoint or~~ P-7 (Turbine First Stage Pressure Interlock) setpoint. (A30)

Add Note (c) (A31)

ACTION STATEMENTS

Add Note (e)

[ACTION B] ACTION 1 With the number of OPERABLE channels (48) one less than the Minimum Channels OPERABLE requirement, restore the inoperable channel to OPERABLE status within ~~12~~ 48 hours, or be in the ~~HOT SHUTDOWN CONDITION~~ Mode 3 within ~~the next 6~~ hours and open RTBs in 55 hours. (L6)

[ACTION D] ACTION 2 With the number of OPERABLE channels one less than the Total Number of Channels, Startup and/or Power Operation may proceed provided the following Conditions are satisfied: (L7)

Add RA D.2.2 "NOTE"

[ACTION E]

a. The inoperable channel is placed in the tripped condition within ~~1~~ 6 hour. (L8)

[ACTION D]

b. ~~Either, thermal power is restricted to less than or equal to 75% of rated power and the Power Range Neutron Flux trip setpoint is reduced to less than or equal to 85% of rated power within 4 hours; or, the Quadrant Power Tilt Ratio is monitored within 12 hours and every 12 hours thereafter, using the movable incore detectors to confirm that the normalized symmetric power distribution is consistent with the indicated Quadrant Power Tilt Ratio.~~ be in MODE 3 in 12 hours (M6)

[ACTION E]

ACTION 3 With the number of channels OPERABLE one less than the Minimum Channels OPERABLE requirement and with the thermal power level:

[ACTION H] a. Below the P-6 (Intermediate Range Neutron Flux Interlock) setpoints, restore the inoperable channel to OPERABLE status prior to increasing thermal power above the P-6 setpoint.

[ACTION F] b. Above the P-6 (Intermediate Range Neutron Flux Interlock) setpoint but below 10% of rated power, ~~restore the inoperable channel to OPERABLE status prior to increasing thermal power above 10% of rated power.~~ (M7)

Reduce power to < P6 in 2 hours or increase power to > P10 in 2 hours. (L36)

With the number of channels OPERABLE one or two less than the Minimum Channels OPERABLE (L38)

Supplement 4

ITS

Specification 3.3.1

A1

3.10.4 Rod Drop Time

3.10.4.1 The drop time of each control rod shall be not greater than 1.8 seconds at full flow and operating temperature from the beginning of rod motion to dashpot entry.

See 3.1.4

3.10.5 Reactor Trip Breakers

[T3.3.1-1 (18,19,20)] [Applicability] 3.10.5.1 The reactor shall not ~~be made critical~~ MODES 1, 2 unless the following conditions are met: A18

[T 3.3.1-1 (18, 19)] a. Two reactor trip breakers with undervoltage and shunt trip mechanisms are operable. Add Note(s) A32

b. ~~Reactor trip bypass breakers are racked out or removed.~~ LA3

[T3.3.1-1 (20)] c. Two trains of automatic trip logic are operable.

[Action Q] [Action R] 3.10.5.2 During power operation, MODE 3 the requirements of 3.10.5.1 may be modified to allow the following components to be inoperable. If the system is not restored to meet the requirements of 3.10.5.1, the reactor shall be placed in the hot shutdown condition utilizing normal operating procedures within the next ~~8~~ 6 hours. M8

[Action R] a. One reactor trip breaker may be inoperable for up to ~~12~~ 1 hours.

[Action Q] b. One train of automatic trip logic may be inoperable for up to ~~12~~ 6 hours.

[Action Q Note] [Action R Note] c. One reactor trip bypass breaker may be racked in and closed for up to 12 hours.

[Action U] 3.10.5.3 With one of the diverse trip features inoperable (shunt trip attachment/undervoltage trip attachment) on one of the reactor trip breakers, power operation may continue for up to 48 hours. If the

Add Table 3.3.1-1 Items 18, 19, 20 for MODE Applicability 3(a), 4(a), 5(a) and Required Actions V and C

M9

Supplement 4

Add SR "NOTE" A5

L39

ITS

TABLE 4.1-1
MINIMUM FREQUENCIES FOR CHECKS, CALIBRATIONS AND TEST OF INSTRUMENT CHANNELS

L14

ITS		Channel Description	Check	Calibrate	Test	Remarks
[T3.3.1-1(2.a)]	1.	Nuclear Power Range	~~S~~ SR 3.3.1.1	~~D (1)~~ ~~M (3)~~ ~~R (3)~~ SR 3.3.1.2 SR 3.3.1.11	~~B/W (2)~~ SR 3.3.1.7 SR 3.3.1.8	~~(1) Thermal Power calculations during power operations~~ ~~(2) Signal to ΔT; bistable action (permissive, rod stop, trips)~~ ~~(3) Upper and lower chambers for symmetric offset: monthly during power operations. When periods of reactor shutdown extend this interval beyond one month, the calibration shall be performed immediately following return to power.~~ A33 A7
[T3.3.1-1(3)]	2.	Nuclear Intermediate Range	~~S (1)~~ SR 3.3.1.1	~~N.A.~~ SR 3.3.1.11	~~S/U (2)~~ SR 3.3.1.8	~~(1) Once/shift when in service~~ ~~(2) Log level; bistable action (permissive, rod stop, trip)~~ L15 M15
[T3.3.1-1(4)]	3.	Nuclear Source Range	~~S (1)~~ SR 3.3.1.1	~~N.A.~~ SR 3.3.1.11	~~S/U (2)~~ SR 3.3.1.7 SR 3.3.1.8	~~(1) Once/shift when in service~~ ~~(2) Bistable action (alarm, trip)~~ A7
T3.3.1-1(5,6)	4.	~~Reactor Coolant Temperature~~ OTΔT and OPΔT	~~S~~ SR 3.3.1.1	~~R (4)~~ SR 3.3.1.12 SR 3.3.1.3 SR 3.3.1.6	~~B/W (1)(2)~~ SR 3.3.1.7 ~~R (3)~~	~~(1) Overtemperature - ΔT~~ ~~(2) Overpower - ΔT~~ ~~(3) Narrow range RTD response time~~ ~~(4) To include narrow range RTD cross calibration~~ M16 A7 LA8
[T3.3.1-1(9)]	5.	Reactor Coolant Flow	~~S~~ SR 3.3.1.1	~~R~~ SR 3.3.1.10	~~M~~ SR 3.3.1.7	L14
[T3.3.1-1(8)]	6.	Pressurizer Water Level	~~S~~ SR 3.3.1.1	~~R~~ SR 3.3.1.10	~~M~~ SR 3.3.1.7	M14
[T3.3.1-1(7)]	7.	Pressurizer Pressure	~~S~~ SR 3.3.1.1	~~R~~ SR 3.3.1.10	~~M~~ SR 3.3.1.7	
[T3.3.1-1(11)]	8.	~~4 Kv~~ RCP Voltage	N.A	~~R~~ SR 3.3.1.10	~~M~~ SR 3.3.1.9	~~Reactor Protection circuits only~~ L16

~~By means of the moveable in-core detector system~~ A7

[T3.3.1-1(2.b)] Add SR 3.3.1.1, SR 3.3.1.8 and SR 3.3.1.11 for Power Range Neutron Flux-Low

Amendment No. 83, 88, 121 A1

Add SRs 3.3.1.1, 3.3.1.2, 3.3.1.3, 3.3.1.4, 3.3.1.5, 3.3.1.6, 3.3.1.7, 3.3.1.8, 3.3.1.9, 3.3.1.10, 3.3.1.11, 3.3.1.12, 3.3.1.13, 3.3.1.14, and 3.3.1.15 A25

Supplement 4

Specification 3.3.1

ITS

TABLE 4.1-1 (Continued)
MINIMUM FREQUENCIES FOR CHECKS, CALIBRATIONS AND TEST OF INSTRUMENT CHANNELS

See ITS 3.1.7

	Channel Description	Check	Calibrate	Test		Remarks
9.	Analog Rod Position	S (1,2)	R	M	(1) (2)	With step counters Following rod motion in excess of six inches when the computer is out of service
10.	Rod Position Bank Counters	S (1,2)	N.A.	N.A.	(1) (2)	Following rod motion in excess of six inches when the computer is out of service With analog rod position
[T3.3.1-1 (13)] 11.	Steam Generator Level	S SR 3.3.1.1	R SR 3.3.1.10	M SR 3.3.1.7		L16
12.	Charging Flow	N.A.	R	N.A.		
13.	Residual Heat Removal Pump Flow	N.A.	R	N.A.		
14.	Boric Acid Tank Level	D (1)	R	N.A.	(1)	Bubbler tube rodded weekly
15.	Refueling Water Storage Tank Level	W	R	N.A.		LA4
16.	Deleted					
17.	Volume Control Tank Level	N.A.	R	N.A.		
18.	Containment Pressure	D	R	B/W (1)	(1)	Containment isolation valve signal
19.	Deleted by Amendment No. 85					
20.	Boric Acid Makeup Flow Channel	N.A.	R	N.A.		

[T3.3.1-1 (10)] Add SR 3.3.1.14 for RCP Breaker Position
[T3.3.1-1 (16)] Add SR 3.3.1.14 for SI input from ESFAS

M14

A1

Supplement 7 H

Specification 3.3.1

ITS

TABLE 4.1-1 (Continued)

	Channel Description	Check	Calibrate	Test	Remarks	
	21. Containment Sump Level	N.A.	R	N.A.		See 3.4.15; M17
[T 3.3.1-1(15)]	22. Turbine Trip Logic**	N.A.	N.A. SR 3.3.1.10	S SR 3.3.1.15		M17
	23. Accumulator Level and Pressure	S	R	N.A.		LA4
	24. Steam Generator Pressure	S	R	M		LA4
[T 3.3.1-1(17.e)]	25. Turbine ~~First Stage~~ Impulse Pressure	S SR 3.3.1.1	R SR 3.3.1.10	M SR 3.3.1.13		L17
	26. ~~DELETED~~					
[T 3.3.1-1(20)]	27. Automatic Trip Logic Channel Testing	N.A.	N.A.	M(1) SxU(2) SR 3.3.1.5 on a STAGGERED TEST BASIS	Applicability MODES 1,2,3,4,5 (1) ~~During hot shutdown and power operations. When periods of reactor cold shutdown and refueling extend this interval beyond one month, this test shall be performed prior to startup.~~ (2) ~~Logic channel testing for nuclear source range channels shall only be required prior to each reactor startup, if not performed within the previous seven (7) days.~~	M18; M19; L18
	28. ~~DELETED~~					
[T 3.3.1-1(12)]	29. ~~RCP~~ RCPs Frequency	N.A.	R SR 3.3.1.10	R SR 3.3.1.14		

[T 3.3.1-1(15)] ** Stop valve closure or low EH fluid pressure.

[T 3.3.1-1 (17.a - d)] Add SR 3.3.1.11 and SR 3.3.1.13 For RPS interlocks P-6, P-8, P-10 and SR 3.3.1.13 and SR 3.3.1.14 for RPS interlock P-7 — M14

A1

Specification 3.3.1

ITS

TABLE 4.1-1 (Continued)

L19

	Channel Description	Check	Calibrate	Test	Remarks
[T3.3.1-1 (18, 19)] 30.	Reactor Trip Breakers	N.A.	N.A.	M(1) SR 3.3.1.4	(1) ~~The reactor trip breaker trip actuating device operational test shall verify the operability of the UV trip attachment and the shunt trip attachment, individually.~~ LA8
31.	Overpressure Protection System	N.A.	R	M	See 3.4.12

Add SR 3.3.1.2 NOTES 1 (A33) and 2 (L40)
SR 3.3.1.3 NOTES 1 (A34) and 2 (L40)
SR 3.3.1.4 NOTE (A35)
SR 3.3.1.6 NOTE
SR 3.3.1.7 NOTE (L40)
SR 3.3.1.8 NOTE (A36)
SR 3.3.1.9 NOTE (A37)
SR 3.3.1.10 NOTE (A38)
SR 3.3.1.11 NOTE (L41)
SR 3.3.1.12 NOTE (A38)
SR 3.3.1.14 NOTE
SR 3.3.1.15 NOTE (A37)

A1

Supplement 4

Specification 3.3.1

TABLE 4.1-1 (Continued)

MINIMUM FREQUENCIES FOR CHECKS, CALIBRATIONS AND TEST OF INSTRUMENT CHANNELS

ITS

ITS		Channel Description	Check	Calibrate	Test	Remarks	
		b. Main Vent Stack					See 3.3.3
		High Range	D	R	Q		
		Mid Range	D	R	Q		
		c. Spent Fuel Pit Lower Level					M21
		High Range	D	R	Q		
[T3.3.1-1(14)]	39.	Steam/Feedwater Flow Mismatch	~~N.A.~~ SR 3.3.1.1	~~R~~ SR 3.3.1.10	~~M~~ SR 3.3.1.7		L16
[T3.3.1-1(14)]	40.	Low Steam Generator Water Level	~~N.A.~~ SR 3.3.1.1	~~R~~ SR 3.3.1.10	~~M~~ SR 3.3.1.7		
	41.	CV Level (Wide Range)+	M	R	R		See 3.3.3
	42.	CV Pressure (Wide Range)++	M	R	R		
	43.	CV Hydrogen Monitor+++	M	R	R		
	44.	CV High Range Radiation Monitor++++	M	R#	R		
	45.	RCS High Point Vents	N.A.	N.A.	R		See Relocated Specifications
[T3.3.1-1(1)]	46.	Manual Reactor Trip	N.A.	N.A.	~~R(1)~~ SR 3.3.1.14	(1) The manual reactor trip operational test shall verify the independent operability of the manual shunt trip circuit and the manual UV trip circuit on the reactor trip breakers. The test shall also verify the operability of the UV trip circuit on the bypass breakers.	A7
[T3.3.1-1(1,18,19)]	47.	Reactor Trip Bypass Breakers	N.A.	N.A.	~~M(3), R(4)~~ SR 3.3.1.4 SR 3.3.1.14	(3) Remote manual UV trip required only when placing the bypass breaker in service. (4) Perform UV trip from protection system.	L20

Specification 3.3.1

A1

Supplement 4

Amendment No. 94, 122

Specification 3.3.2
A1

ITS

TABLE 4.1-3

FREQUENCIES FOR EQUIPMENT TESTS

		Check	Frequency	Maximum Time Between Tests	
1.	Control Rods	Rod drop times of all full length rods	Each refueling shutdown	NA*	See 3.1.4
2.	Control Rod	Partial movement of all full length rods	Every 2 weeks during reactor critical operations	20 days	
3.	Pressurizer Safety Valves	Set point	Each refueling shutdown	NA	See 3.4.10
4.	Main Steam Safety Valves	Verify each required MSSV lift setpoint per Table 4.1-4 in accordance with the Inservice Testing Program. Following testing, lift setting shall be within +/- 1%.	In accordance with the Inservice Testing Program	NA	See 3.7.1
T3.3.2-1(3) SR 3.3.2.6 5.	Containment Isolation Trip	~~Functioning~~ TADOT	~~Each refueling shutdown~~ 18 Months M26	NA	
6.	Refueling System Interlocks	Functioning	Prior to each refueling shutdown	NA	See 3.9.1
7.	Service Water System	Functioning	Each refueling shutdown	NA	See 3.7.7
8.	~~DELETED~~				
9.	Primary System Leakage	Evaluate	Daily when reactor coolant system is above cold shutdown condition	NA	See 3.4.13
10.	Diesel Fuel Supply	Fuel Inventory	Weekly	10 days	See 3.8.3
11.	~~DELETED~~				
12.	Turbine Steam Stop, Control, Reheat Stop, and Interceptor Valves	Closure	Quarterly during power operation and prior to startup	115 days	See 3.7.1

Add SR 3.3.2.6 "NOTE" A10

Supplement 4

Specification 3.3.2
A1
ITS

TABLE 3.5-3

ENGINEERED SAFETY FEATURES INSTRUMENTATION LIMITING OPERATING CONDITIONS

A27

NO.		FUNCTIONAL UNIT	1 TOTAL NO. OF CHANNELS	2 MINIMUM CHANNELS OPERABLE	3 OPERABLE ACTION IF COLUMN 1 OR 2 CANNOT BE MET	APPLICABLE CONDITIONS
	1.	SAFETY INJECTION				MODE 1,2,3,4
[T3.3.2-1(1a)]	A.	Manual	2	~~2~~	ACTION ~~1~~ B	~~200°F~~
[T3.3.2-1(1c)]	B.	High Containment Pressure (Hi Level)	3	~~2~~	ACTION ~~12~~ E	~~200°F~~
[T3.3.2-1(1e)]	C.	High Differential Pressure between Any Steam Line and the Steam Header	3/Steam Line	~~2/Steam Line~~	ACTION ~~12~~ D	MODE 1,2,3(a) ~~#~~
[T3.3.2-1(1d)]	D.	Pressurizer Low Pressure	3	~~2~~	ACTION ~~12~~ D	MODES 1,2,3(a) ~~#~~
[T3.3.2-1(1f)]	E.	High Steam Flow in 2/3 Steam Lines Coincident with Low T_{avg} in 2/3 loops	2/Steam Line and 1 T_{avg} Loop	~~1/Steam Line and 1 T_{avg} in 2 Loops OR 2/Steam Line and 1 T_{avg}~~	ACTION ~~12~~ D	~~≥350°F ##~~ MODES 1,2(c),3(c)
[T3.3.2-1(1g)]	F.	High Steam Flow in 2/3 Steam Lines Coincident with Low Steam Pressure in 2/3 lines	2/Steam Line and 1 Press/Line	~~1/Steam Line and 1 Press in 2 Lines OR 2/Steam Line and 1 Press~~	ACTION ~~12~~ E	~~≥350°F ##~~
	2.	CONTAINMENT SPRAY				MODES 1,2,3,4
[T3.3.2-1(2a)]	A.	Manual	2	~~2~~	ACTION ~~13~~ I	~~200°F~~
[T3.3.2-1(3c)]	B.	High Containment Pressure (Hi Hi Level)	3/Set	~~2/Set~~	ACTION ~~12~~ E	~~200°F~~

A11

M24

Amendment No. ~~85~~. 175

Supplement 4

Specification 3.3.2

A1

TABLE 3.5-3 (Continued)

ITS

ENGINEERED SAFETY FEATURES INSTRUMENTATION LIMITING OPERATING CONDITIONS

TABLE NOTATIONS

[T3.3.2-1 NOTE A] # Above Low Pressure SI Block Permit interlock.

[T3.3.2-1 Note (1)] ## Trip function may be blocked below Low T_{avg} Interlock setpoint.

~~The reactor may remain critical below the Power Operating conditions~~ with this feature inhibited for the purpose of starting reactor coolant pumps.

See 3.3.5

[ACTION B] ACTION 11 With the number of OPERABLE channels one less than the Minimum Channels OPERABLE requirement, restore the inoperable channel to OPERABLE status within 48 hours or be in at least the Hot Shutdown Condition within the next 8 hours and the Cold Shutdown Condition within the following 30 hours. 6

M22

[ACTION C, G]

ACTION 12 With the number of OPERABLE channels one less than the Total Number of Channels. Power Operation may proceed ~~until performance of the next required operational test~~ provided the inoperable channel is placed into the tripped condition within 1 hour. 6 or restore OPERABLE in 6 hours

[ACTION D ACTION E]

L21

[ACTION I] ACTION 13 With the number of OPERABLE channels one less than the Minimum Channels OPERABLE requirement, restore the inoperable channel to OPERABLE status within 1 hour or be in ~~at least the Hot Shutdown Condition within the next 8 hours and the Cold Shutdown Condition within the following 30 hours.~~ MODE 3 in 7 hrs, MODE 4 in 13 hrs, MODE 5 in 37 hrs

M24

ACTION 14 With the number of OPERABLE channels one less than the Total Number of Channels; place the inoperable channel into the blocked condition within 1 hour, and restore the inoperable channel to OPERABLE status within 48 hours or be in at least the Hot Shutdown Condition within the next 8 hours and the Cold Shutdown Condition within the following 30 hours.

See 3.3.5

M23

[ACTION C] or be in MODE 3 in 12 hours and MODE 5 in 42 hours

[ACTION D/G] or be in MODE 3 in 12 hours and MODE 4 in 18 hours

[ACTION E] or be in MODE 3 in 12 hours, MODE 4 in 18 hours and MODE 5 in 42 hours

A5

Add ACTIONS "Note 1"

L50

Add ACTIONS Note 2

Supplement 4

Specification 3.3.2

A1

TABLE 3.5-4

ISOLATION FUNCTIONS INSTRUMENTATION LIMITING OPERATING CONDITIONS

ITS

A27

NO.	FUNCTIONAL UNIT		1 TOTAL NO. OF CHANNELS	2 ~~MINIMUM CHANNELS OPERABLE~~	3 OPERABLE ACTION IF COLUMN 1 OR 2 CANNOT BE MET	APPLICABLE CONDITIONS
1.	CONTAINMENT ISOLATION					
	A. Phase A					
[T 3.3.2-1 (3a3)]	i.	Safety Injection	See Item No. 1 of Table 3.5-3 for all Safety Injection initiating functions and requirements			MODES 1,2,3,4
[T 3.3.2-1 (3a1)]	ii.	Manual	2	~~2~~	ACTION ~~1~~ B	~~>200°F~~ A27
[T3.3.2-1 (3b)]	B.	Phase B	See Item No. 2 of Table 3.5-3 for all Containment Spray initiating functions and requirements			
	C.	Ventilation Isolation				See 3.3.6
	i.	High Containment Activity. Gaseous	1	0	ACTION 15	During Containment Purge
	ii.	High Containment Activity. Particulate	1	0	ACTION 15	During Containment Purge
	iii.	Phase A	See Item No. 1.A of Table 3.5-4 for all Phase A initiating functions and requirements			

Add Table 3.3.2-1 Items 1b, 2b, 3a(2), 3b(2), 4b, and 5a

Add ACTIONS C, G.

L13

L43

Add Note (f) to Applicability of MODES 2 and 3

Amendment No. ~~85~~. 175

Supplement 1

TABLE 3.5-4 (Continued)

ISOLATION FUNCTIONS INSTRUMENTATION LIMITING OPERATING CONDITIONS

ITS

A27

	NO.	FUNCTIONAL UNIT	1 TOTAL NO. OF CHANNELS	2 ~~MINIMUM CHANNELS OPERABLE~~	3 OPERABLE ACTION IF COLUMN 1 OR 2 CANNOT BE MET	APPLICABLE CONDITIONS
	2.	STEAM LINE ISOLATION				
[T3.3.2-1 (4d)]	A.	High Steam Flow in 2/3 Steam Lines Coincident with Low T_{avg} in 2/3 loops	See Item No. 1.E of Table 3.5-3 for initiating functions and requirements			Add Note (b) to Applicability L42
[T3.3.2-1 (4e)]	B.	High Steam Flow in 2/3 Steam Lines Coincident with Low Steam Pressure in 2/3 lines	See Item No. 1.F of Table 3.5-3 for initiating functions and requirements		ACTION D A1	Add Note (b) to MODE 2 and 3 APPLICABILITY L42; Delete MODE 4 L49
[T3.3.2-1 (4c)]	C.	High Containment Pressure (Hi Hi Level)	See Item No. 2.B of Table 3.5-3 for initiating functions and requirements			
[T3.3.2-1 (4a)]	D.	Manual	1/Line	~~1/Line~~ A27	ACTION ~~16~~ F M25	~~≥350°F~~ MODES 1, 2[(b)], 3[(b)] L42
	3.	FEEDWATER LINE ISOLATION				
[T3.3.2-1 (5)]	A.	Safety Injection	See Item No. 1 of Table 3.5-3 for all Safety Injection initiating functions and requirements			

Add Note 2 to Surveillance Requirements L50

Add ACTION H
SR 3.3.2.1 SR 3.3.2.5
SR 3.3.2.3 SR 3.3.2.7
SR 3.3.2.4
T 3.3.2-1 Item 6

M27

Add T 3.3.2-1 "Allowable Value" column M12

Specification 3.3.3

A1

TABLE 3.5-5
(THIS TABLE APPLIES ~~WHEN THE RCS IS > 350°F~~ in MODES 1, 2, 3)
INSTRUMENTATION TO FOLLOW THE COURSE OF AN ACCIDENT

ITS T 3.3.3-1 ITEM #	NO.	INSTRUMENT	1 MINIMUM CHANNELS OPERABLE	2 OPERATOR ACTION IF CONDITIONS OF COLUMN 1 CANNOT BE MET
[12]	1	Pressurizer Level	2 A,B,C,G	~~See Item 3 Table 3.5-9~~
[19]	2	Auxiliary Feedwater Flow Indication (Primary Indication)		A,B,C,H ~~Note 1~~
		SD AFW Pump	1 per S/G	
		MD AFW Pump	1 per S/G	
	3	~~Reactor Coolant System Subcooling Monitor~~	~~1~~	~~Note 2~~ R1
[22]	4	PORV Position Indicator (Primary)	1	~~Note 3~~
[23]	5	PORV Blocking Valve Position Indicator (Primary)	1	A,B,C,H ~~Note 3~~
[24]	6	Safety Valve Position Indicator (Primary)	1	~~Note 3~~
	7	~~Noble Gas Effluent Monitors*****~~		R1
		~~a. Main Steam Line~~	~~1 per steamline~~	~~Note 4~~
		~~b. Main Vent Stack~~		
		~~High Range~~	~~1~~	~~Note 4~~
		~~Mid Range~~	~~1~~	~~Note 4~~
		~~c. Spent Fuel Pit-Lower Level~~		
		~~High Range~~	~~1~~	~~Note 4~~
[10]	8	CV High Range Radiation Monitor****	2	~~Note 4~~ L22
[7]	9	CV Level (Wide Range)*	2	A,B,C,H ~~Note 5~~ M47
[8]	10	CV Pressure (Wide Range)**	2	~~Note 5~~
[11]	11	CV Hydrogen Monitor***	~~1~~ 3	G ~~Note 6~~ M31
	12	~~Reactor Vessel Level Instrumentation System (RVLIS)~~	~~2~~	~~Note 7~~ R1
[15-18]	13	Incore Thermocouple (T/C)	2 T/C per core quadrant	A,B,C,G ~~Note 8~~

~~* Containment Water Level Monitor - NUREG-0737 Item II.F.1.5~~
~~** Containment Pressure Monitor - NUREG-0737 Item II.F.1.4~~
~~*** Containment Hydrogen Monitor - NUREG-0737 Item II.F.1.6~~
~~**** Containment High-Range Radiation Monitor - NUREG-0737 Item II.F.1.3~~
~~***** Noble Gas Effluent Monitors - NUREG-0737 Item II.F.1.1~~

A19

Supplement 4

Specification 3.3.3

A1

TABLE 3.5-5 (Continued)

ITS

INSTRUMENTATION TO FOLLOW THE COURSE OF AN ACCIDENT

TABLE NOTATION

~~Note 4: With the number of OPERABLE Channels less than required by the Minimum Channels OPERABLE requirement, restore the inoperable Channel(s) to OPERABLE status within 7 days or, prepare and submit a Special Report to the NRC within the following 14 days detailing the cause of the inoperable Channel(s), the action being taken to restore the Channel(s) to operable status, the estimated date for completion of repairs, and any compensatory action being taken while the Channel(s) is inoperable.~~ R1

[ACTION A] [ACTION B] Note 5: If one channel is inoperable, restore the channel to operable status within 30 days or, ~~prepare and submit a special report to the NRC within the following 14 days detailing the cause(s) of the inoperable channels, the actions being taken to restore the channel to operable status, the estimated date for completion of the repairs, and the compensatory action being taken while the channel is inoperable.~~ initiate action per 5.6.6. See 5.6.6. If both channels become inoperable ~~and a pre-planned alternate method of monitoring is available, then~~ LA6 restore at least one channel to operable status within 7 days or ~~prepare and submit a special report to the NRC within the following 14 days detailing the cause(s) of the inoperable channels, the action being taken to restore at least one channel to operable status, the estimated date for completion of the repairs, and a description of the alternate method of monitoring the affected parameter while both channels are inoperable.~~ See 5.6.6 ~~If a pre-planned alternate method of monitoring the affected parameter is not available and implemented with both channels inoperable, then restore at least one channel to an operable status within 7 days or be in Hot Shutdown within 6 hours and ≤ 350°F within the following 30 hours.~~ L44

[ACTION C] [ACTION H]

[ACTION E] [ACTION G] Note 6: With both channels inoperable, restore at least one channel to an operable status within ~~14 days~~ 72 hours or be in ~~Hot Shutdown~~ MODE 3 within 6 hours and ~~≤ 200°F~~ MODE 4 within the following ~~30~~ 6 hours.

L24 M31 L24

Add Functions & Requirements:
- SG Pressure
- Cont. Spray Additive Tank Level
- Cont. Isolation Valve Position Indication
- SG Level
- Power Range Neutron Flux
- Source Range Neutron Flux
- RCS Pressure
- RCS Hot Leg Temperature
- RCS Cold Leg Temperature
- RWST Level
- CST Level

M32

Supplement 4

TABLE 4.1-1 (Continued)

MINIMUM FREQUENCIES FOR CHECKS, CALIBRATIONS AND TEST OF INSTRUMENT CHANNELS

	Channel Description	Check	Calibration	Test	Remarks
32.	Loss of Power				See 3.3.5
	a. 480 Emerg. Bus Undervoltage (Loss of Voltage)	N.A.	R	R	
	b. 480 Emerg. Bus Undervoltage (Degraded Voltage)	N.A.	R	R	
33.	Auxiliary Feedwater Flow**** Indication	M [SR 3.3.3.1]	R [SR 3.3.3.2]	N.A.	
34.	~~Reactor Coolant System** Subcooling Monitor~~	~~M~~	~~R~~	~~N.A.~~	R1
35.	PORV Position Indicator***	N.A. [SR 3.3.3.1]	N.A. [SR 3.3.3.2]	R	M34
36.	PORV Blocking Valve*** Position Indicator	N.A. [SR 3.3.3.1]	N.A. [SR 3.3.3.2]	R	M34
37.	Safety Relief Valve Position*** Indicator	N.A. [SR 3.3.3.1]	N.A. [SR 3.3.3.2]	R	L27
38.	~~Noble Gas Effluent Monitors*****~~				R1
	~~a. Main Steam Line~~	~~D~~	~~R~~	~~Q~~	

~~** Instrument for Detection of Inadequate Core Cooling - NUREG 0578 Item 2.1.3.b.~~
~~*** Direct Indication of Power Operated Relief Valve and Safety Valve Position - NUREG 0578 Item 2.1.3.a.~~
~~**** Auxiliary Feedwater Flow Indication to Steam Generator - NUREG 0578 Item 2.1.7.b.~~
~~***** Noble Gas Effluent Monitors - NUREG-0737 Item II.F.1.1.~~

A19

Specification 3.3.3

Steam Generator 7

D

Amendment No. 94, 145

TABLE 3.5-3 (Continued)

ENGINEERED SAFETY FEATURES INSTRUMENTATION LIMITING OPERATING CONDITIONS

TABLE NOTATIONS

See 3.3.2

\# Above Low Pressure SI Block Permit interlock.

\## Trip function may be blocked below Low T_{avg} Interlock setpoint.

\### The reactor may remain critical below the Power Operating conditions with this feature inhibited for the purpose of starting reactor coolant pumps.

[Applicability NOTE]

ACTION 11 With the number of OPERABLE channels one less than the Minimum Channels OPERABLE requirement, restore the inoperable channel to OPERABLE status within 48 hours or be in at least the Hot Shutdown Condition within the next 8 hours and the Cold Shutdown Condition within the following 30 hours.

ACTION 12 With the number of OPERABLE channels one less than the Total Number of Channels. Power Operation may proceed until performance of the next required operational test provided the inoperable channel is placed into the tripped condition within 1 hour.

ACTION 13 With the number of OPERABLE channels one less than the Minimum Channels OPERABLE requirement, restore the inoperable channel to OPERABLE status within 1 hour or be in at least the Hot Shutdown Condition within the next 8 hours and the Cold Shutdown Condition within the following 30 hours.

ACTION 14 With the number of OPERABLE channels one less than the Total Number of Channels: ~~place~~ restore the inoperable channel into the blocked condition within 1 hour ~~and restore the inoperable channel to OPERABLE status within 48 hours or be in at least the Hot Shutdown Condition within the next 8 hours and the Cold Shutdown Condition within the following 30 hours.~~

per bus

loss of Voltage Function

[ACTION A]

L28

or enter applicable condition(s) and RA(s) for the associated DG made inoperable by LOP DG start instrumentation immediately

A1

ITS

TABLE 3.5-3 (Continued)

ENGINEERED SAFETY FEATURES INSTRUMENTATION LIMITING OPERATING CONDITIONS

TABLE NOTATIONS

See 3.3.2

\# Above Low Pressure SI Block Permit interlock.

\#\# Trip function may be blocked below Low T_{avg} Interlock setpoint.

\#\#\# [Applicability Note] The reactor may remain critical below the Power Operating conditions with this feature inhibited for the purpose of starting reactor coolant pumps.

ACTION 11 With the number of OPERABLE channels one less than the Minimum Channels OPERABLE requirement, restore the inoperable channel to OPERABLE status within 48 hours or be in at least the Hot Shutdown Condition within the next 8 hours and the Cold Shutdown Condition within the following 30 hours.

ACTION 12 With the number of OPERABLE channels one less than the Total Number of Channels. Power Operation may proceed until performance of the next required operational test provided the inoperable channel is placed into the tripped condition within 1 hour.

ACTION 13 With the number of OPERABLE channels one less than the Minimum Channels OPERABLE requirement, restore the inoperable channel to OPERABLE status within 1 hour or be in at least the Hot Shutdown Condition within the next 8 hours and the Cold Shutdown Condition within the following 30 hours.

L29

[ACTION B] [ACTION D] ACTION 14 Degraded Voltage function With the number of OPERABLE channels per bus one less than the Total Number of Channels; place the inoperable channel into the ~~blocked~~ tripped condition within 6 1 hour, ~~and restore the inoperable channel to OPERABLE status within 48 hours or be in at least the Hot Shutdown Condition within the next 8 hours and the Cold Shutdown Condition within the following 30 hours.~~ or enter applicable condition(s) and RA(s) for the associated DG made inoperable by LOP DG start instrumentation immediately

Add RA B.1 "Note" L30

Add ACTION C M37

Amendment No. 175
Supplement 4

TABLE 4.1-1 (Continued)

MINIMUM FREQUENCIES FOR CHECKS, CALIBRATIONS AND TEST OF INSTRUMENT CHANNELS

	Channel Description	Check	Calibration	Test	Remarks
32.	Loss of Power				
	a. 480 Emerg. Bus Undervoltage (Loss of Voltage)	N.A.	R SR 3.3.5.2	R SR 3.3.5.1	
	b. 480 Emerg. Bus Undervoltage (Degraded Voltage)	N.A.	R SR 3.3.5.2	R SR 3.3.5.1	
33.	Auxiliary Feedwater Flow**** Indication	M	R	N.A.	
34.	Reactor Coolant System** Subcooling Monitor	M	R	N.A.	
35.	PORV Position Indicator***	N.A.	N.A.	R	
36.	PORV Blocking Valve*** Position Indicator	N.A.	N.A.	R	
37.	Safety Relief Valve Position*** Indicator	N.A.	N.A.	R	
38.	Noble Gas Effluent Monitors*****				
	a. Main Steam Line	D	R	Q	

L45

See 3.3.3

** Instrument for Detection of Inadequate Core Cooling - NUREG 0578 Item 2.1.3.b.
*** Direct Indication of Power Operated Relief Valve and Safety Valve Position - NUREG 0578 Item 2.1.3.a.
**** Auxiliary Feedwater Flow Indication to Steam Generator - NUREG 0578 Item 2.1.7.b.
***** Noble Gas Effluent Monitors - NUREG-0737 Item II.F.1.1.

Supplement 4

Specification 3.3.5

A1

Specification 3.3.5

A1

ITS

TABLE 3.5-1

ENGINEERED SAFETY FEATURE SYSTEM INITIATION INSTRUMENT SETTING LIMITS

NO.	FUNCTIONAL UNIT	CHANNEL ACTION	SETTING LIMIT
1.	High Containment Pressure (HI Level)	Safety Injection*	≤ 5 psig
2.	High Containment Pressure (HI-HI Level)	a. Containment Spray** b. Steam Line Isolation	≤ 25 psig
3.	Pressurizer Low Pressure	Safety Injection*	≥ 1700 psig
4.	High Differential Pressure Between any Steam Line and the Steam Line Header	Safety Injection*	≤ 150 psi
5.	High Steam Flow in 2/3 Steam Lines***	a. Safety Injection* b. Steam Line Isolation	≤ 40% (at zero load) of full steam flow ≤ 40% (at 20% load) of full steam flow ≤ 110% (at full load) of full steam flow
	Coincident with Low T_{avg} or Low Steam Line Pressure		≥ 541°F T_{avg} ≥ 600 psig steam line pressure
6.	Loss of Power		
SR 3.3.5.2.a	a. 480V Emerg. Bus Undervoltage (Loss of Voltage) Time Delay	~~Trip Normal Supply Breaker~~	328 Volts ± 10% ≤ 1 sec when voltage is reduced to zero

See 3.3.2

LA9

Supplement 4

TABLE 3.5-1 (Continued)

ENGINEERED SAFETY FEATURE SYSTEM INITIATION INSTRUMENT SETTING LIMITS

LA9

	NO.	FUNCTIONAL UNIT	CHANNEL ACTION	SETTING LIMIT
5E 3.3.5.2.b	6. (Cont'd)	b. 480V Emerg. Bus Undervoltage (Degraded Voltage) Time Delay	~~Trip Normal Supply Breaker~~	430 Volts ± 4 Volts 10.0 Second Delay ± 0.5 sec.
	7.	Containment Radioactivity High	Ventilation Isolation	The alarm is set with a method described in the ODCM.

See 3.3.6

~~* Initiates also containment isolation (Phase A), feedwater line isolation and starting of all containment fans.~~
~~** Initiates also containment isolation (Phase B).~~
~~*** Derived from equivalent WP measurements.~~

A17

Supplement 4

Specification 3.3.5

A1

3.5 ~~INSTRUMENTATION SYSTEMS~~

3.5.1 ~~Operational Safety Instrumentation~~

~~Applicability~~

~~Applies to plant operational safety instrumentation systems.~~

~~Objective~~

~~To provide for automatic initiation of the Engineered Safety Features in the event that principal process variable limits are exceeded, and to delineate the conditions of the plant instrumentation and safety circuits necessary to ensure reactor safety.~~

~~Specification~~

ITS

3.5.1.1 The Engineered Safety Features initiation instrumentation setting limits shall be as stated in Table 3.5-1. See 3.3.2

3.5.1.2 For on-line testing or in the event of a subsystem instrumentation channel failure, plant operation at rated power shall be permitted to continue in accordance with Tables 3.5-2 through 3.5-5. See 3.3.1 3.3.2 3.3.3

3.5.1.3 In the event the number of channels in service listed in Table 3.5-5 falls below the limits given in the column entitled Minimum Channels Operable, operation shall be limited according to the requirement shown in Column 2. See 3.3.3

3.5.1.4 [Table 3.3.6-1] [Applicability] The containment ventilation isolation instrumentation for each function in Table 3.3.6-1 shall be OPERABLE ~~function is only required when containment integrity is required.~~ During Core Alterations, Movement of fuel in Containment M40

3.5.1.5 In the event the number of operable channels of a particular functional unit listed in Tables 3.5-2, 3, or 4 falls below the limits given in the column entitled Total Number of Channels, operation shall be limited according to the requirement shown in Column 3. See 3.3.1 3.3.2

Specification 3.3.6

A1

TABLE 3.5-4

ITS

ISOLATION FUNCTIONS INSTRUMENTATION LIMITING OPERATING CONDITIONS

A27

NO.	FUNCTIONAL UNIT	1 TOTAL NO. OF CHANNELS	~~2 MINIMUM CHANNELS OPERABLE~~	3 OPERABLE ACTION IF COLUMN 1 OR 2 CANNOT BE MET	APPLICABLE CONDITIONS
1.	CONTAINMENT ISOLATION				See 3.2.2
	A. Phase A				
	i. Safety Injection	See Item No. 1 of Table 3.5-3 for all Safety Injection initiating functions and requirements			
	ii. Manual	2	2	ACTION II	>200°F
	B. Phase B	See Item No. 2 of Table 3.5-3 for all Containment Spray initiating functions and requirements			
	C. Ventilation Isolation				Core Alterations and movement of irradiated fuel within Containment (M40)
[T 3.3.6-1 (3a)]	i. High Containment Activity. Gaseous	1	~~0~~	ACTION 15 A	During Containment Purge
[T 3.3.6-1 (3b)]	ii. High Containment Activity. Particulate	1	~~0~~	ACTION 15	During Containment Purge (A27)
[T 3.3.6-1 (4)]	iii. Phase A	See Item No. 1.A of Table 3.5-4 for all Phase A initiating functions and requirements			

Add 3.3.6 Action A

L46

Add Table 3.3.6-1 Function 2

M41

Amendment No. ~~85~~, 175

Supplement 4

TABLE 3.5-I (Continued)

ENGINEERED SAFETY FEATURE SYSTEM INITIATION INSTRUMENT SETTING LIMITS

ITS

NO.	FUNCTIONAL UNIT	CHANNEL ACTION	SETTING LIMIT
6. (Cont'd)	b. 480V Emerg. Bus Undervoltage (Degraded Voltage) Time Delay	Trip Normal Supply Breaker	430 Volts ± 4 Volts 10.0 Second Delay ± 0.5 sec.
[T3.3.6-1(3)] [Note[d]] 7.	Containment Radioactivity High	Ventilation Isolation	~~The alarm is set~~ Trip setpoint shall be in accordance with a method described in the ODCM.

See 3.3.5

* Initiates also containment isolation (Phase A), feedwater line isolation and starting of all containment fans.
** Initiates also containment isolation (Phase B).
*** Derived from equivalent WP measurements.

See 3.3.5

Supplement 4

Specification 3.3.6

A1

Specification 3.3.6
3.3.7
A1

3.8 REFUELING

Applicability

~~Applies to operating limitations during refueling operations.~~

Objective

~~To minimize the possibility of an accident occurring during refueling operations that could affect public health and safety.~~

Specification

3.8.1 During refueling operations the following conditions shall be satisfied:

a. The equipment door and at least one door in the personnel air lock shall be properly closed. For those systems which provide a direct path from containment atmosphere to the outside atmosphere, all automatic containment isolation valves shall be operable or at least one valve shall be securely closed in each line penetrating the containment.

See 3.9.3

b. ~~The containment vent and purge system, including the radiation monitors which initiate isolation shall be tested and verified to be operable immediately prior to refueling operations.~~

L31

c. Radiation levels in the containment and spent fuel storage areas shall be monitored continuously.

See 3.9.2 + 3.9.3

d. Whenever core geometry is being changed, core subcritical neutron flux shall be continuously monitored by at least two source range neutron monitors, each with continuous visual indication in the control room and one with audible

See 3.9.2

Add SR 3.3.6.1
SR 3.3.6.4
SR 3.3.6.6
(and Note)
SR 3.3.6.7

M42

M41

Add SR 3.3.6.2, SR 3.3.6.3, SR 3.3.6.5

Add Specification 3.3.7

M43

place channel in trip - 6 hrs, or
MODE 3 - 12 hrs, and
MODE 4 - 18 hrs

TABLE 3.4-1

AUXILIARY FEEDWATER FLOW AUTOMATIC INITATION*

ITS

M51

	NO.	FUNCTIONAL UNIT	1 MINIMUM CHANNELS OPERABLE	2 MINIMUM DEGREE OF REDUNDANCY	3 OPERATOR ACTION IF CONDITIONS OF COLUMN 1 OR 2 CANNOT BE MET
[T 3.3.8 -1 (1)] [ACTION B]	1.	Steam Gen. Water Level-low-low a. Start Motor-Driven Pumps b. Start Turbine-Driven Pump	~~2~~ 3 /Steam Generator ~~2~~ 3 /Steam Generator	~~1/Steam Generator~~ ~~1/Steam Generator~~	Maintain Hot Shutdown Maintain Hot Shutdown (L32)
[T 3.3.8 - 1 (4)]	2.	Undervoltage-4KV Busses 1 & 4 Start Turbine-Driven Pump (15 Second Time Delay Pickup)	2 Per Bus	~~0~~	Note 1
[T 3.3.8 - 1 (2)]	3.	S.I. Start Motor-Driven Pumps	See Table 3.5-3, Item No.1		
[T 3.3.8 - 1 (3)]	4.	Station Blackout Start Motor-Driven Pumps (40 Second Time Delay Prior to Starting MD AFW Pumps on Blackout Sequence)	2 Per Bus	~~0~~	Note 2
[T 3.3.8 - 1 (5)]	5.	Trip of Main Feedwater Pumps Start Motor-Driven Pumps	1/Pump	~~0~~	Note 2

A27

[MODES 1, 2, 3] * This table is applicable whenever the RCS is > 350°F except Item 5. Item 5 is applicable only
[MODES 1, 2] when the RCS is at normal operating temperature and the reactor is critical.

Note 1: ~~4KV Busses 1, 2, and 4 each have two undervoltage relays. One relay on each of the three busses provides an input to the reactor trip logic. Both relays on Busses 1 and 4 provide inputs to the SD AFW pump start logic. If the undervoltage relay on Busses 1 or 4 that provides the input to the reactor trip logic fails, follow the requirements of Table 3.5-2 Item 14 in addition to the following.~~ (A21) If either 4KV undervoltage relay on Busses 1 or 4 fails, within ~~1~~ 6 hours insert the equivalent of an undervoltage signal from the affected relay in the SD AFW pump start circuit ~~and~~ or

[ACTION B] repair the affected relay within 7 days. ~~If the affected relay is not repaired in the 7 days, then~~ commence a normal plant shutdown to ~~hot standby~~. MODE 3 in 12 hours, MODE 4 in 18 hours. (L33) (M48) (M48)

[ACTION D] Note 2: Restore the inoperable channel to operable status within 48 hours. If the inoperable chanel is not
[ACTION C] restored to an operable status within 48 hours, then commence a normal plant shutdown and cooldown to ~~≤ 350°F~~ MODE 3 in 54 hrs. MODE 4 in 60 hrs (M44)

(D)

Specification 3.3.8

ITS

TABLE 4.8-1

AUXILIARY FEEDWATER SYSTEM AUTOMATIC INITIATION
SURVEILLANCE REQUIREMENTS

		FUNCTIONAL UNIT	CHANNEL CHECK	CHANNEL CALIBRATION	CHANNEL FUNCTIONAL TEST	
		AUXILIARY FEEDWATER				A22
[T3.3.8-1(1)]	a.	Steam Generator Water Level--Low-Low	N.A [SR 3.3.8.1]	[SR 3.3.8.4] See Table 4.1-1, ~~Item 11~~	[SR 3.3.8.2]	L16
[T3.3.8-1(4)]	b.	Undervoltage - 4 Kv busses 1 and 4	N.A.	R [SR 3.3.8.4]	R [SR 3.3.8.3]	L48
[T3.3.8-1(2)]	c.	S. I.	(all Safety Injection surveillance requirements)			A22
[T3.3.8-1(3)]	d.	Station Blackout - E1 and E2 busses	N.A.	N.A [SR 3.3.8.4]	R [SR 3.3.8.3]	L48
[T3.3.8-1(5)]	e.	Trip of Main Feedwater Pumps	N.A.	N.A.	R [SR 3.3.8.3]	

Add Note to SR 3.3.8.3 L47

D1

Specification 3.3.8

ADMINISTRATIVE CHANGES

A1 In the conversion of the H. B. Robinson Steam Electric Plant (HBRSEP), Unit 2 Current Technical Specifications (CTS) to the proposed plant specific Improved Technical Specifications (ITS) certain wording preferences or conventions are adopted which do not result in technical changes (either actual or interpretational). Editorial changes, reformatting, and revised numbering are adopted to make ITS consistent with the conventions in the Standard Technical Specifications, Westinghouse Plants, NUREG-1431, Revision 1 (i.e., Improved Standard Technical Specifications (ISTS)).

A2 CTS Specification 2.3.1.2.d describes in words, the amount by which the over temperature ΔT trip setpoint is automatically reduced. ITS Specification 3.3.1 provides, instead, the mathematical expression for this reduction. This change is administrative, and has no adverse impact on safety.

A3 CTS Specification 2.3.1.2.f requires that the reactor be tripped on low reactor coolant flow. ITS Specification 3.3.1 has the same requirement, but identifies single loop low flow and two loop low flow separately. Since these numbers are identical, this change is administrative, and has no adverse impact on safety.

A4 The CTS Bases (and References) are not retained in the ITS, but are replaced in their entirety. The ITS includes significantly expanded and improved Bases. The Bases do not define or impose any specific requirements but serve to explain, clarify and document the reasons (i.e., Bases) for the associated Specification. The Bases are not part of the Technical Specifications required by 10 CFR 50.36. This change is administrative, and has no adverse impact on safety.

A5 The CTS is revised to adopt ISTS ACTIONS "Note," and/or Surveillance Requirements "Note." The ACTIONS "Note" provides for separate Condition entry for each function. The CTS is silent with regard to separate Condition entry, neither specifically permitting, nor disallowing. The Surveillance Requirements "Note" refers the reader to the specified ITS Table to determine which Surveillance Requirements apply for each Function. This change is administrative, and has no adverse impact on safety.

A6 CTS Table 3.5-2, Item 4.B is revised to add ITS footnote "e" to the Applicable Conditions of "Hot/Cold Shutdown." Footnote "e" basically notes that this Specification applies in those MODES when the reactor trip breakers are open. Item 4.C is specifically Applicable when the reactor trip breakers are closed. This change is therefore administrative, and has no adverse impact on safety.

A7 CTS Table 4.1-1 contains descriptive comments in the "Remarks" column. These remarks are not retained in the ITS. Deletion of these remarks does not result in any technical alteration of the Specifications. Therefore, this change is administrative and has no adverse impact on safety.

A8 Not used.

A9 Not used.

A10 The CTS is revised to adopt the SR 3.3.2.6 "Note," which states that verification of setpoints is not required for manual initiation Functions. The CTS and ITS Table 3.3.2-1 do not specify setpoints or allowable values for the manual ESFAS initiation functions. This is considered to be acceptable since these functions are not credited in safety analyses. Since these manual functions do not have Technical Specification acceptance criteria associated with the setpoint or allowable value, not requiring verification of the setpoint during the TRIP ACTUATING DEVICE OPERATIONAL TEST is considered to be administrative.

A11 CTS Table 3.5-3, Functional Units "E," High Steam Flow coincident with Low T_{avg}, and "F," High Steam Flow coincident with Low Steam Pressure, have Applicability at a temperature ≥ 350°F. ITS Table 3.3.2-1 has Applicability for the same Functional units in MODES 1, 2 and 3. Therefore, this change is administrative, and has no adverse impact on safety.

A12 The CTS is revised to adopt ITS Specification 3.3.3 ACTION F. This Required Action is simply an instruction to enter the Condition referenced in Table 3.3.3-1 if other Required Actions and associated Completion Times are not met. This change is administrative, and has no adverse impact on safety.

A13 Not used.

A14 CTS Table 3.5-5, amended Note 7 is not adopted in the ITS. This amended Note was issued as a one-time requirement, which was applicable during the balance of Cycle 13 and Cycle 14. This change is administrative and has no adverse impact on safety.

A15 The CTS is revised by adopting the ITS Specification 3.3.3 Surveillance Requirement "Note," which merely states that SR 3.3.3.1 and SR 3.3.3.2 apply to each Post Accident Monitoring (PAM) Function in Table 3.3.3-1, except for Function 9, Containment Isolation Valve Position, which is addressed in SR 3.3.3.3. This change is administrative and has no adverse impact on safety.

A16 The CTS is revised to adopt the Note associated with ITS SR 3.3.3.2, which states that Neutron Detectors are excluded from CHANNEL CALIBRATION. This Note, added to ITS SR 3.3.3.2, is provided as a direct result of adding Functions 1 and 2, Power Range and Source Range Instrumentation, respectively, to ITS Table 3.3.3-1, Post Accident Monitoring Instrumentation. The addition of these Functions to the CTS is addressed in Discussion of Change M32. CTS Table 3.5-5 does not include calibration requirements for these instruments. Therefore, the CTS do not require calibration of the neutron detectors associated with these post accident monitoring functions. As such, adding the Note to ITS SR 3.3.3.2 is consistent with CTS requirements and is administrative.

A17 The CTS Table 3.5-1 footnotes are not retained in the ITS. These footnotes only provide descriptive information of a textbook nature related to specific Engineered Safety Feature (ESF) functional units, and need not be repeated in the ITS. This change is administrative, and has no adverse impact on safety.

A18 CTS Specification 3.10.5.1.a is revised to incorporate the phrase, "with undervoltage and shunt trip mechanisms," as part of Reactor Trip Breaker (RTB) OPERABILITY. Since the undervoltage and shunt trip mechanisms are considered to be a part of the RTB, this change only provides clarity, and is therefore administrative and has no adverse impact on safety.

A19 The footnotes in CTS Tables 3.5-5 and 4.1-1 are deleted. These footnotes only provide a reference to the source of a requirement in the Table, and need not be incorporated in the ITS. This change is administrative and has no adverse impact on safety.

A20 The CTS is revised by the addition of LCO 3.3.8, which simply makes the statement that the Auxiliary Feedwater (AFW) instrumentation in Table 3.3.8-1 must be OPERABLE. Therefore, this change is administrative and has no adverse impact on safety.

A21 CTS Table 3.4-1, Note 1, discussion of 4kV bus undervoltage relays and logic is not adopted in the ITS. This is descriptive information and direction of which requirements to follow if a relay fails. It is not necessary to repeat this information in the ITS, because the ITS is clear with respect to which requirements apply. This change is administrative and has no adverse impact on safety.

A22 CTS Table 4.8-1, Function "a" (Steam Generator Water Level - Low Low) and Function "d" (Station Blackout - E1 and E2 busses), are revised to require that a CHANNEL CHECK be performed at a Frequency of 12 hours, and a CHANNEL CALIBRATION be performed at a Frequency of 18 months, respectively. Since CTS Table 4.1-1, Item 11 and Item 32.a already require that these Surveillances be performed at the same Frequencies, this change is administrative and has no adverse impact on safety.

A23 Not used.

A24 Portions of the "Notes" in Table Notation to CTS Table 3.5-5 are not retained in the ITS. The portions that are deleted contain descriptive information related to the instrumentation in Table 3.5-5, and other clarification, which is not necessary to be repeated in the ITS. Since the deleted information does not contain any requirements, it is an administrative change which has no adverse impact on safety.

A25 CTS Table 4.1-1 is revised to add SRs 3.3.1.1, 3.3.1.2, 3.3.1,3, 3.3.1.4, 3.3.1.5, 3.3.1.6, 3.3.1.7, 3.3.1.8, 3.3.1.9, 3.3.1.10, 3.3.1.11, 3.3.1.12, 3.3.1.13, 3.3.1.14, and 3.3.1.15 into ITS. The addition of the surveillance text neither adds nor deletes requirements. The specific impact of the surveillance is discussed in each function for which the SR applies as shown in ITS Table 3.3.1-1. Therefore, this change is administrative, and has no impact on safety.

A26 Not used.

A27 CTS Table 3.5-2 is revised to delete Column 2, "Minimum Channels Operable," and the number of channels for Function 4.b in Column 1, "Total Number of Channels," is revised from two (2) to one (1). The Required Actions in the CTS refer to the total number of channels with few exceptions and the total number of channels is retained in the ITS Table 3.3.1-1. For the remaining Required Actions in the CTS that refer to the minimum channels OPERABLE, the minimum channels OPERABLE are the same number of channels as the total number of channels, with the exception of CTS Table 3.5-2, Function 4.b. The total number of channels for the source range with the reactor trip breakers open is changed from two (2) to (1), consistent with retention of CTS Required Action 5 in ITS as Required Action L.

CTS Tables 3.5-3 and 3.5-4 are revised to delete Column 2, "Minimum Channels Operable." The Required Actions in the CTS refer to the total number of channels where the total number of channels differ with the minimum channels OPERABLE. The total number of channels is retained in the ITS Tables 3.3.2-1, 3.3.6-1, and in LCO 3.3.5.

CTS Table 3.4-1 is revised to delete Column 2, "Minimum Degree of Redundancy." The Required Actions in the CTS refer to the minimum channels OPERABLE. The total number of channels is retained in the ITS Tables 3.3.8-1. The "Minimum Channels Operable" column of CTS Table 3.4-1 Function 1, Steam Generator Water Level-Low-Low, rquries 2 channels per Steam Generator (SG) to be OPERABLE. In addition, the "Minimum Degree of Redundancy" column of CTS Table 3.4-1 Function 1 requires 1 channel per SG to be OPERABLE. As a result of the requirements of these two columns, the total number of Steam Generator Water Level-Low-Low required to be OPERABLE is 3 per SG (which is

retained as the "REQUIRED CHANNELS" for Function 1 in ITS Table 3.3.8-1).

This change neither adds or relaxes requirements. Therefore, this change is administrative, and has no impact on safety.

A28 CTS Table 3.5-2 Action 2 for Function 2.b, "Nuclear Flux Power Range Low Setpoint," is revised to ITS Required Action E. Action 2 provides requirements for the condition when THERMAL POWER is above 75% RTP, which is higher than the Nuclear Flux Power Range Low Setpoint, hence Action 2, Part b, could not be entered for an inoperability of the Nuclear Flux Power Range Low Setpoint. Required Action E is more appropriate for the Nuclear Flux Power Range Low Setpoint. Therefore, this change is administrative, and has no impact on safety.

A29 The CTS is revised to adopt Note 1 to the ACTIONS of ITS 3.3.3, Post Accident Monitoring (PAM) Instrumentation. Note 1 states LCO 3.0.4 is not applicable. As such, the MODE change restrictions of ITS LCO 3.0.4 are not applicable for inoperable PAM Instrumentation. The HBRSEP CTS do not include MODE change restrictions similar to ITS LCO 3.0.4. Therefore, no MODE change restrictions currently apply for inoperable instrumentation of CTS Table 3.5-5, Instrumentation to Follow the Course of an Accident, and this change is considered to be administrative.

A30 CTS Table 3.5-2 identifies that the Applicability of the Intermediate Range Neutron Flux channels is when the reactor is critical below the P-10 interlock. The CTS Table 3.5-2 ACTION 3 splits the actions based on whether power is below or above the P-6 interlock setpoint (ITS Table 3.3-1 Function 3 and Notes (c) and (d)). The only difference in the requirements when above or below the P-6 interlock is in the applicable ACTIONS of ITS 3.3.1. Therefore, the change (including the addition of Note (c)) is considered to involve a presentation preference for consistency with NUREG-1431 and is administrative.

A31 CTS Table 3.5-2 identifies that the Applicability of the Source Range Neutron Flux channels in Function 4.B is Hot/Cold Shutdown (ITS MODES 3, 4, and 5). CTS Table 3.5-2 identifies that the Applicability of the Source Range Neutron Flux channels in Function 4.C is Hot/Cold Shutdown (ITS MODES 3, 4, and 5) with the reactor trip breakers closed. ITS Table 3.3-1 Function 4 and Notes (a) and (e) identify the Applicability of the Source Range Neutron Flux channels as MODES 3, 4, and 5 with the reactor trip breakers closed and rods not fully inserted or the Rod Control System capable of rod withdrawal, and MODES 3, 4, and 5 with the reactor trip breakers open. Note (e) also clarifies that in MODES 3, 4, and 5 with the reactor trip breakers open, the source range Function does not provide a reactor trip but does provide indication and alarm. (The change associated with Note (a) is addressed in Discussion of Change L35.) The Notes associated with the Applicability of Source Range Neutron Flux channels ensure that the MODE 3, 4, and 5

requirements for Source Range Neutron Flux channels are applied consistent with the intent of the CTS Table 3.5-2 Applicability for the Source Range Neutron Flux channels in Functions 4B and 4C. Therefore, this change is administrative.

A32 CTS 3.10.5.1.a requires two reactor trip breakers to be operable. CTS 3.10.5.2.c allows one reactor trip bypass breaker to be racked in and closed for a limited period of time and CTS Table 4.1-1 Item 47 requires performance of testing to demonstrate the operability of the reactor trip bypass breaker when placing the reactor trip bypass breaker in service (i.e., racked in and closed). ITS Table 3.3.1-1 Function 18 Note (i) explicitly identifies that the Reactor Trip Breaker (RTB) requirements include any reactor trip bypass breakers that are racked in and closed for bypassing an RTB. Therefore, the change associated with adding Note (i) is considered to involve a presentation preference for consistency with NUREG-1431 and is administrative.

A33 Remark 1 of CTS Table 4.1-1 Item 1, Nuclear Power Range, describes that the calibration of the Nuclear Power Range instrumentation is performed by comparison to thermal power calculations during power operations. ITS SR 3.3.1.2 requires that this requirement be satisfied by comparing the results of a calorimetric heat balance to the instrumentation channel output and adjust the channel if the absolute difference is > 2% (ITS SR 3.3.1.2 Note 1). Note 2 to ITS SR 3.3.1.2 states that the SR is not required to be performed until 12 hours after THERMAL POWER is ≥ 15% RTP. With THERMAL POWER ≥ 15% RTP, the reactor is in power operation as defined in ITS Table 1.1-1 (the allowance to not perform the SR until 12 hours after THERMAL POWER is ≥ 15% RTP is addressed in Discussion of Change L40). Since this change is consistent with current interpretation of the daily calibration required by Item 1 of CTS Table 4.1-1, the change is considered to be administrative.

A34 CTS Table 4.1-1 Item 4, Reactor Coolant Temperature, requires the calibration of the Reactor Coolant Temperature instrumentation. ITS SR 3.3.1.3 requires that this requirement be satisfied by comparing the results of incore detector output measurements to NIS AFD and adjust the channel if the absolute difference is > 3% (Note 1 to ITS SR 3.3.1.3). Since Item 4 of CTS Table 4.1-1 is interpreted as requiring the same comparison and adjustment as ITS SR 3.3.1.3, the change is considered to be administrative.

A35 CTS Table 4.1-1 Item 47, Reactor Trip Bypass Breakers, Remark 3 requires performance of a test of the reactor trip bypass breakers when placing the bypass breakers in service. The Note to ITS SR 3.3.1.4 requires performance of a TADOT of the reactor trip bypass breakers prior to placing the reactor trip bypass breakers in service. Since this change is consistent with current interpretation of the requirements of CTS Table 4.1-1 Item 47, the change is considered to be administrative.

A36 CTS Table 4.1-1, Items 1, 2, and 3 (Nuclear Power Range, Nuclear Intermediate Range, and Nuclear Source Range instrumentation), requires testing of the channels to be performed. ITS SR 3.3.1.8 applies to this same instrumentation and is modified by a Note which states that this CHANNEL OPERATIONAL TEST shall include verification that interlocks P-6 and P-10 are in their required state for existing unit conditions. Explicitly adding this Note in the ITS is consistent with current interpretation of the testing requirements and the definition of OPERABILITY as it relates to these instruments. Therefore, this change is administrative.

A37 CTS Table 4.1-1, Items 8, 22, 29, 46, and 47 (4 kV Voltage, Turbine Trip Logic, 4 kV Frequency, Manual Reactor Trip and Reactor Trip Bypass Breakers), requires testing of the channels to be performed. ITS SR 3.3.1.9, SR 3.3.1.14, and SR 3.3.1.15 apply to this instrumentation, as applicable, and are modified by Notes which state that verification of setpoint is not required during these TRIP ACTUATING DEVICE OPERATIONAL TESTS. Explicitly adding these Notes in the ITS is consistent with current interpretation of these testing requirements. Therefore, this change is administrative.

A38 CTS Table 4.1-1, Items 4, 5, 6, 7, 8, 11, 25, 29, 39, and 40 (Reactor Coolant Temperature, Reactor Coolant Flow, Pressurizer Water Level, Pressurizer Pressure, 4 kV Voltage, Steam Generator Level, Turbine First Stage Pressure, 4 kV Frequency, Steam/Feedwater Flow Mismatch and Low Steam Generator Water Level), requires calibration of the channels to be performed. ITS SR 3.3.1.10 and SR 3.3.1.12 apply to this instrumentation, as applicable, and are modified by Notes which state that verification of that time constants are set to required values during these CHANNEL CALIBRATIONS. Explicitly adding these Notes in the ITS is consistent with current interpretation of these testing requirements. Therefore, this change is administrative.

TECHNICAL CHANGES - MORE RESTRICTIVE

M1 The CTS is revised to adopt the actual nominal trip setpoints that are used. These actual setpoints are more conservative than the CTS trip setpoint limits. The Trip Setpoints used in the bistables are based on the analytical limits. The selection of these Trip Setpoints is such that adequate protection is provided when sensor and processing time delays accounted for in setpoint calculations and accident analyses are taken into account. To allow for calibration tolerances, instrumentation uncertainties, instrument drift, and severe environment errors for those RPS channels that must function in harsh environments as defined by 10 CFR 50.49 the Trip Setpoints and Allowable Values specified in Table 3.3.1-1 in the accompanying LCO are conservatively adjusted with respect to the analytical limits. The use of more conservative parameters is considered to be more restrictive, and has no adverse impact on safety.

M2 CTS Specification 3.5.1.5 and Table 3.5-2 ACTION 4 require that certain corrective actions be taken. ITS Specification 3.3.1 ACTIONS A and I, and ITS Specification 3.3.2 ACTION A, require that these corrective actions be taken "immediately." Since no time constraint currently exists, this change is more restrictive, and has no adverse impact on safety.

ITS 3.3.1 Action A applies to RPS protection Functions. Condition A addresses the situation where one or more required channels for one or more Functions are inoperable at the same time. This action requires immediate entry into the appropriate Condition specified in ITS Table 3.3.1-1. Immediate entry into the specified Condition assures additional ITS specified Required Actions are implemented as required.

ITS 3.3.1 Action I applies to one inoperable Source Range Neutron Flux trip channel when in MODE 2, below the P-6 setpoint. With the unit in this Condition, below P-6, the NIS source range performs the monitoring and protection functions. With one of the two channels inoperable, operations involving positive reactivity additions shall be suspended immediately. This will preclude any power escalation. With only one source range channel OPERABLE, core protection is severely reduced and any actions that add positive reactivity to the core must be suspended immediately.

ITS 3.3.2 Action A applies to ESFAS protection Functions. Action A addresses the situation where one or more required channels for one or more Functions are inoperable at the same time. This action requires immediate entry into the appropriate Condition specified in ITS Table 3.3.2-1. Immediate entry into the specified Condition assures additional ITS specified Required Actions are implemented as required.

M3 CTS Table 3.5-2 ACTION 5 requires that compliance with shutdown margin be verified within 1 hour, and every 12 hours thereafter. ITS Specification 3.3.1 ACTION L requires, in addition, that activities involving positive reactivity addition be suspended immediately, and that unborated water source isolation valves be closed in 1 hour. Action L applies when the required number of OPERABLE Source Range Neutron Flux channels is not met in MODE 3, 4, or 5 with the RTBs open. With the unit in this Condition, the NIS source range performs the monitoring and protection functions. With less than the required number of source range channels OPERABLE, operations involving positive reactivity additions shall be suspended immediately. This will preclude any power escalation. In addition to suspension of positive reactivity additions, valves that could add unborated water to the RCS must be closed within 1 hour. The isolation of unborated water sources will preclude a boron dilution accident. Since this change imposes new requirements, it is more restrictive and has no adverse impact on safety.

M4 CTS Table 3.5-2 Table Notation ACTION 6 permits operation to proceed, provided that the inoperable channel be placed in the tripped condition within 1 hour. If the inoperable channel is not placed in trip within 1 hour, CTS 3.0 requires the plant to be placed in Hot Shutdown in the next 8 hours. ITS Specification 3.3.1 ACTION E requires instead, that the inoperable channel be placed in trip in 6 hours, or be in MODE 3 in 12 hours. Due to the construction of the NUREG-1431 Specification 3.3.1 ACTIONS, the 12 hour period is based on allowing 6 hours to place the channel in trip and, if the channel is not placed in trip in 6 hours, allowing an additional 6 hours to be in MODE 3 (i.e, the Completion Time clock does not reset since the Condition is not exited). (The 6 hour time to place the channel in trip is addressed in Discussion of Change L3.) If the channel is not tripped as specified, placing the unit in MODE 3 is necessary to place the unit in a MODE where the LCO is no longer applicable. This change reduces the time allowed to place the plant in MODE 3 from the CTS 3.0 time of 8 hours to the ITS time of 6 hours. This change represents an additional restriction on plant operation necessary to ensure the plant is placed in a non-applicable MODE in a timely manner when the inoperable channel is not placed in the tripped condition within the required time period.

M5 Not Used.

M6 CTS Table 3.5-2 ACTION 2 requires an inoperable channel be placed in trip within 1 hour, and <u>either</u>: a) power reduced to $\leq$ 75% RTP <u>and</u> power range flux trip setpoint reduced to $\leq$ 85% RTP in 4 hours <u>or</u>: b) QPTR be monitored every 12 hours. ITS Specification 3.3.1 ACTION D requires <u>either</u>: a) the inoperable channel be placed in trip within 6 hours <u>and</u> power reduced to $\leq$ 75% RTP in 12 hours, <u>or</u> b) the inoperable channel be placed in trip within 6 hours <u>and</u> SR 3.2.4.2 (QPTR) be performed once per 12 hours, <u>or</u> c) be in MODE 3 in 12 hours. ITS Specification 3.3.1

ACTION E requires either the inoperable channel be placed in trip within 6 hours or be in MODE 3 within 12 hours. The differences here are discussed from the perspective of the most and least restrictive actions that can be taken in response to the CONDITION of an inoperable power range neutron flux - high channel. The most restrictive actions that can be taken in the CTS are to place the channel in trip in 1 hour, reduce THERMAL POWER to ≤ 75% RTP in 4 hours, and reduce the power range neutron flux trip setpoint to ≤ 85% RTP in 4 hours. The most restrictive action that can be taken in the ITS is to place the unit in MODE 3 in 12 hours. The action to shut down the unit is clearly a more restrictive change, and has no adverse impact on safety. Placing the unit in MODE 3 puts the unit in a MODE where this Function is no longer required OPERABLE. Twelve hours are allowed to place the plant in MODE 3. This is a reasonable time, based on operating experience, to reach MODE 3 from full power in an orderly manner and without challenging plant systems.

M7 CTS Table 3.5-2 ACTION 3 requires for an inoperable intermediate range neutron flux channel with THERMAL POWER above the P-6 setpoint, but below 10% RTP, that the inoperable channel be restored to OPERABLE status prior to increasing THERMAL POWER above 10% RTP. ITS Specification 3.3.1 ACTION F requires for an inoperable intermediate range neutron flux channel with THERMAL POWER above the P-6 setpoint, but below the P-10 setpoint, that THERMAL POWER either be reduced to below P-6 or increased above P-10 in 2 hours. The intermediate range neutron flux channels must be OPERABLE when the power level is above the capability of the source range and below the capability of the power range. The CTS has no time or action requirements for placing the unit in a condition where the power level is within the range of either the source range or power range instrumentation. The ITS requires decisive action be taken to place the unit in such a condition within a specified Completion Time. If THERMAL POWER is greater than the P-10 setpoint, the NIS power range detectors perform the monitoring and protection functions and the intermediate range is not required. If THERMAL POWER is less than the P-6 setpoint, the NIS source range detectors perform the monitoring and protection functions and the intermediate range is not required. The Completion Times allow for a slow and controlled power adjustment above P-10 or below P-6 and take into account the redundant capability afforded by the redundant OPERABLE channel, and the low probability of its failure during this period. This change is more restrictive, and has no adverse impact on safety.

M8 CTS Specification 3.10.5.2 requires that, if an inoperable RTB or automatic trip logic train cannot be returned to OPERABLE status in 12 hours, the reactor be placed in the hot shutdown condition within the next 8 hours. ITS Specification 3.3.1 ACTION Q requires that an inoperable automatic trip logic train be restored to OPERABLE status in 6 hours, or be in MODE 3 in the next 6 hours. The Completion Time of 6 hours to restore the channel to OPERABLE status is reasonable

considering that in this Condition, the remaining OPERABLE train is adequate to perform the safety function and given the low probability of an event during this interval. The Completion Time of 6 hours to place the unit in MODE 3 is reasonable, based on operating experience, to reach MODE 3 from full power in an orderly manner and without challenging unit systems. ACTION R requires that an inoperable RTB be restored to OPERABLE status in 1 hour, or be in MODE 3 in the next 6 hours. With one train inoperable, 1 hour is allowed to restore the train to OPERABLE status or the unit must be placed in MODE 3 within the next 6 hours. The Completion Time of one hour to restore the RTB to OPERABLE status reflects the significance of the reduction in reactor trip redundancy. The Completion Time of 6 hours is reasonable, based on operating experience, to reach MODE 3 from full power in an orderly manner and without challenging unit systems. Placing the unit in MODE 3 removes the requirement for this particular Function. Since the ITS allowed outage times and Completion Times are shorter, this change is more restrictive, and has no adverse impact on safety.

M9 The CTS is revised to adopt ISTS Table 3.3.1-1 Items 18, 19 and 20 for Applicability in MODES 3, 4, and 5, including Required Actions C and V, with the RTBs closed. The LCO requirement for the RTBs (Functions 18 and 19) and Automatic Trip Logic (Function 20) ensures that means are provided to interrupt the power to allow the rods to fall into the reactor core. In MODE 3, 4, or 5, these RPS trip Functions must be OPERABLE when the RTBs and associated bypass breakers are closed. Action C addresses the train orientation of the RPS for these Functions. With one channel or train inoperable, the inoperable channel or train must be restored to OPERABLE status within 48 hours. If the affected Function(s) cannot be restored to OPERABLE status within the allowed 48 hour Completion Time, the unit must be placed in a MODE in which the requirement does not apply. To achieve this status, the RTBs must be opened within the next hour. The additional hour provides sufficient time to accomplish the action in an orderly manner. With the RTBs open, these Functions are no longer required.

The Completion Time is reasonable considering that in this Condition, the remaining OPERABLE train is adequate to perform the safety function, and given the low probability of an event occurring during this interval. Action V addresses the Condition with two RPS trains inoperable. In this Condition, no automatic capability is available to shut down the reactor, and immediate plant shutdown in accordance with LCO 3.0.3 is required. Since the CTS does not contain similar Specifications, this change is more restrictive, and has no adverse impact on safety.

M10 CTS Specification 3.10.5.3 requires that an inoperable RTB trip mechanism be restored to OPERABLE status in 48 hours or the unit be placed in the hot shutdown condition within the next 8 hours (56 hours total). ITS Specification 3.3.1 ACTION U requires that an inoperable

RTB trip mechanism be restored to OPERABLE status in 48 hours or the unit be placed in MODE 3 in 54 hours and the RTB opened in 55 hours. Since the ITS Completion Times are smaller, this change is more restrictive, and has no adverse impact on safety. The Completion time of 54 hours provides 6 hours to place the unit in MODE 3 if the RTB trip mechanism is not restored within the specified time. This is a reasonable time, based on operating experience, to reach MODE 3 from full power in an orderly manner and without challenging plant systems. The Completion Time of 55 hours provides one hour after achieving MODE 3 to open the RTB. One hour is sufficient time to complete the specified action.

M11 The CTS is revised to adopt ITS Specification 3.3.1 ACTIONS J, S, T, and V. Since no similar ACTIONS exist in the CTS for inoperable reactor trip instrumentation, this change is more restrictive, and has no adverse impact on safety. Condition J applies to two inoperable Source Range Neutron Flux trip channels when in MODE 2, below the P-6 setpoint, or in MODE 3, 4, or 5 with the RTBs closed. With the unit in this Condition, below P-6, the NIS source range performs the monitoring and protection functions. With both source range channels inoperable, the RTBs must be opened immediately. With the RTBs open, the core is in a more stable condition and the unit enters Condition L. Condition S applies to the P-6 and P-10 interlocks. With one channel inoperable for one-out-of-two or two-out-of-four coincidence logic, the associated interlock must be verified to be in its required state for the existing unit condition within 1 hour or the unit must be placed in MODE 3 within the next 6 hours. Verifying the interlock status manually accomplishes the interlock's Function. The Completion Time of 1 hour is based on operating experience and the minimum amount of time allowed for manual operator actions. The Completion Time of 6 hours is reasonable, based on operating experience, to reach MODE 3 from full power in an orderly manner and without challenging unit systems. The 1 hour and 6 hour Completion Times are equal to the time allowed by LCO 3.0.3 for shutdown actions in the event of a complete loss of RPS Function. Condition T applies to the P-7, P-8, and Turbine Impulse Pressure interlocks. With one channel inoperable for one-out-of-two or two-out-of-four coincidence logic, the associated interlock must be verified to be in its required state for the existing unit condition within 1 hour or the unit must be placed in MODE 2 within the next 6 hours. These actions are conservative for the case where power level is being raised. Verifying the interlock status manually accomplishes the interlock's Function. The Completion Time of 1 hour is based on operating experience and the minimum amount of time allowed for manual operator actions. The Completion Time of 6 hours is reasonable, based on operating experience, to reach MODE 2 from full power in an orderly manner and without challenging unit systems. Action V addresses the Condition with two RPS trains inoperable. In this Condition, no automatic capability is available to shut down the reactor, and immediate plant shutdown in accordance with LCO 3.0.3 is required.

M12 The CTS is revised to adopt the "ALLOWABLE VALUE" column in ITS Tables 3.3.1-1, 3.3.2-1, and 3.3.8-1. This column is added to provide an allowance for calibration tolerances, instrumentation uncertainties, instrument drift, and severe environment errors for those Reactor Protection System (RPS), Engineered Safety Features Actuation System (ESFAS), and AFW actuation channels that must function in harsh environments. The Allowable Values specified in these Tables are conservatively set with respect to the analytical limits. The methodology used to calculate both the trip setpoints and allowable values is provided in the company setpoint methodology procedure. Since

no similar Specifications for these instruments and functions exist in the CTS, this change is more restrictive and has no adverse impact on safety.

M13 The CTS is revised to adopt ITS Table 3.3.1-1 Functions (10) Reactor Coolant Pump (RCP) breaker position (single loop and two loops), (16) safety injection input from ESFAS, and (17) RPS interlocks for intermediate range neutron flux, P-7, P-8, P-10, and turbine impulse pressure. The RCP Breaker Position (Single Loop) trip Function ensures that protection is provided against violating the DNBR limit due to a loss of flow in one RCS loop. The position of each RCP breaker is monitored. If one RCP breaker is open above the P-8 setpoint, a reactor trip is initiated. This trip Function will generate a reactor trip before the Reactor Coolant Flow-Low (Single Loop) Trip Setpoint is reached. The RCP Breaker Position (Two Loops) trip Function ensures that protection is provided against violating the DNBR limit due to a loss of flow in two or more RCS loops. The position of each RCP breaker is monitored. Above the P-7 setpoint and below the P-8 setpoint, two or more RCP Breakers open will initiate a reactor trip. This trip Function will generate a reactor trip before the Reactor Coolant Flow-Low (Two Loops) Trip Setpoint is reached.

The SI Input from ESFAS ensures that if a reactor trip has not already been generated by the RPS, the ESFAS automatic actuation logic will initiate a reactor trip upon any signal that initiates SI. This is a condition of acceptability for the LOCA. However, other transients and accidents take credit for varying levels of ESF performance and rely upon rod insertion, except for the most reactive rod that is assumed to be fully withdrawn, to ensure reactor shutdown. Therefore, a reactor trip is initiated every time an SI signal is present. The Intermediate Range Neutron Flux, P-6 interlock is actuated when any NIS intermediate range channel goes approximately one decade above the minimum channel reading. If both channels drop below the setpoint, the permissive will automatically be defeated. The LCO requirement for the P-6 interlock ensures that the required Functions are performed. The Low Power Reactor Trips Block, P-7 interlock is actuated by input from either the Power Range Neutron Flux, P-10, or the Turbine Impulse Pressure input. The LCO requirement for the P-7 interlock ensures that the required

Functions are performed. The Power Range Neutron Flux, P-8 interlock is actuated at approximately 40% power as determined by two-out-of-four NIS power range detectors. The P-8 interlock automatically enables the Reactor Coolant Flow – Low (Single Loop) and RCP Breaker Position (Single Loop) reactor trips on low flow in one or more RCS loops on increasing power. The LCO requirement for this trip Function ensures that protection is provided against a loss of flow in any RCS loop that could result in DNB conditions in the core when greater than approximately 40% power. On decreasing power, the reactor trip on low flow in any loop is automatically blocked. The Power Range Neutron Flux, P-10 interlock is actuated at approximately 10% power, as determined by two-out-of-four NIS power range detectors. If power level falls below 10% RTP on 3 of 4 channels, the power range low flux and intermediate range high flux trips will be automatically unblocked. The LCO requirement for the P-10 interlock ensures that the required Functions are performed. The Turbine Impulse Pressure input is actuated when the pressure in the first stage of the high pressure turbine is greater than approximately 10% of the rated full power pressure. This is determined by one-out-of-two pressure detectors. The LCO requirement for this Function ensures that one of the inputs to the P-7 interlock is available.

Since no similar Specifications for these instruments and functions exist in the CTS, this change is more restrictive and has no adverse impact on safety.

M14 The CTS is revised to adopt ITS SR 3.3.1.3, which requires that results of incore detector measurements to NIS axial flux difference, and ITS SR 3.3.1.6, which requires calibration of the excore nuclear instrument channels to agree with incore detector measurements, for the OTΔT and OPΔT Functions.

SR 3.3.1.3 compares the incore system to the NIS channel output every 31 EFPD. This Surveillance is performed to verify the f(ΔI) input to the overtemperature and overpower ΔT Functions. The Frequency of every 31 EFPD is adequate. It is based on industry operating experience, considering instrument reliability and operating history data for instrument drift. Also, the slow changes in neutron flux during the fuel cycle can be detected during this interval.

SR 3.3.1.6 is a calibration of the excore channels to the incore channels. This Surveillance is performed to verify the f(ΔI) input to the overtemperature and overpower ΔT Functions. The Frequency of 92 EFPD is adequate. It is based on industry operating experience, considering instrument reliability and operating history data for instrument drift.

P-6, P-7, P-8, and P-10 Functions. Performance of the SR 3.3.1.1 CHANNEL CHECK once every 12 hours ensures that gross failure of instrumentation has not occurred. A CHANNEL CHECK will detect gross channel failure; thus, it is key to verifying that the instrumentation continues to operate properly between each CHANNEL CALIBRATION. The Frequency is based on operating experience that demonstrates channel failure is rare. SR 3.3.1.8 is the performance of a COT as described in SR 3.3.1.7, except it is modified by a Note that this test shall include verification that the P-6 and P-10 interlocks are in their required state for the existing unit condition. This test ensures that the NIS source, intermediate, and power range low channels are OPERABLE prior to taking the reactor critical and after reducing power into the applicable MODE (< P-10 or < P-6) for periods > 4 hours. SR 3.3.1.11 is the performance of a CHANNEL CALIBRATION, as described in SR 3.3.1.10, every 18 months. The 18 month Frequency is based on industry operating experience, considering instrument reliability and operating history data. Operating experience has shown these components usually pass the Surveillance when performed on the 18 month Frequency.

SR 3.3.1.14 is adopted for the RCP Breaker Position, Safety Injection (SI) Input from ESFAS Functions and RPS P-7 interlock. SR 3.3.1.14 is the performance of a TADOT of the Manual Reactor Trip, RCP Breaker Position, and the SI Input from ESFAS. This TADOT is performed every 18 months. The test independently verifies the OPERABILITY of the undervoltage and shunt trip mechanisms for the Manual Reactor Trip Function for the Reactor Trip Breakers and the undervoltage trip mechanism for the Reactor Trip Bypass Breakers. The Frequency is based on the known reliability of the Functions and the multichannel redundancy available, and has been shown to be acceptable through operating experience.

SR 3.3.1.13 is adopted for the RPS Interlock P-6, P-8, and P-10 Functions. SR 3.3.1.13 is the performance of a COT of RPS interlocks every 18 months. The Frequency is based on the known reliability of the interlocks and the multichannel redundancy available, and has been shown to be acceptable through operating experience.

Since no similar requirements exist in the CTS, these changes are more restrictive and have no adverse impact on safety.

M15 CTS Table 4.1-1, Item 2 (Nuclear Intermediate Range) and Item 3 (Nuclear Source Range), require functional testing prior to each reactor startup if a functional test has not been performed in the previous 7 days. ITS SR 3.3.1.8 requires that a COT be performed prior to reactor startup, 4 hours after reducing power below P-10, 4 hours after reducing power below P-6, if the COT has not been performed in the previous 92 days; and every 92 days thereafter. The Frequency of "prior to startup" ensures this surveillance is performed prior to critical operations and applies to the source, intermediate and power range low instrument

channels. The Frequency of "4 hours after reducing power below P-10" (applicable to intermediate and power range low channels) and "4 hours after reducing power below P-6" (applicable to source range channels) allows a normal shutdown to be completed and the unit removed from the MODE of Applicability for this surveillance without a delay to perform the testing required by this surveillance. The Frequency of every 92 days thereafter applies if the plant remains in the MODE of Applicability after the initial performances of prior to reactor startup and four hours after reducing power below P-10 or P-6. The MODE of Applicability for this surveillance is < P-10 for the power range low and intermediate range channels and < P-6 for the source range channels. Once the unit is in MODE 3, this surveillance is no longer required. If power is to be maintained < P-10 or < P-6 for more than 4 hours, then the testing required by this surveillance must be performed prior to the expiration of the 4 hour limit. Four hours is a reasonable time to complete the required testing or place the unit in a MODE where this surveillance is no longer required. This test ensures that the NIS source, intermediate, and power range low channels are OPERABLE prior to taking the reactor critical and after reducing power into the applicable MODE (< P-10 or < P-6) for periods > 4 hours. Since requirements similar to these do not exist in the CTS (with the exception of the requirement to perform the COT prior to startup), this change is more restrictive and has no adverse impact on safety.

M16 CTS Table 4.1-1, Item 2 (Nuclear Intermediate Range) and Item 3 (Nuclear Source Range) are revised to adopt ITS Surveillance Requirement SR 3.3.1.11. SR 3.3.1.11 is the performance of a CHANNEL CALIBRATION, as described in SR 3.3.1.10, every 18 months. The CHANNEL CALIBRATION for the source range and power range neutron detectors consists of obtaining the detector plateau or preamp discriminator curves, evaluating those curves, and comparing the curves to the manufacturer's data. Operating experience has shown these components usually pass the Surveillance when performed on the 18 month Frequency. Since no similar requirements exist in the CTS, this change is more restrictive, and has no adverse impact on safety.

M17 CTS Table 4.1-1, Item 22, Turbine Trip Logic, has Surveillance Requirements for only a test at refueling (R) intervals. ITS Surveillance Requirement SR 3.3.1.15 requires performance of a TADOT prior to reactor startup, when not performed in the previous 31 days. Performance of this test will ensure that the turbine trip Function is OPERABLE prior to taking the reactor critical. This test cannot be performed with the reactor at power and must therefore be performed prior to reactor startup. The CTS is also revised to adopt SR 3.3.1.10. SR 3.3.1.10 (CHANNEL CALIBRATION) is a complete check of the instrument loop, including the sensor. The test verifies that the channel responds to a measured parameter within the necessary range and accuracy.

CHANNEL CALIBRATIONS must be performed consistent with the assumptions of the unit specific setpoint methodology.

The Frequency of 18 months is based on the assumption of an 18 month calibration interval in the determination of the magnitude of equipment drift in the setpoint methodology. No other similar requirement exists in the CTS. This change imposes more restrictive requirements, and has no adverse impact on safety.

M18 CTS Table 4.1-1, Item 27, Logic Channel Testing, requires monthly functional testing during hot shutdown and power operations, and for the source range channels prior to each reactor startup, if not performed within the previous 7 days. ITS SR 3.3.1.5 requires an ACTUATION LOGIC TEST be performed on a STAGGERED TEST BASIS, with Applicability in MODES 1 and 2; and in MODES 3, 4, and 5, when the RTBs are closed. SR 3.3.1.5 is the performance of an ACTUATION LOGIC TEST. The RPS is tested every 31 days on a STAGGERED TEST BASIS. The train being tested is placed in the bypass condition, thus preventing inadvertent actuation. All possible logic combinations, with and without applicable permissives, are tested for each protection function. The Frequency of every 31 days on a STAGGERED TEST BASIS is adequate. It is based on industry operating experience, considering instrument reliability and operating history data. The increased applicability for performance of the SR is consistent with the ITS Applicability of the LCO for the Source Range channels. The LCO requirement for the Source Range Neutron Flux trip Function ensures that protection is provided against an uncontrolled RCCA bank rod withdrawal accident from a subcritical condition during startup. Since this change imposes a broader Applicability, it is more restrictive and has no adverse impact on safety.

M19 CTS Table 4.1-1 requires logic channel testing be performed prior to startup, when periods of reactor cold shutdown and refueling extend the Surveillance interval beyond one month. ITS Surveillance Requirement SR 3.3.1.5 has Applicability in MODES 1 and 2; and MODES 3, 4, and 5 when the RTBs are closed. ITS SR 3.3.2.2 has Applicability in MODES 1, 2, and 3; and in one case, MODE 4. Since a Surveillance must be performed within its Frequency prior to entry into a MODE or other specified condition of Applicability, and the CTS requires performance of the SR prior to "startup," if it has not been performed within its Frequency, this change imposes more restrictive requirements, and has no adverse impact on safety. The increased Applicability for performance of the specified SRs is necessary to ensure the associated functions are OPERABLE when required.

M20 CTS Specification 2.3.1 is revised to add trip setpoints for ITS Table 3.3.1-1 Functions 3, 4, 14 and 15. The inclusion of the trip setpoints ensures the associated functions trip at a point consistent with the assumptions in the applicable safety analysis. The addition of specific

setpoints to ITS is more restrictive, and this change has no adverse impact on safety.

M21 CTS Table 4.1-1, Item 39 (Steam/Feedwater Flow Mismatch) and Item 40 (Low Steam Generator Water Level) are revised to adopt ISTS SR 3.3.1.1, which requires that a CHANNEL CHECK be performed every 12 hours. Performance of the CHANNEL CHECK once every 12 hours ensures that gross failure of instrumentation has not occurred. Since no similar requirements exist in the CTS, this change is more restrictive and has no adverse impact on safety.

M22 CTS Table 3.5-3 ACTION 11, which applies to the manual SI actuation Function and the Manual containment Phase A isolation Function, requires the unit be in at least the Hot Shutdown condition within the next 8 hours. ITS Specification 3.3.2 ACTION B requires the unit be in MODE 3 within the next 6 hours. If the train cannot be restored to OPERABLE status, the unit must be placed in a MODE in which the LCO does not apply. This is done by placing the unit in at least MODE 3 within an additional 6 hours. The allowable Completion Times are reasonable, based on operating experience, to reach the required unit conditions from full power conditions in an orderly manner and without challenging unit systems. This change is more restrictive, and has no adverse impact on safety.

M23 CTS Table 3.5-3, ACTION 12 allows power operation to continue, provided the inoperable channel is placed in trip. ITS Specification Conditions C, D, E, and G contain the same provision, except that ITS 3.3.2 Required Actions C.1 and G.1 require restoration of the channel rather than tripping the channel (which is a more restrictive change through the elimination of the option to trip the affected channel). However, ITS Conditions D and G specify that, if the inoperable channel is not restored or placed in trip (as applicable) within the allotted time, the unit must be in MODE 3 in 12 hours and in MODE 4 within 18 hours, and Conditions C and E specify that, if the inoperable channel is not restored or placed in trip (as applicable) within the allotted time, the unit be placed in MODE 3 within 12 hours and in MODE 5 within 42 hours. In the CTS, if the inoperable channel is not placed in trip within 1 hour, CTS 3.0 requires the plant to be placed in Hot Shutdown in the next 8 hours and in Cold Shutdown within the following 30 hours. Due to the construction of the NUREG-1431 Specification 3.3.2 ACTIONS, the time periods to be in MODE 3, MODE 4, and MODE 5 (12 hours, 18 hours, and 42 hours, respectively), are based on allowing 6 hours to restore or place the channel in trip and, if the channel is not restored or placed in trip in 6 hours, allowing an additional 6 hours to be in MODE 3 (i.e. the Completion Time clock does not reset since the Condition is not exited) and subsequently MODE 4 and MODE 5, as applicable. (The 6 hour time to restore or place the channel in trip is addressed in Discussion of Change L21.) If the channel is not restored or tripped as specified, placing the unit in MODE 3 and subsequently MODE 4 and MODE 5, as

applicable, is necessary to place the unit in a MODE where the LCO is no longer applicable. Therefore, this change reduces the time allowed to place the plant in a non-applicable MODE (e.g., in MODE 3 and MODE 5 from the CTS 3.0 time of 8 hours and 38 hours to the ITS time of 6 hours and 36 hours). This change represents an additional restriction on plant operation necessary to ensure the plant is placed in a non-applicable MODE in a timely manner when the inoperable channel is not placed in the tripped condition within the required time period.

M24 CTS Table 3.5-3, Functional Unit 2.A, Manual Actuation of Containment Spray, has a required ACTION to restore the inoperable channel to OPERABLE status within 1 hour, or be in Hot Shutdown within the next 8 hours, and in Cold Shutdown in the following 30 hours. ITS Specification 3.3.2, ACTION I for the same Functional Unit, is to restore the inoperable channel to OPERABLE status in 1 hour, or be in MODE 3 in 7 hours, MODE 4 in 13 hours, and MODE 5 in 37 hours. This change imposes shorter Completion Time requirements, which is therefore more restrictive, and has no adverse impact on safety.

M25 CTS Table 3.5-4, Item 2.D, manual initiation of steam line isolation, requires in ACTION 16 that an inoperable channel be restored to OPERABLE status within 48 hours, or declare the associated valve inoperable and either restore it to OPERABLE status within the next 24 hours, or initiate procedures to place the unit in the hot shutdown condition. If the Specification is not met within an additional 48 hours, the reactor must be cooled to below 350°F. ITS Specification 3.3.2, Condition F requires the channel be restored to OPERABLE status within 48 hours, or be in MODE 3 within 54 hours, and in MODE 4 within 60 hours. This change imposes more restrictive requirements, and has no adverse impact on safety.

M26 CTS Table 4.1-3 item 5 requires testing of the containment isolation trip function each refueling. The CTS do not explicitly limit the refueling interval to a finite time period. ITS Surveillance Requirement SR 3.3.2.6 requires performance of this testing at an 18 month Frequency. SR 3.3.2.6 ensures that the containment isolation trip function remains capable of performing it required isolation function. The 18 month Frequency is adequate, based on industry operating experience, and is consistent with the typical refueling cycle, which provides the plant conditions necessary for testing. This change imposes more restrictive requirements, and has no adverse impact on safety.

M27 The CTS is revised to adopt ITS Specification 3.3.2 Condition H; Surveillance Requirements SR 3.3.2.1, SR 3.3.2.3 through SR 3.3.2.5, and SR 3.3.2.7; and, Table 3.3.2-1 Item 6. Condition H applies to the Pressurizer Pressure-Low and T_{avg}-Low interlocks. With one channel inoperable, the operator must verify that the interlock is in the required state for the existing unit condition. This action manually

accomplishes the function of the interlock. Determination must be made within 1 hour. The 1 hour Completion Time is equal to the time allowed by LCO 3.0.3 to initiate shutdown actions in the event of a complete loss of ESFAS function. If the interlock is not in the required state (or placed in the required state) for the existing unit condition, the unit must be placed in MODE 3 within the next 6 hours and MODE 4 within the following 6 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required unit conditions from full power conditions in an orderly manner and without challenging unit systems. Placing the unit in MODE 4 removes all requirements for OPERABILITY of these interlocks. SR 3.3.2.1 requires performance of a CHANNEL CHECK every 12 hours. Performance of the CHANNEL CHECK once every 12 hours ensures that a gross failure of instrumentation has not occurred. SR 3.3.2.3 is the performance of a MASTER RELAY TEST. This test is performed every 18 months. The 18 month Frequency is adequate, based on industry operating experience, and is consistent with the typical refueling cycle, which provides the plant conditions necessary for testing. SR 3.3.2.5 is the performance of a SLAVE RELAY TEST. The SLAVE RELAY TEST is the energizing of the slave relays. This test is performed every 18 months. The 18 month Frequency is adequate, based on industry operating experience, and is consistent with the typical refueling cycle, which provides the plant conditions necessary for testing. SR 3.3.2.7 is the performance of a CHANNEL CALIBRATION.

A CHANNEL CALIBRATION is performed every 18 months, or approximately at every refueling. CHANNEL CALIBRATION is a complete check of the instrument loop, including the sensor. The test verifies that the channel responds to measured parameter within the necessary range and accuracy. CHANNEL CALIBRATIONS must be performed consistent with the assumptions of the unit specific setpoint methodology. The Frequency of 18 months is based on the assumption of an 18 month calibration interval in the determination of the magnitude of equipment drift in the setpoint methodology. Table 3.3.2-1, Item 6 provides requirements for ESFAS interlocks. To allow some flexibility in unit operations, several interlocks are included as part of the ESFAS. These interlocks permit the operator to block some signals, automatically enable other signals, prevent some actions from occurring, and cause other actions to occur. The interlock Functions back up manual actions to ensure bypassable functions are in operation under the conditions assumed in the safety analyses. The addition of these requirements adds appropriate LCO, Action, SR and setpoints for the ESFAS interlocks to ensure proper operation. Since no similar Specifications exist in the CTS, this change imposes new requirements and is therefore more restrictive and has no adverse impact on safety.

M28 CTS Specification 3.5.1.2 has Applicability "... at rated power ..." ITS Specification 3.3.3 has Applicability in MODES 1, 2, and 3. These variables are related to the diagnosis and pre-planned actions required to mitigate DBAs. The applicable DBAs are assumed to occur in MODES 1,

2, and 3. In MODES 4, 5, and 6, unit conditions are such that the likelihood of an event that would require PAM instrumentation is low; therefore, the PAM instrumentation is not required to be OPERABLE in these MODES. Since the ITS has broader MODE Applicability, this change is more restrictive and has no adverse impact on safety.

M29 Not used.

M30 Not Used.

M31 CTS Table 3.5-5, Note 6, requires that with both containment hydrogen monitoring channels inoperable, that one channel be restored to OPERABLE status within 14 days. ITS LCO 3.3.3, Required Action E, requires that one channel be restored to OPERABLE status within 72 hours. The 72 hour Completion Time is reasonable based on the backup capability of the Post Accident Sampling System to monitor the hydrogen concentration for evaluation of core damage and to provide information for operator decisions. Also, it is unlikely that a LOCA (which would cause core damage) would occur during this time. This change imposes more restrictive requirements, and has no adverse impact on safety.

M32 The CTS is revised to adopt the following Functions from the plant specific Regulatory Guide 1.97 analysis in ITS Specification 3.3.3: Steam Generator (SG) Pressure and Level, Containment Spray Additive Tank Level, Containment Isolation Valve Position Indication, Power Range and Source Range Neutron Flux, Reactor Coolant System (RCS) Pressure, RCS Hot and Cold Leg Temperature, Refueling Water Storage Tank Level, and Condensate Storage Tank Level. The instrument channels required to be OPERABLE by this LCO include two classes of parameters identified during unit specific implementation of Regulatory Guide 1.97 as Type A and Category I variables.

Type A variables are included in this LCO because they provide the primary information required for the control room operator to take specific manually controlled actions for which no automatic control is provided, and that are required for safety systems to accomplish their safety functions for DBAs.

Category I variables are the key variables deemed risk significant because they are needed to:

- Determine whether other systems important to safety are performing their intended functions;
- Provide information to the operators that will enable them to determine the likelihood of a gross breach of the barriers to radioactivity release; and

- Provide information regarding the release of radioactive materials to allow for early indication of the need to initiate action necessary to protect the public, and to estimate the magnitude of any impending threat.

These key variables are identified by the HBRSEP Regulatory Guide 1.97 analyses. These analyses identify the unit specific Type A and Category I variables and provide justification for deviating from the NRC proposed list of Category I variables. In addition, ACTIONS and Surveillance Requirements (including ITS SR 3.3.3.3) are provided for each of the added Functions. Since no similar Specifications or requirements exist in the CTS, this change imposes new requirements and is therefore more restrictive and has no adverse impact on safety.

M33 CTS Table 3.5-5, Note 8 requires that at least one thermocouple be restored to OPERABLE status within a specified time, or be in Hot Shutdown within the next 12 hours and < 350°F within the next 30 hours. ITS Specification 3.3.3 Required Action G requires that, under those circumstances, the unit be placed in MODE 3 in 6 hours, and in MODE 4 in 12 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required unit conditions from full power conditions in an orderly manner and without challenging unit systems. This change imposes shorter Completion Times, and is therefore more restrictive and has no adverse impact on safety.

M34 CTS Table 4.1-1 is revised to adopt Surveillance Requirements SR 3.3.3.1 and SR 3.3.3.2 for the Power Operated Relief Valve (PORV), PORV block valve, and pressurizer safety valve position indicators. SR 3.3.3.1 requires performance of a monthly CHANNEL CHECK, and SR 3.3.3.2 requires performance of a CHANNEL CALIBRATION at a Frequency of 18 months. Performance of the CHANNEL CHECK once every 31 days ensures that a gross instrumentation failure has not occurred. The Frequency of 31 days is based on operating experience that demonstrates that channel failure is rare. The CHANNEL CHECK supplements less formal, but potentially more frequent, checks of channels during normal operational use of the displays associated with the LCO required channels. CHANNEL CALIBRATION is a complete check of the instrument loop, including the sensor. The test verifies that the channel responds to measured parameter with the necessary range and accuracy. The Frequency is based on operating experience and consistency with the typical industry refueling cycle. This change imposes new requirements, and is therefore more restrictive and has no adverse impact on safety.

M35 The CTS is revised to adopt ITS Specification 3.3.4, "Remote Shutdown System," in the ITS. The specification for the remote shutdown control and instrumentation functions ensures there is sufficient information available on selected unit parameters to place and maintain the unit in MODE 3 should the control room become inaccessible. The Functions in ITS Table 3.3.4-1, Remote Shutdown System Instrumentation and Controls,

are revised to reflect the HBRSEP Unit No. 2 current licensing basis (as identified in UFSAR Section 7.4.1.1 and Table 9.5.1.C-2 and the plant procedure associated with shutdown from outside the control room) associated with the capability to place and maintain the plant in Hot Shutdown from outside the control room. The Remote Shutdown System is considered a contributor to the reduction of unit risk to accidents as such it has been added to the Technical Specifications. Since no similar Specification exists, this change is more restrictive and has no adverse impact on safety.

M36 CTS Table 3.5-3, Functional Units 3.A (loss of voltage protection) and 3.B (degraded voltage protection), have Applicability in the condition, "Reactor Critical." ITS Specification 3.3.5 has Applicability in MODES 1, 2, 3, and 4; and when associated Diesel Generator (DG) is required to be OPERABLE by LCO 3.8.2, "AC Sources-Shutdown and During Movement of Irradiated Fuel Assemblies." The LOP DG Start Instrumentation Functions are required in MODES 1, 2, 3, and 4 because ESF Functions are designed to provide protection in these MODES. Actuation in MODE 5 or 6 is required whenever the required DG must be OPERABLE so that it can perform its function on an LOP or degraded power to the AC Instrument bus. This change imposes more restrictive requirements, and has no adverse impact on safety.

M37 The CTS is revised to adopt ITS Specification 3.3.5 Required Action C. Condition C applies when more than one loss of voltage and/or more than one degraded voltage channel on a single bus is inoperable. In this condition a reduction in capability to detect adverse grid voltage conditions exists. Required Action C requires that, with one or more Functions with two or more channels per bus inoperable, all but one channel be restored to OPERABLE status in 1 hour. Restoration of all but one channel to OPERABLE status restores significant protection capability. The 1 hour Completion Time should allow ample time to repair most failures and takes into account the low probability of an event requiring an LOP start occurring during this interval. Adoption of this Required Action imposes more restrictive requirements, and has no adverse impact on safety.

M38 CTS Table 3.5-4, ACTION 15, requires that with certain instrumentation channels inoperable, power operation may continue provided the Containment Ventilation Purge and Exhaust valves are maintained closed. CTS requirements comparable to ITS 3.3.6 Action A.2 do not exist ITS Specification 3.3.6, Required Action A.1, requires containment purge supply and exhaust valves be closed immediately or Required Action A.2 requires entering the applicable conditions and Required Actions of LCO 3.9.3, "Containment Penetrations." ITS 3.9.3 provides appropriate Required Actions for inoperable containment penetrations during CORE ALTERATIONS and movement of irradiated fuel assemblies inside containment. Adoption of Required Action A.2 imposes more restrictive requirements, and has no adverse impact on safety.

M39 Not Used.

M40 CTS 3.5.1.4 requires the containment ventilation isolation function only when containment integrity is required and is referring to CTS Table 3.5-4 Isolation Functions. CTS 3.6.1.a requires containment integrity unless the reactor is in cold shutdown. CTS Table 3.5-4 includes Phase A and Phase B Containment Isolation Functions and the Containment Ventilation Isolation Function with specified Applicable Conditions. The CTS Table 3.5-4, Ventilation Isolation Function, has an Applicability of "during containment purge." Therefore, the current plant interpretation of this requirement is that the Containment Ventilation Isolation Radiation Monitoring Function (ITS 3.3.6-1 Functions 3.a and 3.b) is only required to be OPERABLE "During Purging." During Purging is defined as opening the containment purge supply and exhaust penetrations and does not include opening the Containment Pressure and Vacuum Relief System. ITS Table 3.3.6-1 defines the Applicability for the required Functions. The Manual Initiation and Automatic Actuation Relays Functions are required to be OPERABLE MODES 1, 2, 3, and 4, and during CORE ALTERATIONS, or movement of irradiated fuel assemblies within containment. The Containment Radiation Function is required to be OPERABLE During Purging, and during CORE ALTERATIONS, or movement of irradiated fuel assemblies within containment. Under these conditions, the potential exists for an accident that could release fission product radioactivity into containment. Therefore, the containment ventilation isolation instrumentation must be OPERABLE in these MODES. While in MODES 5 and 6 without fuel handling or purging in progress, the containment ventilation isolation instrumentation need not be OPERABLE since the potential for radioactive releases is minimized and operator action is sufficient to ensure post accident offsite doses are maintained within the applicable limits. Since this change imposes broader Applicability requirements, it is more restrictive and has no adverse impact on safety.

M41 The CTS is revised by adopting ITS Table 3.3.6-1 Function 2, which specifies OPERABILITY requirements for Automatic Actuation Logic and Actuation Relays including associated Surveillance Requirements SR 3.3.6.2 (ACTUATION LOGIC TEST), SR 3.3.6.3 (MASTER RELAY TEST), AND SR 3.3.6.5 (SLAVE RELAY TEST). These requirements ensure that the instrumentation necessary to automatically initiate Containment Ventilation Isolation is OPERABLE. Since this change imposes additional operability requirements, it is more restrictive and has no adverse impact on safety.

M42 The CTS is revised to adopt ITS Surveillance Requirements SR 3.3.6.1, SR 3.3.6.4, SR 3.3.6.6 (and Note), and SR 3.3.6.7, which provide requirements to assure OPERABILITY of the containment ventilation isolation Function. SR 3.3.6.1 requires performance of a CHANNEL CHECK. Performance of the CHANNEL CHECK once every 12 hours ensures that a gross failure of the radiation monitor instrumentation has not occurred.

The Frequency is based on operating experience that demonstrates channel failure is rare. The CHANNEL CHECK supplements less formal, but potentially more frequent, checks of channels during normal operational use of the displays associated with the LCO required channels. SR 3.3.6.4 requires performance of a COT. A COT is performed every 92 days on each required channel to ensure the channel will perform the intended Function. The Frequency is based on the staff recommendation for increasing the availability of radiation monitors according to NUREG-1366. This test verifies the capability of the radiation monitor instrumentation to initiate Containment Ventilation System isolation. SR 3.3.6.6 is the performance of a TADOT. This test is a check of the Manual Actuation Functions and is performed every 18 months. The Frequency is based on the known reliability of the Function and the redundancy available, and has been shown to be acceptable through operating experience. SR 3.3.6.7 requires performance of a CHANNEL CALIBRATION. A CHANNEL CALIBRATION is performed every 18 months, or approximately at every refueling. The test verifies that the channel responds to a measured parameter within the necessary range and accuracy. The Frequency is based on operating experience and is consistent with the typical industry refueling cycle. Since no similar Specifications exist, this change is more restrictive and has no adverse impact on safety.

M43 The CTS is revised to adopt ITS Specification 3.3.7, "CREFS Actuation Instrumentation." The control room must be kept habitable for the stationed there during accident recovery and post accident operations. Operation of the CREFS may be necessary to ensure the control room is kept habitable for the operators stationed there during accident recovery and post accident operations by minimizing the radiation exposure of control room personnel. The specification requirements ensure that instrumentation necessary to initiate the CREFS is OPERABLE. Since no similar Specification exists, this change is more restrictive and has no adverse impact on safety.

M44 CTS Table 3.4-1, Note 2, requires an inoperable channel to be restored to OPERABLE status within 48 hours, or commence a normal plant shutdown and cooldown to ≤ 350°F. ITS Specification 3.3.8, Condition D requires that the inoperable channel be restored to OPERABLE status in 48 hours, or be in MODE 3 in 54 hours. Condition D requires further that the unit be in MODE 4 in 60 hours. The OPERABILITY of the AFW System must be assured by allowing automatic start of the AFW System pumps. If a channel is inoperable, 48 hours are allowed to return it to an OPERABLE status. If the Function cannot be returned to an OPERABLE status, 6 hours are allowed to place the unit in MODE 3. The allowed Completion Time of 6 hours is reasonable, based on operating experience, to reach MODE 3 from full power conditions in an orderly manner and without challenging plant systems. Since this change imposes Completion Time restrictions where none exist, it is more restrictive and has no adverse impact on safety.

M45 Not used.

M46 Not used.

M47 CTS Table 3.5-5, Item 11, is revised in ITS Table 3.3.3-1, Item 11 to specify two OPERABLE channels of containment hydrogen monitors. The overall effect of this change is to limit the allowed outage time for one inoperable channel to 30 days in accordance with ITS 3.3.3 Required Action A.1, at which time a report to the NRC is required. Submittal of a report is a reasonable action in this circumstance. This change is more restrictive and has no adverse impact on safety.

M48 The shutdown actions associated with CTS Table 3.4-1, Note 1, require if the applicable instrument channel is not restored to within the required time period a normal plant shutdown to hot standby to commence. The term "hot standby" as used in CTS Table 3.4-1 is interpreted by HBRSEP Unit No. 2 as whenever the RCS is > 350 F (ITS MODE 3). The basis of this interpretation is the asterisk note to CTS Table 3.4-1 (which states this table is applicable whenever the RCS is > 350 F) and the concept of shutdown actions requiring the plant to be placed in a MODE or condition outside the Applicability. ITS Specification 3.3.8, ACTION B, requires under similar conditions, the plant to be in MODE 3 in 12 hours, and MODE 4 in 18 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required unit conditions from full power conditions in an orderly manner and without challenging unit systems. In MODE 4, these Functions are no longer required OPERABLE. Specifying explicit Completion Times to be in shutdown conditions and requiring a shutdown to MODE 4 constitute more restrictive requirements, and have no adverse impact on safety.

In addition, ITS Condition B specifies that, if the inoperable channel is not placed in trip within the allotted time, the unit must be in MODE 3 in 12 hours and in MODE 4 within 18 hours. In the CTS, if the inoperable channel is effectively not placed in trip (i.e., inserting the equivalent of an undervoltage signal) within 4 hours, CTS 3.0 requires the plant to be placed in Hot Shutdown (ITS MODE 3) in the next 8 hours. Due to the construction of the NUREG-1431 Specification 3.3.2 ACTIONS (from which ITS 3.3.8 ACTIONS were developed), the time periods to be in MODE 3 and MODE 4 (12 hours and 18 hours, respectively), are based on allowing 6 hours to place the channel in trip and, if the channel is not placed in trip in 6 hours, allowing an additional 6 hours to be in MODE 3 (i.e, the Completion Time clock does not reset since the Condition is not exited) and subsequently MODE 4. (The 6 hour time to place the channel in trip is addressed in Discussion of Change L33.) If the channel is not restored or tripped as specified, placing the unit in MODE 3 and subsequently MODE 4 is necessary to place the unit in a MODE where the LCO is no longer applicable. Therefore, this change reduces the time allowed to place the plant in a non-applicable MODE (e.g., in MODE 3 from the CTS 3.0 time of 8 hours to the ITS time of 6 hours) and

also requires the plant to be placed in MODE 4 rather than only MODE 3. This change represents an additional restriction on plant operation necessary to ensure the plant is placed in a non-applicable MODE in a timely manner when the inoperable channel is not placed in the tripped condition within the required time period.

M49 CTS Table 3.5-2 requires Actions 4, 5, or 8 (as applicable) to be taken if one or two Neutron Flux Source Range channels are inoperable. CTS Table 3.5-2 Actions 4, 5, and 8 only address the condition of one channel inoperable. As a result, a shutdown in accordance with CTS 3.0 would be required if two Neutron Flux Source Range channels are inoperable. CTS 3.0 requires the plant to be placed in Hot Shutdown within 8 hours and in Cold Shutdown within the next 30 hours or the reactor placed in a non-applicable Mode or condition. ITS 3.3.1 Condition J addresses the inoperability of two Neutron Flux Source Range channels and ITS 3.3.1 Required Action J.1 requires immediate opening of the reactor trip breakers. Opening the reactor trip breakers places the plant in a non-applicable condition in less time than is currently required by CTS 3.0. This change represents an additional restriction on plant operation necessary to ensure the reactor is placed in a more stable condition when the protective and monitoring function of the Neutron Flux Source Range channels is lost.

M50 The Applicability of CTS Table 3.5-2, Function 10A, Low Reactor Coolant Flow Single Loop, is "> 45% of rated power." The Applicability in ITS Table 3.3.1-1, Function 9.a, Reactor Coolant Flow - Low, Single Loop, is identified in footnote (g) as, "Above the P-8 (Power Range Neutron Flux) interlock." P-8 is actuated at approximately 40% power. A result of this change restricts bypassing the single-loop-loss-of-flow trip to power levels below 40% rather than below 45%. Requiring the Reactor Coolant Flow - Low, Single Loop Function to be OPERABLE in MODE 1 above the P-8 interlock setpoint represents an additional restriction on plant operation necessary to ensure that a loss of flow in one RCS loop, when above the P-8 interlock setpoint, does not result in DNB conditions in the core.

M51 The "Minimum Channels Operable" column of CTS Table 3.4-1 Function 1, Steam Generator Water Level-Low-Low, requires 2 channels per Steam Generator (SG) to be OPERABLE. In addition in accordance with CTS 1.0 definition of "degree of redundancy", the "Minimum Degree of Redundancy" column of CTS Table 3.4-1 Function 1 indicates that 1 channel per SG is allowed to be inoperable on an indefinite basis. As a result of the change to ITS Table 3.3.8-1 Function 1, the total number of Steam Generator Water Level-Low-Low channels required to be OPERABLE is 3 per SG (which is included as the "REQUIRED CHANNELS" for Function 1 in ITS Table 3.3.8-1). Since action is required in ITS 3.3.8 if a single channel per SG of the SG Water Level-Low-Low Function is inoperable, this change represents an additional restriction on plant operation. This change is necessary to assure Auxiliary Feedwater (AFW) actuation

capability of the motor driven AFW pumps from the SG Water Level-Low-Low Function is maintained in the event of a single failure.

TECHNICAL CHANGES - LESS RESTRICTIVE (GENERIC)

LA1 CTS Specification 2.3.1.2.d provides a descriptive definition of a function generated by the lead-lag controller for T_{avg} dynamic compensation, a discussion of the definition of f(ΔI), and how the permissible flux difference range is extended for variations in power level, all in the overtemperature ΔT calculation. CTS Specification 2.3.1.2.e provides a descriptive definition of a function generated by the rate-lag controller for T_{avg} dynamic compensation, and definition of a time constant in the rate-lag controller for T_{avg}, all in the overpower ΔT calculation. This descriptive information of the affected functions is not necessary to ensure the OPERABILITY of the associated RPS instrumentation. Therefore, this descriptive information related to the overtemperature ΔT and overpower ΔT functions is to be relocated to Bases. The requirements of ITS 3.3.1 and the associated Surveillance Requirements for the RPS instruments are adequate to ensure the instruments are maintained OPERABLE. As such, this relocated information is not required to be in the Technical Specifications to provide adequate protection of the public health and safety. Changes to the ITS Bases will be controlled by the provisions of the Bases Control Program described in Chapter 5 of the Technical Specifications.

LA2 CTS Specification 2.3.3 requires that the RCS narrow range temperature sensor response time be less than or equal to a 4.0 second lag time constant. This detail is not retained in the ITS and is relocated to licensee controlled documents.

The details associated with the involved Specification are not required to be in the ITS to provide adequate protection of the public health and safety, since the ITS still retains the requirement for OPERABILITY of the RCS temperature sensors. This approach provides an effective level of regulatory control and provides for a more appropriate change control process. The level of safety of facility operation is unaffected by the change because there is no change in the overall operational requirements. Furthermore, NRC and licensee resources associated with processing license amendments to these requirements will be reduced. Therefore, relocation of these details is acceptable.

LA3 CTS Specification 3.10.5.1.b, requires that the reactor not be made critical unless the reactor trip bypass breakers are racked out or removed. This detail, related to the OPERABILITY of a Reactor Trip Breaker (RTB) train, is to be relocated to Bases. These details are not necessary to ensure the OPERABILITY of the RTB trains. The requirements of ITS 3.3.1 (RPS Instrumentation),the ACTIONS associated with bypassing a RTB train, and LCO 3.0.4 are adequate to ensure the RTB trains are maintained OPERABLE and that the reactor trip bypass breakers are racked out or removed prior criticality. As such, this relocated detail is not required to be in the Technical Specifications to provide adequate

protection of the public health and safety. Changes to the ITS Bases will be controlled by the provisions of the Bases Control Program described in Chapter 5 of the Technical Specifications.

LA4 CTS Table 4.1-1 contains instrument channel surveillance requirements for Charging Flow, Residual Heat Removal (RHR) Pump Flow, Boric Acid Tank Level, Refueling Water Storage Tank (RWST) Level, Volume Control Tank Level, Containment Pressure, Boric Acid Makeup Flow Channel, Accumulator Level and Pressure, and Steam Generator Pressure. These instruments do not necessarily relate directly to OPERABILITY of the associated system or the ability to maintain the affected parameters within limits. In general the Improved Standard Technical Specifications, NUREG-1431, do not specify indication-only or test equipment to be OPERABLE to support OPERABILITY of a system or component. Control of the availability of, and necessary compensatory activities, for indication instruments, monitoring instruments, alarms, and test equipment are addressed by plant procedures and policies. Therefore, the Charging Flow, Residual Heat Removal (RHR) Pump Flow, Boric Acid Tank Level, Refueling Water Storage Tank (RWST) Level, Volume Control Tank Level, Containment Pressure, Boric Acid Makeup Flow Channel, Accumulator Level and Pressure, and Steam Generator Pressure instrument channel Surveillances are not required to be in the Technical Specifications to provide adequate protection of the public health and safety. The Charging Flow, Residual Heat Removal (RHR) Pump Flow, Boric Acid Tank Level, Refueling Water Storage Tank (RWST) Level, Volume Control Tank Level, Containment Pressure, Boric Acid Makeup Flow Channel, Accumulator Level and Pressure, and Steam Generator Pressure instrument channel Surveillances are to be relocated to Technical Requirements Manual (TRM). This approach provides an effective level of regulatory control and provides a more appropriate change control process. Furthermore, NRC and licensee resources associated with processing license amendments to these requirements will be reduced. Therefore, relocation of this detail is acceptable.

LA5 Not used.

LA6 CTS Table 3.5-5, Note 5, requires a pre-planned alternate method of monitoring be available before the Required Action to restore both inoperable post accident monitoring channels to OPERABLE status within 7 days is allowed. This detail is not retained in the ITS and is relocated to licensee controlled documents.

The details associated with the involved Specifications are not required to be in the ITS to provide adequate protection of the public health and safety, because the ITS still retains the allowed outage times and requirements for OPERABILITY of the post accident monitoring channels. This approach provides an effective level of regulatory control and provides for a more appropriate change control process. The level of safety of facility operation is unaffected by the change because there

is no change in the overall operational requirements. Furthermore, NRC and licensee resources associated with processing license amendments to these requirements will be reduced. Therefore, relocation of these details is acceptable.

LA7 CTS Table 3.5-2, Item 15 and associated Actions 9 and 10 provide requirements for the Control Rod Misalignment Monitor consisting of an ERFIS Rod Position Deviation Monitor and a Quadrant Power Tilt Monitor and are to be relocated to the Technical Requirements Manual (TRM). The ERFIS Rod Position Deviation Monitor provides continuous monitoring capability and alarms at a preset value to alert the operator of a potential control rod misalignment and the Quadrant Power Tilt Monitor provides continuous monitoring and alarms at a preset value to alert the operator of a potential Quadrant Power Tilt Ratio (QPTR) limit violation. These instruments do not necessarily relate directly to OPERABILITY of the associated system or the ability to maintain the affected parameters within limits. In general the Improved Standard Technical Specifications, NUREG-1431, do not specify indication/alarm-only or test equipment to be OPERABLE to support OPERABILITY of a system or component. Control of the availability of, and necessary compensatory activities, for indication instruments, monitoring instruments, alarms, and test equipment are addressed by plant procedures and policies. In addition, if one or both of these monitors are inoperable, the frequency of performance of surveillances associated with rod group alignment limits and QPTR limits, as applicable, are increased as required by ITS SR 3.1.4.1 and ITS SR 3.2.4.1, respectively. Therefore, the requirements for the ERFIS Rod Position Deviation Monitor and a Quadrant Power Tilt Monitor are not required to be in the Technical Specifications to provide adequate protection of the public health and safety. This approach provides an effective level of regulatory control and provides a more appropriate change control process. Furthermore, NRC and licensee resources associated with processing license amendments to these requirements will be reduced. Therefore, relocation of this detail is acceptable.

LA8 Remark 4 to CTS Table 4.1-1, Item 4, Reactor Coolant Temperature, requires the refueling outage calibration to include a narrow range RTD cross calibration and remark 1 to CTS Table 4.1-1, Item 30, Reactor Trip Breakers, requires the monthly trip actuating device operational test to verify the operability of the UV trip attachment and the shunt trip attachment individually. These details of the methods for performing the calibration of reactor coolant temperature instrumentation and testing of the reactor trip breakers are to be relocated to ITS 3.3.1 Bases. These details are not necessary to ensure the OPERABILITY of the RPS instrumentation. The requirements of ITS 3.3.1 and the associated Surveillance Requirements are adequate to ensure the RPS instrumentation is maintained OPERABLE. As such, these relocated details are not required to be in the Technical Specifications to provide adequate protection of the public health and safety. Changes to the ITS Bases

will be controlled by the provisions of the Bases Control Program described in Chapter 5 of the Technical Specifications.

LA9 CTS Table 3.5-1 for the Loss of Power Functions describes, in the "CHANNEL ACTION" column, the action that occurs when the associated Loss of Power Function actuates (i.e., trip the normal supply breaker). This design detail is to be relocated to the UFSAR. Details relating to system design and operation are unnecessary in the LCO. These details are not necessary to ensure the OPERABILITY of the Loss of Power Instrumentation. The requirements of ITS 3.3.5 and the associated Surveillance Requirements are adequate to ensure the Loss of Power instruments are maintained OPERABLE. As such, the relocated details are not required to be in Technical Specifications to provide adequate protection of the public health and safety. This approach provides an effective level of regulatory control and provides a more appropriate change control process. Furthermore, NRC and licensee resources associated with processing license amendments to these requirements will be reduced. Therefore, relocation of this detail is acceptable.

TECHNICAL CHANGES - LESS RESTRICTIVE (SPECIFIC)

L1 The CTS is revised to adopt the "ALLOWABLE VALUE" column from ISTS Table 3.3.1-1 and Table 3.3.2-1. This column is added to provide an allowance for calibration tolerances, instrumentation uncertainties, instrument drift, and severe environment errors for those RPS and ESFAS channels that must function in harsh environments. The Allowable Values specified in Table 3.3.1-1 and Table 3.3.2-1 are conservatively set with respect to the analytical limits. In establishing these allowable values, some have been determined to be less conservative than the CTS trip setpoint limits. The less conservative parameters, which include power range neutron flux (high and low), OTΔT, OPΔT, low pressurizer pressure, and RCS loop low flow, are considered to be a relaxation of requirements, which is less restrictive.

This change is acceptable, however, because the actual nominal trip setpoint is more conservative than that specified by the Allowable Value to account for changes in random measurement errors, such as drift during a surveillance interval. Setpoints in accordance with the Allowable Value ensure that safety limits are not violated during abnormal operational occurrences (AOOs), and that the consequences of design basis accidents (DBAs) will be acceptable, providing the unit is operated from within the LCOs at the onset of the AOO or DBA and the equipment functions as designed. The Allowable Values listed in Table 3.3.1-1 and Table 3.3.2-1 are conservatively set with respect to the analytical limits, and are based on the methodology described in the company setpoint methodology procedure. The magnitudes of uncertainties are factored into the determination of each trip setpoint. All field sensors and signal processing equipment for these channels are assumed to operate within the allowances of these uncertainty magnitudes. This change is consistent with NUREG-1431.

L2 CTS Specifications 2.3.1.2.d and 2.3.1.2.e set the values of certain OTΔT and OPΔT parameters as being "=" to specific values. The specific values in CTS are nominal values with an instrument tolerance of ± 10%. ITS Table 3.3.1-1, Note 1 modifies the OTΔT values to $\tau_1 \geq 20.08$ seconds and $\tau_2 \leq 3.08$ seconds and includes the 10% instrument tolerance. ITS Table 3.3.1-1 Note 2 modifies the OPΔT value to $\tau_3 \geq 9$ seconds and includes the 10% instrument tolerance. This is a relaxation of requirements, and is less restrictive. This change is acceptable, however, because these parameter settings are cycle specific and only permit installation of a more restrictive setpoint in the actual hardware. In addition, the instrument tolerance was evaluated against the analysis associated with RPS instrument time constants and found to be acceptable. Although these parameters normally do not change, they are subject to modification as a result of a reload safety analysis. This change is consistent with NUREG-1431.

L3 CTS Table 3.5-2 Table Notation ACTION 6 permits operation to proceed until performance of the next required operational test, provided that the inoperable channel be placed in the tripped condition within 1 hour. ITS Specification 3.3.1 ACTION E permits instead, unrestricted continued operation provided that the inoperable channel be placed in trip in 6 hours. This is a relaxation of requirements, and is less restrictive. This change is acceptable, however, because the 6 hours allowed to place the inoperable channel in trip is consistent with WCAP-10271-P-A, Supplement 2, Rev. 1, June 1990. Additionally, placing the inoperable channel in trip results in a partial trip condition requiring only one-out-of-two logic for actuation. This change is consistent with NUREG-1431.

As required by the NRC Safety Evaluation (dated April 30, 1990) accepting the generic reliability analysis in WCAP-10271-P-A, Supplement 2, Rev.1, CP&L has confirmed that the HBRSEP Unit No. 2 logic design of the affected instrumentation is bounded by that analyzed in the reliability analysis and the conclusions are applicable to the HBRSEP Unit No. 2 design. In addition, CP&L has confirmed that the instrument drift due to extended Surveillance Frequencies, associated with application of the generic reliability analysis to the HBRSEP Unit No. 2 instrumentation, is already properly accounted for in the setpoint calculation methodology.

L4 CTS Table 3.5-2 inoperable channel ACTION for 4kV Undervoltage requires placing the inoperable channel in trip in 1 hour, restoring the channel to OPERABLE status in 7 days or placing the unit in the hot shutdown condition in the next 8 hours. ITS Table 3.3.1-1 ACTION M for the same function requires placing the inoperable channel in trip in 6 hours, or reducing THERMAL POWER to less than P-7 in 12 hours. This change can be considered a relaxation of requirements due to the additional time permitted to place the inoperable channel in trip and elimination of the specific shutdown requirement, and is less restrictive. This change is acceptable, however, because the 6 hour time to place the inoperable channel in trip is consistent with WCAP-10271-P-A, Supplement 2, Rev. 1, June 1990, and considers the redundant capability provided by the remaining OPERABLE channel, and the unlikelihood of occurrence of an event that may require the protection afforded by the function during this period. This change is consistent with NUREG-1431.

As required by the NRC Safety Evaluation (dated April 30, 1990) accepting the generic reliability analysis in WCAP-10271-P-A, Supplement 2, Rev.1, CP&L has confirmed that the HBRSEP Unit No. 2 logic design of the affected instrumentation is bounded by that analyzed in the reliability analysis and the conclusions are applicable to the HBRSEP Unit No. 2 design. In addition, CP&L has confirmed that the instrument drift due to extended Surveillance Frequencies, associated with application of the generic reliability analysis to the HBRSEP Unit No. 2

instrumentation, is already properly accounted for in the setpoint calculation methodology.

L5 CTS Table 3.5-2 Table Notations "****" and "*****" relate to MODE Applicability when certain reactor trip functions are above either the P-10 or P-7 setpoints. ITS Table 3.3.1-1 Footnotes (f) and (h) relate to MODE Applicability when certain reactor trip functions are above only the P-7 setpoint. Elimination of the "or" connector (with P-10) is a relaxation of requirements, which is less restrictive, since the P-10 setpoint can be exceeded without the trip function having MODE Applicability. This change is acceptable, however, since both the P-7 and P-10 setpoints are at 10 percent RTP, and with a reactor trip function above the P-7 setpoint, the unit is in essentially the same condition. This change is consistent with NUREG-1431.

L6 CTS Table 3.5-2 ACTION 1 requires an inoperable manual reactor trip function to be restored to OPERABLE status within 12 hours, or be in hot shutdown within the next 8 hours. ITS Specification 3.3.1 ACTION B requires an inoperable manual reactor trip function to be restored to OPERABLE status within 48 hours, or be in MODE 3 within 54 hours, and the RTBs open in 55 hours. While the adoption of the requirement to open the RTBs in 55 hours is a new, more restrictive requirement, the overall change in Completion Times is a relaxation of requirements, and is less restrictive. The 48 hour Completion Time is acceptable, however, considering that there are two automatic actuation trains and another manual initiation channel OPERABLE, and the low probability of an event occurring during this interval. The 6 additional hours to reach MODE 3 from full power in an orderly manner and without challenging unit systems are reasonable, based on operating experience. This change is consistent with NUREG-1431.

L7 The CTS is revised to adopt ISTS Specification 3.3.1, Required Action D.2.2 "Note." CTS Table 3.5-2, ACTION 2, requires under certain conditions, that the QPTR be monitored every 12 hours. The D.2.2 Note only requires this Surveillance to be performed when the Power Range Neutron Flux input to QPTR is inoperable. This is a relaxation of requirements, and is less restrictive. This change is acceptable, however, because failure of a component in the Power Range Neutron Flux channel which renders the High Flux Trip Function inoperable may not affect the capability to monitor QPTR. As such, performing the Surveillance using the movable incores is redundant, and not necessary. This change is consistent with NUREG-1431.

L8 CTS Table 3.5-2 ACTION 2 requires an inoperable channel be placed in trip within 1 hour, and <u>either</u>: a) power reduced to ≤ 75% RTP <u>and</u> power range flux trip setpoint reduced to ≤ 85% RTP in 4 hours <u>or</u>: b) QPTR be monitored every 12 hours. ITS Specification 3.3.1 ACTION D requires <u>either</u>: a) the inoperable channel be placed in trip within 6 hours <u>and</u>

power reduced to ≤ 75% RTP in 12 hours, or b) the inoperable channel be placed in trip within 6 hours and SR 3.2.4.2 (QPTR) be performed once per 12 hours, or c) be in MODE 3 in 12 hours. ITS Specification 3.3.1 ACTION E requires either the inoperable channel be placed in trip within 6 hours or be in MODE 3 within 12 hours. ITS Specification 3.3.1 ACTION E is associated with the Neutron Flux Power Range Low Function (ITS Table 3.3.1-1 Function 2.b) which is only applicable in MODE 1 below the P-10 setpoint and in MODE 2. As a result, ITS 3.3.1 ACTION E is only applicable below 10% RTP. Therefore, for the conditions for which ITS 3.3.1 ACTION E applies, the CTS requirement associated with restricting power to ≤ 75% RTP is always satisfied and the requirement to monitor QPTR is not required since the Applicability of ITS 3.2.4, QUADRANT POWER TILT RATIO (QPTR), is when power is > 50% RTP. The differences here are discussed from the perspective of the most and least restrictive actions that can be taken in response to the CONDITION of an inoperable power range neutron flux - high channel. The least restrictive actions that can be taken in the CTS are to place the channel in trip in 1 hour and monitor QPTR at a Frequency of 12 hours. The least restrictive actions that can be taken in the ITS are to place the channel in trip in 6 hours and monitor QPTR (SR 3.2.4.2) at a Frequency of 12 hours. The ITS Frequency of 6 hours for placing the channel in trip is a relaxation of requirements, and is a less restrictive change. Elimination of the requirement to reduce the power range neutron flux trip setpoint to ≤ 85% is also a less restrictive change. This change is acceptable, however, because the 6 hour Frequency for placing the channel in trip is consistent with WCAP-10271-P-A, Supplement 2, Rev. 1, June 1990, and not reducing the power range neutron flux trip setpoint to ≤ 85% has no adverse impact on the remaining OPERABLE power range neutron flux channels maintaining their capability to prevent the core from operating in an overpower condition. While reduction of the trip setpoint would limit the overshoot in a power excursion, maintaining the power range neutron flux trip at its normal setpoint still provides adequate protection in the event of a power excursion. This change is consistent with NUREG-1431.

As required by the NRC Safety Evaluation (dated April 30, 1990) accepting the generic reliability analysis in WCAP-10271-P-A, Supplement 2, Rev.1, CP&L has confirmed that the HBRSEP Unit No. 2 logic design of the affected instrumentation is bounded by that analyzed in the reliability analysis and the conclusions are applicable to the HBRSEP Unit No. 2 design. In addition, CP&L has confirmed that the instrument drift due to extended Surveillance Frequencies, associated with application of the generic reliability analysis to the HBRSEP Unit No. 2 instrumentation, is already properly accounted for in the setpoint calculation methodology.

L9 The CTS is revised to adopt ISTS Specification 3.3.1 Required Action G in the ITS. The CTS has no specific action requirements in the event two Intermediate Range Neutron Flux channels become inoperable when the

unit is operating at a THERMAL POWER >P-6 and <P-10. CTS Section 3.0 would therefore be entered, requiring the unit to be in hot shutdown in 8 hours and in cold shutdown within the next 30 hours or the reactor placed in a non-applicable Mode or condition. ISTS Required Action G requires, under these conditions, that operations involving positive reactivity additions be suspended immediately, and THERMAL POWER be reduced to <P-6 in 2 hours (i.e., placing the plant in a non-applicable condition). Below P-6, ISTS Required Action H.1 requires restoration of two inoperable Intermediate Range Neutron Flux channels prior to increasing power above the P-6 interlock. (The change associated with two inoperable Intermediate Range Neutron Flux channels when below the P-6 interlock is addressed in Discussion of Change L38.) This change is acceptable, however, because with no intermediate range channels OPERABLE, Required Action G.1 is added to immediately suspend operations involving positive reactivity additions. This will preclude any power level increase when the ability to monitor neutron flux is not available (above the P-6 setpoint and below the P-10 setpoint, the intermediate range performs the neutron flux monitoring function). Power must also be reduced below the P-6 setpoint within 2 hours (Required Action G.2). Below P-6, the Source Range Neutron Flux channels (ISTS Table 3.3.1-1 Function 4) are required to be OPERABLE and will be able to monitor neutron flux. Therefore, since adequate neutron flux monitoring capability and trip capability is provided by the Source Range Neutron Flux channels and positive reactivity additions are required to be suspended, it is not necessary to require a plant shutdown in accordance with CTS 3.0. This change is consistent with NUREG-1431.

L10 CTS Table 3.5-2 inoperable channel ACTION for low pressurizer pressure, high pressurizer water level, low reactor coolant flow (single loop and two loops), and 4kV underfrequency provides that operation may proceed until performance of the next required operational test if the inoperable channel is placed in trip in 1 hour. ITS Specification 3.3.1, Required Actions M and N for the same functions, require the inoperable channel be placed in trip in 6 hours or THERMAL POWER is reduced to less than P-7 and P-8, respectively, in 12 hours. This change can be considered a relaxation of requirements due to the additional time permitted to place the inoperable channel in trip and the addition of the option to reduce power to below P-7 as a Required Action, and is less restrictive. This change is acceptable, however, because the 6 hour time to place the inoperable channel in trip is consistent with WCAP-10271-P-A, Supplement 2, Rev. 1, June 1990, and considers the redundant capability provided by the remaining OPERABLE channel, and the unlikelihood of occurrence of an event that may require the protection afforded by the function during this period. Also, reduction of THERMAL POWER below the P-7 setpoint assures that the Function is out of the Applicability for which the Function is required. This change is consistent with NUREG-1431.

As required by the NRC Safety Evaluation (dated April 30, 1990) accepting the generic reliability analysis in WCAP-10271-P-A, Supplement 2, Rev.1, CP&L has confirmed that the HBRSEP Unit No. 2 logic design of the affected instrumentation is bounded by that analyzed in the reliability analysis and the conclusions are applicable to the HBRSEP Unit No. 2 design. In addition, CP&L has confirmed that the instrument drift due to extended Surveillance Frequencies, associated with application of the generic reliability analysis to the HBRSEP Unit No. 2 instrumentation, is already properly accounted for in the setpoint calculation methodology.

L11 CTS Table 3.5-2 inoperable channel ACTION for turbine trip on auto stop oil pressure and turbine stop valve closure provides that operation may proceed until performance of the next required operational test if the inoperable channel is placed in trip in 1 hour. ITS Specification 3.3.1 inoperable channel ACTION P for the same functions require the inoperable channel be placed in trip in 6 hours or THERMAL POWER is reduced to less than P-7 in 10 hours. This change can be considered a relaxation of requirements due to the additional time permitted to place the inoperable channel in trip, and is less restrictive. This change is acceptable, however, because the 6 hour time to place the inoperable channel in trip is consistent with WCAP-10271-P-A, Supplement 2, Rev. 1, June 1990, and considers the redundant capability provided by the remaining redundant OPERABLE channel, and the unlikelihood of occurrence of an event that may require the protection afforded by the function during this period. This change is consistent with NUREG-1431

As required by the NRC Safety Evaluation (dated April 30, 1990) accepting the generic reliability analysis in WCAP-10271-P-A, Supplement 2, Rev.1, CP&L has confirmed that the HBRSEP Unit No. 2 logic design of the affected instrumentation is bounded by that analyzed in the reliability analysis and the conclusions are applicable to the HBRSEP Unit No. 2 design. In addition, CP&L has confirmed that the instrument drift due to extended Surveillance Frequencies, associated with application of the generic reliability analysis to the HBRSEP Unit No. 2 instrumentation, is already properly accounted for in the setpoint calculation methodology.

L12 CTS Table 3.5-2 Items 13 (4kV Underfrequency) and 14 (4kV Undervoltage) have Applicability Conditions of "Reactor Critical." ITS Table 3.3.1-1 Items 11 (Undervoltage RCPs) and 12 (Underfrequency RCPs) have Applicability in MODE 1, above the P-7 interlock. Since this change narrows the MODE of Applicability, it is a relaxation of requirements and is less restrictive. This change is acceptable, however, because below the P-7 setpoint, all reactor trips on loss of flow are automatically blocked, since no conceivable power distributions could occur that would cause a DNB concern at that low power level. This change is consistent with NUREG-1431.

L13 CTS Table 3.5-3 is revised to add ITS Table 3.3.2-1 Items 1.b, 2.b, 3.a(2), 3.b(2), 4.b and 5.a, and add ACTIONS C and G. These items relate to the Automatic Actuation Logic and Actuation Relays for various ESFAS Functions. The CTS does not explicitly identify the requirement for OPERABILITY of Automatic Actuation Logic and Actuation Relays. Consequently, inoperability of the Automatic Actuation Logic and Actuation Relays results in entry into CTS Section 3.0 with the requirement to achieve hot shutdown in 8 hours and cold shutdown within an additional 30 hours. The identification of the Automatic Actuation Logic and Actuation Relays within the LCO, and the addition of Required Actions C and G result in a relaxation of requirements by providing an allowed outage time of 6 hours for the Automatic Actuation Logic and Actuation Relays before a shutdown is required. The overall effect of this change is therefore less restrictive. This change is acceptable, however, because the redundant train provides trip capability during the allowed outage time. Also, the 6 hour Completion Time is further justified based on the unlikelihood of an event occurring during this interval. This change is consistent with NUREG-1431.

L14 CTS Table 4.1-1, Item 1 (Nuclear Power Range) and Item 4 (Reactor Coolant Temperature) require channel functional tests be performed on a bi-weekly frequency. ITS SR 3.3.1.7 and SR 3.3.1.8 require performance of a COT at a Frequency of 92 days. This is a relaxation of requirements, and is less restrictive. This change is acceptable, however, because the change from a 31 day to 92 day Frequency is consistent with WCAP-10271-P-A, Supplement 2, Rev. 1, June 1990, and the 14 day CTS Frequency is adequately bounded by the analysis of the 31 day Frequency. This change is consistent with NUREG-1431.

As required by the NRC Safety Evaluation (dated April 30, 1990) accepting the generic reliability analysis in WCAP-10271-P-A, Supplement 2, Rev.1, CP&L has confirmed that the HBRSEP Unit No. 2 logic design of the affected instrumentation is bounded by that analyzed in the reliability analysis and the conclusions are applicable to the HBRSEP Unit No. 2 design. In addition, CP&L has confirmed that the instrument drift due to extended Surveillance Frequencies, associated with application of the generic reliability analysis to the HBRSEP Unit No. 2 instrumentation, is already properly accounted for in the setpoint calculation methodology.

L15 CTS Table 4.1-1, Item 2 (Nuclear Intermediate Range) and Item 3 (Nuclear Source Range), require functional testing prior to each reactor startup if a functional test has not been performed in the previous 7 days. ITS SR 3.3.1.8 requires that a COT be performed prior to reactor startup if the COT has not been performed in the previous 92 days. This is a relaxation of requirements, and is less restrictive. This change is acceptable, however, because the change from a 7 day to 92 day Frequency

is consistent with WCAP-10271-P-A, Supplement 2, Rev. 1, June 1990, and the 7 day CTS Frequency is adequately bounded by the analysis of the 31 day Frequency. This change is consistent with NUREG-1431.

As required by the NRC Safety Evaluation (dated April 30, 1990) accepting the generic reliability analysis in WCAP-10271-P-A, Supplement 2, Rev.1, CP&L has confirmed that the HBRSEP Unit No. 2 logic design of the affected instrumentation is bounded by that analyzed in the reliability analysis and the conclusions are applicable to the HBRSEP Unit No. 2 design. In addition, CP&L has confirmed that the instrument drift due to extended Surveillance Frequencies, associated with application of the generic reliability analysis to the HBRSEP Unit No. 2 instrumentation, is already properly accounted for in the setpoint calculation methodology.

L16 CTS Table 4.1-1, Items 5 (Reactor Coolant Flow), 6 (Pressurizer Water Level), 7 (Pressurizer Pressure), 8 (4kV Voltage), 11 (Steam Generator Level), 39 (Steam/Feedwater Flow Mismatch), and 40 (Low Steam Generator Water Level) require monthly testing. ITS SR 3.3.1.7 and SR 3.3.1.9 and ITS SR 3.3.8.2 are performed on a Frequency of 92 days. This is a relaxation of requirements, and is less restrictive. This change is acceptable, however, because the change from a 31 day to 92 day Frequency is consistent with WCAP-10271-P-A, Supplement 2, Rev. 1, June 1990. This change is consistent with NUREG-1431.

As required by the NRC Safety Evaluation (dated April 30, 1990) accepting the generic reliability analysis in WCAP-10271-P-A, Supplement 2, Rev.1, CP&L has confirmed that the HBRSEP Unit No. 2 logic design of the affected instrumentation is bounded by that analyzed in the reliability analysis and the conclusions are applicable to the HBRSEP Unit No. 2 design. In addition, CP&L has confirmed that the instrument drift due to extended Surveillance Frequencies, associated with application of the generic reliability analysis to the HBRSEP Unit No. 2 instrumentation, is already properly accounted for in the setpoint calculation methodology.

L17 CTS Table 4.1-1, Item 25, Turbine First Stage Pressure, requires a functional test on a monthly Frequency. ITS SR 3.3.1.13 requires performance of a COT on an 18 month Frequency. This is a relaxation of requirements and is less restrictive. This change is acceptable, however, since the turbine first stage pressure signal is used only during unit startup to feed the P-7 permissive interlock, which bypasses the high pressurizer level, low pressurizer pressure, RCS low flow, and turbine trip reactor trips below 10% RTP, which is an infrequent operation. A review of the surveillance test history was performed to validate that the impact, if any, on system availability is minimal as a result of the change in the surveillance test interval. This review of the surveillance test history, demonstrates that there are no failures that would invalidate the conclusion that the impact, if any, on system

availability is minimal from a change to an 18 month surveillance interval. This change is consistent with NUREG-1431.

L18 CTS Table 4.1-1, Item 27, Logic Channel Testing, requires monthly functional testing during hot shutdown and power operations, and for the source range channels prior to each reactor startup, if not performed within the previous 7 days. ITS Surveillance Requirements SR 3.3.1.5 and SR 3.3.2.2 require an ACTUATION LOGIC TEST be performed at a Frequency of 31 days on a STAGGERED TEST BASIS. Since each channel will only be tested every 62 days, this is a relaxation of requirements and is less restrictive. This change is acceptable, however, because the Frequency of 31 days on a STAGGERED TEST BASIS is based on industry operating experience, considering instrument reliability and operating history data. A review of the surveillance test history was performed to validate that the impact, if any, on system availability is minimal as a result of the change in the surveillance test interval. This review of the surveillance test history, demonstrates that there are no failures that would invalidate the conclusion that the impact, if any, on system availability is minimal from a change to a 31 day on a STAGGERED TEST BASIS surveillance interval. As such, the requirement for the source range channels to be tested within 7 days prior to startup is not necessary since the 31 day on a STAGGERED TEST BASIS surveillance test interval and the requirements of ITS SR 3.0.4 are adequate for ensuring the source range channels are maintained OPERABLE and that the surveillance is current prior to entering into Applicable MODE or specified condition. This change is consistent with NUREG-1431.

L19 CTS Table 4.1-1, Item 30, Reactor Trip Breakers, requires that a functional test be performed on a monthly frequency. ITS SR 3.3.1.4 requires that a TADOT be performed at a Frequency of 31 days on a STAGGERED TEST BASIS. Since each RTB will now be tested every 62 days, this is a relaxation of requirements and is less restrictive. This change is acceptable, however, because the Frequency of 31 days on a STAGGERED TEST BASIS is based on industry operating experience, considering instrument reliability and operating history data. A review of the surveillance test history was performed to validate that the impact, if any, on system availability is minimal as a result of the change in the surveillance test interval. This review of the surveillance test history, demonstrates that there are no failures that would invalidate the conclusion that the impact, if any, on system availability is minimal from a change to a 31 day on a STAGGERED TEST BASIS surveillance interval. This change is consistent with NUREG-1431.

L20 CTS Table 4.1-1, Item 47, Reactor Trip Bypass Breakers, requires that a functional test be performed at monthly (M) frequency. ITS SR 3.3.1.4 requires that a TADOT be performed prior to placing the bypass breaker in service. Since the bypass breakers are only placed in service when the RTBs are being tested, and each RTB will now be tested every 62 days, this is a relaxation of requirements and is less restrictive.

This change is acceptable, however, because the Frequency of 31 days on a STAGGERED TEST BASIS is based on industry operating experience, considering instrument reliability and operating history data. A review of the surveillance test history was performed to validate that the impact, if any, on system availability is minimal as a result of the change in the surveillance test interval. This review of the surveillance test history, demonstrates that there are no failures that would invalidate the conclusion that the impact, if any, on system availability is minimal from a change to a 31 day on a STAGGERED TEST BASIS surveillance interval. This change is consistent with NUREG-1431.

L21 CTS Table 3.5-3 ACTION 12 permits power operation to continue until performance of the next required operational test, provided the inoperable channel is placed in trip within 1 hour. ITS Specification 3.3.2, Conditions D and E permit power operation to continue provided the inoperable channel is placed in trip in 6 hours. ITS Specification 3.3.2, Conditions C and G permit power operation to continue provided the inoperable channel is restored in 6 hours. This is a relaxation of requirements, and is less restrictive. This change is acceptable, however, because of redundancy in the instrumentation design (e.g., Conditions C and D generally apply to functions that operate on two-out-of-three logic, and failure of one channel would place the Function in a two-out-of-two configuration. One channel must be tripped to place the Function in a one-out-of-two configuration, which satisfies redundancy requirements). Also, the 6 hour Completion Time is further justified based on the unlikelihood of an event occurring during this interval. This change is consistent with NUREG-1431.

L22 CTS Table 3.5-5 is revised by adopting ISTS Specification 3.3.3 Conditions A, B, C, and H. This change will require that, with one containment high range radiation monitoring channel inoperable, the channel be restored to OPERABLE status within 30 days, instead of 7. This is a relaxation of requirements, and is less restrictive. This change is acceptable, however, considering the low probability of an event requiring use of this Function during this time interval, and there is an installed OPERABLE redundant channel. This change is consistent with NUREG-1431.

L23 CTS Table 3.5-5, Note 1 requires that, if one AFW flow indicator becomes inoperable, it must be restored to OPERABLE status within 7 days. ITS Specification 3.3.3, Required Action A requires an inoperable AFW flow indicator to be restored to OPERABLE status within 30 days. This is a relaxation of requirements, and is less restrictive. This change is acceptable, however, because the 30 day Completion Time takes into account the remaining OPERABLE channel (or in the case of a Function that has only one required channel, other non-Regulatory Guide 1.97 instrument channels to monitor the Function), the passive nature of the instrument (no critical automatic action is assumed to occur from the

instrument), and the low probability of an event requiring PAM instrumentation during this interval.

L24 CTS Table 3.5-5, Note 6, requires that with both containment hydrogen monitoring channels inoperable, and one channel cannot be restored to OPERABLE status within the specified time, the unit be placed in Hot Shutdown within 6 hours and ≤200°F within the following 30 hours. ITS Specification 3.3.3, Required Action E requires under the same conditions, that the unit be placed in MODE 3 within 6 hours, and in MODE 4 within the following 6 hours. This is a relaxation of requirements, and is less restrictive. This change is acceptable, however, considering the backup capability of the Post Accident Sampling System to monitor hydrogen concentration for evaluation of core damage and to provide information for operator decisions; and the unlikelihood of an event that would require use of the hydrogen monitors in the interval. This change is consistent with NUREG-1431.

L25 CTS Table 3.5-5, Note 8 requires that the inoperable thermocouples be restored to OPERABLE status within 7 days, or be in Hot Shutdown within the next 12 hours and < 350°F within the next 30 hours. ITS Specification 3.3.3, Required Actions A and B require that the inoperable channel be restored to OPERABLE status within 30 days, or the reporting requirements of ITS Specification 5.6.6 be initiated immediately. This is a relaxation of requirements, and is less restrictive. This change is acceptable, however, considering the unlikelihood of an event occurring in the extended interval, together with a redundant OPERABLE channel available within the same quadrant. This change is consistent with NUREG-1431.

L26 CTS Table 3.5-5, Note 8 requires that at least one thermocouple be restored to OPERABLE status within 48 hours. ITS Specification 3.3.3, Required Action C requires that one inoperable channel be restored to OPERABLE status within 7 days. This is a relaxation of requirements, and is less restrictive. This change is acceptable, however, considering the unlikelihood of an event occurring in the extended interval. This change is consistent with NUREG-1431.

L27 CTS Table 4.1-1 requires that the PORV Position Indication, PORV Block Valve Position Indicator, and Safety Relief Valve Position Indicator, Containment Level, Pressure, Hydrogen and Radiation Monitors be tested at an "R" Frequency. ITS Specification 3.3.3 has no such requirement. This is a relaxation of requirements, and is less restrictive. This change is acceptable, however, because a CHANNEL CALIBRATION is performed on these channels at an 18 month Frequency. The CHANNEL CALIBRATION encompasses all the testing requirements for these Functions, from sensor to indicator. This change is consistent with NUREG-1431.

L28 CTS Table 3.5-3, Functional Unit 3.A, Action 14 requires that, with the number of OPERABLE Loss of Voltage channels one less than the Total Number of channels, the inoperable channel be placed in block within 1 hour and be restored to OPERABLE status within 48 hours, or the reactor be placed in hot shutdown within the next 8 hours and cold shutdown within the following 30 hours.

ITS 3.3.5 ACTION A requires that, if the Loss of Voltage Function has one or more channels per bus inoperable, the inoperable channel(s) must be restored to OPERABLE status in 1 hour. If that Completion Time is not met, the applicable Condition(s) and Required Action(s) for the associated DG made inoperable by the loss of power instrumentation be entered immediately. This is a relaxation of requirements, and is less restrictive.

ITS 3.3.5 Required Action A.1 provides 1 hour, for the condition of one or more inoperable channels of the Loss of Voltage Function, to attempt to evaluate and repair any discovered inoperabilities. This 1 hour time period is considered to be acceptable because it minimizes risk while providing time for restoration or tripping of channels. This 1 hour period is also consistent with the 1 hour time period provided in ITS 3.0.3. The levels of degradation represented by the inoperability of one or more Loss of Voltage channels would be no more severe than the levels of degradation that would require entry into ITS 3.0.3. The change will provide consistency in ACTIONS for this level of degradation.

If a Required Action and associated Completion Time are not met for Loss of Power Instrumentation, ITS 3.3.5 ACTION D requires the affected diesel generators to be declared inoperable immediately and the applicable Required Actions taken for the inoperable diesel generator. Currently, CTS Table 3.5-3 ACTION 14 requires a plant shutdown if the inoperable channel is not restored to OPERABLE status within 48 hours. Since this instrument is the start signal for the DGs (i.e., it supports DG OPERABILITY), the appropriate action would be to declare the DG inoperable. The current requirements are overly restrictive, in that if the diesel were inoperable for other reasons, a 7 day restoration time is provided; yet currently if an instrument is inoperable, for greater than 48 hours, but the diesel is otherwise fully OPERABLE, a shutdown is required.

L29 CTS Table 3.5-3, Functional Unit 3.B, Action 14 requires that, with the number of OPERABLE Degraded Voltage channels one less than the Total Number of channels, the inoperable channel be placed in block within 1 hour and be restored to OPERABLE status within 48 hours, or the reactor be placed in hot shutdown within the next 8 hours and cold shutdown within the following 30 hours.

ITS Specification 3.3.5 requires that, if the Degraded Voltage Function has one channel per bus inoperable, the inoperable channel be placed in trip in 6 hours. If that Completion Time is not met, the applicable Condition(s) and Required Action(s) for the associated DG made inoperable by the loss of power instrumentation be entered immediately. This is a relaxation of requirements, and is less restrictive.

This change is acceptable, however, because there are three Degraded Voltage channels per bus, which are configured in a two-out-of-three logic, such that if any two channels see a degraded voltage condition, they will trip the bus. With one channel placed in a tripped condition, the two OPERABLE channels are still available to trip the bus in a one-out-of-two logic arrangement. The 6 hour Completion Time is acceptable, considering the Function remains OPERABLE on both emergency busses and the low probability of an event occurring during this interval. This change is consistent with NUREG-1431.

If a Required Action and associated Completion Time are not met for Loss of Power Instrumentation, ITS 3.3.5 ACTION D requires the affected diesel generators to be declared inoperable immediately and the applicable Required Actions taken for the inoperable diesel generator. Currently, CTS Table 3.5-3 ACTION 14 requires a plant shutdown if the inoperable channel is not restored to OPERABLE status within 48 hours. Since this instrument is the start signal for the DGs (i.e., it supports DG OPERABILITY), the appropriate action would be to declare the DG inoperable. The current requirements are overly restrictive, in that if the diesel were inoperable for other reasons, a 7 day restoration time is provided; yet currently if an instrument is inoperable, for greater than 48 hours, but the diesel is otherwise fully OPERABLE, a shutdown is required.

L30 CTS Specification 3.5.1 is revised to adopt the ISTS Specification 3.3.5 "Note" to Required Action B.1 in the ITS. The Note permits an inoperable Degraded Voltage Function channel to be bypassed for up to 4 hours for surveillance testing of other channels. Adoption of this Note constitutes a relaxation of requirements, and is therefore less restrictive. This change is acceptable, however, because there are three Degraded Voltage channels per bus, and this allowance is made where bypassing the channel does not cause an actuation, and where at least two other channels per bus are monitoring the parameter. The Degraded Voltage Function is arranged in a two-out-of-three configuration. Bypassing one channel would still provide a two-out-of-two logic. The time allowed is reasonable, considering the Function remains fully OPERABLE on each bus and the low probability of an event occurring during the interval. This change is consistent with NUREG-1431.

L31 CTS Specification 3.8.1.b requires that the radiation monitors which initiate containment ventilation isolation be tested and verified to be

OPERABLE immediately prior to refueling operations. This requirement is not retained in the ITS. This constitutes a relaxation of requirements, and is therefore less restrictive. This change is acceptable, however, because the radiation monitors are demonstrated OPERABLE at a Frequency of 92 days by performance of a CHANNEL OPERATIONAL TEST. The Frequency of 92 days is based on industry operating experience, considering instrument reliability and operating history data. A review of the surveillance test history was performed to validate that the impact, if any, on system availability is minimal as a result of the change in the surveillance test interval. This review of the surveillance test history, demonstrates that there are no failures that would invalidate the conclusion that the impact, if any, on system availability is minimal from a change to a 92 day surveillance interval. This change is consistent with NUREG-1431.

L32 CTS Table 3.4-1, Function 1, requires under certain channel inoperability conditions, that the unit be maintained in hot shutdown. ITS Specification 3.3.8, Required Action B, requires under similar conditions, that the inoperable channel be placed in trip in 6 hours, or be in MODE 3 in 12 hours, and MODE 4 in 18 hours. This is a relaxation of requirements, and is less restrictive. This change is acceptable, however, because placing the inoperable channel in trip maintains the AFW pump autostart Function OPERABLE, but in a one-out-of-two configuration, instead of two-out-of-three. The allowance of 6 hours to return the channel to OPERABLE status or place it in trip is consistent with WCAP-10271-P-A, Supplement 2, Rev. 1, June 1990. This change is consistent with NUREG-1431.

As required by the NRC Safety Evaluation (dated April 30, 1990) accepting the generic reliability analysis in WCAP-10271-P-A, Supplement 2, Rev.1, CP&L has confirmed that the HBRSEP Unit No. 2 logic design of the affected instrumentation is bounded by that analyzed in the reliability analysis and the conclusions are applicable to the HBRSEP Unit No. 2 design. In addition, CP&L has confirmed that the instrument drift due to extended Surveillance Frequencies, associated with application of the generic reliability analysis to the HBRSEP Unit No. 2 instrumentation, is already properly accounted for in the setpoint calculation methodology.

L33 CTS Table 3.4-1, Note 1, requires that, if either 4 kV undervoltage relay fails, the equivalent of an undervoltage signal must be inserted in the steam driven AFW pump start circuit within 4 hours; the affected relay must be repaired within 7 days, or commence a normal plant shutdown to hot standby. ITS Specification 3.3.8, Required Action B, requires under similar conditions, that the inoperable channel be placed in trip in 6 hours, or be in MODE 3 in 12 hours, and MODE 4 in 18 hours. This is a relaxation of requirements with respect to the 6 hour allowed outage time and the elimination of the requirement to restore the relay within 7 days, and is less restrictive. This change is acceptable,

however, because placing the inoperable channel in trip maintains the steam driven AFW pump autostart Function OPERABLE, but in a one-out-of-one configuration, instead of two-out-of-two. Therefore, it is not necessary to restore the relay within 7 days to ensure that the AFW actuation capability is maintained. The allowance of 6 hours to return the channel to OPERABLE status or place it in trip is consistent with WCAP-10271-P-A, Supplement 2, Rev. 1, June 1990. This change is consistent with NUREG-1431 and provides the benefit of avoiding a plant shutdown transient when AFW actuation capability is still available from the affected function.

L34 Not used.

L35 CTS Table Note (*) for Table 3.5.2 are revised to add ". . . and rods not fully inserted or Rod Control System Capable of rod withdrawal," to and is incorporated into ITS Table 3.3.1-1, Note (a). This change reduces of Applicability in MODEs 3, 4, and 5 for Functions 1, 4, 18, 19, and 20 of ITS Table 3.3.1-1. This change relaxes requirements and is less restrictive. This change is acceptable because the remaining Applicability for Functions 1, 4, 18, 19, and 20 ensures that the reactor trip functions will be available when required. Specifically, the current licensing basis allows the rods to be five steps from the bottom with the lift disconnect switches open to prevent uncontrolled rod withdrawal. In this condition credit for the control and shutdown rods can be taken in the shutdown margin without relying on a reactor trip.

L36 CTS Table 3.5-2 ACTION 3 requires for an inoperable intermediate range neutron flux channel with THERMAL POWER above the P-6 setpoint, but below 10% RTP, that the inoperable channel be restored to OPERABLE status prior to increasing THERMAL POWER above 10% RTP. ITS Specification 3.3.1 ACTION F requires for an inoperable intermediate range neutron flux channel with THERMAL POWER above the P-6 setpoint, but below the P-10 setpoint, that THERMAL POWER either be reduced to below P-6 or increased above P-10 in 2 hours. The intermediate range neutron flux channels must be OPERABLE when the power level is above the capability of the source range and below the capability of the power range. The CTS does not permit an increase in power level to exit the Applicability of the intermediate range detectors. The Required Action to increase THERMAL POWER to exit the Applicability for the intermediate range detectors is less restrictive. The change is acceptable since the intermediate range detectors are not required to be OPERABLE above P-10 setpoint, and power range instrumentation provides the necessary protection above P-10. This change is consistent with NUREG-1431.

L37 The CTS is revised to adopt ISTS Specification 3.3.1 Required Action O in the ITS. The CTS has no specific action requirements in the event one Reactor Coolant Pump (RCP) breaker position channel is inoperable. CTS Section 3.0 would therefore be entered, requiring the unit to be in

hot shutdown in 8 hours, and in cold shutdown within the next 30 hours. ISTS Required Action O requires, under these conditions, that the channel be restored to OPERABLE status within 6 hours, or reduce THERMAL POWER to < P-8 in 10 hours. This is a relaxation of requirements, and is less restrictive. This change is acceptable, however, because the allowed outage time of 6 hours granted by Required Action O is consistent with WCAP-P-A, Supplement 2, Rev. 1, June 1990; below the P-8 setpoint the RCP breaker position is not required to anticipate the RCS low flow trip to protect against DNB; the probability of an event requiring the Function of RCP breaker position is low during the allowed outage time; and, the most likely event for which the Function would be required is a loss of offsite power which would result in the trip of the remaining two RCPs, giving a signal to the RPS. This change is consistent with NUREG-1431.

As required by the NRC Safety Evaluation (dated April 30, 1990) accepting the generic reliability analysis in WCAP-10271-P-A, Supplement 2, Rev.1, CP&L has confirmed that the HBRSEP Unit No. 2 logic design of the affected instrumentation is bounded by that analyzed in the reliability analysis and the conclusions are applicable to the HBRSEP Unit No. 2 design. In addition, CP&L has confirmed that the instrument drift due to extended Surveillance Frequencies, associated with application of the generic reliability analysis to the HBRSEP Unit No. 2 instrumentation, is already properly accounted for in the setpoint calculation methodology.

L38 CTS Table 3.5-2 requires Action 3 to be taken if one or two Neutron Flux Intermediate Range channels are inoperable. When below the P-6 (Intermediate Range Neutron Flux Interlock) setpoint, the Neutron Flux Intermediate Range channels perform only a neutron flux monitoring function and not a protective function. When below the P-6 setpoint, CTS Table 3.5-2 Action 3a only addresses the condition of one channel inoperable and requires restoration of the inoperable channel prior to increasing power above the P-6 setpoint. As a result, a shutdown in accordance with CTS 3.0 would be required if two Neutron Flux Intermediate Range channels are inoperable. ITS 3.3.1 Condition H addresses the inoperability of one or two Neutron Flux Intermediate Range channels and ITS 3.3.1 Required Action H.1 requires restoration of the inoperable channels prior to increasing power above the P-6 setpoint. Below the P-6 setpoint, the Neutron Flux Source Range channels perform the neutron flux monitoring and protection functions. Therefore, since adequate neutron flux monitoring capability and trip capability is provided by the Neutron Flux Source Range channels, it is not necessary to require a plant shutdown when two Neutron Flux Intermediate Range channels are inoperable below the P-6 setpoint.

L39 The CTS Table 4.1-1 Item 1 (Nuclear Power Range) monthly calibration requirement is deleted and the existing calibration requirement of once per refueling outage is established as the required Frequency for

values for these instruments are based on a CHANNEL CALIBRATION frequency of 22.5 months, it is concluded that the planned CHANNEL CALIBRATION interval extension is acceptable.

Therefore, it is concluded that the impact, if any, on system availability is minimal as a result of the change in the surveillance test interval. A review of the surveillance test history was performed to validate the above conclusion. This review of the surveillance test history, demonstrates that there are no failures that would invalidate the conclusion that the impact, if any, on system availability is minimal from a change to an 18 month CHANNEL CALIBRATION frequency.

L40 CTS Table 4.1-1, Items 1 and 4 (Nuclear Power Range and Reactor Coolant Temperature), require calibration of the channels to be performed. CTS Table 4.1-1, Item 3 (Nuclear Source Range) requires testing of the channels to be performed. ITS SR 3.3.1.2 and SR 3.3.1.3 are modified by Notes which state that performance of these Surveillances may be delayed until 12 and 36 hours, respectively, after THERMAL POWER is ≥ 15% RTP. ITS SR 3.3.1.6 is modified by a Note which states that performance of this surveillance may be delayed until 24 hours after THERMAL POWER is ≥ 50% RTP. This is necessary due to the inaccuracy of the calorimetric at low powers. Therefore, this change provides an allowance to delay performance of the three required surveillances until conditions necessary to perform the surveillances are established while ensuring the surveillances are performed at the earliest reasonable opportunity. ITS SR 3.3.1.7 is modified by a Note to allow performance of the CHANNEL OPERATIONAL TEST to be delayed until 4 hours after entering MODE 3 from MODE 2. The 4 hour delay allows a normal shutdown to be completed without a required hold on power reduction to perform the testing required by this SR. In addition, performing the CHANNEL OPERATIONAL TEST of the Source Range function prior to entry into the Applicability may increase the probability of an inadvertent reactor trip. This change is considered to be acceptable since the most likely outcome of the performance of an SR is demonstrating that the acceptance criteria are satisfied.

L41 This change adds a Note to the calibration requirement in CTS Table 4.1-1 for Items 1, 2, and 3 (Nuclear Power Range, Nuclear Intermediate Range, and Nuclear Source Range) excluding the neutron detectors from this Surveillance (ITS SR 3.3.1.11). The CHANNEL CALIBRATION is a complete check of the instrument loop and the sensor. The test verifies that the channel responds to the measured parameter within the necessary range and accuracy. The neutron detectors are excluded from the CHANNEL CALIBRATION because they are passive devices, with minimal drift, and because of the difficulty of simulating a meaningful signal. This change is consistent with NUREG-1431.

L42 The Applicability of CTS Table 3.5-4 Steam Line Isolation Functions 2.A, 2.B, 2.C, and 2.D are revised in MODES 2 and 3 to not require the

OPERABILITY of the Steam Line Isolation Functions when all MSIVS are closed (ITS Table 3.3.2-1 Note (b)). The Steam Line Isolation Functions are provided to isolate the steam lines to provide protection in the event of a Steam Line Break, inside or outside containment. With the MSIVs closed, the function of the instrumentation is satisfied. As a result, with all MSIVs closed, the Function is not required to isolate the steam lines to provide protection in the event of a Steam Line Break, inside or outside containment. In addition, the opening of these valves is a controlled plant evolution which is performed in accordance with administrative controls.

L43 ITS Table 3.3.2-1 Note (f) is added to Function 5.a, Feedwater Isolation - Automatic Actuation Logic and Actuation Relays Function. (The addition of ITS Table 3.3.2-1 Function 5.a is addressed in Discussion of Change L13.) Note (f) allows Function 5.a to not be OPERABLE when the MFIVs, MFRVs, and bypass valves are closed or isolated by a closed manual valve. The Feedwater Isolation Functions are provided to isolate the feedwater lines to mitigate the effects of overfeeding the Steam Generators (SGs) which could result in excessive cooldown of the primary system. With the MFIVs, MFRVs, and bypass valves closed or isolated by a closed manual valve, the function of the instrumentation is satisfied. As a result, with all MFIVs, MFRVs, and bypass valves closed or isolated by a closed manual valve, the Function is not required to isolate the feedwater lines to mitigate the effects of overfeeding the SGs. In addition, the opening of these valves is a controlled plant evolution which is performed in accordance with administrative controls.

L44 CTS Table 3.5-5 Note 5 is changed for the condition of two affected Post Accident Monitoring Function channels monitors inoperable. With two monitors inoperable for 7 days, ITS 3.3.3 Required Action H.1 requires initiation of action in accordance with ITS 5.6.6. ITS 5.6.6 requires initiating the alternate method of monitoring. With two affected channels inoperable, CTS Table 3.5-5 Note 5 requires that if an alternate method of monitoring the affected parameter is not available and implemented with both channels inoperable, then one channel must be restored within 7 days or the plant be placed in Hot Shutdown within 7 days and be ≤ 350 F within the following 30 hours. Elimination of the shutdown requirements from CTS 3.5-5 Note 5 when two monitors are inoperable and initiation of the alternate method of monitoring is not established within 7 days is considered acceptable based on the relatively low probability of an event requiring PAM instrumentation, the passive function of the instruments. In addition, if the alternate method of monitoring is not established within the time frame established in ITS 5.6.6, this would constitute a failure to comply with ITS 3.3.3 Required Action H.1 and a shutdown in accordance with ITS LCO 3.0.3 would be required.

L45 CTS Table 4.1-1 Item 32 requires a Channel Functional Test of the Loss of Voltage and Degraded Voltage Instrumentation to be performed once per

refueling interval. ITS SR 3.3.5.1 is provided to perform a TRIP ACTUATING DEVICE OPERATIONAL TEST (TADOT) once per 18 months. The CTS Channel Functional Test definition requires injection of a simulated signal into the sensor to verify channel operability, including alarm and/or trip. The TADOT definition does not require injecting a simulated or actual signal into the channel. This change is acceptable since ITS SR 3.3.5.2 requires the performance of a CHANNEL CALIBRATION once per 18 months. The definition of a CHANNEL CALIBRATION requires adjustment of the channel so that it responds within the required range and accuracy and encompasses the required sensor and trip functions. As such, the requirement to test the sensor is adequately addressed by the requirement to perform the CHANNEL CALIBRATION at the same frequency.

L46 If the Containment Ventilation Isolation Phase A Functions are inoperable, ITS 3.3.6 ACTION A requires the containment purge supply and exhaust valves to be immediately closed and maintained closed. Currently, the CTS Table 3.5-4 ACTIONS associated with the Phase A Isolation Functions ultimately require a plant shutdown if the Containment Ventilation Isolation Phase A Functions are inoperable. Since the Function of the ITS 3.3.6 instrumentation is to close the containment purge supply and exhaust valves, the appropriate action would be to close and maintain the containment purge and exhaust valves closed when the associated instrumentation is inoperable. The current requirements are overly restrictive, in that if the containment purge supply and exhaust valves were inoperable for other reasons (other than leakage), closing the affected inoperable valve satisfies the safety function and allows continued plant operation; yet currently if an instrument is inoperable, but the containment purge and exhaust valves are closed, a shutdown is required.

L47 CTS Table 4.8-1 specifies that a Channel Functional Test be performed for the Auxiliary Feedwater - Trip of Main Feedwater Pumps Function. The CTS definition of Channel Functional Test requires the injection of a simulated signal into the channel. The Note to ITS SR 3.3.8.3 specifies that the test for Function 5 (Trip of Main Feedwater Pumps) be initiated by an "actual or simulated actuation signal." This allows satisfactory actuations for other than Surveillance purposes to be used to fulfill the Surveillance Requirements. OPERABILITY is adequately demonstrated in either case since the Auxiliary Feedwater Actuation equipment cannot discriminate between an "actual" signal or "a test safety injection signal."

L48 CTS Table 4.8-1 Items b and d require a Channel Functional Test of the Auxiliary Feedwater-Undervoltage and Station Blackout Instrumentation to be performed once per refueling interval. ITS SR 3.3.8.3 is provided to perform a TRIP ACTUATING DEVICE OPERATIONAL TEST (TADOT) once per 18 months. The CTS Channel Functional Test definition requires injection of a simulated signal into the sensor to verify channel operability, including alarm and/or trip. The TADOT definition does not require

injecting a simulated or actual signal into the channel. This change is acceptable since ITS SR 3.3.8.4 requires the performance of a CHANNEL CALIBRATION once per 18 months. The definition of a CHANNEL CALIBRATION requires adjustment of the channel so that it responds within the required range and accuracy and encompasses the required sensor and trip functions. As such, the requirement to test the sensor is adequately addressed by the requirement to perform the CHANNEL CALIBRATION at the same frequency.

L49 CTS Table 3.5-4 Item 2.C for the Steam Line Isolation - Containment Pressure-High High Function references CTS Table 3.5-3 Item 2.B for requirements. The Applicability of CTS Table 3.5-3 Item 2.B for requirement is MODES 1, 2, 3, and 4. The Applicability of ITS Table 3.3.2-1 Function 4.c, Steam Line Isolation - Containment Pressure-High High, is MODE 1, and MODE 2 and 3 except when all MSIVs are closed. The change to the Applicability requires the Steam Line Isolation Function to be OPERABLE only when the associated supported components (i.e., MSIVs) are required to be OPERABLE. This change is acceptable since the Steam Line Isolation Function serves no purpose when the associated supported features (MSIVs) are not required to be OPERABLE. This change does not impact the ability of the steam line isolation instrumentation to perform its intended function which is to support the MSIVs in the performance of their safety function.

Additionally, this change is consistent with the CTS definition and ITS definition of OPERABILITY requiring the associated steam line isolation instrumentation be OPERABLE when the MSIVs are required to be OPERABLE. The benefit of not requiring steam line isolation instrumentation to be OPERABLE when the associated supported components (MSIVs) are not required to be OPERABLE is that testing of the steam line isolation instrumentation may be reduced and any needed maintenance may be performed, thereby increasing overall reliability.

L50 CTS Table 3.5-3 does not address the condition of all channels of an ESFAS Instrumentation Function inoperable or a train of ESFAS Instrumentation inoperable. Due to the plant design, maintenance or surveillance testing of a single channel can not be performed without causing all channels of the associated Function to be inoperable. In many cases, maintenance or surveillance testing will also cause the associated train to be inoperable. Therefore, ITS 3.3.2 ACTIONS Note 2 is adopted to permit a single ESFAS instrumentation train to be inoperable for the purpose of maintenance or surveillance testing for up to 12 hours provided the other train is OPERABLE. The Note also specifies that the provision does not apply to Manual Actuation Functions.

Currently, all Functions of an associated ESFAS train are tested at one time. The procedure for performing testing does not result in the entire train being made inoperable. However, each of the Functions

many cases, maintenance or surveillance testing will also cause the associated train to be inoperable. Therefore, ITS 3.3.2 ACTIONS Note 2 is adopted to permit a single ESFAS instrumentation train to be inoperable for the purpose of maintenance for up to 12 hours provided the redundant train is OPERABLE. The Note also specifies that the provision does not apply to Manual Actuation Functions.

Currently, multiple Functions of an associated ESFAS train may be tested at one time. The procedure for performing testing does not result in the entire train being made inoperable. However, each of the Functions within an ESFAS train are made inoperable for short periods of time until testing of all channels of the associated ESFAS train is completed. Repetitive action entry and exit during testing of the associated ESFAS train, on a per Function basis, represents an unnecessary administrative burden on the plant operations staff and would result in extending the time period required to complete the testing. Therefore, Note 2 to the Surveillance Requirements is added to provide a single time period (6 hours) to cover all testing of the associated ESFAS train provided the redundant train is maintained OPERABLE.

For repair or replacement of Engineered Safeguard System relays and/or test switches, 12 hours has been determined to be a reasonable Completion Time for restoration of the two most frequently occurring types of failures that occur in the HBRSEP Unit No.2 Engineered Safeguards System. These two failures are 1) failure of a logic or actuation relay, and 2) failure of the test switches used for the performance of the surveillance testing. A failure of either of these items only causes one portion of the Engineered Safeguards System to be inoperable, but due to the wiring configuration of the system (the common side of the relay power source is "daisy chained" together) the entire train must be considered inoperable once maintenance on the failed item has commenced. In addition, with the test switches in "test" during surveillance testing, all channels in an ESFAS Instrumentation Function are rendered inoperable. Six hours provides a reasonable period of time to perform surveillance testing with additional time to allow for short term plant changes or verification of any abnormal responses.

The change to provide 12 hours for the performance of maintenance and 6 hours for surveillance testing on an ESFAS instrumentation train is considered to be acceptable based on the fact that the other ESFAS instrumentation train is available to perform the actuation function and the low probability of an event requiring an ESFAS actuation. In addition, the change provides the potential benefit of the avoidance of a plant shutdown transient by providing a time period to perform required surveillance testing or necessary maintenance prior to requiring a plant shutdown.

RELOCATED SPECIFICATIONS

R1	Table 3.5-5	Item 3	RCS Subcooling Monitor
		Item 7a	Noble Gas Effluent Monitor - Main Steam Line
		Item 7b	Noble Gas Effluent Monitor - Main Vent Stack - High Range
		Item 7b	Noble Gas Effluent Monitor - Main Vent Stack - Mid Range
		Item 7c	Noble Gas Effluent Monitor - Spent Fuel Pit Lower Level - High Range
		Item 12	Reactor Vessel Level Instrumentation System (RVLIS)
		Note 2	
		Note 4	
		Note 7	
	Table 4.1-1	Item 34	RCS Subcooling Monitor
		Item 38a	Noble Gas Effluent Monitor - Main Steam Line
		Item 38b	Noble Gas Effluent Monitor - Main Vent Stack - High Range
		Item 38b	Noble Gas Effluent Monitor - Main Vent Stack - Mid Range
		Item 38c	Noble Gas Effluent Monitor - Spent Fuel Pit Lower Level - High Range
		Item 48	Reactor Vessel Level Instrumentation System (RVLIS)

These Specifications, or Limiting Conditions for Operation (Chapter 3.0), are not retained in the ITS because they have been reviewed against, and determined not to satisfy, the selection criteria for Technical Specifications provided in 10 CFR 50.36. The selection criteria were established to ensure that the Technical Specifications are reserved for those conditions or limitations on plant operation considered necessary to limit the possibility of an abnormal situation or event that could result in an immediate threat to the health and safety of the public. The rationale for relocation of each of these Specifications is provided in the report, "Application of Selection Criteria to the H. B. Robinson Steam Electric Plant Unit No. 2 Technical Specifications."

These Limiting Conditions for Operation, and their associated Surveillance Requirements (Chapter 4.0), are relocated to licensee controlled documents. Relocation of the specific requirements for systems or variables contained in these Specifications to licensee documents will have no impact on the operability or maintenance of those systems or variables. The licensee will initially continue to meet the requirements contained in the relocated Specifications. The licensee is allowed to make changes to these requirements in accordance with the provisions of 10 CFR 50.59. Such changes can be made without prior NRC

approval, if the change does not involve an unreviewed safety question, as defined in 10 CFR 50.59. These controls are considered adequate for assuring that structures, systems, and components in the relocated Specifications are maintained operable, and variables are maintained within limits. This change is consistent with the NRC Final Policy Statement on Technical Specification Improvements.

ADMINISTRATIVE CHANGES
("A" Labeled Comments/Discussions)

In the conversion of the H. B. Robinson Steam Electric Plant (HBRSEP), Unit No. 2 Technical Specifications to the proposed plant specific Improved Technical Specifications certain wording preferences or conventions are being adopted which do not result in technical changes (either actual or interpretational). Editorial changes, clarification, reformatting, rewording and revised numbering are being adopted to make the improved Technical Specifications consistent with NUREG-1431, Revision 1, the improved Standard Technical Specifications for Westinghouse plants, including approved generic changes.

Carolina Power & Light Company has evaluated each of the proposed Technical Specification changes identified as "Administrative" and has concluded that they do not involve a significant hazards consideration. Our conclusion is in accordance with the criteria set forth in 10 CFR 50.92. The bases for the conclusion that the proposed changes do not involve a significant hazards consideration are discussed below.

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

   The proposed changes consist of editorial changes and clarification, reformatting, rewording and renumbering of the current Technical Specifications. This process does not involve any technical changes to existing requirements. As such, these changes are administrative in nature and do not impact initiators of analyzed events or alter any assumptions relative to mitigation of accident or transient events. Therefore, these changes do not involve any 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 changes do not involve any physical alteration of plant systems, structures, or components or changes in parameters governing normal plant operation. The proposed changes do not impose or eliminate any requirements. Therefore, these changes do 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 changes will not reduce a margin of safety because they do not impact any safety analysis assumptions. These changes are administrative in nature and, as such, do not impact any technical requirements. Therefore, these changes do not involve any reduction in a margin of safety.

MORE RESTRICTIVE CHANGES
("M" Labeled Comments/Discussions)

The HBRSEP Unit No. 2 Technical Specifications are proposed to be modified in some areas to impose more restrictive requirements than currently exist. These more restrictive changes are being imposed to be consistent with NUREG-1431, Revision 1, the improved Standard Technical Specifications for Westinghouse plants, including approved generic changes.

Carolina Power & Light Company has evaluated each of the proposed Technical Specification changes identified as "More Restrictive" and has concluded that they do not involve a significant hazards consideration. Our conclusion is in accordance with the criteria set forth in 10 CFR 50.92. The bases for the conclusion that the proposed changes do not involve a significant hazards consideration are discussed below.

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

   The proposed changes provide requirements determined to be more restrictive than the current Technical Specifications requirements for operation of the facility. These more restrictive requirements are not assumed to be initiators of analyzed events and will not alter assumptions relative to mitigation of accident or transient events. These changes have been confirmed to ensure that no previously evaluated accident has been adversely affected. The more restrictive requirements being proposed enhance assurance that process variables, structures, systems, and components are maintained consistent with the safety analyses and licensing basis of the unit. Therefore, these changes do not involve any 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 changes do not involve any physical alteration of plant systems, structures, or components or changes in parameters governing normal plant operation. These changes do impose new or additional requirements which are consistent with assumptions made in the safety analysis and licensing basis. The additional requirements include new Surveillance Requirements, more restrictive Frequencies and Completion Times, new LCOs, more restrictive Required Actions and Applicabilities, and other operational restrictions that enhance safe operation. Therefore, these changes do 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 impact or increases the margin of plant safety. Each of the changes in this category, while providing new or additional requirements designed to

enhance plant safety, is consistent with the safety analyses and licensing basis. Therefore, these changes do not involve a reduction in a margin of safety.

LESS RESTRICTIVE-GENERIC CHANGES
("LA" Labeled Comments/Discussions)

In the conversion of the HBRSEP Unit No. 2 Technical Specifications to the proposed plant specific Improved Technical Specifications, portions of some Specifications which are descriptive in nature regarding equipment, systems, actions, surveillances or programs are proposed to be relocated from the Specifications to the Bases, Updated Final Safety Analysis Report, procedures or other licensee controlled documents. The details associated with the involved specifications are not required to be in the ITS to provide adequate protection of the public health and safety, since the ITS still retains the requirement for compliance with the applicable specifications. Changes to the Bases are controlled in accordance with the proposed Bases Control Program described in Chapter 5 of the Improved Technical Specifications. Changes to the UFSAR and administrative procedures which control revisions to these relocated requirements are controlled in accordance with licensee controlled programs.

This approach provides an effective level of regulatory control and provides for a more appropriate change control process. The level of safety of facility operation is unaffected by the change because there is no change in the Technical Specification requirements. Furthermore, NRC and utility resources associated with processing license amendments to these requirements will be reduced. Therefore, relocation of these details is acceptable.

Carolina Power & Light Company has evaluated each of the proposed Technical Specification changes identified as "Less Restrictive-Generic" and has concluded that they do not involve a significant hazards consideration. Our conclusion is in accordance with the criteria set forth in 10 CFR 50.92. The bases for the conclusion that proposed changes do not involve a significant hazards consideration are discussed below.

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

   The proposed changes relocate requirements from the Technical Specifications to the Bases, Updated Final Safety Analysis Report, procedures or other licensee controlled documents. The documents containing the relocated requirements are subject to the change control of licensee controlled programs. Since any changes to these documents will be evaluated in accordance with the requirements of licensee controlled programs, no increase in the probability or consequences of an accident previously evaluated will be permitted without further NRC review. Therefore, these changes do not involve any 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 changes do not involve any physical alteration of plant systems, structures or components or changes in parameters governing normal plant operation. These changes do not introduce a new mode of

plant operation. Since any future changes to these requirements will be evaluated in accordance with licensee controlled programs, the possibility of a new or different kind of accident from any accident previously evaluated will not be permitted without further NRC review. Therefore, these changes do not create the possibility of a new or different kind of accident from any accident previously evaluated.

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

The proposed changes will not reduce a margin of safety because they do not impact any safety analysis assumptions. The requirements that are transposed from the Technical Specifications to other licensee controlled documents are the same as the existing Technical Specifications. Since any future changes to these requirements will be evaluated in accordance with the requirements of licensee controlled programs, no reduction in any margin of safety will be permitted without further NRC review. Therefore, these changes do not involve any reduction in a margin of safety.

LESS RESTRICTIVE-SPECIFIC CHANGES
("L1" Labeled Comments/Discussions)

Carolina Power & Light Company has evaluated the proposed Technical Specification change and has concluded that it does not involve a significant hazards consideration. Our conclusion is in accordance with the criteria set forth in 10 CFR 50.92. The bases for the conclusion that the proposed change does not involve a significant hazards consideration are discussed below.

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

   The proposed change does not involve any physical alteration of plant systems, structures or components, changes in parameters governing normal plant operation, or methods of operation. The Allowable Value is a limiting value that a trip setpoint may have, beyond which action must be taken such that the analytical value assumed in the accident analyses is not violated. The actual nominal trip setpoint is more conservative than that specified by the Allowable Value to account for changes in random measurement errors, such as drift, during a surveillance interval. Setpoints in accordance with the Allowable Value ensure that analytical limits are not violated during anticipated operational occurrences (AOOs), and that the consequences of design basis accidents (DBAs) will be acceptable, providing the unit is operated from within the LCOs at the onset of the AOO or DBA and the equipment functions as designed. Therefore, this change does not involve an 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 any physical alteration of plant systems, structures or components, changes in parameters governing normal plant operation, or methods of operation. The analytical limits of variables established by the safety analysis have not been changed. Therefore, the possibility of a new or different kind of accident from any accident previously evaluated is not created.

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

   The Allowable Values are based on a specific setpoint methodology which incorporates all of the known uncertainties applicable for each channel. The magnitudes of these uncertainties are factored into the determination of each Trip Setpoint and Allowable Value. Sensors and signal processing equipment are assumed to operate within the allowances of these uncertainty magnitudes, thereby maintaining the margin to the safety limits. Therefore, this change does not involve a reduction in a margin of safety.

LESS RESTRICTIVE-SPECIFIC CHANGES
("L2" Labeled Comments/Discussions)

Carolina Power & Light Company has evaluated the proposed Technical Specification change and has concluded that it does not involve a significant hazards consideration. Our conclusion is in accordance with the criteria set forth in 10 CFR 50.92. The bases for the conclusion that the proposed change does not involve a significant hazards consideration are discussed below.

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

   The proposed change does not involve any physical alteration of plant systems, structures or components, changes in parameters governing normal plant operation, or methods of operation. The parameters involved include reference temperature and pressure settings, and certain time constants and other constants which are used in the continuous overtemperature ΔT and overpower ΔT calculations. These values normally do not change, but can be cycle specific, based on reload safety analyses. None of these parameters are considered initiators of accidents, since they are reference values based on plant design, and not actual values. Therefore, this change does not involve an 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 any physical alteration of plant systems, structures or components, changes in parameters governing normal plant operation, or methods of operation. The overtemperature ΔT and overpower ΔT reference parameters and constants are not assumed to be initiators of accidents. Therefore, the possibility of a new or different kind of accident from any accident previously evaluated is not created.

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

   The parameters involved are reference parameters, which would only change based on a cycle reload analysis, power rerating, or other major design change, which would be incorporated in the accident analysis. Therefore, this change, which is consistent with the current analyses, does not involve a significant reduction in a margin of safety.

LESS RESTRICTIVE-SPECIFIC CHANGES
("L3" Labeled Comments/Discussions)

Carolina Power & Light Company has evaluated the proposed Technical Specification change and has concluded that it does not involve a significant hazards consideration. Our conclusion is in accordance with the criteria set forth in 10 CFR 50.92. The bases for the conclusion that the proposed change does not involve a significant hazards consideration are discussed below.

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

   The proposed change does not involve any physical alteration of plant systems, structures or components, changes in parameters governing normal plant operation, or methods of operation. This change increases the time permitted to place an inoperable reactor trip Function channel in trip, and allows unlimited operation in that condition. Placing the channel in trip results in a partial trip condition, requiring only one-out-of-two logic for actuation, and the increased permitted time to place the inoperable channel in trip is consistent with WCAP-10271-P-A, Supplement 2, Rev. 1. Therefore, this change does not involve an 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 any physical alteration of plant systems, structures or components, changes in parameters governing normal plant operation, or methods of operation. This change does not introduce any new modes of operation. This change increases the time permitted to place an inoperable reactor trip Function channel in trip, and allows unlimited operation in that condition. Therefore, the possibility of a new or different kind of accident from any accident previously evaluated is not created.

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

   This change only extends the allowed time to place an inoperable reactor trip Function channel in trip, and allows unlimited operation in that condition. The extended time is consistent with WCAP-10271-P-A, Supplement 2, Rev. 1. Therefore, this change does not involve a reduction in a margin of safety.

LESS RESTRICTIVE-SPECIFIC CHANGES
<u>("L4" Labeled Comments/Discussions)</u>

Carolina Power & Light Company has evaluated the proposed Technical Specification change and has concluded that it does not involve a significant hazards consideration. Our conclusion is in accordance with the criteria set forth in 10 CFR 50.92. The bases for the conclusion that the proposed change does not involve a significant hazards consideration are discussed below.

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

   The proposed change does not involve any physical alteration of plant systems, structures or components, changes in parameters governing normal plant operation, or methods of operation. This change increases the time permitted to place an inoperable 4kV undervoltage trip Function channel in trip, and eliminates a specific shutdown requirement, should the inoperable channel not be restored to OPERABLE status within the specified

time. The increased time to place the inoperable channel in trip considers the redundant capability provided by the remaining OPERABLE channel, and is consistent with WCAP-10271-P-A, Supplement 2, Rev. 1. Therefore, this change does not involve an 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 any physical alteration of plant systems, structures or components, changes in parameters governing normal plant operation, or methods of operation. This change does not introduce any new modes of operation. Therefore, the possibility of a new or different kind of accident from any accident previously evaluated is not created.

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

   This change extends the allowed time to place an inoperable channel in trip, and eliminates a specific shutdown requirement. The extended time is consistent with WCAP-10271-P-A, Supplement 2, Rev. 1, and elimination of the specific shutdown requirement considers the redundant undervoltage trip capability provided by the remaining OPERABLE channel. Therefore, this change does not involve a reduction in a margin of safety.

LESS RESTRICTIVE-SPECIFIC CHANGES
("L5" Labeled Comments/Discussions)

Carolina Power & Light Company has evaluated the proposed Technical Specification change and has concluded that it does not involve a significant hazards consideration. Our conclusion is in accordance with the criteria set forth in 10 CFR 50.92. The bases for the conclusion that the proposed change does not involve a significant hazards consideration are discussed below.

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

   The proposed change does not involve any physical alteration of plant systems, structures or components, changes in parameters governing normal plant operation, or methods of operation. Both the P-7 and P-10 permissive setpoints are actuated at approximately 10 percent RTP, and with the reactor trip Functions enabled above the P-7 setpoint, the unit is fully protected from high neutron flux condition. Therefore, this change does not involve an 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 any physical alteration of plant systems, structures or components, changes in parameters governing normal

plant operation, or methods of operation. This change does not introduce any new modes of operation. Therefore, the possibility of a new or different kind of accident from any accident previously evaluated is not created.

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

   Since the unit is maintained fully protected from a high neutron flux condition, this change does not involve a reduction in a margin of safety.

LESS RESTRICTIVE-SPECIFIC CHANGES
("L6" Labeled Comments/Discussions)

Carolina Power & Light Company has evaluated the proposed Technical Specification change and has concluded that it does not involve a significant hazards consideration. Our conclusion is in accordance with the criteria set forth in 10 CFR 50.92. The bases for the conclusion that the proposed change does not involve a significant hazards consideration are discussed below.

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

   The proposed change does not involve any physical alteration of plant systems, structures or components, changes in parameters governing normal plant operation, or methods of operation. The extended time interval to restore the inoperable manual reactor trip function to OPERABLE status considers that there are two automatic actuation trains and another manual actuation channel OPERABLE, and the low probability of an event occurring during this interval. Therefore, this change does not involve an 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 any physical alteration of plant systems, structures or components, changes in parameters governing normal plant operation, or methods of operation. This change does not introduce any new modes of operation. Therefore, the possibility of a new or different kind of accident from any accident previously evaluated is not created.

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

   Since the unit is maintained fully protected with two automatic actuation trains and another manual actuation channel OPERABLE, this change does not involve a reduction in a margin of safety.

LESS RESTRICTIVE-SPECIFIC CHANGES
("L7" Labeled Comments/Discussions)

Carolina Power & Light Company has evaluated the proposed Technical Specification change and has concluded that it does not involve a significant hazards consideration. Our conclusion is in accordance with the criteria set forth in 10 CFR 50.92. The bases for the conclusion that the proposed change does not involve a significant hazards consideration are discussed below.

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

   The proposed change does not involve any physical alteration of plant systems, structures or components, changes in parameters governing normal plant operation, or methods of operation. The Surveillance Requirement "Note" identifies that failure of a component in a Power Range Neutron Flux channel which renders the High Flux Trip Function inoperable may not necessarily affect the capability to monitor QPTR, and therefore only requires performance of the QPTR SR, using the incore detectors, when Power Range Neutron Flux input to QPTR is inoperable. Therefore, this change does not involve an 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 any physical alteration of plant systems, structures or components, changes in parameters governing normal plant operation, or methods of operation. This change does not introduce any new modes of operation. Therefore, the possibility of a new or different kind of accident from any accident previously evaluated is not created.

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

   The proposed change does not involve any physical alteration of plant systems, structures or components, changes in parameters governing normal plant operation, or methods of operation. This change does not introduce any new modes of operation. Therefore, this change does not involve a reduction in a margin of safety.

LESS RESTRICTIVE-SPECIFIC CHANGES
("L8" Labeled Comments/Discussions)

Carolina Power & Light Company has evaluated the proposed Technical Specification change and has concluded that it does not involve a significant hazards consideration. Our conclusion is in accordance with the criteria set forth in 10 CFR 50.92. The bases for the conclusion that the proposed change does not involve a significant hazards consideration are discussed below.

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

   The proposed change does not involve any physical alteration of plant systems, structures or components, changes in parameters governing normal plant operation, or methods of operation. The extended time interval permitted in the ITS to place the inoperable Power Range Neutron Flux channel in trip is consistent with WCAP-10271-P-A, Supplement 2, Rev. 1, June 1990. ITS Specification 3.3.1 ACTION E is associated with the Low Neutron Flux Power Range which is only applicable in MODE 1 below the P-10 setpoint and in MODE 2. As a result, ITS 3.3.1 ACTION E is only applicable below 10% RTP. Therefore, for the conditions for which ITS 3.3.1 ACTION E applies, the CTS requirement associated with restricting power to ≤ 75% RTP is always satisfied and the requirement to monitor QPTR is not required since the Applicability of ITS 3.2.4, QUADRANT POWER TILT RATIO (QPTR), is when power is > 50% RTP. Not reducing the Power Range Neutron Flux Trip Setpoint to ≤ 85% has no adverse impact, considering that there are three remaining OPERABLE channels, requiring only one-out-of-three logic for actuation. While reduction of the trip setpoint would limit the overshoot in a power excursion, maintaining the power range neutron flux trip at its normal setpoint still provides adequate protection in the event of a power excursion. Therefore, this change does not involve an 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 any physical alteration of plant systems, structures or components, changes in parameters governing normal plant operation, or methods of operation. This change does not introduce any new modes of operation. The Power Range Neutron Flux Trip remains OPERABLE, requiring a one-out-of-three logic to actuate. Therefore, the possibility of a new or different kind of accident from any accident previously evaluated is not created.

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

   The proposed change does not involve any physical alteration of plant systems, structures or components, changes in parameters governing normal plant operation, or methods of operation. This change does not introduce any new modes of operation. Therefore, this change does not involve a reduction in a margin of safety.

LESS RESTRICTIVE-SPECIFIC CHANGES
("L9" Labeled Comments/Discussions)

Carolina Power & Light Company has evaluated the proposed Technical Specification change and has concluded that it does not involve a significant hazards consideration. Our conclusion is in accordance with the criteria set

forth in 10 CFR 50.92. The bases for the conclusion that the proposed change does not involve a significant hazards consideration are discussed below.

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

   The proposed change does not involve any physical alteration of plant systems, structures or components, changes in parameters governing normal plant operation, or methods of operation. The Intermediate Range Neutron Flux channels are not assumed to be initiators of accidents. Suspension of all positive reactivity additions precludes any power level increase, and reducing power to below the P-6 setpoint puts the reactor in a condition where the Source Range Neutron Flux channels will monitor core power. Therefore, this change does not involve an 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 any physical alteration of plant systems, structures or components, changes in parameters governing normal plant operation, or methods of operation. This change does not introduce any new modes of operation. Inoperable instrument channels cannot initiate a new or different kind of accident. Therefore, the possibility of a new or different kind of accident from any accident previously evaluated is not created.

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

   The proposed change does not involve any physical alteration of plant systems, structures or components, changes in parameters governing normal plant operation, or methods of operation. This change does not introduce any new modes of operation. Therefore, this change does not involve a reduction in a margin of safety.

LESS RESTRICTIVE-SPECIFIC CHANGES
<u>("L10" Labeled Comments/Discussions)</u>

Carolina Power & Light Company has evaluated the proposed Technical Specification change and has concluded that it does not involve a significant hazards consideration. Our conclusion is in accordance with the criteria set forth in 10 CFR 50.92. The bases for the conclusion that the proposed change does not involve a significant hazards consideration are discussed below.

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

   The proposed change does not involve any physical alteration of plant systems, structures or components, changes in parameters governing normal plant operation, or methods of operation. The extended time interval

permitted in the ITS to place the inoperable reactor trip Function channel in trip considers the redundant capability of the remaining OPERABLE channel, and is consistent with WCAP-10271-P-A, Supplement 2, Rev. 1, June 1990. Therefore, this change does not involve an 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 any physical alteration of plant systems, structures or components, changes in parameters governing normal plant operation, or methods of operation. This change does not introduce any new modes of operation. Single channel trip capability is provided by the remaining redundant OPERABLE channel. Therefore, the possibility of a new or different kind of accident from any accident previously evaluated is not created.

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

   The proposed change does not involve any physical alteration of plant systems, structures or components, changes in parameters governing normal plant operation, or methods of operation. This change does not introduce any new modes of operation. Therefore, this change does not involve a reduction in a margin of safety.

LESS RESTRICTIVE-SPECIFIC CHANGES
("L11" Labeled Comments/Discussions)

Carolina Power & Light Company has evaluated the proposed Technical Specification change and has concluded that it does not involve a significant hazards consideration. Our conclusion is in accordance with the criteria set forth in 10 CFR 50.92. The bases for the conclusion that the proposed change does not involve a significant hazards consideration are discussed below.

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

   The proposed change does not involve any physical alteration of plant systems, structures or components, changes in parameters governing normal plant operation, or methods of operation. The extended time interval permitted in the ITS to place the inoperable reactor trip Function channel in trip considers the redundant capability of the remaining OPERABLE channel, and is consistent with WCAP-10271-P-A, Supplement 2, Rev. 1, June 1990. Therefore, this change does not involve an 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 any physical alteration of plant systems, structures or components, changes in parameters governing normal plant operation, or methods of operation. This change does not introduce any new modes of operation. Single channel trip capability is provided by the remaining redundant OPERABLE channel. Therefore, the possibility of a new or different kind of accident from any accident previously evaluated is not created.

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

   The proposed change does not involve any physical alteration of plant systems, structures or components, changes in parameters governing normal plant operation, or methods of operation. This change does not introduce any new modes of operation. Therefore, this change does not involve a reduction in a margin of safety.

LESS RESTRICTIVE-SPECIFIC CHANGES
("L12" Labeled Comments/Discussions)

Carolina Power & Light Company has evaluated the proposed Technical Specification change and has concluded that it does not involve a significant hazards consideration. Our conclusion is in accordance with the criteria set forth in 10 CFR 50.92. The bases for the conclusion that the proposed change does not involve a significant hazards consideration are discussed below.

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

   The proposed change does not involve any physical alteration of plant systems, structures or components, changes in parameters governing normal plant operation, or methods of operation. The Undervoltage Reactor Coolant Pump (RCP) and Underfrequency RCP Functions do not have to be OPERABLE below the P-7 setpoint because there are no loss of flow trips below P-7. Therefore, this change does not involve an 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 any physical alteration of plant systems, structures or components, changes in parameters governing normal plant operation, or methods of operation. This change does not introduce any new modes of operation. Therefore, the possibility of a new or different kind of accident from any accident previously evaluated is not created.

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

   The proposed change does not involve any physical alteration of plant systems, structures or components, changes in parameters governing normal

plant operation, or methods of operation. This change does not introduce any new modes of operation. Therefore, this change does not involve a reduction in a margin of safety.

LESS RESTRICTIVE-SPECIFIC CHANGES
("L13" Labeled Comments/Discussions)

Carolina Power & Light Company has evaluated the proposed Technical Specification change and has concluded that it does not involve a significant hazards consideration. Our conclusion is in accordance with the criteria set forth in 10 CFR 50.92. The bases for the conclusion that the proposed change does not involve a significant hazards consideration are discussed below.

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

   The proposed change does not involve any physical alteration of plant systems, structures or components, changes in parameters governing normal plant operation, or methods of operation. The Automatic Actuation Logic and Actuation Relays Functions are required to be OPERABLE for Engineered Safety Features Actuation Systems (ESFAS) to be OPERABLE. This change specifically identifies the OPERABILITY requirement for ESFAS Automatic Actuation Logic and Actuation Relays and provides an allowed outage time of 6 hours. During the allowed outage time, the redundant train of Automatic Actuation Logic and Actuation Relays is available to perform the required function if required. The probability of an event requiring the ESFAS Function during this period is low. Therefore, this change does not involve an 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 any physical alteration of plant systems, structures or components, changes in parameters governing normal plant operation, or methods of operation. This change does not introduce any new modes of operation. Therefore, the possibility of a new or different kind of accident from any accident previously evaluated is not created.

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

   The proposed change does not involve any physical alteration of plant systems, structures or components, changes in parameters governing normal plant operation, or methods of operation. This change permits an allowed outage time for the Automatic Actuation Logic and Actuation Relays, and this change reduces the implied margin of safety associated with allowance of only a single train of Automatic Actuation Logic and Actuation Relays for 6 hours. The probability of an event requiring the Function during the allowed outage time is low, and the redundant train of Automatic

Actuation Logic and Actuation Relays is available if required. Therefore, this change does not involve a significant reduction in the margin of safety.

LESS RESTRICTIVE-SPECIFIC CHANGES
("L14" Labeled Comments/Discussions)

Carolina Power & Light Company has evaluated the proposed Technical Specification change and has concluded that it does not involve a significant hazards consideration. Our conclusion is in accordance with the criteria set forth in 10 CFR 50.92. The bases for the conclusion that the proposed change does not involve a significant hazards consideration are discussed below.

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

   The proposed change does not involve any physical alteration of plant systems, structures or components, changes in parameters governing normal plant operation, or methods of operation. This change reduces the Frequency for performance of a COT on two reactor trip Functions from 14 days to 92 days. This change is consistent with WCAP-10271-P-A, Supplement 2, Rev.1, and the 14 day current Technical Specifications Frequency is adequately bounded by the analysis of the Frequency of 31 days. The Surveillance Frequency is not assumed to be an initiator of any accident previously evaluated. Therefore, this change does not involve an 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 any physical alteration of plant systems, structures or components, changes in parameters governing normal plant operation, or methods of operation. This change does not introduce any new modes of operation. The Surveillance Frequency does not affect the possibility of a new or different kind of accident from any accident previously evaluated. Therefore, the possibility of a new or different kind of accident from any accident previously evaluated is not created.

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

   The proposed change extends the Frequency of surveillance for the performance of a COT on the reactor functions from 14 days to 92 days. The extended time is justified by calculation for a 92 day Frequency in accordance with the company setpoint methodology procedure. The new Frequency is consistent with the WCAP 10271-P-A Surveillance Frequency for this function. Therefore, this change does not involve a significant reduction in a margin of safety.

LESS RESTRICTIVE-SPECIFIC CHANGES
("L15" Labeled Comments/Discussions)

Carolina Power & Light Company has evaluated the proposed Technical Specification change and has concluded that it does not involve a significant hazards consideration. Our conclusion is in accordance with the criteria set forth in 10 CFR 50.92. The bases for the conclusion that the proposed change does not involve a significant hazards consideration are discussed below.

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

   The proposed change does not involve any physical alteration of plant systems, structures or components, changes in parameters governing normal plant operation, or methods of operation. This change reduces the Frequency for performance of a COT on Nuclear Instrumentation System channels from 7 days to 92 days. This change is consistent with WCAP-10271-P-A, Supplement 2, Rev.1, and the 7 day current Technical Specifications Frequency is adequately bounded by the analysis of the 31 day Frequency. The Surveillance Frequency is not assumed to be an initiator of any accident previously evaluated. Therefore, this change does not involve an 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 any physical alteration of plant systems, structures or components, changes in parameters governing normal plant operation, or methods of operation. This change does not introduce any new modes of operation. The Surveillance Frequency does not affect the possibility of a new or different kind of accident from any accident previously evaluated. Therefore, the possibility of a new or different kind of accident from any accident previously evaluated is not created.

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

   The proposed change extends the Frequency of surveillance for the performance of a COT on Nuclear Instrumentation System channels from 7 days to 92 days. The extended time is justified by calculation for a 92 day Frequency in accordance with the company setpoint methodology procedure. The new Frequency is consistent with the WCAP 10271-P-A Surveillance Frequency for this function. Therefore, this change does not involve a significant reduction in a margin of safety.

LESS RESTRICTIVE-SPECIFIC CHANGES
("L16" Labeled Comments/Discussions)

Carolina Power & Light Company has evaluated the proposed Technical Specification change and has concluded that it does not involve a significant

hazards consideration. Our conclusion is in accordance with the criteria set forth in 10 CFR 50.92. The bases for the conclusion that the proposed change does not involve a significant hazards consideration are discussed below.

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

   The proposed change does not involve any physical alteration of plant systems, structures or components, changes in parameters governing normal plant operation, or methods of operation. This change reduces the Frequency for performance of a COT and TADOT on certain reactor trip Functions from 31 days to 92 days. This change is consistent with WCAP-10271-P-A, Supplement 2, Rev.1. The Surveillance Frequency is not assumed to be an initiator of any accident previously evaluated. Therefore, this change does not involve an 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 any physical alteration of plant systems, structures or components, changes in parameters governing normal plant operation, or methods of operation. This change does not introduce any new modes of operation. The Surveillance Frequency does not affect the possibility of a new or different kind of accident from any accident previously evaluated. Therefore, the possibility of a new or different kind of accident from any accident previously evaluated is not created.

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

   The proposed change extends the Frequency of surveillance for the performance of a COT and TADOT on certain reactor trip functions from 31 days to 92 days. The extended time is justified by calculation for a 92 day Frequency in accordance with the company setpoint methodology procedure. The new Frequency is consistent with the WCAP 10271-P-A surveillance Frequency for this function. Therefore, this change does not involve a significant reduction in a margin of safety.

LESS RESTRICTIVE-SPECIFIC CHANGES
("L17" Labeled Comments/Discussions)

Carolina Power & Light Company has evaluated the proposed Technical Specification change and has concluded that it does not involve a significant hazards consideration. Our conclusion is in accordance with the criteria set forth in 10 CFR 50.92. The bases for the conclusion that the proposed change does not involve a significant hazards consideration are discussed below.

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

The proposed change does not involve any physical alteration of plant systems, structures or components, changes in parameters governing normal plant operation, or methods of operation. This change reduces the Frequency for performance of a COT on the Turbine Impulse Pressure reactor trip Function from 31 days to 18 months. The Turbine Impulse Pressure reactor trip Function is used only during unit startup to feed the P-7 permissive interlock, which bypasses other trip Functions below 10 % RTP, and is an infrequent operation. The Surveillance Frequency is not assumed to be an initiator of any accident previously evaluated. In addition, a review of the surveillance test history demonstrates that there are no failures that would invalidate the conclusion that the impact, if any, on system availability is minimal from a change to an 18 month surveillance interval. As such, an 18 month surveillance is considered to be adequate to ensure the associated instrumentation is maintained OPERABLE. Therefore, this change does not involve an 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 any physical alteration of plant systems, structures or components, changes in parameters governing normal plant operation, or methods of operation. This change does not introduce any new modes of operation. The Surveillance Frequency does not affect the possibility of a new or different kind of accident from any accident previously evaluated. Therefore, the possibility of a new or different kind of accident from any accident previously evaluated is not created.

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

   The proposed change does not involve any physical alteration of plant systems, structures or components, changes in parameters governing normal plant operation, or methods of operation. This change does not introduce any new modes of operation. This change increases the Surveillance Frequency interval, which increases slightly the risk that a failure in the system would remain undetected between performance of surveillance tests. Thus, this change reduces the implied margin of safety associated with verifying OPERABILITY by Surveillance. However, this change does not involve a significant reduction in a margin of safety since a review of the surveillance test history demonstrates that there are no failures that would invalidate the conclusion that the impact, if any, on system availability is minimal from a change to an 18 month surveillance interval.

LESS RESTRICTIVE-SPECIFIC CHANGES
("L18" Labeled Comments/Discussions)

Carolina Power & Light Company has evaluated the proposed Technical Specification change and has concluded that it does not involve a significant hazards consideration. Our conclusion is in accordance with the criteria set

forth in 10 CFR 50.92. The bases for the conclusion that the proposed change does not involve a significant hazards consideration are discussed below.

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

   The proposed change does not involve any physical alteration of plant systems, structures or components, changes in parameters governing normal plant operation, or methods of operation. This change reduces the Frequency of performance of an ACTUATION LOGIC TEST on Automatic Actuation Logic from 7 days to 62 days (31 days on a STAGGERED TEST BASIS). The Surveillance Frequency is not assumed to be an initiator of any accident previously evaluated. This change is based on industry operating experience, and considers instrument reliability and operating history data. Therefore, this change does not involve an 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 any physical alteration of plant systems, structures or components, changes in parameters governing normal plant operation, or methods of operation. This change does not introduce any new modes of operation. The Surveillance Frequency does not affect the possibility of a new or different kind of accident from any accident previously evaluated. Therefore, the possibility of a new or different kind of accident from any accident previously evaluated is not created.

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

   The proposed change does not involve any physical alteration of plant systems, structures or components, changes in parameters governing normal plant operation, or methods of operation. This change does not introduce any new modes of operation. This change increases the Surveillance Frequency interval, which increases slightly the risk that a failure in the system would remain undetected between performance of surveillance tests. Thus, this change reduces the implied margin of safety associated with verifying OPERABILITY by Surveillance. However, this change does not involve a significant reduction in a margin of safety.

LESS RESTRICTIVE-SPECIFIC CHANGES
<u>("L19" Labeled Comments/Discussions)</u>

Carolina Power & Light Company has evaluated the proposed Technical Specification change and has concluded that it does not involve a significant hazards consideration. Our conclusion is in accordance with the criteria set forth in 10 CFR 50.92. The bases for the conclusion that the proposed change does not involve a significant hazards consideration are discussed below.

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

   The proposed change does not involve any physical alteration of plant systems, structures or components, changes in parameters governing normal plant operation, or methods of operation. This change reduces the Frequency of performance of an TADOT on the Reactor Trip Breakers from 31 days to 62 days (31 days on a STAGGERED TEST BASIS). The Surveillance Frequency is not assumed to be an initiator of any accident previously evaluated. This change is based on industry operating experience, and considers instrument reliability and operating history data. Therefore, this change does not involve an 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 any physical alteration of plant systems, structures or components, changes in parameters governing normal plant operation, or methods of operation. This change does not introduce any new modes of operation. The Surveillance Frequency does not affect the possibility of a new or different kind of accident from any accident previously evaluated. Therefore, the possibility of a new or different kind of accident from any accident previously evaluated is not created.

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

   The proposed change does not involve any physical alteration of plant systems, structures or components, changes in parameters governing normal plant operation, or methods of operation. This change does not introduce any new modes of operation. This change increases the Surveillance Frequency interval, which increases slightly the risk that a failure in the system would remain undetected between performance of surveillance tests. Thus, this change reduces the implied margin of safety associated with verifying OPERABILITY by Surveillance. However, this change does not involve a significant reduction in a margin of safety.

LESS RESTRICTIVE-SPECIFIC CHANGES
<u>("L20" Labeled Comments/Discussions)</u>

Carolina Power & Light Company has evaluated the proposed Technical Specification change and has concluded that it does not involve a significant hazards consideration. Our conclusion is in accordance with the criteria set forth in 10 CFR 50.92. The bases for the conclusion that the proposed change does not involve a significant hazards consideration are discussed below.

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

The proposed change does not involve any physical alteration of plant systems, structures or components, changes in parameters governing normal plant operation, or methods of operation. This change reduces the Frequency of performance of an TADOT on the Reactor Trip Bypass Breakers from 31 days to prior to placing the bypass breaker in service. Since the bypass breakers are only placed in service when the Reactor Trip Breakers (RTBs) are being tested, this Frequency is 62 days (31 days on a STAGGERED TEST BASIS). The Surveillance Frequency is not assumed to be an initiator of any accident previously evaluated. This change is based on industry operating experience, and considers instrument reliability and operating history data. Therefore, this change does not involve an 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 any physical alteration of plant systems, structures or components, changes in parameters governing normal plant operation, or methods of operation. This change does not introduce any new modes of operation. The Surveillance Frequency does not affect the possibility of a new or different kind of accident from any accident previously evaluated. Therefore, the possibility of a new or different kind of accident from any accident previously evaluated is not created.

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

   The proposed change does not involve any physical alteration of plant systems, structures or components, changes in parameters governing normal plant operation, or methods of operation. This change does not introduce any new modes of operation. This change increases the Surveillance Frequency interval, which increases slightly the risk that a failure in the system would remain undetected between performance of surveillance tests. Thus, this change reduces the implied margin of safety associated with verifying OPERABILITY by Surveillance. However, this change does not involve a significant reduction in a margin of safety.

LESS RESTRICTIVE-SPECIFIC CHANGES
("L21" Labeled Comments/Discussions)

Carolina Power & Light Company has evaluated the proposed Technical Specification change and has concluded that it does not involve a significant hazards consideration. Our conclusion is in accordance with the criteria set forth in 10 CFR 50.92. The bases for the conclusion that the proposed change does not involve a significant hazards consideration are discussed below.

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

   The proposed change does not involve any physical alteration of plant systems, structures or components, changes in parameters governing normal

plant operation, or methods of operation. This change increases the allowed time to either restore an inoperable reactor trip Function channel to OPERABLE status, or place it in trip, from 1 hour to 6 hours. This change is consistent with WCAP-10271-P-A, Supplement 2, Rev. 1. This condition applies to Functions that operate on two-out-of-three logic. Therefore, failure of one channel places the Function in a two-out-of-two configuration. Placing the inoperable channel in trip configures the Function in a one-out-of-two logic arrangement that satisfies redundancy requirements. Therefore, this change does not involve an 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 any physical alteration of plant systems, structures or components, changes in parameters governing normal plant operation, or methods of operation. This change does not introduce any new modes of operation. The allowed time to place an inoperable channel in trip does not affect the possibility of a new or different kind of accident from any accident previously evaluated. Therefore, the possibility of a new or different kind of accident from any accident previously evaluated is not created.

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

   The proposed change does not involve any physical alteration of plant systems, structures or components, changes in parameters governing normal plant operation, or methods of operation. This change does not introduce any new modes of operation. This change is consistent with WCAP-10271-P-A for this function. Therefore, this change does not involve a reduction in a margin of safety.

LESS RESTRICTIVE-SPECIFIC CHANGES
("L22" Labeled Comments/Discussions)

Carolina Power & Light Company has evaluated the proposed Technical Specification change and has concluded that it does not involve a significant hazards consideration. Our conclusion is in accordance with the criteria set forth in 10 CFR 50.92. The bases for the conclusion that the proposed change does not involve a significant hazards consideration are discussed below.

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

   The proposed change does not involve any physical alteration of plant systems, structures or components, changes in parameters governing normal plant operation, or methods of operation. This change increases the allowed time to restore an inoperable containment high range monitoring channel to OPERABLE status from 7 days to 30 days. The high range containment monitor is not assumed to be an initiator of any accident

previously evaluated. Therefore, this change does not involve an 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 any physical alteration of plant systems, structures or components, changes in parameters governing normal plant operation, or methods of operation. This change does not introduce any new modes of operation. The allowed time to restore an inoperable channel to OPERABLE status does not affect the possibility of a new or different kind of accident from any accident previously evaluated. Therefore, the possibility of a new or different kind of accident from any accident previously evaluated is not created.

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

   The proposed change does not involve any physical alteration of plant systems, structures or components, changes in parameters governing normal plant operation, or methods of operation. This change does not introduce any new modes of operation. This change extends the period of time that an inoperable channel may be out of service, which decreases slightly the implied margin of safety associated with dependence on the remaining OPERABLE channel(s) for a longer period of time. However, this change does not involve a significant reduction in a margin of safety.

LESS RESTRICTIVE-SPECIFIC CHANGES
<u>("L23" Labeled Comments/Discussions)</u>

Carolina Power & Light Company has evaluated the proposed Technical Specification change and has concluded that it does not involve a significant hazards consideration. Our conclusion is in accordance with the criteria set forth in 10 CFR 50.92. The bases for the conclusion that the proposed change does not involve a significant hazards consideration are discussed below.

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

   The proposed change does not involve any physical alteration of plant systems, structures or components, changes in parameters governing normal plant operation, or methods of operation. This change increases the allowed time to restore an inoperable Auxiliary Feedwater (AFW) flow indicator to OPERABLE status from 7 days to 30 days. The AFW flow indicator is not assumed to be an initiator of any accident previously evaluated. Therefore, this change does not involve an 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 any physical alteration of plant systems, structures or components, changes in parameters governing normal plant operation, or methods of operation. This change does not introduce any new modes of operation. The allowed time to restore an inoperable AFW flow indicator to OPERABLE status does not affect the possibility of a new or different kind of accident from any accident previously evaluated. Therefore, the possibility of a new or different kind of accident from any accident previously evaluated is not created.

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

   The proposed change does not involve any physical alteration of plant systems, structures or components, changes in parameters governing normal plant operation, or methods of operation. This change does not introduce any new modes of operation. This change extends the period of time that an inoperable channel may be out of service, which decreases slightly the implied margin of safety associated with dependence on the remaining OPERABLE channel(s) for a longer period of time. However, this change does not involve a significant reduction in a margin of safety.

LESS RESTRICTIVE-SPECIFIC CHANGES
("L24" Labeled Comments/Discussions)

Carolina Power & Light Company has evaluated the proposed Technical Specification change and has concluded that it does not involve a significant hazards consideration. Our conclusion is in accordance with the criteria set forth in 10 CFR 50.92. The bases for the conclusion that the proposed change does not involve a significant hazards consideration are discussed below.

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

   The proposed change does not involve any physical alteration of plant systems, structures or components, changes in parameters governing normal plant operation, or methods of operation. This change permits the unit to be placed in MODE 4 within 12 hours, rather than ≤ 200 °F within 36 hours, in the event an inoperable hydrogen monitor cannot be restored to OPERABLE status within the specified time. The hydrogen monitor is not assumed to be an initiator of any accident previously evaluated, nor will its inoperability have any impact on the probability or consequences of any accident previously evaluated. Placing the unit in MODE 4 sufficiently reduces the thermal energy to a plant condition that is well bounded by the 10 CFR 50.46 analyses, thereby significantly reducing the potential for a Loss of Coolant Accident (LOCA) that would result in a metal-water reaction. Therefore, this change does not involve an 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 any physical alteration of plant systems, structures or components, changes in parameters governing normal plant operation, or methods of operation. This change does not introduce any new modes of operation. The inoperability of a hydrogen monitor does not impact the possibility of a new or different kind of accident from any accident previously evaluated. Therefore, the possibility of a new or different kind of accident from any accident previously evaluated is not created.

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

   The proposed change does not involve any physical alteration of plant systems, structures or components, changes in parameters governing normal plant operation, or methods of operation. This change does not introduce any new modes of operation. Therefore, this change does not involve a significant reduction in a margin of safety.

LESS RESTRICTIVE-SPECIFIC CHANGES
("L25" Labeled Comments/Discussions)

Carolina Power & Light Company has evaluated the proposed Technical Specification change and has concluded that it does not involve a significant hazards consideration. Our conclusion is in accordance with the criteria set forth in 10 CFR 50.92. The bases for the conclusion that the proposed change does not involve a significant hazards consideration are discussed below.

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

   The proposed change does not involve any physical alteration of plant systems, structures or components, changes in parameters governing normal plant operation, or methods of operation. This change increases the time allowed to restore an inoperable incore thermocouple to OPERABLE status from 7 days to 30 days; and requires a report be prepared, rather than a unit shutdown in the event the Completion Times are not met. The incore thermocouples are not assumed to be initiators of any accident previously evaluated, nor will their inoperability have any impact on the probability or consequences of any accident previously evaluated. Therefore, this change does not involve an 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 any physical alteration of plant systems, structures or components, changes in parameters governing normal plant operation, or methods of operation. This change does not introduce any new modes of operation. The inoperability of an incore thermocouple does not impact the possibility of a new or different kind of accident

from any accident previously evaluated. Therefore, the possibility of a new or different kind of accident from any accident previously evaluated is not created.

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

   The proposed change does not involve any physical alteration of plant systems, structures or components, changes in parameters governing normal plant operation, or methods of operation. This change does not introduce any new modes of operation. This change extends the period of time that an inoperable channel may be out of service, which decreases slightly the implied margin of safety associated with dependence on the remaining OPERABLE channel(s) for a longer period of time. However, this change does not involve a significant reduction in a margin of safety.

LESS RESTRICTIVE-SPECIFIC CHANGES
("L26" Labeled Comments/Discussions)

Carolina Power & Light Company has evaluated the proposed Technical Specification change and has concluded that it does not involve a significant hazards consideration. Our conclusion is in accordance with the criteria set forth in 10 CFR 50.92. The bases for the conclusion that the proposed change does not involve a significant hazards consideration are discussed below.

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

   The proposed change does not involve any physical alteration of plant systems, structures or components, changes in parameters governing normal plant operation, or methods of operation. This change increases the time allowed to restore at least one inoperable incore thermocouple to OPERABLE status from 48 hours to 7 days. The incore thermocouples are not assumed to be initiators of any accident previously evaluated, nor will their inoperability have any impact on the probability or consequences of any accident previously evaluated. Therefore, this change does not involve an 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 any physical alteration of plant systems, structures or components, changes in parameters governing normal plant operation, or methods of operation. This change does not introduce any new modes of operation. The inoperability of an incore thermocouple does not impact the possibility of a new or different kind of accident from any accident previously evaluated. Therefore, the possibility of a new or different kind of accident from any accident previously evaluated is not created.

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

   The proposed change does not involve any physical alteration of plant systems, structures or components, changes in parameters governing normal plant operation, or methods of operation. This change does not introduce any new modes of operation. This change extends the period of time that an inoperable channel may be out of service, which decreases slightly the implied margin of safety associated with dependence on the remaining OPERABLE channel(s) for a longer period of time. However, this change does not involve a significant reduction in a margin of safety.

LESS RESTRICTIVE-SPECIFIC CHANGES
("L27" Labeled Comments/Discussions)

Carolina Power & Light Company has evaluated the proposed Technical Specification change and has concluded that it does not involve a significant hazards consideration. Our conclusion is in accordance with the criteria set forth in 10 CFR 50.92. The bases for the conclusion that the proposed change does not involve a significant hazards consideration are discussed below.

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

   The proposed change does not involve any physical alteration of plant systems, structures or components, changes in parameters governing normal plant operation, or methods of operation. This change eliminates the requirement that a "Test" be performed on certain post accident monitoring Functions at an "R" Frequency. Surveillance testing is not assumed to be an initiator of any accident previously evaluated. Therefore, this change does not involve an 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 any physical alteration of plant systems, structures or components, changes in parameters governing normal plant operation, or methods of operation. This change does not introduce any new modes of operation. The performance of a Surveillance test does not impact the possibility of a new or different kind of accident from any accident previously evaluated. Therefore, the possibility of a new or different kind of accident from any accident previously evaluated is not created.

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

   The proposed change does not involve any physical alteration of plant systems, structures or components, changes in parameters governing normal

plant operation, or methods of operation. This change does not introduce any new modes of operation. Therefore, this change does not involve a reduction in a margin of safety.

LESS RESTRICTIVE-SPECIFIC CHANGES
("L28" Labeled Comments/Discussions)

Carolina Power & Light Company has evaluated the proposed Technical Specification change and has concluded that it does not involve a significant hazards consideration. Our conclusion is in accordance with the criteria set forth in 10 CFR 50.92. The bases for the conclusion that the proposed change does not involve a significant hazards consideration are discussed below.

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

   The proposed change does not involve any physical alteration of plant systems, structures or components, changes in parameters governing normal plant operation, or methods of operation. This change allows an inoperable 480V Loss of Voltage channel to be restored in 1 hour, rather than blocking the channel in 1 hour and restoring the channel to OPERABLE status in 48 hours or shutting down the unit. This change does not result in any hardware changes. The LOP instrumentation is not assumed to be an initiator of any analyzed event. The role of the instrumentation is in mitigating and thereby limiting the consequences of a design basis accident. The instrumentation actuates to ensure the Diesel Generators (DGs) are initiated, thus ensuring power is provided to required safety systems during a design basis accident. This change would allow 1 hour to attempt to evaluate and repair any discovered inoperabilities when one or more Loss of Voltage channels are inoperable. The proposed change to the ACTIONS will not allow continuous operation such that a single failure will preclude DG initiation from mitigating the consequences of a design basis transient. However, the consequences of an event that may occur during the extended outage time would not be any different than those that could occur under the current requirements for other loss of DG initiation capability situations. Therefore, this change does not involve an 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 introduce a new mode of plant operation and does not involve physical modification to the plant. Further, since the change impacts only the required action completion time for the system and does not result in any change in the response of the equipment to an accident, the change does not create the possibility of a new or different kind of accident from any previously analyzed accident.

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

This change impacts only the required action completion time for the condition of one or more Loss of Voltage channels inoperable. The proposed 1 hour time period minimizes risk associated with these inoperabilities while providing time for restoration or tripping of channels. The 1 hour period is also consistent with the 1 hour time period provided in ITS 3.0.3. The levels of degradation represented by the inoperability of one or more Loss of Voltage channels would be no more severe than the levels of degradation that would require entry into ITS 3.0.3. The methodology and limits of the accident analysis are not affected, nor is the DG response as compared to current allowances. As such, the change will provide consistency in ACTIONS for this level of degradation. No significant reduction in a margin of safety is involved with the change associated with declaring the associated diesel generator inoperable when a Required Action and associated Completion Time has not been met, since the Required Actions have been developed to assure the DG instrumentation remains capable of mitigating the consequences of design basis accidents or the supported components (DGs) declared inoperable and associated actions taken. This change also provides a benefit through the potential avoidance of an unnecessary plant transient when alternate compensatory measures are available to ensure the LOP instrumentation's intended function is satisfied. Therefore, the change does not involve a significant reduction in the margin of safety.

LESS RESTRICTIVE-SPECIFIC CHANGES
("L29" Labeled Comments/Discussions)

Carolina Power & Light Company has evaluated the proposed Technical Specification change and has concluded that it does not involve a significant hazards consideration. Our conclusion is in accordance with the criteria set forth in 10 CFR 50.92. The bases for the conclusion that the proposed change does not involve a significant hazards consideration are discussed below.

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

The proposed change does not involve any physical alteration of plant systems, structures or components, changes in parameters governing normal plant operation, or methods of operation. The Degraded Voltage Function instrumentation is not assumed to be an initiator of any analyzed event. The role of the instrumentation is in mitigating and thereby limiting the consequences of a design basis accident. The instrumentation actuates to ensure the DGs are initiated, thus ensuring adequate power is provided to required safety systems during a design basis accident. This change allows an inoperable 480V Degraded Voltage channel to be placed in trip in 6 hours, rather than 1 hour, restoring to OPERABLE status in 48 hours, or shutting down the unit. This change is consistent with WCAP-10271-P-A, Supplement 2, Rev. 1. Placing the inoperable channel in trip maintains

the emergency bus trip Function, because the three Degraded Voltage channels per bus are configured in a two-out-of-three logic, such that if any two channels see a degraded voltage condition, they will trip the bus. With one channel placed in trip, the two OPERABLE channels are still available to trip the bus in a one-out-of-two logic arrangement. The proposed change to the ACTIONS will not allow continuous operation such that a single failure will preclude DG initiation from mitigating the consequences of a design basis transient. Therefore, this change does not involve an 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 any physical alteration of plant systems, structures or components, changes in parameters governing normal plant operation, or methods of operation. This change does not introduce any new modes of operation. Therefore, the possibility of a new or different kind of accident from any accident previously evaluated is not created.

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

   The proposed change does not involve any physical alteration of plant systems, structures or components, changes in parameters governing normal plant operation, or methods of operation. This change does not introduce any new modes of operation. This change is consistent with WCAP-10271-P-A for this Function. No significant reduction in a margin of safety is involved with the change associated with declaring the associated diesel generator inoperable when a Required Action and associated Completion Time has not been met, since the Required Actions have been developed to assure the DG instrumentation remains capable of mitigating the consequences of design basis accidents or the supported components (DGs) declared inoperable and associated actions taken. This change also provides a benefit through the potential avoidance of an unnecessary plant transient when alternate compensatory measures are available to ensure the LOP instrumentation's intended function is satisfied. Therefore, this change does not involve a reduction in a margin of safety.

LESS RESTRICTIVE-SPECIFIC CHANGES
("L30" Labeled Comments/Discussions)

Carolina Power & Light Company has evaluated the proposed Technical Specification change and has concluded that it does not involve a significant hazards consideration. Our conclusion is in accordance with the criteria set forth in 10 CFR 50.92. The bases for the conclusion that the proposed change does not involve a significant hazards consideration are discussed below.

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

   The proposed change does not involve any physical alteration of plant systems, structures or components, changes in parameters governing normal plant operation, or methods of operation. The change permits an inoperable Degraded Voltage Function channel to be bypassed for up to 4 hours for surveillance testing of other channels. There are three Degraded Voltage channels per bus, and this allowance is made where bypassing the channel does not cause an actuation, and where at least two other channels per bus are monitoring the parameter. The Degraded Voltage Function is arranged in a two-out-of-three configuration. Bypassing one channel would still provide a two-out-of-two configuration. Therefore, this change does not involve an 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 any physical alteration of plant systems, structures or components, changes in parameters governing normal plant operation, or methods of operation. This change does not introduce any new modes of operation. Therefore, the possibility of a new or different kind of accident from any accident previously evaluated is not created.

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

   The proposed change does not involve any physical alteration of plant systems, structures or components, changes in parameters governing normal plant operation, or methods of operation. This change does not introduce any new modes of operation. Therefore, this change does not involve a reduction in a margin of safety.

LESS RESTRICTIVE-SPECIFIC CHANGES
("L31" Labeled Comments/Discussions)

Carolina Power & Light Company has evaluated the proposed Technical Specification change and has concluded that it does not involve a significant hazards consideration. Our conclusion is in accordance with the criteria set forth in 10 CFR 50.92. The bases for the conclusion that the proposed change does not involve a significant hazards consideration are discussed below.

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

   The proposed change does not involve any physical alteration of plant systems, structures or components, changes in parameters governing normal plant operation, or methods of operation. This change eliminates an OPERABILITY test of the radiation monitors which actuate containment

ventilation isolation just prior to refueling operations. Since the OPERABILITY of these radiation monitoring channels is adequately verified by a CHANNEL OPERATIONAL TEST at a 92 day Frequency, this change does not involve an 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 any physical alteration of plant systems, structures or components, changes in parameters governing normal plant operation, or methods of operation. This change does not introduce any new modes of operation. Therefore, the possibility of a new or different kind of accident from any accident previously evaluated is not created.

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

   The proposed change does not involve any physical alteration of plant systems, structures or components, changes in parameters governing normal plant operation, or methods of operation. This change does not introduce any new modes of operation. This change extends the period of time that an inoperable channel may be out of service, which decreases slightly the implied margin of safety associated with dependence on the remaining OPERABLE channel(s) for a longer period of time. However, this change does not involve a significant reduction in a margin of safety.

LESS RESTRICTIVE-SPECIFIC CHANGES
<u>("L32" Labeled Comments/Discussions)</u>

Carolina Power & Light Company has evaluated the proposed Technical Specification change and has concluded that it does not involve a significant hazards consideration. Our conclusion is in accordance with the criteria set forth in 10 CFR 50.92. The bases for the conclusion that the proposed change does not involve a significant hazards consideration are discussed below.

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

   The proposed change does not involve any physical alteration of plant systems, structures or components, changes in parameters governing normal plant operation, or methods of operation. This change allows an inoperable Steam Generator (SG) water level AFW actuation channel to be placed in trip, rather than requiring a shutdown of the unit. Placing the inoperable channel in trip maintains the AFW pump autostart Function OPERABLE in a one-out-of-two logic configuration, instead of two-out-of-three. Therefore, this change does not involve an 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 any physical alteration of plant systems, structures or components, changes in parameters governing normal plant operation, or methods of operation. This change does not introduce any new modes of operation. Therefore, the possibility of a new or different kind of accident from any accident previously evaluated is not created.

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

   The proposed change does not involve any physical alteration of plant systems, structures or components, changes in parameters governing normal plant operation, or methods of operation. This change does not introduce any new modes of operation. Therefore, this change does not involve a reduction in a margin of safety.

LESS RESTRICTIVE-SPECIFIC CHANGES
("L33" Labeled Comments/Discussions)

Carolina Power & Light Company has evaluated the proposed Technical Specification change and has concluded that it does not involve a significant hazards consideration. Our conclusion is in accordance with the criteria set forth in 10 CFR 50.92. The bases for the conclusion that the proposed change does not involve a significant hazards consideration are discussed below.

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

   The proposed change does not involve any physical alteration of plant systems, structures or components, changes in parameters governing normal plant operation, or methods of operation. This change allows an inoperable 4kV undervoltage relay to be placed in trip, rather than requiring a shutdown of the unit. Placing the inoperable channel in trip maintains the AFW pump autostart Function OPERABLE in a one-out-of-one logic configuration, instead of two-out-of-two. Therefore, this change does not involve an 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 any physical alteration of plant systems, structures or components, changes in parameters governing normal plant operation, or methods of operation. This change does not introduce any new modes of operation. Therefore, the possibility of a new or different kind of accident from any accident previously evaluated is not created.

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

   The proposed change does not involve any physical alteration of plant systems, structures or components, changes in parameters governing normal plant operation, or methods of operation. This change does not introduce any new modes of operation. Therefore, this change does not involve a reduction in a margin of safety.

LESS RESTRICTIVE-SPECIFIC CHANGES
("L34" Labeled Comments/Discussions)

Not used.

LESS RESTRICTIVE-SPECIFIC CHANGES
("L35" Labeled Comments/Discussions)

Carolina Power & Light Company has evaluated the proposed Technical Specification change and has concluded that it does not involve a significant hazards consideration. Our conclusion is in accordance with the criteria set forth in 10 CFR 50.92. The bases for the conclusion that the proposed change does not involve a significant hazards consideration are discussed below.

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

   The proposed change does not involve any physical alteration of plant systems, structures or components, changes in parameters governing normal plant operation, or methods of operation. This change reduces the MODE of Applicability for certain functions of the reactor protection system during MODEs 3, 4, and 5. The remaining Applicability for these functions ensures that these Functions will be available to shut down the reactor when required. Therefore, this change does not involve an 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 any physical alteration of plant systems, structures or components, changes in parameters governing normal plant operation, or methods of operation. This change does not introduce any new modes of operation. Therefore, the possibility of a new or different kind of accident from any accident previously evaluated is not created.

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

   The proposed change does not involve any physical alteration of plant systems, structures or components, changes in parameters governing normal

plant operation, or methods of operation. This change does not introduce any new modes of operation. Therefore, this change does not involve a reduction in a margin of safety.

LESS RESTRICTIVE-SPECIFIC CHANGES
("L36" Labeled Comments/Discussions)

Carolina Power & Light Company has evaluated the proposed Technical Specification change and has concluded that it does not involve a significant hazards consideration. Our conclusion is in accordance with the criteria set forth in 10 CFR 50.92. The bases for the conclusion that the proposed change does not involve a significant hazards consideration are discussed below.

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

   The proposed change does not involve any physical alteration of plant systems, structures or components, changes in parameters governing normal plant operation, or methods of operation. This change adds a Required Action to increase THERMAL POWER above the P-10 setpoint to exit the Applicability of the intermediate range instrumentation. Although an increase in THERMAL POWER is allowed, increasing power provides equivalent action to a reduction in THERMAL POWER to below the P-6 interlock within the same time period. Therefore, this change does not involve an 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 any physical alteration of plant systems, structures or components, changes in parameters governing normal plant operation, or methods of operation. This change does not introduce any new modes of operation. Therefore, the possibility of a new or different kind of accident from any accident previously evaluated is not created.

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

   The proposed change does not involve any physical alteration of plant systems, structures or components, changes in parameters governing normal plant operation, or methods of operation. This change does not introduce any new modes of operation. Therefore, this change does not involve a reduction in a margin of safety.

LESS RESTRICTIVE-SPECIFIC CHANGES
("L37" Labeled Comments/Discussions)

Carolina Power & Light Company has evaluated the proposed Technical Specification change and has concluded that it does not involve a significant

hazards consideration. Our conclusion is in accordance with the criteria set forth in 10 CFR 50.92. The bases for the conclusion that the proposed change does not involve a significant hazards consideration are discussed below.

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

   The proposed change does not involve any physical alteration of plant systems, structures or components, changes in parameters governing normal plant operation, or methods of operation. The reactor coolant pump breaker position trip Function is not assumed to be an initiator of accidents. The most likely event requiring the reactor coolant pump breaker position trip Function is a loss of offsite power, and the remaining trip Functions on the other two pumps provide adequate protection during the allowed outage time of 6 hours. Reducing power to below the P-8 setpoint puts the reactor in a condition where the reactor coolant pump trip Function is no longer necessary to anticipate the low Reactor Coolant System flow trip to protect the core. Therefore, this change does not involve an 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 any physical alteration of plant systems, structures or components, changes in parameters governing normal plant operation, or methods of operation. This change does not introduce any new modes of operation. Inoperable instrument channels cannot initiate a new or different kind of accident. Therefore, the possibility of a new or different kind of accident from any accident previously evaluated is not created.

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

   The proposed change does not involve any physical alteration of plant systems, structures or components, changes in parameters governing normal plant operation, or methods of operation. The allowed outage time of 6 hours is consistent with WCAP-P-A, Supplement 2, Rev. 1, June 1990. Reduction of THERMAL POWER to below the P-8 setpoint puts the reactor in a condition where the reactor coolant pump trip Function is no longer necessary to anticipate the low Reactor Coolant System flow trip to protect the core Therefore, this change does not involve a significant reduction in a margin of safety.

LESS RESTRICTIVE-SPECIFIC CHANGES
<u>("L38" Labeled Comments/Discussions)</u>

Carolina Power & Light Company has evaluated the proposed Technical Specification change and has concluded that it does not involve a significant hazards consideration. Our conclusion is in accordance with the criteria set

forth in 10 CFR 50.92. The bases for the conclusion that the proposed change does not involve a significant hazards consideration are discussed below.

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

   The proposed change does not involve any physical alteration of plant systems, structures or components, changes in parameters governing normal plant operation, or methods of operation. This change provides an action for restoration of two Neutron Flux Intermediate Range channels when below the P-6 setpoint rather than the shutdown required by CTS 3.0. The Neutron Flux Intermediate Range channels are not assumed to be initiators of any accident previously evaluated. The Neutron Flux Intermediate Range channels provide the neutron monitoring and protection function above the P-6 interlock. However, when thermal power is below the P-6 interlock setpoint, the neutron monitoring and protection function is provided by the Neutron Flux Source Range channels. Therefore, this change does not involve an 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 any physical alteration of plant systems, structures or components, changes in parameters governing normal plant operation, or methods of operation. This change does not introduce any new modes of operation. Providing an action for restoration of two Neutron Flux Intermediate Range channels when below the P-6 setpoint rather than the shutdown required by CTS 3.0 does not affect the possibility of a new or different kind of accident from any accident previously evaluated. Therefore, the possibility of a new or different kind of accident from any accident previously evaluated is not created.

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

   The proposed change does not involve any physical alteration of plant systems, structures or components, changes in parameters governing normal plant operation, or methods of operation. This change does not introduce any new modes of operation. This change provides an action for restoration of two Neutron Flux Intermediate Range channels when below the P-6 setpoint rather than the shutdown required by CTS 3.0 and does not involve a significant reduction in a margin of safety. This change is considered acceptable since when thermal power is below the P-6 interlock setpoint, the neutron monitoring and protection function is provided by the Neutron Flux Source Range channels. Therefore, any reduction in a margin of safety is considered to be insignificant and offset by the benefit of avoiding a plant shutdown when adequate neutron monitoring and protection capability are available. As such, this change does not involve a significant reduction in a margin of safety.

LESS RESTRICTIVE-SPECIFIC CHANGES
("L39" Labeled Comments/Discussions)

Carolina Power & Light Company has evaluated the proposed Technical Specification change and has concluded that it does not involve a significant hazards consideration. Our conclusion is in accordance with the criteria set forth in 10 CFR 50.92. The bases for the conclusion that the proposed change does not involve a significant hazards consideration are discussed below.

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

   The proposed change involves a change in the instrumentation channel calibration surveillance testing intervals for Nuclear Power Range instrumentation from monthly to 18 months. The proposed change does not physically impact the plant nor does it impact any design or functional requirements of the associated systems. That is, the proposed change does not degrade the performance or increase the challenges of any safety systems assumed to function in the accident analysis. The proposed change does not impact the Surveillance Requirements themselves nor the way in which the Surveillances are performed. Additionally, the proposed change does not introduce any new accident initiators since no accidents previously evaluated have as their initiators anything related to the frequency of surveillance testing. The proposed change does not affect the availability of equipment or systems required to mitigate the consequences of an accident because of the availability of redundant systems or equipment and because other tests performed more frequently will identify potential equipment problems. Furthermore, a historical review of surveillance test results indicated that all failures identified were unique, non-repetitive, and not related to any time-based failure modes, and indicated no evidence of any failures that would invalidate the above conclusions. Therefore, the proposed change does not increase 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 involves a change in the instrumentation channel calibration surveillance testing intervals for Nuclear Power Range instrumentation from monthly to 18 months. The proposed change does not introduce any failure mechanisms of a different type than those previously evaluated since there are no physical changes being made to the facility. In addition, the Surveillance Requirements themselves and the manner in which Surveillances are performed will remain unchanged. Furthermore, a historical review of surveillance test results indicated no evidence of any failures that would invalidate the above conclusions. Therefore, the proposed change does not create the possibility of a new or different kind of accident from any previously evaluated.

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

Although the proposed change will result in an increase in the interval between surveillance tests, the impact on system availability is small based on other, more frequent testing or redundant systems or equipment, and there is no evidence of any failures that would impact the availability of the systems. Therefore, the assumptions in the licensing basis are not impacted, and the proposed change does not involve a significant reduction in a margin of safety.

LESS RESTRICTIVE-SPECIFIC CHANGES
("L40" Labeled Comments/Discussions)

Carolina Power & Light Company has evaluated the proposed Technical Specification change and has concluded that it does not involve a significant hazards consideration. Our conclusion is in accordance with the criteria set forth in 10 CFR 50.92. The bases for the conclusion that the proposed change does not involve a significant hazards consideration are discussed below.

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

   This change allows entry into the Applicability and provides time after entry to perform the required surveillances of the RPS instrumentation. The RPS instruments are not considered as initiators for any accidents previously analyzed. Therefore, this change does not significantly increase the probability of a previously analyzed accident. This change does not impact the capability of the instrumentation to perform its required function, but continues to provide for confirmation of the capability of the instrumentation as soon a practical, when required. Therefore, this change does not significantly increase the consequences of a previously analyzed accident.

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

   The change does not necessitate a physical alteration of the plant (no new or different type of equipment will be installed) or changes in parameters governing normal plant operation. The proposed change still requires the RPS instrumentation to be OPERABLE prior to entry into the Applicability. Therefore, it 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?

   This change does not involve a significant reduction in a margin of safety since most surveillances only confirm the capability of the components to perform their function. Also, performance of the surveillances prior to entry into the applicable conditions may increase the probability of an inadvertent reactor trip (in the case of testing the source range function). This change does not impact the capability of the instrumentation to perform its required function, but continues to provide

for confirmation of the capability of the instrumentation as soon as practical, when required. The additional time to perform the Surveillances is consistent with the frequency provided in NUREG-1431, which has been previously approved by the NRC.

LESS RESTRICTIVE-SPECIFIC CHANGES
("L41" Labeled Comments/Discussions)

Carolina Power & Light Company has evaluated the proposed Technical Specification change and has concluded that it does not involve a significant hazards consideration. Our conclusion is in accordance with the criteria set forth in 10 CFR 50.92. The bases for the conclusion that the proposed change does not involve a significant hazards consideration are discussed below.

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

   The proposed change excludes neutron detectors from the CHANNEL CALIBRATION Surveillance Requirement (ITS SR 3.3.1.11). The RPS Instrumentation and associated Surveillance Requirements are not assumed to be initiators of any analyzed event. Therefore, the change does not involve a significant increase in the probability of an accident previously evaluated. The consequences of an accident are not increased because the proposed change will not affect the ability of the affected RPS instrumentation to perform its safety function of preventing a continuous rod withdrawal error event. The neutron detectors are excluded from the CHANNEL CALIBRATION because they are passive devices, with minimal drift, and because of the difficulty of simulating a meaningful signal. Therefore, the proposed change does not involve a significant increase in the 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 introduce a new mode of plant operation and does not involve physical modification to the plant. Therefore, it 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?

   This change is acceptable because the proposed change will not affect the ability of the affected RPS instrumentation to perform its safety function of preventing a continuous rod withdrawal error event. ITS 3.3.1 Surveillance Requirements are adequate to assure RPS instrumentation OPERABILITY. The neutron detectors are excluded from the CHANNEL CALIBRATION because they are passive devices, with minimal drift, and because of the difficulty of simulating a meaningful signal. Therefore, this change does not involve a significant reduction in a margin of safety.

LESS RESTRICTIVE-SPECIFIC CHANGES
("L42" Labeled Comments/Discussions)

Carolina Power & Light Company has evaluated the proposed Technical Specification change and has concluded that it does not involve a significant hazards consideration. Our conclusion is in accordance with the criteria set forth in 10 CFR 50.92. The bases for the conclusion that the proposed change does not involve a significant hazards consideration are discussed below.

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

   The proposed change revises the Applicability of the Steam Line Isolation Functions in MODES 2 and 3. The proposed change does not involve any hardware changes. The affected isolation instrumentation is not assumed to be an initiator of any analyzed event. The role of the steam line isolation instrumentation is in the mitigation and reduction of consequences of analyzed events. The Steam Line Isolation Functions are provided to isolate the steam lines to provide protection in the event of a Steam Line Break, inside or outside containment. With the MSIVs closed, the function of the instrumentation is satisfied. As a result, with all MSIVs closed, the Function is not required to isolate the steam lines to provide protection in the event of a Steam Line Break, inside or outside containment. As a result, the consequences of a previously evaluated accident are not affected by this change. Therefore, this change will 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 necessitate a physical alteration of the plant (no new or different type of equipment will be installed) or changes in parameters governing normal plant operation. The proposed change still ensures the affected isolation instrumentation is required to be OPERABLE when it is necessary to perform its function. Therefore, this change will 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, which modifies the Applicability of Steam Line Isolation Functions which provide automatic isolation functions, does not involve a reduction in a margin of safety. With the proposed change the affected steam line isolation instrumentation will no longer be required to be OPERABLE when all MSIVS are closed. With the MSIVs closed, the function of the instrumentation is satisfied. As a result, with all MSIVs closed, the Function is not required to isolate the steam lines to provide protection in the event of a Steam Line Break, inside or outside

containment. Therefore, this change does not involve a significant reduction in a margin of safety.

LESS RESTRICTIVE-SPECIFIC CHANGES
("L43" Labeled Comments/Discussions)

Carolina Power & Light Company has evaluated the proposed Technical Specification change and has concluded that it does not involve a significant hazards consideration. Our conclusion is in accordance with the criteria set forth in 10 CFR 50.92. The bases for the conclusion that the proposed change does not involve a significant hazards consideration are discussed below.

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

   The proposed change revises the Applicability of the Feedwater Isolation - Automatic Actuation Logic and Actuation Relays Function by the addition of Note (f). Note (f) allows this Function to not be OPERABLE when the MFIVs, MFRVs, and bypass valves are closed or isolated by a closed manual valve. The proposed change does not involve any hardware changes. The affected isolation instrumentation is not assumed to be an initiator of any analyzed event. The role of the feedwater isolation instrumentation is in the mitigation and reduction of consequences of analyzed events. The Feedwater Isolation Functions are provided to isolate the feedwater lines to mitigate the effects of overfeeding the Steam Generators (SGs) which could result in excessive cooldown of the primary system. With the MFIVs, MFRVs, and bypass valves closed or isolated by a closed manual valve, the function of the instrumentation is satisfied. In this condition, the affected Feedwater Isolation Function is not required to isolate the feedwater lines to mitigate the effects of overfeeding the SGs which could result in excessive cooldown of the primary system. As a result, the consequences of a previously evaluated accident are not affected by this change. Therefore, this change will 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 necessitate a physical alteration of the plant (no new or different type of equipment will be installed) or changes in parameters governing normal plant operation. The proposed change still ensures the affected isolation instrumentation is required to be OPERABLE when it is necessary to perform its function. Therefore, this change will 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 revises the Applicability of the Feedwater Isolation - Automatic Actuation Logic and Actuation Relays Function by the addition of Note (f). Note (f) allows this Function to not be OPERABLE when the MFIVs, MFRVs, and bypass valves are closed or isolated by a closed manual valve. This change does not involve a reduction in a margin of safety. With the proposed change the affected feedwater isolation instrumentation will no longer be required to be OPERABLE when all MFIVs, MFRVs, and bypass valves are closed or isolated by a closed manual valve. With the MFIVs, MFRVs, and bypass valves closed or isolated by a closed manual valve, the function of the instrumentation is satisfied. As a result, with all MFIVs, MFRVs, and bypass valves closed or isolated by a closed manual valve, the Function is not required to isolate the feedwater lines to mitigate the effects of overfeeding the SGs which could result in excessive cooldown of the primary system. Therefore, this change does not involve a significant reduction in a margin of safety.

LESS RESTRICTIVE-SPECIFIC CHANGES
("L44" Labeled Comments/Discussions)

Carolina Power & Light Company has evaluated the proposed Technical Specification change and has concluded that it does not involve a significant hazards consideration. Our conclusion is in accordance with the criteria set forth in 10 CFR 50.92. The bases for the conclusion that the proposed change does not involve a significant hazards consideration are discussed below.

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

The change eliminates the shutdown requirements from CTS 3.5-5 Note 5 when two monitors are inoperable and initiation of the alternate method of monitoring is not established within 7 days, thus minimizing the potential for a shutdown transient. This change does not result in any hardware changes. Post Accident Monitoring instruments are not initiators of any analyzed event. The role of this instrumentation is in providing the operators information during and after an accident to allow them to take mitigating actions, thereby limiting consequences. The requested change does not allow continuous operation in this condition without establishing alternate monitoring methods. Additionally, the consequences of an event occurring with the proposed actions are the same as the consequences of an event occurring within the allowed outage time of the current actions. Therefore, this change will 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 introduce a new mode of plant operation and does not involve physical modification to the plant. Therefore, it 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 is acceptable based on the small probability of an event requiring the post accident monitors during the time period and the passive nature of the monitors. Providing the proposed action will minimize the potential for plant transients that can occur during shutdown by providing additional time for the restoration of the monitors or the initiation of an alternate means of monitoring when two monitors are inoperable and initiation of the alternate method of monitoring is not established within 7 days. In addition, if the alternate method of monitoring is not established within the time frame established in ITS 5.6.6, this would constitute a failure to comply with ITS 3.3.3 Required Action H.1 and a shutdown in accordance with ITS LCO 3.0.3 would be required. As such, any reduction in a margin of safety resulting from the proposed change will be offset by the potential benefit gained by avoiding an unnecessary plant shutdown transient. Therefore, this change does not involve a significant reduction in a margin of safety.

LESS RESTRICTIVE-SPECIFIC CHANGES
("L45" Labeled Comments/Discussions)

Carolina Power & Light Company has evaluated the proposed Technical Specification change and has concluded that it does not involve a significant hazards consideration. Our conclusion is in accordance with the criteria set forth in 10 CFR 50.92. The bases for the conclusion that the proposed change does not involve a significant hazards consideration are discussed below.

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

CTS Table 4.1-1 Item 32 requires a Channel Functional Test of the Loss of Voltage and Degraded Voltage Instrumentation to be performed once per refueling interval. ITS SR 3.3.5.1 is provided to perform a TRIP ACTUATING DEVICE OPERATIONAL TEST (TADOT) once per 18 months. The CTS Channel Functional Test definition requires injection of a simulated signal into the sensor to verify channel operability, including alarm and/or trip. The TADOT definition does not require injecting a simulated or actual signal into the channel. Therefore, this change eliminates the requirement to inject a simulated signal into the sensor during performance of a TADOT of the Loss of Power Instrumentation. The Loss of Power Instrumentation is not assumed to be an initiator of any analyzed event. The function of this instrumentation is to actuate the diesel generators to provide AC power to supported equipment assumed to mitigate the consequences of design basis events. ITS SR 3.3.5.2 requires the performance of a CHANNEL CALIBRATION once per 18 months. The definition of a CHANNEL CALIBRATION requires adjustment of the channel so that it responds within the required range and accuracy and encompasses the

required sensor and trip functions. As such, the requirement to test the sensor and the rest of the affected channels is adequately addressed by the requirement to perform the CHANNEL CALIBRATION at the same frequency and the proposed change continues to provide assurance the instrumentation will be maintained OPERABLE. Therefore, this change will 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 possibility of a new or different kind of accident from any accident previously evaluated is not created because the proposed change does not introduce a new mode of plant operation and does not involve physical modification to the plant. The proposed instrumentation Surveillance Requirements will continue to ensure that the required instrumentation is OPERABLE.

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

   This change does not involve a change to the limits or limiting condition of operation; only the method for performing a surveillance is changed. Since the proposed method still ensures that the channel, including the sensor is adequately tested and maintained OPERABLE, the change does not involve a significant reduction in a margin of safety.

LESS RESTRICTIVE-SPECIFIC CHANGES
("L46" Labeled Comments/Discussions)

Carolina Power & Light Company has evaluated the proposed Technical Specification change and has concluded that it does not involve a significant hazards consideration. Our conclusion is in accordance with the criteria set forth in 10 CFR 50.92. The bases for the conclusion that the proposed change does not involve a significant hazards consideration are discussed below.

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

   The proposed change does not involve any physical alteration of plant systems, structures or components, changes in parameters governing normal plant operation, or methods of operation. The Containment Ventilation Isolation instrumentation is not assumed to be an initiator of any analyzed event. The role of the instrumentation is in mitigating and thereby limiting the consequences of a design basis accident. The instrumentation actuates to ensure the containment purge supply and exhaust valves are closed in the event they are opened and a valid actuation signal is received during a design basis accident. If the Containment Ventilation Isolation Phase A Functions are inoperable, ITS 3.3.6 ACTION A requires the containment purge supply and exhaust valves to be immediately closed and maintained closed. Currently, the CTS

Table 3.5-4 ACTIONS associated with the Phase A Isolation Functions ultimately require a plant shutdown if the Containment Ventilation Isolation Phase A Functions are inoperable. Since the Function of the ITS 3.3.6 instrumentation is to close the containment purge supply and exhaust valves, the appropriate action would be to close and maintain the containment purge and exhaust valves inoperable. The proposed change to the ACTIONS will not allow continuous operation such that a single failure will preclude isolation of the containment purge supply and exhaust valve penetrations during a design basis transient. However, the consequences of an event that may occur during the extended outage time would not be any different than those that could occur under the current requirements for other containment purge supply and exhaust valve inoperabilities (other than excessive leakage). Therefore, this change does not involve an 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 introduce a new mode of plant operation and does not involve physical modification to the plant. Further, since the change impacts only the required action completion time for the system and does not result in any change in the response of the equipment to an accident, the change does not create the possibility of a new or different kind of accident from any previously analyzed accident.

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

   If the Containment Ventilation Isolation Phase A Functions are inoperable, ITS 3.3.6 ACTION A requires the containment purge supply and exhaust valves to be immediately closed and maintained closed. Currently, the CTS Table 3.5-4 ACTIONS associated with the Phase A Isolation Functions ultimately require a plant shutdown if the Containment Ventilation Isolation Phase A Functions are inoperable. Since the Function of the ITS 3.3.6 instrumentation is to close the containment purge supply and exhaust valves, the appropriate action would be to close and maintain the containment purge and exhaust valves inoperable. No significant reduction in a margin of safety is involved with this change, since the Required Actions have been developed to assure the containment purge supply and exhaust penetrations are isolated and capable of mitigating the consequences of design basis accidents. This change also provides a benefit through the potential avoidance of an unnecessary plant shutdown transient when alternate compensatory measures are available to ensure the Containment Ventilation Isolation Phase A instrumentation intended function for isolation of the containment purge supply and exhaust valves is satisfied. Therefore, the change does not involve a significant reduction in the margin of safety.

LESS RESTRICTIVE-SPECIFIC CHANGES
("L47" Labeled Comments/Discussions)

Carolina Power & Light Company has evaluated the proposed Technical Specification change and has concluded that it does not involve a significant hazards consideration. Our conclusion is in accordance with the criteria set forth in 10 CFR 50.92. The bases for the conclusion that the proposed change does not involve a significant hazards consideration are discussed below.

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

   The phrase "actual or," in reference to the automatic actuation signal, is added to the ITS Surveillance Requirements. This addition does not impose a requirement to create an "actual" signal, and does not eliminate restrictions on producing an "actual" signal. While creating an "actual" signal could increase the probability of an event, existing procedures and 10 CFR 50.59 control of revisions to them, dictate the acceptability of generating a test signal. The proposed change does not affect the procedures governing plant operations and the acceptability of creating test signals; it simply allows an actual signal to be utilized in evaluating the acceptance criteria associated with Surveillance Requirements. Therefore, the change does not involve a significant increase in the probability of an accident previously evaluated. Since the method of test initiation does not affect the acceptance criteria of the Surveillance Requirements, the change does not involve a significant increase in the 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 change does not introduce a new mode of plant operation and does not involve physical modification to the plant. Therefore, it 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?

   Use of an actual signal instead of the current Technical Specification requirement, which limits use to a simulated signal will not affect the performance or acceptance criteria of the Surveillances. OPERABILITY is adequately demonstrated in either case (simulated or actual signal) since the system itself can not discriminate between "actual" or "simulated" signals. Therefore, the change does not involve a significant reduction in a margin of safety.

LESS RESTRICTIVE-SPECIFIC CHANGES
("L48" Labeled Comments/Discussions)

Carolina Power & Light Company has evaluated the proposed Technical Specification change and has concluded that it does not involve a significant hazards consideration. Our conclusion is in accordance with the criteria set forth in 10 CFR 50.92. The bases for the conclusion that the proposed change does not involve a significant hazards consideration are discussed below.

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

   CTS Table 4.8-1 Items b and d require a Channel Functional Test of the Auxiliary Feedwater-Undervoltage and Station Blackout Instrumentation to be performed once per refueling interval. ITS SR 3.3.5.3 is provided to perform a TRIP ACTUATING DEVICE OPERATIONAL TEST (TADOT) once per 18 months. The CTS Channel Functional Test definition requires injection of a simulated signal into the sensor to verify channel operability, including alarm and/or trip. The TADOT definition does not require injecting a simulated or actual signal into the channel. Therefore, this change eliminates the requirement to inject a simulated signal into the sensor during performance of a TADOT of the affected instrumentation. The Auxiliary Feedwater-Undervoltage and Station Blackout Instrumentation is not assumed to be an initiator of any analyzed event. The function of this instrumentation is to actuate supported equipment assumed to mitigate the consequences of design basis events. ITS SR 3.3.5.4 requires the performance of a CHANNEL CALIBRATION once per 18 months. The definition of a CHANNEL CALIBRATION requires adjustment of the channel so that it responds within the required range and accuracy and encompasses the required sensor and trip functions. As such, the requirement to test the sensor and the rest of the channel is adequately addressed by the requirement to perform the CHANNEL CALIBRATION at the same frequency and the proposed change continues to provide assurance the instrumentation will be maintained OPERABLE. Therefore, this change will 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 possibility of a new or different kind of accident from any accident previously evaluated is not created because the proposed change does not introduce a new mode of plant operation and does not involve physical modification to the plant. The instrumentation Surveillance Requirements will continue to ensure that the required instrumentation is OPERABLE.

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

   This change does not involve a change to the limits or limiting condition of operation; only the method for performing a surveillance is changed. Since the proposed method still ensures that the channel, including the

sensor is adequately tested and maintained OPERABLE, the change does not involve a significant reduction in a margin of safety.

LESS RESTRICTIVE-SPECIFIC CHANGES
("L49" Labeled Comments/Discussions)

Carolina Power & Light Company has evaluated the proposed Technical Specification change and has concluded that it does not involve a significant hazards consideration. Our conclusion is in accordance with the criteria set forth in 10 CFR 50.92. The bases for the conclusion that the proposed change does not involve a significant hazards consideration are discussed below.

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

   This change will eliminate the MODE 4 Applicability requirements of the Steam Line Isolation - Containment Pressure-High High Function. Steam line isolation instrumentation is not assumed to be an initiator of any accident. Therefore, this change does not significantly increase the probability of a previously analyzed accident. The proposed change requires the steam line isolation instrumentation to be OPERABLE only when the supported components (MSIVs) are required to be OPERABLE. The steam line isolation instrumentation continues to support the MSIVs when the MSIVs are required to perform their required safety function. As such, the consequences of an accident during the additional time the steam line isolation instrumentation is not required to be OPERABLE allowed by this change are the same as currently allowed when the supported components (MSIVs) are inoperable. Therefore, this change does not significantly increase the consequences of a previously analyzed accident.

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 necessitate a physical alteration of the plant (no new different type of equipment will be installed) or changes in parameters governing normal plant operation. The proposed change still ensures the affected instrumentation is required to be OPERABLE when it is necessary to perform its function. Therefore, it 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?

   This change is acceptable because it does not impact the ability of the steam line isolation instrumentation to perform its intended function which is to support the MSIVs in the performance of their safety function. Additionally, this change is consistent with the CTS definition and ITS definition of OPERABILITY requiring the associated steam line isolation instrumentation be OPERABLE when the MSIVs are required to be OPERABLE. The benefit of not requiring the steam line isolation instrumentation to

be OPERABLE when its associated supported components (MSIVs) are not required to be OPERABLE is that testing of the steam line isolation instrumentation may be reduced and any needed maintenance may be performed, thereby increasing overall reliability. As such, this proposed change does not involve a significant reduction in a margin of safety.

LESS RESTRICTIVE-SPECIFIC CHANGES
("L50" Labeled Comments/Discussions)

Carolina Power & Light Company has evaluated the proposed Technical Specification change and has concluded that it does not involve a significant hazards consideration. Our conclusion is in accordance with the criteria set forth in 10 CFR 50.92. The bases for the conclusion that the proposed change does not involve a significant hazards consideration are discussed below.

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

   This change will allow a single ESFAS instrumentation train to be inoperable for the purpose of maintenance for up to 12 hours provided the other train is OPERABLE and for the purpose of surveillance testing for up to 6 hours provided the other train is OPERABLE. ESFAS instrumentation is not considered as an initiator of any accidents previously analyzed. Therefore, this change does not significantly increase the probability of a previously analyzed accident. The change to provide 12 hours for the performance of maintenance and 6 hours for surveillance testing on an ESFAS instrumentation train is considered to be acceptable based on the fact that the other ESFAS instrumentation train is available to perform the actuation function. The consequences of an accident occurring during the times allowed by proposed change are the same as the consequences during the shutdown time period currently allowed. In addition, the proposed change will not allow continuous operation in a condition where a single failure will result in a loss of function. Therefore, this change does not significantly increase the consequences of a previously analyzed accident.

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 necessitate a physical alteration of the plant (no new or different type of equipment will be installed) or changes in parameters governing normal plant operation. The proposed change ensures the affected instrumentation is capable of performing its function. Therefore, it 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?

   This change will allow a single ESFAS instrumentation train to be inoperable for the purpose of maintenance for up to 12 hours and for the

purpose of surveillance testing for up to 6 hours provided the other train is OPERABLE. The time allowed to continue operation with an ESFAS instrumentation train inoperable is relatively small and the probability of an accident occurring during the proposed time periods is low. The change to provide 12 hours for the performance maintenance and 6 hours for surveillance testing on an ESFAS instrumentation train is also considered to be acceptable based on the fact that the other ESFAS instrumentation train is available to perform the actuation function. In addition, the change provides the potential benefit of the avoidance of a plant shutdown transient by providing a time period to perform required surveillance testing or necessary maintenance prior to requiring a plant shutdown. Therefore, the proposed change does not involve a significant reduction in a margin of safety.

RELOCATED CHANGES
("R" Labeled Comments/Discussions)

Relocating Requirements which do not meet the Technical Specification criteria to documents with an established control program allows the Technical Specifications to be reserved only for those conditions or limitations upon reactor operation which are necessary to adequately limit the possibility of an abnormal situation or event giving rise to an immediate threat to the public health and safety, thereby focusing the scope of Technical Specifications.

Therefore, requirements which do not meet the Technical Specification criteria in the NRC Final Policy Statement on Technical Specification Improvement for Nuclear Power Reactors (58 FR 39132, dated 7/22/93) have been relocated to licensee controlled documents. This policy statement addresses the scope and purpose of Technical Specifications. In doing so, it establishes a specific set of objective criteria for determining which regulatory requirements and operating restrictions should be included in Technical Specifications. These criteria are as follows:

Criterion 1: Installed instrumentation that is used to detect and indicate in the control room, a significant abnormal degradation of the reactor coolant pressure boundary;

Criterion 2: A process variable that is an initial condition of a design basis accident (DBA) or transient analyses that either assumes the failure of or presents a challenge to the integrity of a fission product barrier;

Criterion 3: A structure, system or component that is part of the primary success path and which functions or actuates to mitigate a design basis accident or transient that either assumes the failure of or presents a challenge to the integrity of a fission barrier;

Criterion 4: A structure, system or component which operating experience or probabilistic safety assessment has shown to be significant to public health and safety.

The application of these criteria is provided in the "Application of Screening Criteria to the HBRSEP Unit No. 2 Technical Specifications." Requirements which met the criteria have been included in the proposed improved Technical Specifications. Carolina Power & Light (CP&L) proposes to remove the requirements which do not meet the criteria from the Technical Specifications and relocate the requirements to a suitable owner controlled document. The requirements in the relocated Specifications are not affected by this Technical Specification change. CP&L will initially continue to perform the required operation and maintenance to assure that the requirements are satisfied. Relocating specific requirements for systems or variables has no impact on the system's operability or the variable's maintenance, as applicable.

Licensee controlled programs will be utilized as the control mechanism for the relocated Specifications as they will be placed in plant procedures or other licensee controlled documents. CP&L is allowed to make changes to these requirements, without prior NRC approval, if the change does not involve an unreviewed safety question. These controls are considered adequate for assuring structures, systems and components in the relocated Specifications are maintained operable and variables in the relocated Specifications are maintained within limits.

Carolina Power & Light Company has evaluated each of the proposed Technical Specification changes identified as "Relocated" and has concluded that they do not involve a significant hazards consideration. Our conclusion is in accordance with the criteria set forth in 10 CFR 50.92. The bases for the conclusion that proposed changes do not involve a significant hazards consideration are discussed below.

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 which did not meet the criteria for inclusion in Technical Specifications as identified in the "Application of Selection Criteria to the HBRSEP Unit No. 2 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 an appropriate administratively controlled document under licensee control. Therefore, this change does not involve an 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 necessitate a physical alteration of the plant (no new or different type of equipment will be installed) or change in parameters governing normal plant operation. The proposed change will not impose any different requirements and adequate control of 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 impact on any safety analysis assumptions. In addition, the affected requirement will be relocated to an owner controlled document for which future changes will be evaluated pursuant to the requirements of licensee controlled programs. Therefore, this change does not involve a reduction in a margin of safety.

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ACTIONS

CTS

CONDITION	REQUIRED ACTION	COMPLETION TIME
[T3.5-2 ACTION 2] D. (continued)	------------NOTE----------- Only required to be performed when the Power Range Neutron Flux input to QPTR is inoperable. ---------------------------	
	D.2.2 Perform SR 3.2.4.2.	Once per 12 hours
	<u>OR</u>	
	D.3 Be in MODE 3.	12 hours
[T3.5-2 ACTION 6 L8, M6] E. One channel inoperable.	~~------------NOTE------------ The inoperable channel may be bypassed for up to 4 hours for surveillance testing of other channels. ----------------------------~~	
	E.1 Place channel in trip.	6 hours
	<u>OR</u>	
	E.2 Be in MODE 3.	12 hours
[T3.5-2 ACTION 3.b] F. THERMAL POWER > P-6 and < P-10, one Intermediate Range Neutron Flux channel inoperable.	F.1 Reduce THERMAL POWER to < P-6.	2 hours
	<u>OR</u>	
	F.2 Increase THERMAL POWER to > P-10.	2 hours

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(continued)

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ACTIONS (continued)

CTS	CONDITION	REQUIRED ACTION		COMPLETION TIME
[L9]	G. THERMAL POWER > P-6 and < P-10, two Intermediate Range Neutron Flux channels inoperable.	G.1	Suspend operations involving positive reactivity additions.	Immediately
		AND		
		G.2	Reduce THERMAL POWER to < P-6.	2 hours
[T3.5-2 ACTION 3.a, L38]	H. THERMAL POWER < P-6, one or two Intermediate Range Neutron Flux channels inoperable.	H.1	Restore channel(s) to OPERABLE status.	Prior to increasing THERMAL POWER to > P-6
[T3.5-2 ACTION 4]	I. One Source Range Neutron Flux channel inoperable.	I.1	Suspend operations involving positive reactivity additions.	Immediately
[M11, M49]	J. Two Source Range Neutron Flux channels inoperable.	J.1	Open RTBs.	Immediately
[T3.5-2 ACTION 8]	K. One Source Range Neutron Flux channel inoperable.	K.1	Restore channel to OPERABLE status.	48 hours
		OR		
		K.2	Open RTBs.	49 hours

(continued)

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ACTIONS (continued)

	CONDITION	REQUIRED ACTION	COMPLETION TIME
[T3.5-2 ACTION 7]	P. One Turbine Trip channel inoperable.	------------NOTE------------ ~~The inoperable channel may be bypassed for up to 4 hours for surveillance testing of other channels.~~ ----------------------------	3
		P.1 Place channel in trip.	6 hours
		OR	
		P.2 Reduce THERMAL POWER to < ~~(P-9)~~ P-7.	10 hours
[3.10.5.2]	Q. One train inoperable.	------------NOTE------------ One train may be bypassed for up to ~~(4)~~ 12 hours ~~for surveillance testing~~ provided the other train is OPERABLE. ----------------------------	4
		Q.1 Restore train to OPERABLE status.	6 hours
		OR	
		Q.2 Be in MODE 3.	12 hours

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ACTIONS (continued)

	CONDITION	REQUIRED ACTION	COMPLETION TIME
[3.10.5.2]	R. One RTB train inoperable.	------------NOTE~~S~~------------ ~~1.~~ One train may be bypassed for up to 2 hours ~~for surveillance testing~~, provided the other train is OPERABLE. ~~2. One RTB may be bypassed for up to 2 hours for maintenance on undervoltage or shunt trip mechanisms, provided the other train is OPERABLE.~~ -----------------------------------	12 4
		R.1 Restore train to OPERABLE status.	1 hour
		OR	
		R.2 Be in MODE 3.	7 hours
[M11]	S. One channel inoperable.	S.1 Verify interlock is in required state for existing unit conditions.	1 hour
		OR	
		S.2 Be in MODE 3.	7 hours

(continued)

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SURVEILLANCE REQUIREMENTS

[A5]

NOTE

Refer to Table 3.3.1-1 to determine which SRs apply for each RTS Function. RPS

		SURVEILLANCE	FREQUENCY
[T4.1-1 (1-7, 11, 25, 39, 40)]	SR 3.3.1.1	Perform CHANNEL CHECK.	12 hours
[T4.1-1 (1)] [A33] [L40]	SR 3.3.1.2	NOTES 1. Adjust NIS channel if absolute difference is > 2%. 2. Not required to be performed until [12] hours after THERMAL POWER is ≥ 15% RTP. Compare results of calorimetric heat balance calculation to Nuclear Instrumentation System (NIS) channel output.	24 hours
[T4.1-1 (1)] [A34] [L40]	SR 3.3.1.3	NOTES 1. Adjust NIS channel if absolute difference is ≥ 3%. 2. Not required to be performed until [24] hours after THERMAL POWER is ≥ [15]% RTP. Compare results of the incore detector measurements to NIS AFD. 36	31 effective full power days (EFPD)

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SURVEILLANCE REQUIREMENTS (continued)

CTS	SURVEILLANCE	FREQUENCY
[T4.1-1(30,47)]	SR 3.3.1.4 [A35] ------------------NOTE------------------ This Surveillance must be performed on the reactor trip bypass breaker prior to placing the bypass breaker in service. -- Perform TADOT.	31 days on a STAGGERED TEST BASIS
[T4.1-1(27)]	SR 3.3.1.5 Perform ACTUATION LOGIC TEST.	31 days on a STAGGERED TEST BASIS
[T4.1-1(1)]	SR 3.3.1.6 [L40] ------------------NOTE------------------ Not required to be performed until 24 hours after THERMAL POWER is ≥ 50% RTP. -- Calibrate excore channels to agree with incore detector measurements.	92 EFPD
[T4.1-1(1, 3-7,10,39,40)]	SR 3.3.1.7 [L40] ------------------NOTE------------------ Not required to be performed for source range instrumentation prior to entering MODE 3 from MODE 2 until 4 hours after entry into MODE 3. -- Perform COT.	92 days

(continued)

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SURVEILLANCE REQUIREMENTS (continued)

	SURVEILLANCE	FREQUENCY
[T4.1-1(1,2,3)]	SR 3.3.1.8 [A36] -------------------NOTE------------------- This Surveillance shall include verification that interlocks P-6 and P-10 are in their required state for existing unit conditions. --- Perform COT.	-----NOTE----- Only required when not performed within previous ~~~~92~~~~ days -------------- Prior to reactor startup AND Four hours after reducing power below P-10 for power and intermediate instrumentation AND Four hours after reducing power below P-6 for source range instrumentation AND Every 92 days thereafter

(continued)

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SURVEILLANCE REQUIREMENTS (continued)

		SURVEILLANCE	FREQUENCY
[T4.1-1(8)]	SR 3.3.1.9 [A37]	-------------------NOTE------------------- Verification of setpoint is not required. -- Perform TADOT.	[92] days
[T4.1-1 (5-8, 11, 23, 25, 29, 39, 40)]	SR 3.3.1.10 [A38]	-------------------NOTE------------------- This Surveillance shall include verification that the time constants are adjusted to the prescribed values, where applicable -- Perform CHANNEL CALIBRATION.	[18] months
[T4.1-1(1,2,3)]	SR 3.3.1.11 [L41]	-------------------NOTE------------------- Neutron detectors are excluded from CHANNEL CALIBRATION. -- Perform CHANNEL CALIBRATION.	[18] months
[T4.1-1(4)]	SR 3.3.1.12	-------------------NOTE------------------- ~~This Surveillance shall include verification of Reactor Coolant System resistance temperature detector bypass loop flow rate.~~ -- INSERT 3.3.1-1 Perform CHANNEL CALIBRATION.	[18] months
[T4.1-1(25)]	SR 3.3.1.13	Perform COT.	18 months

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(continued)

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[A38]

NOTE

This Surveillance shall include verification that the electronic dynamic compensation time constants are set at the required values, and verification of RTD response time constants.

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CTS

SURVEILLANCE REQUIREMENTS (continued)

	SURVEILLANCE	FREQUENCY
[T4.1-1(29, 46, 47)] SR 3.3.1.14 [A 37]	-----NOTE----- Verification of setpoint is not required. ----- Perform TADOT.	[18] months
[T4.1-1 (22)] SR 3.3.1.15 [A37]	-----NOTE----- Verification of setpoint is not required. ----- Perform TADOT.	-----NOTE----- Only required when not performed within previous 31 days ----- Prior to reactor startup
~~SR 3.3.1.16~~	~~-----NOTE----- Neutron detectors are excluded from response time testing. ----- Verify RTS RESPONSE TIME is within limits.~~	~~[18] months on a STAGGERED TEST BASIS~~

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Table 3.3.1-1 (page 1 of 8)
Reactor ~~Trip~~ Protection System Instrumentation

	FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS	CONDITIONS	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE	TRIP SETPOINT ~~(a)~~
[T3.5-2(1)] [T4.1-1(46,47)]	1. Manual Reactor Trip	1,2	2	B	SR 3.3.1.14	NA	NA
		3(a), 4(a), 5(a)	2	C	SR 3.3.1.14	NA	NA
[T 3.5-2(2)]	2. Power Range Neutron Flux						
[2.3.1.2.a] [T4.1-1(1)]	a. High	1,2	4	D	SR 3.3.1.1 SR 3.3.1.2 SR 3.3.1.7 SR 3.3.1.11 ~~SR 3.3.1.16~~	≤ ~~[111.2]~~ 110.93% RTP	≤ ~~[109]~~ 108 % RTP
[2.3.1.1.a] [T4.1-1(1)]	b. Low	1(b),2	4	E	SR 3.3.1.1 SR 3.3.1.8 SR 3.3.1.11 ~~SR 3.3.1.16~~	≤ ~~[27.2]~~ 26.93% RTP	≤ ~~[25]~~ 24% RTP
	~~3. Power Range Neutron Flux Rate~~						
	~~a. High Positive Rate~~	~~1,2~~	~~4~~	~~E~~	~~SR 3.3.1.7~~ ~~SR 3.3.1.11~~	~~≤ [6.8]% RTP with time constant ≥ [2] sec~~	~~≤ [5]% RTP with time constant ≥ [2] sec~~
	~~b. High Negative Rate~~	~~1,2~~	~~4~~	~~E~~	~~SR 3.3.1.7~~ ~~SR 3.3.1.11~~ ~~SR 3.3.1.16~~	~~≤ [6.8]% RTP with time constant ≥ [2] sec~~	~~≤ [5]% RTP with time constant ≥ [2] sec~~
[T3.5-2(3)] [T4.1-1(2)]	~~4.~~ 3 Intermediate Range Neutron Flux	1(b), 2(c)	2	F,G	SR 3.3.1.1 SR 3.3.1.8 SR 3.3.1.11	≤ ~~[31]~~ 34.17% RTP	≤ [25]% RTP
		2(d)	2	H	SR 3.3.1.1 SR 3.3.1.8 SR 3.3.1.11	≤ ~~[31]~~ 34.17% RTP	≤ [25]% RTP

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(continued)

~~(a) Reviewer's Note: Unit specific implementations may contain only Allowable Value depending on Setpoint Study methodology used by the unit.~~

~~(b) With Reactor Trip Breakers (RTBs) closed and Rod Control System capable of rod withdrawal.~~

~~(c) Below the P-10 (Power Range Neutron Flux) interlocks.~~

~~(d) Above the P-6 (Intermediate Range Neutron Flux) interlocks.~~

~~(e) Below the P-6 (Intermediate Range Neutron Flux) interlocks.~~

INSERT 3.3.1-2

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Table 3.3.1-1 (page 2 of 8)
Reactor ~~Trip~~ Protection System Instrumentation

1

	FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS	CONDITIONS	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE	TRIP SETPOINT ~~(a)~~
[T3.5-2(4)] [T4.1-1(3)] [M12]	4 ~~5.~~ Source Range Neutron Flux	2 ~~(b)~~ (d)	2	I,J	SR 3.3.1.1 SR 3.3.1.8 SR 3.3.1.11 ~~[illegible]~~	≤ ~~[illegible]~~ cps 1.28 E5	≤ [1.0 E5] cps
		3 ~~(c)~~, 4 ~~(c)~~, 5 ~~(c)~~ (a)	2	J,K	SR 3.3.1.1 SR 3.3.1.7 SR 3.3.1.11 ~~[illegible]~~	≤ ~~[illegible]~~ cps	≤ [1.0 E5] cps
		3 ~~(f)~~, 4 ~~(f)~~, 5 ~~(f)~~ (e)	~~[illegible]~~	L	SR 3.3.1.1 SR 3.3.1.11	N/A	N/A
[2.3.1.2.d] [T3.5-2(5)] [T4.1-1(4)]	5 ~~6.~~ Overtemperature ΔT	1,2	~~4~~ 3	E	SR 3.3.1.1 SR 3.3.1.3 SR 3.3.1.6 SR 3.3.1.7 SR 3.3.1.12 ~~[illegible]~~	Refer to Note 1 (Page 3.3-~~[illegible]~~) 18	Refer to Note 1 (Page 3.3-~~[illegible]~~)
[2.3.1.2.e] [T3.5-2(6)] [T4.1-1(4)]	6 ~~7.~~ Overpower ΔT	1,2	~~4~~ 3	E	SR 3.3.1.1 SR 3.3.1.3 SR 3.3.1.6 SR 3.3.1.7 SR 3.3.1.12 ~~[illegible]~~	Refer to Note 2 (Page 3.3-~~[illegible]~~) 19	Refer to Note 2 (Page 3.3-~~[illegible]~~) 11

(continued)

~~(a) Reviewer's Note: Unit specific implementations may contain only Allowable Value depending on Setpoint Study methodology used by the unit.~~

~~(b) With RTBs closed and Rod Control System capable of rod withdrawal.~~

~~(c) Below the P-6 (Intermediate Range Neutron Flux) interlocks.~~

~~(f) With the RTBs open. In this condition, source range Function does not provide reactor trip but does provide [input to the Boron Dilution Protection System (LCO 3.3.9), and] indication.~~

INSERT 3.3.1-2 10

CTS

Table 3.3.1-1 (page 5 of 8)
Reactor Trip System Instrumentation

Protection

1

	FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS	CONDITIONS	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE	TRIP SETPOINT(a)
[T3.5-2(11)] [T4.1-1(22)] [M13]	15. Turbine Trip Auto Stop						
	a. Low Auto Stop Oil Pressure	1(f)	3	P	SR 3.3.1.10 SR 3.3.1.15	≥ 40.87 psig	≥ 45 psig
	b. Turbine Stop Valve Closure	1(f)	2	P	~~SR 3.3.1.10~~ SR 3.3.1.15	~~≥ [1]% open~~ NA	~~≥ [1]% open~~ NA
[M13]	16. Safety Injection (SI) Input from Engineered Safety Feature Actuation System (ESFAS)	1,2	2 trains	Q	SR 3.3.1.14	NA	NA
[M13]	17. Reactor Protection System Interlocks						
	a. Intermediate Range Neutron Flux, P-6	2(d)	2	S	SR 3.3.1.11 SR 3.3.1.13	≥ 7.29E-11 amp	≥ [1E-10] amp
	b. Low Power Reactor Trips Block, P-7	1	1 per train	T	~~SR 3.3.1.11~~ SR 3.3.1.14 SR 3.3.1.13	NA	NA
	c. Power Range Neutron Flux, P-8	1	4	T	SR 3.3.1.11 SR 3.3.1.13	≤ 42.94% RTP	≤ 40% RTP
	~~d. Power Range Neutron Flux, P-9~~	~~1~~	~~4~~	~~T~~	~~SR 3.3.1.11 SR 3.3.1.13~~	~~≤ [52.2]% RTP~~	~~≤ [50]% RTP~~
	d. Power Range Neutron Flux, P-10	1,2	4	S	SR 3.3.1.11 SR 3.3.1.13	≥ 7.06% RTP and ≤ 12.94% RTP	[10]% RTP
[T4.1-1(25)]	e. Turbine Impulse Pressure, P-7 input	1	2	T	SR 3.3.1.10 SR 3.3.1.10 SR 3.3.1.13	≤ 10.71% turbine power	≤ [10]% turbine power

12 13 14 65

(continued)

~~(a) Reviewer's Note: Unit specific implementations may contain only Allowable Value depending on Setpoint Study methodology used by the unit.~~

~~(e) Below the P-6 (Intermediate Range Neutron Flux) interlocks.~~

~~(j) Above the P-9 (Power Range Neutron Flux) interlock.~~

INSERT 3.3.1-2

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CTS
[T3.5-2]

ITS Insert 3.3.1-2 (RPS Instrumentation)

[*] (a) ~~Reviewer's Note: Unit specific implementations may contain only Allowable Value depending on Setpoint Study methodology used by the unit.~~ 16

[**] (b) With Reactor Trip Breakers (RTBs) closed and rods not fully inserted or Rod Control System capable of rod withdrawal. 17

[A30] (c) Below the P-10 (Power Range Neutron Flux) interlock~~s~~.

[***] (d) Above the P-6 (Intermediate Range Neutron Flux) interlock~~s~~.

[A31] (e) Below the P-6 (Intermediate Range Neutron Flux) interlock~~s~~.

[****] [2.3.2.1] (f) With the RTBs open. In this condition, source range Function does not provide reactor trip but does provide ~~[input to the Boron Dilution Protection System (LCO 3.3.9), and]~~ indication and alarm. 18

[M50] (g) Above the P-7 (Low Power Reactor Trips Block) interlock.

[2.3.2.1] [*****] (h) Above the P-8 (Power Range Neutron Flux) interlock.

(i) Above the P-7 (Low Power Reactor Trips Block) interlock and below the P-8 (Power Range Neutron Flux) interlock.

~~(j) Above the P-9 (Power Range Neutron Flux) interlock.~~ 13

[A32] ~~(k)~~ Including any reactor trip bypass breakers that are racked in and closed for bypassing an RTB.

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1 15

Table 3.3.1-1 (page 7 of 8)
Reactor ~~Trip~~ Protection System Instrumentation

CTS

[2.3.1.2.d] Note 1: Overtemperature ΔT

The Overtemperature ΔT Function Allowable Value shall not exceed the following Trip Setpoint by more than ~~[3.8]~~ 2.96% of ΔT span.

$$\cancel{\Delta T \frac{(1+\tau_1 s)}{(1+\tau_2 s)}\left[\frac{1}{1+\tau_3 s}\right] \le \Delta T_0 \left\{K_1 - K_2 \frac{(1+\tau_4 s)}{(1+\tau_5 s)}\left[T \frac{1}{(1+\tau_6 s)} - T'\right] + K_3(P-P') - f_1(\Delta I)\right\}}$$

Where: ~~ΔT is measured RCS ΔT, °F.~~
ΔT₀ is the indicated ΔT at RTP, °F.
s is the Laplace transform operator, sec⁻¹.
T is the measured RCS average temperature, °F.
T' is the ~~nominal~~ reference T_{avg} at RTP, ≤ ~~[588]~~ 575.4°F.

P is the measured pressurizer pressure, psig
P' is the nominal RCS operating pressure, ≤ [2235] psig

K_1 ≤ ~~[1.09]~~ ≤ 1.1265 K_2 ≥ ~~[0.0138]~~ = 0.01228/°F K_3 = ~~[0.000671]~~ 0.00089/psig
τ_1 ≥ ~~[8]~~ 20.08 sec τ_2 ≤ ~~[3]~~ 3.08 sec ~~τ_3 ≤ [2] sec~~
~~τ_4 ≥ [33] sec~~ ~~τ_5 ≤ [4] sec~~ ~~τ_6 ≤ [2] sec~~

~~$f_1(\Delta I)$ = 1.26{35 + (q_t − q_b)} when q_t − q_b ≤ −[35]% RTP~~
~~0% of RTP when −[35]% RTP < q_t − q_b ≤ [7]% RTP~~
~~−1.05{(q_t − q_b) − 7} when q_t − q_b > [7]% RTP~~

Where q_t and q_b are percent RTP in the upper and lower halves of the core, respectively, and q_t + q_b is the total THERMAL POWER in percent RTP.

2.4 (q_b − q_T) − 17	when q_T − q_b < −17% RTP
0% of RTP	when −17% RTP ≤ q_T − q_b ≤ 12% RTP
2.4 (q_T − q_b) − 12	when q_T − q_b > 12% RTP

$$\Delta T_{setpoint} \le \Delta T_0 \left\{K_1 - K_2 \frac{(1+\tau_1 s)}{(1+\tau_2 s)}(T - T') + K_3(P-P') - f(\Delta I)\right\}$$

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Table 3.3.1-1 (page 8 of 8)
Reactor ~~Trip~~ Protection System Instrumentation

CTS

[2.3.1.2.e]

Note 2: Overpower ΔT

The Overpower ΔT Function Allowable Value shall not exceed the following Trip Setpoint by more than ~~[3]~~ 3.17% of ΔT span.

$$\cancel{\Delta T \frac{(1+\tau_1 s)}{(1+\tau_2 s)}\left(\frac{1}{1+\tau_3 s}\right) \le \Delta T_0 \left\{K_4 - K_5 \frac{\tau_7 s}{1+\tau_7 s}\left(\frac{1}{1+\tau_6 s}\right) T - K_6\left[T \frac{1}{1+\tau_6 s} - T''\right] - f_2(\Delta I)\right\}}$$

Where: ~~ΔT is measured RCS ΔT, °F.~~
ΔT$_0$ is the indicated ΔT at RTP, °F.
s is the Laplace transform operator, sec^{-1}.
T is the measured RCS average temperature, °F.
T′ is the ~~nominal~~ reference T$_{avg}$ at RTP, ≤ ~~[588]~~ 575.4 °F.

K$_4$ ~~≤ [1.09]~~ ≤ 1.06 K$_5$ ≥ [0.02]/°F for increasing T$_{avg}$ K$_6$ ≥ ~~[0.00128]~~ 0.00277/°F when T > T′
[0]/°F for decreasing T$_{avg}$ [0]/°F when T ≤ T′

~~τ$_1$ ≥ [8] sec τ$_2$ ≤ [3] sec~~ τ$_3$ ~~≤ [2]~~ ≥9 sec
~~τ$_6$ ≤ [2] sec τ$_7$ ≥ [10] sec~~

f$_2$(ΔI) = ~~0% RTP for all ΔI~~ as defined in Note 1 for Overtemperature ΔT

$$\Delta T_{setpoint} \le \Delta T_0 \left\{K_4 - K_5\left(\frac{\tau_3 S}{1+\tau_3 S}\right)T - K_6(T - T') - f(\Delta I)\right\}$$

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2. A single train may be inoperable for the purpose of maintenance for up to 12 hours provided the redundant train is OPERABLE. This NOTE does not apply to Manual Actuation Functions.

1

CTS

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
T3.5-3 ACTION 12 E. One Containment Pressure channel inoperable.	E.1 ---NOTE--- ~~One additional channel may be bypassed for up to [4] hours for surveillance testing.~~ --- Place channel in ~~bypass~~ trip.	6 hours (20)
	OR	
	E.2.1 Be in MODE 3.	12 hours
	AND	
	E.2.2 Be in MODE 4. AND E.2.3 Be in MODE 5.	~~18 hours~~ 42 hours (21)
T3.5-3 ACTION 15 F. One channel or train inoperable.	F.1 Restore channel or train to OPERABLE status.	48 hours
	OR	
	F.2.1 Be in MODE 3.	54 hours
	AND	
	F.2.2 Be in MODE 4.	60 hours

(continued)

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2. When a channel or train is placed in an inoperable status solely for the performance of required Surveillances, entry into associated Conditions and Required Actions may be delayed for up to 6 hours provided the redundant train is OPERABLE.

(19)

CTS

[A5]

SURVEILLANCE REQUIREMENTS

(1)

NOTES (5)

1. Refer to Table 3.3.2-1 to determine which SRs apply for each ESFAS Function.

CTS	SURVEILLANCE		FREQUENCY
[M27]	SR 3.3.2.1	Perform CHANNEL CHECK.	12 hours
[T4.1-1(27)]	SR 3.3.2.2	Perform ACTUATION LOGIC TEST.	31 days on a STAGGERED TEST BASIS
	~~SR 3.3.2.3~~	~~NOTE: The continuity check may be excluded.~~ ~~Perform ACTUATION LOGIC TEST.~~	~~31 days on a STAGGERED TEST BASIS~~ (24)
[M27]	SR 3.3.2.~~4~~ 3	Perform MASTER RELAY TEST.	~~31 days on a STAGGERED TEST BASIS~~ 18 months
[M27]	SR 3.3.2.~~5~~ 4	Perform COT.	92 days
[M27]	SR 3.3.2.~~6~~ 5	Perform SLAVE RELAY TEST.	~~[92] days~~ 18 months (25)

(continued)

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CTS

1

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
SR 3.3.2.11 ------------------NOTE------------------ Verification of setpoint not required. -- Perform TADOT	Once per reactor trip breaker cycle

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ITS Insert 3.3.2-3 (ESFAS Instrumentation)

Not used.

Table 3.3.2-1 (page 1 of 8)
Engineered Safety Feature Actuation System Instrumentation

CTS

1

CTS	FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS	CONDITIONS	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE	TRIP SETPOINT
	1. Safety Injection						
[T3.5-3(1.A)]	a. Manual Initiation	1,2,3,4	2	B	SR 3.3.2.8 (6)	NA	NA
[T4.1-1(27)] [4.5.1.1] [M27] [L13]	b. Automatic Actuation Logic and Actuation Relays	1,2,3,4	2 trains	C	SR 3.3.2.2 SR 3.3.2.4 (3) SR 3.3.2.6 (5)	NA	NA
[T3.5-1(1)] [T3.5-3(1.B)]	c. Containment Pressure - High	1,2,3 (4)	3	~~D~~ E	SR 3.3.2.1 (4) SR 3.3.2.5 SR 3.3.2.9 (7) ~~SR 3.3.2.10~~	≤ ~~[3.86]~~ 4.45 psig	≤ ~~[3.6]~~ 4 psig
[T3.5-1(3)] [T3.5-3(1.D)]	d. Pressurizer Pressure - Low	1,2,3 ~~(b)~~ (a)	~~[3]~~	D	SR 3.3.2.1 (4) SR 3.3.2.5 SR 3.3.2.9 (7) ~~SR 3.3.2.10~~	≥ ~~[1839]~~ 1709.89 psig	≥ ~~[1850]~~ 1715 psig
	e. Steam Line ~~Pressure~~						
	~~(1) Low~~	~~1,2, 3[(b)]~~	~~3 per steam line~~	~~D~~	~~SR 3.3.2.1 SR 3.3.2.5 SR 3.3.2.9 SR 3.3.2.10~~	~~≥ [635](c) psig~~	~~≥ [675](c) psig~~
[T3.5-1(4)] [T3.5-3(1.C)]	~~(2)~~ High Differential Pressure Between Steam Header and Steam Lines	1,2,3 (a)	3 per steam line	D	SR 3.3.2.1 SR 3.3.2.5 (4) SR 3.3.2.9 (7) ~~SR 3.3.2.10~~	≤ ~~[106]~~ 108.95 psig	≤ ~~[97]~~ 100 psig
[T3.5-4(2.A)]	f. High Steam Flow in Two Steam Lines	1,2,3 ~~(d)~~ (C) (c)	2 per steam line	D	SR 3.3.2.1 SR 3.3.2.5 (4) SR 3.3.2.9 (7) ~~SR 3.3.2.10~~	~~(e)~~ (d)	~~(f)~~ (e)
	Coincident with T_{avg} - Low ~~Low~~	1,2,3 ~~(d)~~	1 per loop	D	SR 3.3.2.1 SR 3.3.2.5 (4) SR 3.3.2.9 (7) ~~SR 3.3.2.10~~	≥ ~~[550.6]~~ 541.50 °F	≥ ~~[553]~~ 543 °F

21 7 30 29 31

(continued)

~~(a) Reviewer's Note: Unit specific implementations may contain only Allowable Value depending on Setpoint Study methodology used by the unit.~~
~~(b) Above the P-11 (Pressurizer Pressure) interlock.~~
~~(c) Time constants used in the lead/lag controller are $t_1 \geq [50]$ seconds and $t_2 \leq [5]$ seconds.~~
~~(d) Above the P-12 (T_{avg} - Low Low) interlock.~~
~~(e) Less than or equal to a function defined as ΔP corresponding to [44]% full steam flow below [20]% load, and ΔP increasing linearly from [44]% full steam flow at [20]% load to [114]% full steam flow at [100]% load, and ΔP corresponding to [114]% full steam flow above 100% load.~~
~~(f) Less than or equal to a function defined as ΔP corresponding to [40]% full steam flow between [0]% and [20]% load and then a ΔP increasing linearly from [40]% steam flow at [20]% load to [110]% full steam flow at [100]% load.~~

INSERT 3.3.2-4 (10)

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Table 3.3.2-1 (page 2 of 8)
Engineered Safety Feature Actuation System Instrumentation

CTS

1

	FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS	CONDITIONS	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE	TRIP SETPOINT
	1. Safety Injection (continued)						
[T3.5-4(2.B)]	g. High Steam Flow in Two Steam Lines	1,2,3 (c)	2 per steam line	D	SR 3.3.2.1 (4) SR 3.3.2.5 (7) SR 3.3.2.9 ~~SR 3.3.2.10~~	(d)	(e)
	Coincident with Steam Line Pressure – Low	1,2,3 (c)	1 per steam line	D	SR 3.3.2.1 (4) SR 3.3.2.5 SR 3.3.2.9 (7) ~~SR 3.3.2.10~~	≥ 605.05 psig	≥ 614 psig
	2. Containment Spray						
[T3.5-3(2.A)]	a. Manual Initiation	1,2,3,4	2 per train, 2 trains	B (I)	SR 3.3.2.8 (6)	NA	NA
[T4.1-1(27)] [4.5.1.3] [M27] [L13]	b. Automatic Actuation Logic and Actuation Relays	1,2,3,4	2 trains	C	SR 3.3.2.2 (3) SR 3.3.2.4 SR 3.3.2.6 (5)	NA	NA
	c. Containment Pressure						
[T3.5-1(2)] [T3.5-3(2.B)]	~~High – 3~~ High High	1,2,3 (4)	6 (2 sets of 3)	E	SR 3.3.2.1 SR 3.3.2.5 (4) SR 3.3.2.9 (7) ~~SR 3.3.2.10~~	≤ 20.45 psig	≤ 20 psig
	~~High – 3 (Two Loop Plants)~~	~~1,2,3~~	~~[3] sets of [2]~~	~~E~~	~~SR 3.3.2.1 SR 3.3.2.5 SR 3.3.2.9 SR 3.3.2.10~~	~~≤ [12.31] psig~~	~~≤ [12.05] psig~~

29 23 7 30 33 29 30

(continued)

~~(a) Reviewer's Note: Unit specific implementations may contain only Allowable Value depending on Setpoint Study methodology used by the unit.~~
~~(c) Time constants used in the lead/lag controller are $t_1 \geq [50]$ seconds and $t_2 \leq [5]$ seconds.~~
~~(d) Above the P-12 (T_{avg} – Low Low) interlock.~~
~~(e) Less than or equal to a function defined as ΔP corresponding to [44]% full steam flow below [20]% load, and ΔP increasing linearly from [44]% full steam flow at [20]% load to [114]% full steam flow at [100]% load, and ΔP corresponding to [114]% full steam flow above 100% load.~~
~~(f) Less than or equal to a function defined as ΔP corresponding to [40]% full steam flow between [0]% and [20]% load and then a ΔP increasing linearly from [40]% steam flow at [20]% load to [110]% full steam flow at [100]% load.~~

INSERT 3.3.2-4 (10)

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Table 3.3.2-1 (page 3 of 8)
Engineered Safety Feature Actuation System Instrumentation

CTS ① ③③

CTS	FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS	CONDITIONS	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE	TRIP SETPOINT
	3. Containment Isolation						
	a. Phase A Isolation						
[T3.5-4(1.A.ii)] [T4.1-3(5)]	(1) Manual Initiation	1,2,3,4	2	B	SR 3.3.2.8 ⑥	NA	NA
[T3.5-4(1.A.i)] [M27] [L13]	(2) Automatic Actuation Logic and Actuation Relays	1,2,3,4	2 trains	C	SR 3.3.2.2 SR 3.3.2.4 ③ SR 3.3.2.6 ⑤	NA	NA
	(3) Safety Injection	Refer to Function 1 (Safety Injection) for all initiation functions and requirements.					
[T3.5-4(1.B)]	b. Phase B Isolation ㉓						
	(1) Manual Initiation	1,2,3,4	~~2 per train,~~ 2 trains	~~B~~ I	SR 3.3.2.8 ⑥	NA	NA
[M27] [L13]	(2) Automatic Actuation Logic and Actuation Relays	1,2,3,4	2 trains	C	SR 3.3.2.2 SR 3.3.2.4 ③ SR 3.3.2.6 ⑤	NA	NA
	(3) Containment Pressure ㉝						
	~~High 3~~ (High High)	1,2,3,4 ㉙	~~(4)~~ 6 (2 sets of 3)	E	SR 3.3.2.1 ④ SR 3.3.2.6 ⑦ SR 3.3.2.9 ~~SR 3.3.2.10~~ ⑦	≤ ~~[12.31]~~ 20.45 psig	≤ ~~[12.05]~~ 20 psig
	4. Steam Line Isolation						
[T3.5-4(2.D)]	a. Manual Initiation	1,2(i),3(i) (b)	~~2~~ 1 per steam line	F	SR 3.3.2.8 ⑥	NA	NA
[T4.1-1(27)] [M27] [L13]	b. Automatic Actuation Logic and Actuation Relays	1,2(i),3(i) (b)	2 trains	G	SR 3.3.2.2 SR 3.3.2.4 ③ SR 3.3.2.6 ⑤	NA	NA

(continued)

~~(a) Reviewer's Note: Unit specific implementations may contain only Allowable Value depending on Setpoint Study methodology used by the unit.~~
~~(i) Except when all MSIVs are closed and [de-activated].~~

INSERT 3.3.2-4 ⑩

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Table 3.3.2-1 (page 4 of 8)
Engineered Safety Feature Actuation System Instrumentation

CTS

	FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS	CONDITIONS	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE	TRIP SETPOINT(a)
	4. Steam Line Isolation (continued)		6 (2 sets of 3)				
[T3.5-4(2.c)]	c. Containment Pressure - High ~~2~~ High	1,2(b), 3(b)	~~(3)~~	D	SR 3.3.2.1 SR 3.3.2.~~5~~ 4 SR 3.3.2.~~9~~ 7 ~~SR 3.3.2.10~~	≤ ~~[6.61]~~ 20.45 psig	≤ ~~[6.35]~~ 20 psig
	~~d. Steam Line Pressure~~						
	~~(1) Low~~	~~1,2(i), 3(b)(i)~~	~~3 per steam line~~	~~D~~	~~SR 3.3.2.1 SR 3.3.2.5 SR 3.3.2.9 SR 3.3.2.10~~	~~≥ [635](c) psig~~	~~≥ [675](c) psig~~
	~~(2) Negative Rate - High~~	~~3(g)(i)~~	~~3 per steam line~~	~~D~~	~~SR 3.3.2.1 SR 3.3.2.5 SR 3.3.2.9 SR 3.3.2.10~~	~~≤ [121.6](h) psi/sec~~	~~≤ [110](h) psi/sec~~
[T3.5-1(5)] [T3.5-3(1.E)]	d ~~e~~. High Steam Flow in Two Steam Lines	1,2(~~d~~) b, 3(~~d~~)	2 per steam line	D	SR 3.3.2.1 SR 3.3.2.~~5~~ 4 SR 3.3.2.~~9~~ 7 ~~SR 3.3.2.10~~	(d) ~~(e)~~	(e) ~~(f)~~
	Coincident with T_{avg} - Low ~~Low~~	1,2(~~d~~), 3(~~d~~)(~~i~~) c	1 per loop	D	SR 3.3.2.1 SR 3.3.2.~~5~~ 4 SR 3.3.2.~~9~~ 7 ~~SR 3.3.2.10~~	≥ ~~[550.6]~~ 541.50 °F	≥ ~~[553]~~ 543 °F

(continued)

1 33 30 7 10

~~(a) Reviewer's Note: Unit specific implementations may contain only Allowable Value depending on Setpoint Study methodology used by the unit.~~
~~(b) Above the P-11 (Pressurizer Pressure) interlock.~~
~~(c) Time constants used in the lead/lag controller are t_1 ≥ [50] seconds and t_2 ≤ [5] seconds.~~
~~(d) Above the P-12 (T_{avg} - Low Low) interlock.~~
~~(e) Less than or equal to a function defined as ΔP corresponding to [44]% full steam flow below [20]% load, ΔP increasing linearly from [44]% full steam flow at [20]% load to [114]% full steam flow at [100]% load, and ΔP corresponding to [114]% full steam flow above 100% load.~~
~~(f) Less than or equal to a function defined as ΔP corresponding to [40]% full steam flow between [0]% and [20]% load and then a ΔP increasing linearly from [40]% steam flow at [20]% load to [110]% full steam flow at [100]% load.~~
~~(g) Below the P-11 (Pressurizer Pressure) interlock.~~
~~(h) Time constant utilized in the rate/lag controller is ≤ [50] seconds.~~
~~(i) Except when all MSIVs are closed and [de-activated].~~

INSERT 3.3.2-4

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Table 3.3.2-1 (page 5 of 8)
Engineered Safety Feature Actuation System Instrumentation

CTS

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS	CONDITIONS	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE	TRIP SETPOINT
[T3.5-1(5)] 4. Steam Line Isolation (continued)	(b)				(d)	(e)
[T3.5-3(4)] e ~~f~~. High Steam Flow in Two Steam Lines	1,2, 3	2 per steam line	D	SR 3.3.2.1 4 SR 3.3.2.5 7 SR 3.3.2.9 ~~SR 3.3.2.10~~ 7		
Coincident with Steam Line Pressure – Low	1,2, 3	1 per steam line	D	SR 3.3.2.1 4 SR 3.3.2.5 7 SR 3.3.2.9 ~~SR 3.3.2.10~~ 7	≥ 605.05 psig 30	≥ 614 psig
~~g. High Steam Flow~~	~~1,2(i), 3(i)~~	~~2 per steam line~~	~~D~~	~~SR 3.3.2.1 SR 3.3.2.5 SR 3.3.2.9 SR 3.3.2.10~~	~~≤ [25]% of full steam flow at no load steam pressure~~	~~≤ [ ] full steam flow at no load steam pressure~~
~~Coincident with Safety Injection~~	~~Refer to Function 1 (Safety Injection) for all initiation functions and requirements.~~					
~~and~~						
~~Coincident with T_{avg} – Low Low~~	~~1,2(i), 3(d)(i)~~	~~[2] per loop~~	~~D~~	~~SR 3.3.2.1 SR 3.3.2.5 SR 3.3.2.9 SR 3.3.2.10~~	~~≥ [550.6]°F~~	~~≥ [553]°F~~
~~h. High High Steam Flow~~	~~1,2(i), 3(i)~~	~~2 per steam line~~	~~D~~	~~SR 3.3.2.1 SR 3.3.2.5 SR 3.3.2.9 SR 3.3.2.10~~	~~≤ [130]% of full steam flow at full load steam pressure~~	~~≤ [ ] of full steam flow at full load steam pressure~~
~~Coincident with Safety Injection~~	~~Refer to Function 1 (Safety Injection) for all initiation functions and requirements.~~					

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(continued)

~~(a) Reviewer's Note: Unit specific implementations may contain only Allowable Value depending on Setpoint Study methodology used by the unit.~~
~~(d) Above the P-12 (T_{avg} – Low Low) interlock.~~
~~(i) Except when all MSIVs are closed and [de-activated].~~

INSERT 3.3.2-4 10

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Table 3.3.2-1 (page 6 of 8)
Engineered Safety Feature Actuation System Instrumentation

CTS

(1)

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS	CONDITIONS	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE	TRIP SETPOINT(a)
5. ~~Turbine Trip and~~ Feedwater Isolation (38)						
[T3.5-4(3.A)] [L13] a. Automatic Actuation Logic and Actuation Relays	(5) 1,2(j), [3](j)	2 trains	G	SR 3.3.2.2 (3) SR 3.3.2.4 SR 3.3.2.6 (5)	NA	NA
~~b. SG Water Level - High High (P-14)~~ (40)	~~1,2(j), [3](j)~~	~~[3] per SG~~	~~[D]~~	~~SR 3.3.2.1 SR 3.3.2.5 SR 3.3.2.9 SR 3.3.2.10~~	≤ [84.2]%	≤ [82.4]%
[M27] (b) ~~c.~~ Safety Injection	Refer to Function 1 (Safety Injection) for all initiation functions and requirements.					
~~6. Auxiliary Feedwater~~ (41)						
~~a. Automatic Actuation Logic and Actuation Relays (Solid State Protection System)~~	~~1,2,3~~	~~2 trains~~	~~G~~	~~SR 3.3.2.2 SR 3.3.2.4 SR 3.3.2.6~~	~~NA~~	~~NA~~
~~b. Automatic Actuation Logic and Actuation Relays (Balance of Plant ESFAS)~~	~~1,2,3~~	~~2 trains~~	~~G~~	~~SR 3.3.2.3~~	~~NA~~	~~NA~~
~~c. SG Water Level - Low Low~~	~~1,2,3~~	~~[3] per SG~~	~~D~~	~~SR 3.3.2.1 SR 3.3.2.5 SR 3.3.2.9 SR 3.3.2.10~~	~~≥ [30.4]%~~	~~≥ [32.2]%~~

(continued)

~~(a) Reviewer's Note: Unit specific implementations may contain only Allowable Value depending on Setpoint Study methodology used by the unit.~~
~~(j) Except when all MFIVs, MFRVs, [and associated bypass valves] are closed and [de-activated] [or isolated by a closed manual valve].~~

INSERT 3.3.2-4 (10)

Supplement 4

Table 3.3.2-1 (page 8 of 8)
Engineered Safety Feature Actuation System Instrumentation

CTS

1

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS	CONDITIONS	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE	TRIP SETPOINT(a)
~~7. Automatic Switchover to Containment Sump (continued)~~						
~~c. RWST Level − Low Low~~	~~1,2,3,4~~	~~4~~	~~K~~	~~SR 3.3.2.1 SR 3.3.2.5 SR 3.3.2.9 SR 3.3.2.10~~	~~≥ [15]%~~	~~≥ [18]%~~
~~Coincident with Safety Injection~~	~~Refer to Function 1 (Safety Injection) for all initiation functions and requirements.~~					
~~and~~						
~~Coincident with Containment Sump Level − High~~	~~1,2,3,4~~	~~4~~	~~K~~	~~SR 3.3.2.1 SR 3.3.2.5 SR 3.3.2.9 SR 3.3.2.10~~	~~≥ [30] in. above el. [703] ft~~	~~≥ [ ] in. above el. [ ] ft~~
[M27] 6 ~~8~~. ESFAS Interlocks						
~~a. Reactor Trip, P-4~~	~~1,2,3~~	~~1 per train, 2 trains~~	~~F~~	~~SR 3.3.2.11~~	~~NA~~	~~NA~~
a ~~b~~. Pressurizer Pressure, ~~P-11~~ Low	1,2,3	3	~~L~~ H	SR 3.3.2.1 SR 3.3.2.~~5~~ 4 SR 3.3.2.~~8~~ 7	≤ ~~[1996]~~ 2005.11 psig	≤ ~~[ ]~~ 2000 psig
b ~~c~~. T_{avg} − Low ~~Low, P-12~~	1,2,3	~~[1]~~ 1 per loop	~~L~~ H	SR 3.3.2.1 SR 3.3.2.~~5~~ 4 SR 3.3.2.~~8~~ 7	~~≥ [550.5]~~ ≤ 544.50 °F	~~≥ [553]~~ ≤ 543 °F

30

26

42

~~(a) Reviewer's Note: Unit specific implementations may contain only Allowable Value depending on Setpoint Study methodology used by the unit.~~

INSERT 3.3.2-4

10

Supplement 4

<u>ITS Insert 3.3.2-4</u> (ESFAS Instrumentation)

CTS

(a) ~~Reviewer's Note: Unit specific implementations may contain only Allowable Value depending on Setpoint Study methodology used by the unit.~~ 16

[T3.5-3(#)] (a) (b) Above the ~~P-11~~ (Pressurizer Pressure) interlock.

(c) ~~Time constants used in the Lead/Lag controller are $t_1 \ge$ [50] seconds and $t_2 \le$ [5] seconds.~~ 30

[T3.5-3(##)] (d) Above the ~~P-12~~ (T_{avg} - Low ~~Low~~) interlock.

(d) (e) Less than or equal to a function defined as ΔP corresponding to 41.58 [44]% full steam flow below [20]% load, and ΔP increasing linearly from [44]% full steam flow at [20]% load to [114]% full steam flow at [100]% load, and ΔP corresponding to 110.5 [114]% full steam flow above 100% load.

(e) (f) Less than or equal to a function defined as ΔP corresponding to 37.25 [40]% full steam flow between [0]% and [20]% load and then a ΔP increasing linearly from 37.25 [40]% steam flow at [20]% load to 109 [110]% full steam flow at [100]% load.

~~(g) Below the P-11 (Pressurizer Pressure) interlock.~~

~~(h) Time constant utilized in the rate/lag controller is ≤ [50] seconds.~~ 30

(b) (h) Except when all MSIVs are closed ~~and [deactivated]~~.

(f) (i) Except when all MFIVs, MFRVs, [and ~~associated~~ bypass valves] are closed ~~and [deactivated]~~ [or isolated by a closed manual valve].

CTS

1

3.3 INSTRUMENTATION

3.3.3 Post Accident Monitoring (PAM) Instrumentation

[3.5.1.2]
[3.5.1.3]

LCO 3.3.3 The PAM instrumentation for each Function in Table 3.3.3-1 shall be OPERABLE.

[3.5.1.2]

APPLICABILITY: MODES 1, 2, and 3.

----NOTE----
Not applicable to Functions 3, 4, 19, 22, 23, and 24.

44

ACTIONS

[A29]
[A5]

-----NOTES-----
1. LCO 3.0.4 is not applicable.
2. Separate Condition entry is allowed for each Function.

	CONDITION	REQUIRED ACTION	COMPLETION TIME
[T3.5-5 NOTES]	A. One or more Functions with one required channel inoperable.	A.1 Restore required channel to OPERABLE status.	30 days
[T3.5-5 NOTES]	B. Required Action and associated Completion Time of Condition A not met.	B.1 Initiate action in accordance with Specification 5.6.~~8~~ 6.	Immediately
[T3.5-5 NOTES]	C. ---------NOTE--------- Not applicable to hydrogen monitor channels. --------------------- One or more Functions with two required channels inoperable.	C.1 Restore one channel to OPERABLE status.	7 days

(continued)

44

INSERT 3.3.3-1

Supplement 4

CTS

[T3.5-5 NOTES]

CONDITION	REQUIRED ACTION	COMPLETION TIME
D. -------NOTE------- Only applicable to Functions 3, 4, 19, 22, 23, and 24. ---------------- One or more Functions with one required channel inoperable.	D.1 Restore required channel to OPERABLE status.	7 days

1

CTS

SURVEILLANCE REQUIREMENTS

applies to each PAM instrumentation Function in Table 3.3.3-

[A 15]

NOTE

SR 3.3.3.1 and SR 3.3.3.2 applies to each PAM instrumentation Function in Table 3.3.3-1 except Function 9; SR 3.3.3.3 applies only to Function 9.

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	SURVEILLANCE		FREQUENCY
[T4.1-1]	SR 3.3.3.1	Perform CHANNEL CHECK for each required instrumentation channel that is normally energized.	31 days
[T4.1-1]	SR 3.3.3.2	NOTE Neutron detectors are excluded from CHANNEL CALIBRATION. Perform CHANNEL CALIBRATION.	[18] months
[M32]	SR 3.3.3.3	NOTE Verification of setpoint not required. Perform TADOT.	18 months

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1

CTS
[T3.5-5 ITEM#]

Table 3.3.3-1 (page 1 of 1)
Post Accident Monitoring Instrumentation

45

CTS		FUNCTION	REQUIRED CHANNELS	CONDITION REFERENCED FROM REQUIRED ACTION ~~E~~ F.1
[M32]	1.	Power Range Neutron Flux	2	~~E~~ G
[M32]	2.	Source Range Neutron Flux	2	~~E~~ G
[M32]	3.	Reactor Coolant System (RCS) Hot Leg Temperature	~~2~~ 1 per loop	~~E~~ G
[M32]	4.	RCS Cold Leg Temperature	~~2~~ 1 per loop	~~E~~ G
[M32]	5.	RCS Pressure (Wide Range)	2	~~E~~ G
INSERT 3.3.3-2	6.	~~Reactor Vessel Water Level~~	~~2~~	~~G~~
[9]	7.	Containment Sump Water Level (Wide Range)	2	~~E~~ H
[10]	8.	Containment Pressure (Wide Range)	2	~~E~~ H
[M32]	9.	Containment Isolation Valve Position	2 per penetration flow path(a)(b)	~~E~~ G
[8]	10.	Containment Area Radiation (High Range)	2	~~E~~ H
[11]	11.	Hydrogen Monitors	2	~~E~~ G
[1]	12.	Pressurizer Level	2	~~E~~ G
[M32]	13.	Steam Generator Water Level (~~Wide~~ Narrow Range)	2 per ~~steam generator~~ SG	~~E~~ G
[M32]	14.	Condensate Storage Tank Level	2	~~E~~ G
[13]	15.	Core Exit Temperature - Quadrant ~~[1]~~	2(c)	~~E~~ G
[13]	16.	Core Exit Temperature - Quadrant ~~[2]~~	2(c)	~~E~~ G
[13]	17.	Core Exit Temperature - Quadrant ~~[3]~~	2(c)	~~E~~ G
[13]	18.	Core Exit Temperature - Quadrant ~~[4]~~	2(c)	~~E~~ G
INSERT 3.3.3-3	19.	~~Auxiliary Feedwater Flow~~	~~2~~	~~F~~

59 44 59 44

(a) Not required for isolation valves whose associated penetration is isolated by at least one closed and deactivated automatic valve, closed manual valve, blind flange, or check valve with flow through the valve secured.

(b) Only one position indication channel is required for penetration flow paths with only one installed ~~control room indication channel~~ automatic containment isolation valve.

(c) A channel consists of ~~two~~ One core exit thermocouple~~s~~ (CET~~s~~).

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~~Reviewer's Note: Table 3.3.3-1 shall be amended for each unit as necessary to list:~~

~~(1) All Regulatory Guide 1.97, Type A instruments, and~~

~~(2) All Regulatory Guide 1.97, Category 1, non-Type A instruments in accordance with the unit's Regulatory Guide 1.97, Safety Evaluation Report.~~

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CTS

[M35] 3.3 INSTRUMENTATION

[M35] 3.3.4 Remote Shutdown System

1

[M35] LCO 3.3.4 The Remote Shutdown System Functions ~~in Table 3.3.4-1~~ shall be OPERABLE.

60

[M35] APPLICABILITY: MODES 1, 2, and 3.

[M35] ACTIONS

[M35]
------------------------------------NOTES------------------------------------
1. LCO 3.0.4 is not applicable.

2. Separate Condition entry is allowed for each Function.

	CONDITION	REQUIRED ACTION	COMPLETION TIME
[M35]	A. One or more required Functions inoperable.	A.1 Restore required Function to OPERABLE status.	30 days
[M35]	B. Required Action and associated Completion Time not met.	B.1 Be in MODE 3. **AND** B.2 Be in MODE 4.	6 hours 12 hours

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Table 3.3.4-1 (page 1 of 1)
Remote Shutdown System Instrumentation and Controls

-----NOTE-----
Reviewer's Note: This table is for illustration purposes only. It does not attempt to encompass every Function used at every unit, but does contain the types of Functions commonly found.

FUNCTION/INSTRUMENT OR CONTROL PARAMETER	REQUIRED NUMBER OF FUNCTIONS
1. Reactivity Control	
a. Source Range Neutron Flux	[1]
b. Reactor Trip Breaker Position	[1 per trip breaker]
c. Manual Reactor Trip	[2]
2. Reactor Coolant System (RCS) Pressure Control	
a. Pressurizer Pressure or RCS Wide Range Pressure	[1]
b. Pressurizer Power Operated Relief Valve (PORV) Control and Block Valve Control	[1, controls must be for PORV & block valves on same line]
3. Decay Heat Removal via Steam Generators (SGs)	
a. RCS Hot Leg Temperature	[1 per loop]
b. RCS Cold Leg Temperature	[1 per loop]
c. AFW Controls Condensate Storage Tank Level	[1]
d. SG Pressure	[1 per SG]
e. SG Level : AFW Flow	[1 per SG]
4. RCS Inventory Control	
a. Pressurizer Level	[1]
b. Charging Pump Controls	[1]

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1

3.3 INSTRUMENTATION

CTS

3.3.5 Loss of Power (LOP) Diesel Generator (DG) Start Instrumentation

[T3.5-5 (3)] LCO 3.3.5 Two ~~Three~~ channels per bus of the loss of voltage Function and ~~three~~ channels per bus of the degraded voltage Function shall be OPERABLE.

[T3.5-5(3)] APPLICABILITY: MODES 1, 2, 3, and 4.
When associated DG is required to be OPERABLE by LCO 3.8.2, "AC Sources – Shutdown."

ACTIONS INSERT 3.3.5-1 46

[A5]
NOTE
Separate Condition entry is allowed for each Function

CONDITION	REQUIRED ACTION	COMPLETION TIME
[T3.5-3 ACTION 14] B A. ~~One or more~~ Functions with one channel per bus inoperable. Degraded Voltage	B A.1 NOTE The inoperable channel may be bypassed for up to 4 hours for surveillance testing of other channels. Place channel in trip.	INSERT 3.3.5-2 47 6 hours 47
[M37] C B. ~~One or more~~ Functions with two or more channels per bus inoperable.	C B.1 Restore all but one channel to OPERABLE status.	1 hour

(continued)

ITS Insert 3.3.5-1 (LOP DG Start Instrumentation)

CTS

[T3.5-3 ###]

---NOTE---
Degraded Voltage Function may be blocked while starting RCPs when the unit is not in MODE 1.

ITS Insert 3.3.5-2 (LOP DG Start Instrumentation)

CONDITION	REQUIRED ACTION	COMPLETION TIME
[T3.5-3 ACTION 14] A. Loss of Voltage Function with one or more channels per bus inoperable.	A.1 Restore channel(s) to OPERABLE status.	1 hour

CTS

1

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
[T 3.5-3 ACTION 14] ~~C~~ D. Required Action and associated Completion Time not met.	~~C~~ D.1 Enter applicable Condition(s) and Required Action(s) for the associated DG made inoperable by LOP DG start instrumentation.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
[~~SR 3.3.5.1 Perform CHANNEL CHECK.~~	~~12 hours~~]
[T4.1-1 (32)] SR 3.3.5.~~2~~ 1 NOTE: Verification of setpoint not required. Perform TADOT. (63)	~~31 days~~ 18 months

(continued)

CTS

1

3.3 INSTRUMENTATION

3.3.6 Containment ~~Purge and Exhaust~~ Ventilation Isolation Instrumentation

[3.5.1.4] LCO 3.3.6 The Containment ~~Purge and Exhaust~~ Isolation instrumentation for each Function in Table 3.3.6-1 shall be OPERABLE.

[3.5.1.4] APPLICABILITY: ~~MODES 1, 2, 3, and 4~~
~~During CORE ALTERATIONS.~~
~~During movement of irradiated fuel assemblies within containment.~~
According to Table 3.3.6-1.

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ACTIONS

[A 5]

NOTE
Separate Condition entry is allowed for each Function

CONDITION	REQUIRED ACTION	COMPLETION TIME
~~A. One radiation monitoring channel inoperable.~~	~~A.1 Restore the affected channel to OPERABLE status.~~	~~4 hours~~

[T3.5-4 Action 15] 58

(continued)

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CTS

(1)

ACTIONS (continued)

Table 3.5-4 ACTION 15

CONDITION		REQUIRED ACTION	COMPLETION TIME
A ~~B~~. ~~NOTE: Only applicable during CORE ALTERATIONS or movement of irradiated fuel assemblies within containment.~~ One or more Functions with one or more manual or automatic actuation trains inoperable. OR ~~Two~~ One or more radiation monitoring channels inoperable. ~~OR Required Action and associated Completion Time for Condition A not met.~~	A ~~B~~.1	Place and maintain containment purge and exhaust valves in closed position. (58) Supply	Immediately (58)
	AND ~~OR~~ (58)		
	A ~~B~~.2	Enter applicable Conditions and Required Actions of LCO 3.9.~~4~~ (3) "Containment Penetrations," for containment ~~purge and exhaust~~ Ventilation isolation valves made inoperable by isolation instrumentation.	Immediately

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CTS

SURVEILLANCE REQUIREMENTS

[A5]

---NOTE---
Refer to Table 3.3.6-1 to determine which SRs apply for each Containment ~~Purge and Exhaust~~ Isolation Function.

CTS	SURVEILLANCE		FREQUENCY
[M42]	SR 3.3.6.1	Perform CHANNEL CHECK.	12 hours
[M41]	SR 3.3.6.2	Perform ACTUATION LOGIC TEST.	31 days on a STAGGERED TEST BASIS 50
[M41]	SR 3.3.6.3	Perform MASTER RELAY TEST.	~~31 days on a STAGGERED TEST BASIS~~ 18 months
[M42]	SR 3.3.6.4	Perform COT.	92 days
[M41]	SR 3.3.6.5	Perform SLAVE RELAY TEST.	~~[92] days~~ 18 months 50
[M42]	SR 3.3.6.6	-----------------NOTE----------------- Verification of setpoint is not required. --- Perform TADOT.	18 months
[M42]	SR 3.3.6.7	Perform CHANNEL CALIBRATION.	18 months

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APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS

CTS

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1

Table 3.3.6-1 (page 1 of 1)
Containment Purge and Exhaust Ventilation Isolation Instrumentation

CTS	FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS	SURVEILLANCE REQUIREMENTS	TRIP SETPOINT
[T 3.5-4(c.iii)] [M 41]	1. Manual Initiation	1,2,3,4 (a), (b)	2	SR 3.3.6.6	NA
	2. Automatic Actuation Logic and Actuation Relays	1,2,3,4 (a), (b)	2 trains	SR 3.3.6.2 SR 3.3.6.3 SR 3.3.6.5	NA
	3. Containment Radiation				
[T 3.5-4(c.i)] [T 3.5-1(7)]	a. Gaseous	(a), (b), (c)	1	SR 3.3.6.1 SR 3.3.6.4 SR 3.3.6.7	~~≤ [2 x background]~~ (d)
[T 3.5-4(c.ii)] [T 3.5-1(7)]	b. Particulate	(a), (b), (c)	1	SR 3.3.6.1 SR 3.3.6.4 SR 3.3.6.7	~~≤ [2 x background]~~ (d)
	~~c. Iodine~~		~~[1]~~	~~SR 3.3.6.1 SR 3.3.6.4 SR 3.3.6.7~~	~~≤ [2 x background]~~
	~~d. Area Radiation~~		~~[1]~~	~~SR 3.3.6.1 SR 3.3.6.4 SR 3.3.6.7~~	~~≤ [2 x background]~~
[T 3.5-4(c.iii)]	4. Containment Isolation - Phase A	Refer to LCO 3.3.2, "ESFAS Instrumentation," Function 3.a., for all initiation functions and requirements.			

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(a) During CORE ALTERATIONS.

(b) During movement of irradiated fuel assemblies within containment.

(c) During Purging.

(d) Trip Setpoint shall be in accordance with the methodology in the Offsite Dose Calculation Manual. 61

CTS

[M43]

1

3.3 INSTRUMENTATION

3.3.7 Control Room Emergency Filtration System (CREFS) Actuation Instrumentation

[M43]

LCO 3.3.7 The CREFS actuation instrumentation for each Function in Table 3.3.7-1 shall be OPERABLE.

[M43]

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

[M43]

ACTIONS

[M43]

--------------------NOTE--------------------
Separate Condition entry is allowed for each Function.

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CONDITION	REQUIRED ACTION	COMPLETION TIME
[M43] A. One ~~or more Functions with one channel or~~ train inoperable. Automatic Actuation	A.1 ~~--------NOTE-------- Place in toxic gas protection mode if automatic transfer to toxic gas protection mode is inoperable. ----------------~~ Place one CREFS train in emergency ~~[radiation protection]~~ mode. pressurization	7 days

(continued)

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CTS

(1)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
[M43] B. ~~One or more Functions with two channels or~~ automatic actuation two trains inoperable OR One radiation monitoring channel inoperable.	~~-----NOTE----- Place in the toxic gas protection mode if automatic transfer to toxic gas protection mode is inoperable.~~ (52)	
	B.1.1 Place one CREFS train in emergency ~~[radiation protection]~~ pressurization mode. AND	Immediately
	B.1.2 Enter applicable Conditions and Required Actions of LCO 3.7.9, "Control Room Emergency Filtration System (CREFS)," (53) for one CREFS train made inoperable by inoperable CREFS actuation instrumentation.	Immediately
	OR	
	B.2 Place the radiation monitoring channel in trip ~~both trains in emergency [radiation protection] mode~~. (54)	Immediately
[M43] C. Required Action and associated Completion Time for Condition A or B not met in MODE 1, 2, 3, or 4.	C.1 Be in MODE 3 AND	6 hours
	C.2 Be in MODE 5.	36 hours

(continued)

----- NOTE -----
Not applicable if two automatic actuation trains are inoperable.
(54)

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CTS

[M43]

ACTIONS (continued)

CONDITION	REQUIRED ACTION		COMPLETION TIME
D. Required Action and associated Completion Time for Condition A or B not met during movement of irradiated fuel assemblies or during CORE ALTERATIONS.	D.1	Suspend CORE ALTERATIONS.	Immediately
	AND		
	D.2	Suspend movement of irradiated fuel assemblies.	Immediately
E. ~~Required Action and associated Completion Time for Condition A or B not met in MODE 5 or 6.~~	~~E.1~~	~~Initiate action to restore one CREFS train to OPERABLE status.~~	~~Immediately~~

[M43]

[M43]

SURVEILLANCE REQUIREMENTS

NOTE

Refer to Table 3.3.7-1 to determine which SRs apply for each CREFS Actuation Function.

SURVEILLANCE		FREQUENCY
SR 3.3.7.1	Perform CHANNEL CHECK.	12 hours
SR 3.3.7.2	Perform COT.	92 days

[M43]

[M43]

(continued)

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CTS

(1)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
[M43] SR 3 3 7 3	Perform ACTUATION LOGIC TEST	31 days on a STAGGERED TEST BASIS
[M43] SR 3.3.7.4	Perform MASTER RELAY TEST.	~~31 days on a STAGGERED TEST BASIS~~ 18 months (55)
[M43] SR 3.3.7 5	Perform SLAVE RELAY TEST.	~~[92] days~~
~~SR 3.3.7.6~~	~~NOTE: Verification of setpoint is not required. Perform TADOT.~~	~~[18] months~~ (55)
[M43] SR 3.3.7.~~8~~ (6)	Perform CHANNEL CALIBRATION.	~~[~~18~~]~~ months

CTS
[M43]

1

Table 3.3.7-1 (page 1 of 1)
CREFS Actuation Instrumentation

FUNCTION	REQUIRED CHANNELS	SURVEILLANCE REQUIREMENTS	TRIP SETPOINT
~~1. Manual Initiation~~	~~2 trains~~	~~SR 3.3.7.6~~	~~NA~~
1 ~~2.~~ Automatic Actuation Logic and Actuation Relays	2 trains	SR 3.3.7.3 SR 3.3.7.4 SR 3.3.7.5	NA
2 ~~3.~~ Control Room Radiation Monitor			
~~a. Control Room Atmosphere~~	1 ~~(2)~~	SR 3.3.7.1 SR 3.3.7.2 SR 3.3.7.6 ~~8~~	≤ 2.5 ~~(2)~~ mR/hr
~~b. Control Room Air Intakes~~	~~(2)~~	~~SR 3.3.7.1~~ ~~SR 3.3.7.2~~ ~~SR 3.3.7.7~~	~~≤ (2) mR/hr~~
3 ~~4.~~ Safety Injection	Refer to LCO 3.3.2, "ESFAS Instrumentation," Function 1, for all initiation functions and requirements.		

55

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INSERT 3.3.8-1

Supplement 4

CTS

3.3.8 Auxiliary Feedwater (AFW) System Instrumentation

[A20] LCO 3.3.8 The AFW instrumentation for each Function in Table 3.3.8-1 shall be OPERABLE.

[T3.4-1(*)] APPLICABILITY: According to Table 3.3.8-1.

ACTIONS

------------------------------------NOTE------------------------------------

[A5] Separate Condition entry is allowed for each Function.

CONDITION	REQUIRED ACTION	COMPLETION TIME
[3.4.6] A. One or more Functions with one or more required channels inoperable.	A.1 Enter the Condition referenced in Table 3.3.8-1 for the channel(s) or train(s).	Immediately
B. One channel inoperable. [T3.4-1(1)] [T3.4-1(Note 1)] [M48]	B.1 Place channel in trip. OR B.2.1 Be in MODE 3. AND B.2.2 Be in MODE 4.	6 hours 12 hours 18 hours

(continued)

CTS

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
C. One channel inoperable.	C.1 Restore channel or train to OPERABLE status.	48 hours
[T3.4-2 Note 2]	OR	
	C.2.1 Be in MODE 3.	54 hours
	AND	
	C.2.2 Be in MODE 4.	60 hours
D. One Main Feedwater Pumps trip channel inoperable.	D.1 Restore channel to OPERABLE status.	48 hours
[T3.4-1 Note 2]	OR	
	D.2 Be in MODE 3.	54 hours

CTS

SURVEILLANCE REQUIREMENTS

------------------------------------NOTE------------------------------------

[4.8.5] Refer to Table 3.3.8-1 to determine which SRs apply for each AFW Function.

	SURVEILLANCE	FREQUENCY
[T4.8-1(a)]	SR 3.3.8.1 Perform CHANNEL CHECK.	12 hours
[T4.8-1(a)] [L16]	SR 3.3.8.2 Perform COT.	92 days
[L47] [T4.8-1(b,d,e)] [L48]	SR 3.3.8.3 --------------------NOTE-------------------- For Function 5, the TADOT shall include injection of a simulated or actual signal to verify channel OPERABILITY. -- Perform TADOT.	18 months
[T4.8-1 (a,b,d)]	SR 3.3.8.4 Perform CHANNEL CALIBRATION.	18 months

ITS Insert 3.3.8-1 (AFW System Instrumentation)

CTS

Table 3.3.8-1 (page 1 of 1)
Auxiliary Feedwater System Instrumentation

CTS		FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS	CONDITIONS	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE	TRIP SETPOINT
[M48] [T3.4-1(1)] [T3.4-2(a)] [T4.8-1(a)]	1.	SG Water Level-Low Low	1,2,3	3 per SG	B	SR 3.3.8.1 SR 3.3.8.2 SR 3.3.8.4	≥ 15.36 %	≥ 16%
[T3.4-1(3)] [T3.4-2(c)] [T4.8-1(c)]	2.	Safety Injection	Refer to LCO 3.3.2, "ESFAS Instrumentation," Function 1, for all initiation functions and requirements.					
[T3.4-1(4)] [T3.4-2(d)] [T4.8-1(d)]	3.	Loss of Offsite Power	1,2,3	2 per bus	C	SR 3.3.8.3 SR 3.3.8.4	328 V ± 10% with ≤ 1 sec time delay	328 V with ≤ 1sec time delay
[T3.4-1(12)] [T3.4-2(b)] [T4.8-1(b)]	4.	Undervoltage Reactor Coolant Pump	1,2,3	2 per bus	B	SR 3.3.8.3 SR 3.3.8.4	≥ 2959 V	≥ 3120 V
[T3.4-1(5)] [T4.8-1(e)]	5.	Trip of all Main Feedwater Pumps	1,2	1 per pump	D	SR 3.3.8.3	NA	NA

Supplement 4

1 In the conversion of the HBRSEP current Technical Specifications (CTS) to the proposed plant specific Improved Technical Specifications (ITS), certain wording preferences or conventions are adopted which do not result in technical changes (either actual or interpretational). Editorial changes which involve the insertion of plant specific terms or parameters are used to preserve consistency with the CTS and licensing basis.

2 ITS Specification 3.3.1 is modified to reflect a title change from "Reactor Trip System (RTS)," to "Reactor Protection System (RPS)," to be consistent with plant terminology and original licensing basis. Reference to the Specification title is modified throughout, accordingly.

3 ITS Specification 3.3.1, "Notes" in ACTIONS D, E, M, N, O, and P are not adopted. Plant design basis does not include the capability to bypass inputs to the RPS.

4 ISTS 3.3.1, ACTION Q Note, and ACTION R Note 1, are modified such that one train may be bypassed for up to 12 hours for maintenance or surveillance testing and ACTION R Note 2 is deleted, consistent with current licensing basis approved in Amendment No. 122 dated April 20, 1989. The RPS automatic trip logic and Engineered Safety Features Actuation System (ESFAS) logic input to the RPS requires 12 hours of down time on each train to accomplish the maintenance or surveillance testing. Plant design does not include a semi-automatic tester to perform the logic testing and does not facilitate repair or replacement of Reactor Protection System relays and/or test switches within the time periods provided in the ISTS.

For repair or replacement of Reactor Protection System relays and/or test switches, the following timeline provides a listing of the necessary evolutions and completion times for the two most frequently occuring types of failures that occur in the Reactor Protection System and demonstrates the need for the 12 hour allowance. These two failures are 1) failure of a logic or actuation relay, and 2) failure of the test switches used for the performance of the surveillance testing. A failure of either of these items only causes one portion of the Reactor Protection System to be inoperable, but due to the wiring configuration of the system (the common side of the relay power source is "daisy chained" together) the entire train must be considered inoperable once maintenance on the failed item has commenced. The reactor trip bypass breaker is installed to allow for maintenance of the system without causing an actual reactor trip. In this condition both of the installed trip breakers (one normal and one bypass are controlled by the operable logic train). Under the CTS, 12 hours is the allowable time for the bypass breaker to be installed for testing or maintenance.

The difference in allowed time for maintenance between the HBRSEP Unit

No. 2 Reactor Protection System and plants of a later vintage is the fact that all of the relays and test switches in the HBRSEP Unit No. 2 Reactor Protection System are "hard wired" into the system and require de-termination and re-termination of multiple connections to complete the replacement. These connections must be completed in a confined space using the utmost caution, with all wiring disconnects and reconnects being independently verified. Later vintage plants have systems that use "plug-in" components that require a minimal effort and time to be replaced.

TIME (hours)

T=0 The failed component is identified. Operations and management are informed so that any applicable regulatory requirements can be met.

T=0.5 An Action Request (AR) is generated and the Operations Work Control Group is notified of the equipment problem.

T=1.5 The Work Control Group completes a review of other "in progress" work and a risk assessment is performed based on plant conditions per plant procedures. When these reviews are completed, the AR is approved and a Work Request/Job Order (WR/JO) number is assigned. The approved WR/JO is then forwarded to the Maintenance Planners for processing.

T=3.5 The Maintenance Planners determine the scope of work, parts availability, reference materials, and testing requirements for the corrective maintenance. This information is assembled into a work package that is then delivered to the Maintenance Group for processing.

T=4.5 The Maintenance Group obtains the required supervision, QC, and Work Control approval signatures. All required tools and test equipments are obtained and the work instructions reviewed. They also obtain the required materials and perform any preliminary testing that may be required (i.e., the new relays and/or test switches are tested for functionality prior to being installed in the system).

T=5.5 A pre-job briefing is held in the control room with Opeations prior to commencing actual work. Job scope, responsibilities, and any specific required compensatory actions are discussed. Any required clearances or system alignments for the required maintenance should be in place and reviewed at this time. (The reactor trip bypass breaker is installed at this time.)

T=9.5 The maintenance is completed. (The four hours alloted for this activity allows for the replacement of a system relay or test

switch). Replacement of the test switches and/or relays requires marking, removal, and reinstallation of numerous individual wiring connections in a confined area. All connections are independently verified before the system testing is performed.

T=11 Post maintenance testing completed and reviewed. Operations notified that the testing is complete.

T=12 The bypass breaker is removed, system declared OPERABLE, and returned to service.

5 ITS SR 3.3.1.10 "Note" is modified to clarify that only those functions with electronic dynamic compensation should have their time constants adjusted to the prescribed values. Not all functions to which SR 3.3.1.10 is Applicable are equipped with dynamic compensation.

6 ITS SR 3.3.1.12 "Note" is modified to reflect that plant design basis does not include bypass loops for RTDs, but instead requires that electronic dynamic compensation time constants be set at required values (as stated in Note 1 and Note 2 to Table 3.3.1-1), and that RTD response time constants be verified.

7 ITS SR 3.3.1.16 and SR 3.3.2.10 are not adopted. Consistent with current licensing basis, response time testing of RTS and ESFAS circuitry is not performed. Plant equipment does not readily lend itself to such testing.

8 Not used.

9 ITS Table 3.3.1-1, Function 3, Power Range Neutron Flux Rate (High Positive Rate and High Negative Rate) trips, are not part of the plant design, and therefore are not adopted in the ITS. Subsequent Functions are renumbered accordingly.

10 ITS Table 3.3.1-1 and Table 3.3.2-1 footnotes are modified in manner of presentation in the ITS for improved human factors considerations, such that all footnotes appear on each page of the Table.

11 ITS SR 3.3.1.3 and SR 3.3.1.6 are added to the Overpower ΔT Function in ITS Table 3.3.1-1. These SRs are incorporated because the plant design basis is such that the Overpower ΔT Function setpoint is penalized by the axial delta flux when the flux exceeds its limits.

12 ITS Table 3.3.1-1, Item 15, Turbine Trip. "Required Channels" is revised from 4 to 2, because two channels of turbine stop valve position are provided as input to the RPS. Surveillance Requirement SR 3.3.1.10 (CHANNEL CALIBRATION) is not adopted in the ITS for the Turbine Stop Valve Closure Function input to the RPS, because the stop valve position

is monitored by limit switches on the stop valve which are tested in SR 3.3.1.15 (TADOT). The Allowable Value and Trip Setpoint are revised to "NA," because it is not possible to calibrate the valve position due to stop valve and position indication design.

13 ITS Table 3.3.1-1, Item 18.d, Power Range Neutron Flux (P-9), is not adopted. The P-9 interlock is not used; rather the P-7 interlock is used to automatically activate and deactivate the high power trips. Footnote (j) is also deleted. Subsequent functions are renumbered accordingly.

14 ITS Table 3.3.1-1, Item 18.e, Turbine Impulse Pressure (P-13) terminology is changed to "Turbine Impulse Pressure, P-7 input." Turbine impulse pressure input to P-7 is not referred to as P-13.

15 ITS Table 3.3.1-1, Note 1 and Note 2, Overtemperature ΔT and Overpower ΔT, are modified to reflect the plant specific algorithm for determining the Overtemperature ΔT and Overpower ΔT setpoints from plant input parameters. In addition, since τ_3 is utilized in the plant specific algorithm different than τ_3 is utilized in the ISTS Table 3.3.1-1 algorithm, τ_3 is modified to "≥" which is consistent with the plant specific analysis associated with RPS time constants.

16 ITS Table 3.3.1-1 and Table 3.3.2-1: "Reviewer's Note," and references to the "Reviewer's Note," are not adopted. Subsequent notes are renumbered accordingly.

17 ITS Table 3.3.1-1, footnote (a), is modified by inserting the phrase, "... rods not fully inserted or ..." When the reactor trip breakers are closed and shutdown bank(s) are withdrawn, then these rods are credited as part of the shutdown margin. Since at HBRSEP Unit 2, shutdown rods are credited in the shutdown margin calculation as being "trippable," it follows that those RPS Functions necessary for manual or automatic tripping of the reactor be operable when the rods are not fully inserted, or are capable of being withdrawn. The continuous rod withdrawal accident is not the only reactivity transient of concern during MODES 3, 4, and 5. Steam line break and boron dilution accidents are also mitigated by the RPS when shutdown or control banks are withdrawn.

18 ITS Table 3.3.1-1, footnote (e), is modified by acknowledging the high neutron flux at shutdown alarm function provided by the source range instrumentation. This reference is added because of the importance of this alarm when the reactor trip breakers are open.

19 ISTS 3.3.2, "Notes" in ACTIONS C, D, and G are not adopted. Due to the plant design, maintenance or surveillance testing of a single channel can not be performed without causing all channels of the associated

Function to be inoperable. In many cases, maintenance or surveillance testing will also cause the associated train to be inoperable. Therefore, a second ACTIONS "Note" is adopted to permit a single train to be inoperable for the purpose of maintenance for up to 12 hours provided the other train is OPERABLE. The Note also specifies that the provision does not apply to Manual Actuation Functions.

For repair or replacement of Engineered Safeguard System relays and/or test switches, the following timeline provides a listing of the necessary evolutions and completion times for the most frequently occuring types of failures that occur in the Engineered Safeguards System and demonstrates the need for the 12 hour allowance. These two failures are 1) failure of a logic or actuation relay, and 2) failure of the test switches used for the performance of the surveillance testing. A failure of either of these items only causes one portion of the Engineered Safeguards System (the common side of the relay power source is "daisy chained" together) the entire train must be considered inoperable once maintenance on the failed item has commenced.

The difference in allowed time for maintenance between the HBRSEP Unit No. 2 Engineered Safeguards System and plants of a later vintage is the fact that all of the relays and test switches in the HBRSEP Unit No. 2 Engineered Safeguards System are "hard wired" into the system and require de-termination and re-termination of multiple connections to complete the replacement. These connections must be completed in a confined space using the utmost caution, with all wiring being independently verified. Later vintage plants have systems that use "plug-in" components that require a minimal effort and time to be replaced.

TIME (hours)

T=0 The failed component is identified. Operations and management are informed so that any applicable regulatory requirements can be met.

T=0.5 An Action Request (AR) is generated and the Operations Work Control Group is notified of the equipment problem.

T=1.5 The Work Control Group completes a review of other "in progress" work and a risk assessment is performed based on plant conditions per plant procedures. When these reviews are completed, the AR is approved and a Work Request/Job Order (WR/JO) number is assigned. The approved WR/JO is then forwarded to the Maintenance Planners for processing.

T=3.5 The Maintenance Planners determine the scope of work, parts availability, reference materials, and testing requirements for the corrective maintenance. This information is assembled into a

work package that is then delivered to the Maintenance Group for processing.

T=4.5 The Maintenance Group obtains the required supervision, QC, and Work Control approval signatures. All required tools and test equipments are obtained and the work instructions reviewed. They also obtain the required materials and perform any preliminary testing that may be required (i.e., the new relays and/or test switches are tested for functionality prior to being installed in the system).

T=5.5 A pre-job briefing is held in the control room with Operations prior to commencing actual work. Job scope, responsibilities, and any specific required compensatory actions are discussed. Any required clearances or system alignments for the required maintenance should be in place and reviewed at this time.

T=9.5 The maintenance is completed. (The four hours alloted for this activity allows for the replacement of a system relay or test switch). Replacement of the test switches and/or relays requires marking, removal, and reinstallation of numerous individual wiring connections in a confined area. All connections are independently verified before the system testing is performed.

T=11 Post maintenance testing completed and reviewed. Operations notified that the testing is complete.

T=12 System declared OPERABLE and returned to service.

In addition, with the test switches in "test" during surveillance testing, all channels in as ESFAS Instrumentation Function are rendered inoperable. Currently, multiple Functions of an associated ESFAS train may be tested at one time. The procedure for performing testing does not result in the entire train being made inoperable. However, each of the Functions within an ESFAS train are made inoperable for short periods of time until testing of all channels of the associated ESFAS train is completed. Repetitive action entry and exit during testing of the associated ESFAS train, on a per Function basis, represents an unnecessary administrative burden on the plant operations staff and would result in extending the time period required to complete the testing. Therefore, Note 2 to the Surveillance Requirements is added to provide a single time period (6 hours) to cover all testing of the associated ESFAS train provided the redundant train is maintained OPERABLE. In ISTS, these conditions would require entry into LCO 3.0.3 since there are no specific allowances for these system conditions.

20 ITS Specification 3.3.2, "Note" in ACTION E is deleted. Since the plant design basis does not include the capability to bypass individual channel inputs to ESFAS, the channels must be placed in trip when

inoperable, or the unit be placed in a MODE where the automatic function is not required. Therefore, the Note to Condition E in NUREG-1431 is unnecessary and not included in the HBRSEP ITS.

21 ITS Specification 3.3.2, ACTION E is modified consistent with current licensing basis. Current licensing basis requires Containment Pressure-High High spray initiation Function to be OPERABLE whenever the Reactor Coolant System (RCS) temperature is ≥ 200°F. This requirement is carried forward in the ITS by extending the MODE of Applicability through MODE 4, and adding Required Action E.2.3 to require the unit be in MODE 5 within 42 hours of entry into the Condition when a channel cannot be restored to OPERABLE status or placed in trip.

22 Certain ITS 3.3.2 Conditions, and their attendant Required Actions and Completion Times are not adopted in the ITS, since they are not compatible with the plant ESFAS design or current licensing basis. Subsequent Conditions are renumbered accordingly.

23 ITS Specification 3.3.2 is modified to add a new Condition I, which is applicable only to the Manual Containment Spray and Manual Phase B Isolation Functions. Under the conditions when one or more of the manual spray/Phase B Isolation pushbuttons is inoperable, no means exists to manually initiate containment spray or Phase B Isolation through the automatic actuation relays. The Containment Spray/Phase B Manual Initiation is set up on two-out-of-two logic with only two pushbuttons provided. Therefore, a single failure of either of the buttons renders the entire manual initiation function (spray and Phase B isolation) inoperable. The Required Actions for Condition I provide 1 hour to restore the train to OPERABLE status. If the train is not returned to OPERABLE status within the 1 hour Completion Time, the unit must be placed in MODE 3 within the next 6 hours, in MODE 4 within the following 6 hours, and in MODE 5 within the following 24 hours.

24 ITS SR 3.3.2.3 is not adopted because it is redundant to the requirements of SR 3.3.2.2 for performance of ACTUATION LOGIC TESTS on ESFAS equipment. ACTUATION LOGIC TESTS on ESFAS equipment are performed in accordance with SR 3.3.2.2. Subsequent SRs are renumbered accordingly.

25 The Frequency for performing ITS SR 3.3.2.3 and SR 3.3.2.5 is changed to 18 months. Plant design basis does not include the capability to perform on-line testing of the Master and Slave Relays. Master Relay coil continuity is tested as part of the ACTUATION LOGIC TEST, but that is the extent of on-line testing that can be performed routinely on these items. Therefore, the Master and Slave Relays are tested during the supported equipment response to a simulated or actual initiation signal in the associated support system Surveillance Requirements at a Frequency of 18 months.

26 ITS SR 3.3.2.7 and SR 3.3.2.11 are not adopted. All TADOTs required by Table 3.3.2-1 are performed in accordance with SR 3.3.2.6 at an 18 month Frequency. SR 3.3.2.7 is not adopted because plant design basis does not include the capability to perform on-line TADOT testing. SR 3.3.2.11 is not adopted because the P-4 interlock is not included in the plant design basis. Subsequent SRs are renumbered accordingly.

27 ITS SR 3.3.2.7 "Note" is not adopted. The Note is unnecessary, because dynamic compensation electronic time constants are not associated with any of the applicable Functions in Table 3.3.2-1.

28 Not used.

29 STS Table 3.3.2-1 Applicable MODES or other specified conditions are modified in certain Functions in ITS Table 3.3.2-1 to reflect current licensing basis. The Applicability of ITS Table 3.3.2-1 Function 1.e, Safety Injection - Steam Line High Differential Pressure Between Steam Header and Steam Lines, is specified as MODES 1 and 2, and MODE 3 when above the pressurizer pressure interlock (2000 psig). The basis for not requiring the OPERABILITY of the Function in MODE 3 when < 2000 psig is to allow the plant to shutdown without a safety injection and is consistent with the CTS. The Applicability of ITS Table 3.3.2-1 Function 2.c, Containment Spray - Containment Pressure High High is specified as MODE 1, 2, 3, and 4 to be consistent with the MODES when containment OPERABILITY is required.

30 Certain ITS Table 3.3.2-1 Functions and/or footnotes are not adopted. Plant design basis does not include capability to perform the particular ESFAS Function, subfunction, or footnote requirement(s), which are not included in current licensing basis. Subsequent functions and footnotes are renumbered accordingly.

31 ITS Table 3.3.2-1 Function 1.e is modified to reflect the ESFAS Function as designed. The High Differential Pressure Between Steam Header and Steam Line Function is designed to provide steam break protection for steam line ruptures upstream of the main steam check valves on single or multiple lines. The differential pressure is sensed as the difference in pressure between the main steam combined header downstream of the main steam check valves and the individual steam lines upstream of the main steam check valves. This change reflects plant specific nomenclature and equipment.

32 Not used.

33 ITS Table 3.3.2-1, Function 2.c, is modified to refer to the Containment Pressure signal that initiates Containment Spray as "Containment Pressure-High High." This Function is actuated by a two-out-of-three logic on two sets of three containment pressure channels (total of six channels). This function also initiates a Main Steam Line Isolation.

34 Not used.

35 Not used.

36 Not used.

37 Not used.

38 ITS Table 3.3.2-1, Function 5, Feedwater Isolation, is modified to reflect that the plant design basis is such that ESFAS does not provide a direct Turbine Trip Function. The Turbine Trip is initiated through the RPS, upon ESFAS actuation.

39 Not used.

40 ITS Table 3.3.2-1, Function 5.b, Steam Generator Water Level-High High signal to Feedwater Isolation, is not adopted. This Function is not classified as an Engineered Safety Feature in the plant design basis and current licensing basis.

41 ITS Table 3.3.2-1, Function 6, Auxiliary Feedwater (AFW) is not adopted as an Engineered Safety Feature. The AFW System is not classified as an Engineered Safety Feature in the plant design basis and current licensing basis. AFW instrumentation and actuation requirements are addressed in a new ITS Specification 3.3.8.

42 The Trip Setpoint and Allowable Value for ITS Table 3.3.2-1 Function 6.b,T_{avg}-Low, are modified from "≥" to "≤." This change is made to be consistent with HBRSEP Unit 2 plant design. The T_{avg}-Low interlock function at HBRSEP automatically enables the permissive signal to the High Steam Flow initiation signal associated with Safety Injection as T_{avg} is increasing. The T_{avg}-Low coincident function may be manually blocked as T_{avg} is decreasing. The automatic enabling of the T_{avg}-Low coincident function should occur prior to reaching normal operating temperature (approximately 575°F) since the T_{avg}-Low permissive is required to be OPERABLE concurrent with the High Steam Flow signal for Safety Injection to actuate on a steam line break. Therefore, the Allowable Value for the T_{avg}-Low interlock function is limited on increasing T_{avg}. The Allowable Value associated with ITS Table 3.3.2-1 Function 1.f, High Steam Flow in Two Steam Lines Coincident with T_{avg}-Low, ensures the T_{avg}-Low permissive cannot be manually blocked while RCS temperature is at a point where rapid depressurization on a steam line break could occur.

43 Not used.

44 The CTS requirements for position indication associated with PORVs, PORV Block valves, and the pressurizer safety valves are retained in ITS Table 3.3.3-1 with OPERABILITY requirements for the single channel

primary position indicator on each valve. The consequence of a failure of relief and safety valves to close is a loss of coolant and depressurization of the RCS. A positive indication of the position of these valves can aid the operator in diagnosing a failure and in taking appropriate corrective action. Thus, the consequences of a failure of these valves can be reduced if the operator can reliably determine that a valve has failed to close. Therefore, these Functions are retained because they were determined to be risk-significant in the plant PRA. A new Condition D, and note to Condition A, is also adopted to address OPERABILITY of single channel Post Accident Monitoring instruments, consistent with current licensing basis. Additionally, other Functions are adopted in accordance with the plant specific Regulatory Guide 1.97 analysis. These Functions include the specific Type A and non-Type A Category 1 parameters.

45 ITS Table 3.3.3-1 is modified to reflect the Type A instruments and non-Type A, Category 1 instruments identified in the plant specific Regulatory Guide 1.97 analysis.

46 ITS Specification 3.3.5 is modified by adding a "Note" to the Applicability which permits blocking the Degraded Voltage Function when starting a reactor coolant pump. This is an exception, consistent with current licensing basis, which applies in all MODES except MODE 1, and is taken to avoid challenging the trip setpoints with the bus voltage dip normally experienced when a large electrical load is placed on the bus.

47 ITS Specification 3.3.5 is modified by adding a new Condition A to address the Loss of Voltage Function, which is a two channel per bus configuration with one-out-of-two logic (either channel can trip the bus). An inoperable Loss of Voltage channel must be placed in bypass, since placing an inoperable channel in "trip" would trip the bus. NUREG-1431, "Standard Technical Specifications - Westinghouse Plants," (i.e, ISTS) Condition A is renumbered as Condition B, and modified to address the Degraded Voltage Function, which is a three channel per bus configuration with two-out-of-three logic. Subsequent Conditions are renumbered accordingly.

In addition, the HBRSEP Unit No. 2 design only includes one loss of Voltage Function and one Degraded Voltage Function. Therefore, the associated Conditions of the ACTIONS are revised accordingly.

48 Not used.

49 Not used.

50 The Frequency for performing ITS SR 3.3.6.3 and SR 3.3.6.5 is changed to 18 months. Plant design basis does not include the capability to perform on-line testing of the Master and Slave Relays. Master Relay

coil continuity is tested as part of the ACTUATION LOGIC TEST, but that is the extent of on-line testing that can be performed routinely on these items. Therefore, the response to a simulated or actual initiation signal in the associated support system Surveillance Requirements at a Frequency of 18 months.

51 Not used.

52 ISTS 3.3.7 Condition A, is modified to refer to Automatic Actuation. Automatic Actuation is the only CREFS actuation Function that has two channels. The only other actuation Function is the Control Room Radiation Monitor channel R-1, which is non-redundant and feeds an actuation signal to both Automatic Actuation trains.

ISTS 3.3.7 Condition B and Table 3.3.7-1 are modified to reflect HBRSEP Unit No. 2 Control Room Emergency Filtration System (CREFS) Actuation Instrumentation design. The HBRSEP Unit No. 2 design for CREFS Actuation Instrumentation only includes one control room radiation monitor. As a result, ISTS 3.3.7 Condition B and Table 3.3.7-1 Function 3.a are revised and ISTS Table 3.3.7-1 Function 3.b are deleted to reflect this design. In addition, the setpoint for the control room radiation monitor is revised to reflect the plant specific setpoint.

53 ITS Specification 3.3.7, Required Action B.1.2 is modified in presentation to be consistent with the presentation style of ITS Specification 3.3.6, Required Actions B.1 and C.2.

54 ISTS 3.3.7 Required Action B.2 is modified to permit placing an inoperable R-1 radiation monitor in trip as an alternative to the other Required Actions. Plant design is such that both CREFS trains cannot be operated simultaneously, since active components (e.g., fans, dampers) are redundant, but passive components (e.g., ductwork) are not. However, placing R-1 in trip will start the preferred CREFS train in the emergency pressurization mode, and line up the redundant CREFS train in a stand-by mode, such that it will start in the emergency pressurization mode upon failure of the operating train. Since ITS 3.3.7 Required Action B.2 is only applicable to the Condition of one radiation monitor inoperable, ITS Required Action B.2 is modified by a Note stating that this Required Action is "Not applicable if two automatic actuation trains are inoperable."

55 ISTS SR 3.3.7.6 is not adopted. Plant design basis does not include a specific Manual Isolation Function, and therefore, there is no Function on which to perform a TADOT. The subsequent SR is renumbered accordingly.

The Frequency for performing ITS SR 3.3.7.4 and SR 3.3.7.5 is changed to 18 months. Plant design basis does not include the capability to perform on-line testing of the Master and Slave Relays. Master Relay

coil continuity is tested as part of the ACTUATION LOGIC TEST, but that is the extent of on-line testing that can be performed routinely on these items. Therefore, the Master and Slave Relays are tested during the supported equipment response to a simulated or actual initiation signal in the associated support system Surveillance Requirements at a Frequency of 18 months.

56 ISTS Specification 3.3.8 is not adopted in the ITS. The Fuel Handling Building Ventilation System design does not include any manual or automatic actuation logic. The system is manually started under administrative control.

57 ISTS Specification 3.3.9 is not adopted in the ITS. Plant design does not include a Boron Dilution Protection System.

58 ITS Specification 3.3.6 is modified to be consistent with the current licensing and design basis as reflected in CTS Table 3.5-4 including the addition of an Applicability column to ISTS Table 3.3.6-1. Actuation on a high radiation signal from the R-11 and R-12 containment monitors is required during purging in accordance with the current licensing basis. Actuation on a high radiation signal from the R-11 or R-12 containment monitors is required during CORE ALTERATIONS and during movement of irradiated fuel assemblies within containment because credit is taken for these instruments in the fuel handling accident. ITS Required Action A.2 requires entry into LCO 3.9.3, "Containment Penetrations," to take Required Actions associated with CORE ALTERATIONS and movement of irradiated fuel. The Applicability of the other Functions of ITS Table 3.3.6-1 are maintained consistent with current licensing basis.

The use of the phrase "During Purging" is added to ISTS Table 3.3.6-1 Functions 3.a and 3.b consistent with the current licensing basis. CTS Table 3.5-4 Item 1.C, Containment Ventilation Isolation Instrumentation, applies to radiation monitoring instrumentation which isolates the containment purge supply and exhaust valves. (The ISTS 3.3.6 reference to "containment purge and exhaust valves" is revised in ITS 3.3.6 to "containment purge supply and exhaust valves" to be consistent with plant specific nomenclature. The reference to the title of the ISTS 3.3.6, Containment Purge and Exhaust Isolation Instrumentation, is also revised to be ITS 3.3.6, Containment Ventilation Isolation Instrumentation, to be consistent with plant specific nomenclature.) The requirements of ITS 3.3.6 are derived from the requirements of CTS Table 3.5-4 Item 1.C. The current plant interpretation is that the function of this instrumentation in CTS Table 3.5-4 Item 1.C is to isolate the containment purge supply and exhaust valves. Normally, these valves are maintained in the closed position as required by ITS SR 3.6.3.1. The only time these valves are open is "During Purging." With these valves in the closed position, the function of the containment ventilation isolation instrumentation is satisfied. Therefore, there is no need for this instrumentation to be OPERABLE in MODES 1, 2, 3, and 4

if purging is not in progress. Since each Containment Radiation Function has only one channel, the change will allow additional time to perform preventative maintenance and testing to ensure the Functions are OPERABLE when required to perform their intended function.

In addition, the ITS 3.3.6 ACTIONS are modified to be consistent with the current licensing basis and design reflected in CTS Table 3.5-4 ACTION 15 as modified by the additional requirements during movement of irradiated fuel in containment and during CORE ALTERATIONS.

59 ISTS Table 3.3.3-1 Note (b) is revised in ITS Table 3.3.3-1 to state "Only one position indication channel is required for penetration flow paths with only one installed automatic containment isolation valve." This change is necessary to ensure only one position indication channel is required for these penetration flow paths since the HBRSEP Unit No. 2 control room contains more than one control room indication channel for some containment isolation valves. The NRC, in their Safety Evaluation for Regulatory Guide 1.97 Conformance for HBRSEP Unit No. 2, dated March 5, 1987, approved the HBRSEP Unit No. 2 position that redundant indication and independent power supplies were not necessary for containment isolation valve position.

ISTS Table 3.3.3-1 Note (c) is revised in ITS Table 3.3.3-1 to state "A channel consists of one core exit thermocouple (CET)." This change is necessary to reflect the current licensing basis as specified in CTS Table 3.5-5. Since Note (c) applies to ITS Table 3.3.3-1 Functions 15, 16, 17, and 18 which require 2 channels per quadrant to be OPERABLE, this change results in requiring 2 CETs per quadrant to be OPERABLE (the same as required by CTS Table 3.5-5 item 13).

The name of ISTS Table 3.3.3-1 Function 13, Steam Generator Water Level (Wide Range), is changed in ITS Table 3.3.3-1 to be consistent with the corresponding HBRSEP Unit No. 2 Function (i.e. (Steam Generator Water Level (Narrow Range)). This change is consistent with the NRC Safety Evaluation for Regulatory Guide 1.97 Conformance for HBRSEP Unit No. 2, dated March 5, 1987.

The number of Required Channels for ISTS Table 3.3.3-1 Functions 3 and 4, RCS Hot Leg Temperature and RCS Cold Leg Temperature, respectively, are revised in ITS Table 3.3.3-1 to reflect the HBRSEP Unit No. 2 plant specific licensing and design basis approved in NRC Safety Evaluation for Regulatory Guide 1.97 Conformance for HBRSEP Unit No. 2, dated March 5, 1987.

60 The Remote Shutdown System Table (ISTS Table 3.3.4-1) is relocated from HBRSEP Unit No. 2 ITS 3.3.4 to the HBRSEP Unit No. 2 ITS Bases. This change is consistent with the provisions of Generic Letter 91-08 for the removal of lists and has been approved for Clinton Power Station (Amendment 68) on that basis.

61 ISTS Table 3.3.6-1 Trip Setpoint values for the Containment Radiation Functions are revised to reflect the current licensing basis in CTS Table 3.5-1. This change adds Note (d) to the Trip Setpoint column in place of specific values. Note (d) states Trip Setpoint shall be in accordance with the methodology described in the Offsite Dose Calculation Manual.

62 Not used.

63 ISTS SR 3.3.5.2 requires a TADOT to be performed on the Loss of Power Diesel Generator Start Instrumentation. ITS SR 3.3.5.1 requires a TADOT to be performed and is modified by a Note that excludes verification of the setpoint. Verification of the setpoint requires a bench calibration since at HBRSEP Unit No. 2 relays are used to perform these functions. The change is acceptable since verification of the setpoint is performed during the CHANNEL CALIBRATION (ITS SR 3.3.5.2), which is performed at the same Frequency as the TADOT.

64 ISTS SR 3.3.3.2 requires a CHANNEL CALIBRATION of the Post Accident Monitoring (PAM) Instrumentation, including the Containment Isolation Valve Position Function. The Containment Isolation Valve Position Function is satisfied by containment isolation valve position indication which is driven by limit switches on the valves. The definition of CHANNEL CALIBRATION cannot be applied to this function, particularily with respect to sensor inputs and cross calibration. The appropriate surveillance for this Function is the performance of a TADOT (ITS SR 3.3.3.3) since it will verify that the containment isolation valve position indication agrees with the actual position of the associated valve. Setpoint verification is excluded from the TADOT since the Containment Isolation Valve Position Indication Function has no associated setpoints. As a result of this change, ITS SR 3.3.3.2 (CHANNEL CALIBRATION) does not apply to the Containment Isolation Valve Position Function and the Note to the SURVEILLANCE REQUIREMENTS is modified to reflect the application of the SRs to the associated Functions of ITS Table 3.3.3-1. A generic change has been submitted.

65 ITS Specification 3.3.1 is modified to incorporate a TADOT (i.e., new SR 3.3.1.14) for ITS Function 17.b, "Low Power Reactor Trips Block, P-7," in lieu of SR 3.3.1.11, which requires a channel calibration for that channel. As stated in the Bases to ITS 3.3.1, "Applicable Safety Analyses, LCO, and Applicability," Section b, "Low Power Reactor Trips Block, P-7," the P-7 interlock is a logic function with train and not channel identity. The change was made because the definition of Channel Calibration to include ". . . the adjustment, as necessary, of the channel so that it responds within the required range and accuracy to known input," cannot be met with a logic function. Therefore, a TADOT is the appropriate surveillance requirement. A generic change has been submitted.

66 ISTS Note 2 to SR 3.3.1.3 is modified to allow 36 hours before SR 3.3.1.3 is required to be performed. Based upon previous plant experience this amount of time is necessary before the NI channels can be adjusted in accordance with the results of a flux map. An approximate time line follows:

TIME (hours)

T=0 Plant power is raised above 15% RTP.

T=7 Plant is stable enough to commence a flux map.

T=10 Flux map is completed.

T=12 The flux map is processed and evaluated to determine that the NI channels are required to be adjusted.

T=17 The flux map(s) for incore/excore calibration is performed.

T=19 Flux map(s) for incore/excore calibration are processed and evaluated.

T=21 I&C Planners have converted incore/excore data into calibration sheets.

T=35 I&C Maintenance technicians install incore/excore calibration.

BASES

(1)

APPLICABLE SAFETY ANALYSES, LCO, and APPLICABILITY (5) (6)

Overtemperature ΔT (continued)

NIS upper and lower power range detectors. If axial peaks are greater than the design limit, as indicated by the difference between the upper and lower NIS power range detectors, the Trip Setpoint is reduced in accordance with Note 1 of Table 3.3.1-1.

Dynamic compensation is included for system piping delays from the core to the temperature measurement system and RTD response time. (17)

The Overtemperature ΔT trip Function is calculated for each loop as described in Note 1 of Table 3.3.1-1. Trip occurs if Overtemperature ΔT is indicated in two loops. ~~At some units, the pressure and temperature signals are used for other control functions. For those units, the actuation logic must be able to withstand an input failure to the control system, which may then require the protection function actuation, and a single failure in the other channels providing the protection function actuation.~~ (18) Insert B 3.1.1-1a Note that this Function also provides a signal to generate a turbine runback prior to reaching the Trip Setpoint. A turbine runback will reduce turbine power and reactor power. A reduction in power will normally alleviate the Overtemperature ΔT condition and may prevent a reactor trip.

The LCO requires all ~~four~~ three channels of the Overtemperature ΔT trip Function to be OPERABLE ~~for two and four loop units (the LCO requires all three channels on the Overtemperature ΔT trip Function to be OPERABLE for three loop units).~~ (19) Note that the Overtemperature ΔT Function receives input from channels shared with other ~~RTS~~ RPS Functions. Failures that affect multiple Functions require entry into the Conditions applicable to all affected Functions.

In MODE 1 or 2, the Overtemperature ΔT trip must be OPERABLE to prevent DNB. In MODE 3, 4, 5, or 6, this trip Function does not have to be OPERABLE because the reactor is not operating and there is insufficient heat production to be concerned about DNB.

(continued)

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The function $\frac{1 + \tau_1 S}{1 + \tau_2 S}$;

is generated by the lead-lag controller for T_{avg} dynamic compensation and $f(\Delta I)$ is a function of the indicated difference between top and bottom detectors of the power-range nuclear ion chambers; with gains to be selected based on measured instrument response during plant startup tests. For every % that $(q_b - q_t)$ exceeds 17%, the Overtemperature ΔT setpoint is reduced by 2.4% and for every % that $(q_t - q_b)$ exceeds 12%, the Overtemperature ΔT setpoint is reduced by 2.4%.

(1)

BASES

APPLICABLE SAFETY ANALYSES, LCO, and APPLICABILITY (continued) (6) (7)

Overpower ΔT

The Overpower ΔT trip Function ensures that protection is provided to ensure the integrity of the fuel (i.e., no fuel pellet melting and less than 1% cladding strain) under all possible overpower conditions. This trip Function also limits the required range of the Overtemperature ΔT trip Function and provides a backup to the Power Range Neutron Flux - High Setpoint trip. The Overpower ΔT trip Function ensures that the allowable heat generation rate (kW/ft) of the fuel is not exceeded. It uses the ΔT of each loop as a measure of reactor power with a setpoint that is automatically varied with the following parameters: (110)

- reactor coolant average temperature - the Trip Setpoint is varied to correct for changes in coolant density and specific heat capacity with changes in coolant temperature; and
- rate of change of reactor coolant average temperature - including dynamic compensation for the delays between the core and the temperature measurement system.
- axial power distribution - f(ΔI), the Trip Setpoint is varied to account for imbalances in the axial power distribution as detected by the NIS upper and lower power range detectors. If axial peaks are greater than the design limit, as indicated by the difference between the upper and lower NIS power range detectors, the Trip Setpoint is reduced in accordance with Note 2 of Table 3.3.1-1.

The Overpower ΔT trip Function is calculated for each loop as per Note 2 of Table 3.3.1-1. Trip occurs if Overpower ΔT is indicated in two loops. Insert B 3.3.1-2a ~~At some units, the temperature signals are used for other control functions. At those units, the actuation logic must be able to withstand an input failure to the control system, which may then require the protection function actuation and a single failure in the remaining channels providing the protection function actuation.~~ (18) Note that this Function also provides a signal to generate a turbine runback prior to reaching the Allowable Value. A turbine runback will reduce turbine power and reactor power. A reduction in power will normally alleviate the Overpower ΔT condition and may prevent a reactor trip.

The LCO requires ~~four channels for two and four loop units (three channels for three loop units)~~ (19) of the Overpower ΔT trip Function to be OPERABLE. Note that the Overpower ΔT trip Function receives input from

(continued)

Supplement 4

Insert B 3.3.1-2a (RPS Instrumentation)

The function $\frac{\tau_3 S}{1 + \tau_3 S}$;

is generated by the lead-lag controller for T_{avg} dynamic compensation and τ_3 is the time constant utilized in the rate-lag controller for T_{avg}.

BASES

(1)

APPLICABLE SAFETY ANALYSES, LCO, and APPLICABILITY

d e. Power Range Neutron Flux, P-10 (continued)

startup or shutdown by the Power Range Neutron Flux – Low and Intermediate Range Neutron Flux reactor trips. In MODE 3, 4, 5, or 6, this Function does not have to be OPERABLE because the reactor is not at power and the Source Range Neutron Flux reactor trip provides core protection.

e f. Turbine Impulse Pressure, P-13 (20)

The Turbine Impulse Pressure, P-13 interlock is actuated Sends a signal to (20) when the pressure in the first stage of the high pressure turbine is greater than approximately 10% of the rated full power pressure. This is determined by one-out-of-two pressure detectors. The LCO requirement for this Function ensures that one of the inputs to the P-7 interlock is available.

The LCO requires two channels of Turbine Impulse Pressure P-13 interlock to be OPERABLE in MODE 1. (20)

The Turbine Impulse Chamber Pressure P-13 channels interlock must be OPERABLE when the turbine generator is operating. The interlock Function is not required OPERABLE in MODE 2, 3, 4, 5, or 6 because the turbine generator is not operating electrically loaded. (20) (31)

18 19. Reactor Trip Breakers

This trip Function applies to the RTBs exclusive of individual trip mechanisms. The LCO requires two OPERABLE trains of trip breakers and bypass breaker. A trip breaker train consists of a all trip breakers associated with a single RTS RPS logic train that are racked in, closed, and capable of supplying power to the CRD System. Thus, the train may consist of the main breaker, bypass breaker, with the associated bypass breaker racked out or removed or main breaker and bypass breaker, depending upon the system configuration. Two OPERABLE trains ensure no single random failure can disable the RTS RPS trip capability from a single train when one train is out of service in accordance with LCO 3.3.1 ACTIONS. (32)

(continued)

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1

BASES

ACTIONS

Q.1 and Q.2 (continued)

next 6 hours. The Completion Time of 6 hours (Required Action Q.1) is reasonable considering that in this Condition, the remaining OPERABLE train is adequate to perform the safety function and given the low probability of an event during this interval. The Completion Time of 6 hours (Required Action Q.2) is reasonable, based on operating experience, to reach MODE 3 from full power in an orderly manner and without challenging unit systems.

The Required Actions have been modified by a Note that allows bypassing one train up to ~~4~~ 12 hours for maintenance or surveillance testing, provided the other train is OPERABLE.

110

R.1 and R.2

Condition R applies to the RTBs in MODES 1 and 2. These actions address the train orientation of the RTS for the RTBs. With one train inoperable, 1 hour is allowed to restore the train to OPERABLE status or the unit must be placed in MODE 3 within the next 6 hours. The Completion Time of 6 hours is reasonable, based on operating experience, to reach MODE 3 from full power in an orderly manner and without challenging unit systems. The 1 hour and 6 hour Completion Times are equal to the time allowed by LCO 3.0.3 for shutdown actions in the event of a complete loss of RTS Function. Placing the unit in MODE 3 removes the requirement for this particular Function.

The Required Actions have been modified by ~~two~~ a Note~~s~~. which ~~Note 1~~ allows one channel to be bypassed for up to ~~2~~ 12 hours for maintenance or surveillance testing, provided the other channel is OPERABLE. ~~Note 2 allows one RTB to be bypassed for up to 2 hours for maintenance on undervoltage or shunt trip mechanisms if the other RTB train is OPERABLE. The 2 hour time limit is justified in Reference 7.~~

110

S.1 and S.2

Condition S applies to the P-6 and P-10 interlocks. With one channel inoperable for one-out-of-two or two-out-of-four coincidence logic, the associated interlock must be verified to be in its required state for the existing unit condition

(continued)

1

BASES

ACTIONS

S.1 and S.2 (continued)

within 1 hour or the unit must be placed in MODE 3 within the next 6 hours. Verifying the interlock status manually accomplishes the interlock's Function. The Completion Time of 1 hour is based on operating experience and the minimum amount of time allowed for manual operator actions. The Completion Time of 6 hours is reasonable, based on operating experience, to reach MODE 3 from full power in an orderly manner and without challenging unit systems. The 1 hour and 6 hour Completion Times are equal to the time allowed by LCO 3.0.3 for shutdown actions in the event of a complete loss of RTS Function.

RPS

37

T.1 and T.2

Turbine Impulse Pressure Inputs

20

Condition T applies to the P-7, P-8, P-9 and P-13 ~~interlocks~~. With one channel inoperable for one-out-of-two or two-out-of-four coincidence logic, the associated interlock must be verified to be in its required state for the existing unit condition within 1 hour or the unit must be placed in MODE 2 within the next 6 hours. These actions are conservative for the case where power level is being raised. Verifying the interlock status manually accomplishes the interlock's Function. The Completion Time of 1 hour is based on operating experience and the minimum amount of time allowed for manual operator actions. The Completion Time of 6 hours is reasonable, based on operating experience, to reach MODE 2 from full power in an orderly manner and without challenging unit systems.

U.1, U.2.1, and U.2.2

Condition U applies to the RTB Undervoltage and Shunt Trip Mechanisms, or diverse trip features, in MODES 1 and 2. With one of the diverse trip features inoperable, it must be restored to an OPERABLE status within 48 hours or the unit must be placed in a MODE where the requirement does not apply. This is accomplished by placing the unit in MODE 3 within the next 6 hours (54 hours total time) followed by opening the RTBs in 1 additional hour (55 hours total time). The Completion Time of 6 hours is a reasonable time, based on operating experience, to reach MODE 3 from full power in an orderly manner and without challenging unit systems.

(continued)

1

BASES

ACTIONS

U.1, U.2.1, and U.2.2 (continued)

With the RTBs open and the unit in MODE 3, this trip Function is no longer required to be OPERABLE. The affected RTB ~~shall~~ Should not be bypassed while one of the diverse features is inoperable except for the time required to perform maintenance to one of the diverse features. The allowable time for performing maintenance ~~on~~ the diverse features ~~is~~ or surveillance testing ~~2~~ 12 hours for the reasons stated under Condition R. 34 1K

The Completion Time of 48 hours for Required Action U.1 is reasonable considering that in this Condition there is one remaining diverse feature for the affected RTB, and one OPERABLE RTB capable of performing the safety function and given the low probability of an event occurring during this interval.

V.1

With two ~~RTS~~ RPS trains inoperable, no automatic capability is available to shut down the reactor, and immediate plant shutdown in accordance with LCO 3.0.3 is required.

SURVEILLANCE REQUIREMENTS

The SRs for each ~~RTS~~ RPS Function are identified by the SRs column of Table 3.3.1-1 for that Function.

A Note has been added to the SR Table stating that Table 3.3.1-1 determines which SRs apply to which ~~RTS~~ RPS Functions.

Note that each channel of process protection supplies both trains of the ~~RTS~~ RPS. When testing Channel I, Train A and Train B must be examined. Similarly, Train A and Train B must be examined when testing Channel II, Channel III, and Channel IV (if applicable). The CHANNEL CALIBRATION and COTs are performed in a manner that is consistent with the assumptions used in analytically calculating the required channel accuracies.

~~Reviewer's Note: Certain Frequencies are based on approval topical reports. In order for a licensee to use these times, the licensee must justify the Frequencies as required by the staff SER for the topical report.~~

(continued)

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BASES

1

SURVEILLANCE REQUIREMENTS

SR 3.3.1.2 (continued)

allowed for performing the first Surveillance after reaching 15% RTP. At lower power levels, calorimetric data are inaccurate.

The Frequency of every 24 hours is adequate. It is based on unit operating experience, considering instrument reliability and operating history data for instrument drift. Together these factors demonstrate the change in the absolute difference between NIS and heat balance calculated powers rarely exceeds 2% in any 24 hour period.

In addition, control room operators periodically monitor redundant indications and alarms to detect deviations in channel outputs.

SR 3.3.1.3

SR 3.3.1.3 compares the incore system to the NIS channel output every 31 EFPD. If the absolute difference is ≥ 3%, the NIS channel is still OPERABLE, but must be readjusted.

If the NIS channel cannot be properly readjusted, the channel is declared inoperable. This Surveillance is performed to verify the f(ΔI) input to the overtemperature ΔT Function. 38 and Overpower 5

Two Notes modify SR 3.3.1.3. Note 1 indicates that the excore NIS channel shall be adjusted if the absolute difference between the incore and excore AFD is ≥ 3%. Note 2 clarifies that the Surveillance is required only if reactor power is ≥ 15% RTP and that 24 hours is allowed for performing the first Surveillance after reaching 15% RTP. 36 36

The Frequency of every 31 EFPD is adequate. It is based on ~~unit~~ industry operating experience, considering instrument reliability and operating history data for instrument drift. Also, the slow changes in neutron flux during the fuel cycle can be detected during this interval. 34

(continued)

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1

BASES

SURVEILLANCE REQUIREMENTS

SR 3.3.1.11 (continued)

plateau or preamp discriminator curves, evaluating those curves, and comparing the curves to the manufacturer's data. This Surveillance is not required for the NIS power range detectors for entry into MODE 2 or 1, and is not required for the NIS intermediate range detectors for entry into MODE 2, because the unit must be in at least MODE 2 to perform the test for the intermediate range detectors and MODE 1 for the power range detectors. The [18] month Frequency is based on ~~the need to perform this Surveillance under the conditions that apply during a plant outage and the potential for an unplanned transient if the Surveillance were performed with the reactor at power.~~ Operating experience has shown these components usually pass the Surveillance when performed on the [18] month Frequency.

INSERT B 3.3.1-7

40

SR 3.3.1.12

SR 3.3.1.12 is the performance of a CHANNEL CALIBRATION, as described in SR 3.3.1.10, every [18] months. This SR is modified by a Note stating that this test shall include ~~verification of the RCS resistance temperature detector (RTD) bypass loop flow rate.~~

INSERT B 3.3.1-8

17

~~This test will verify the rate lag compensation for flow from the core to the RTDs.~~

For Table 3.3.1-1 Functions 5 and 6, the CHANNEL CALIBRATION shall include a narrow range RTD cross calibration.

The Frequency is justified by the assumption of an 18 month calibration interval in the determination of the magnitude of equipment drift in the setpoint analysis.

SR 3.3.1.13

SR 3.3.1.13 is the performance of a COT of ~~RTS~~ RPS interlocks every [18] months.

The Frequency is based on the known reliability of the interlocks and the multichannel redundancy available, and has been shown to be acceptable through operating experience.

18

(continued)

Supplement 4

ITS Insert B 3.3.1-7 (RPS Instrumentation)

industry operating experience, considering instrument reliability and operating history data.

ITS Insert B 3.3.1-8 (RPS Instrumentation)

electronic dynamic compensation time constants and the RTD response time constants. The RCS narrow range temperature sensors response time shall be ≤ a 4.0 second lag time constant.

BASES

1

SURVEILLANCE REQUIREMENTS (continued)

SR 3.3.1.14

and the P-7 interlock 110

SR 3.3.1.14 is the performance of a TADOT of the Manual Reactor Trip. RCP Breaker Position. and the SI Input from ESFAS. This TADOT is performed every (18) months. The test shall independently verify the OPERABILITY of the undervoltage and shunt trip mechanisms for the Manual Reactor Trip Function for the the undervoltage trip mechanism for the Reactor Trip Breakers and Reactor Trip Bypass Breakers. ~~The Reactor Trip Bypass Breaker test shall include testing of the automatic undervoltage trip.~~ 41

The test shall also independently verify the OPERABILITY of the low power reactor trips block from the Power Range Neutron Flux (P-10) interlock and turbine first stage pressure. The TADOT verifies that when either the Turbine Impulse ~~inputs~~ or the Power Range Neutron Flux (P-10) interlock engage, reactor trips that are blocked by P-7 are enabled. 110

The Frequency is based on the known reliability of the Functions and the multichannel redundancy available. and has been shown to be acceptable through operating experience.

The SR is modified by a Note that excludes verification of setpoints from the TADOT. The Functions affected have no setpoints associated with them.

SR 3.3.1.15

SR 3.3.1.15 is the performance of a TADOT of Turbine Trip Functions. This TADOT is as described in SR 3.3.1.4. except that this test is performed prior to reactor startup. A Note states that this Surveillance is not required if it has been performed within the previous 31 days. Verification of the Trip Setpoint does not have to be performed for this Surveillance. Performance of this test will ensure that the turbine trip Function is OPERABLE prior to taking the reactor critical. This test cannot be performed with the reactor at power and must therefore be performed prior to reactor startup.

~~SR 3.3.1.16~~

~~SR 3.3.1.16 verifies that the individual channel/train actuation response times are less than or equal to the maximum values assumed in the accident analysis. Response time testing acceptance criteria are included in Technical Requirements Manual. Section 15 (Ref. 8). Individual component response times are not modeled in the analyses~~ 42

(continued)

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1

BASES

APPLICABLE SAFETY ANALYSES, LCO, and APPLICABILITY

f. g. Safety Injection - High Steam Flow in Two Steam Lines Coincident With T_{avg} - Low (LL) or Coincident With Steam Line Pressure - Low (continued)

~~The Allowable Value for high steam flow is a linear function that varies with power level. The function is a ΔP corresponding to 44% of full steam flow between 0% and 20% load to 114% of full steam flow at 100% load. The nominal trip setpoint is similarly calculated.~~ 59

~~With the transmitters typically located inside the containment (T_{avg}) or inside the steam tunnels (High Steam Flow), it is possible for them to experience adverse steady state environmental conditions during an SLB event. Therefore, the Trip Setpoint reflects both steady state and adverse environmental instrument uncertainties.~~ The Steam Line Pressure - Low signal was discussed previously under Function 1.e.(1). 60

118 and MODE 3

This Function must be OPERABLE in MODES 1, 2, and 3 above P-12 when a secondary side break or stuck open valve could result in the rapid depressurization of the steam line(s). This signal may be manually blocked by the operator when below the P-12 setpoint. Above P-12, this Function is automatically unblocked. This Function is not required OPERABLE below P-12 because the reactor is not critical, ~~so feed line break is not a concern~~. SLB may be addressed by Containment Pressure High (inside containment) or by High Steam Flow in Two Steam Lines coincident with Steam Line Pressure - Low, for Steam Line Isolation, followed by High Differential Pressure Between Two Steam Lines, for SI. This Function is not required to be OPERABLE in MODE 4, 5, or 6 because there is insufficient energy in the secondary side of the unit to cause an accident. 50

Tavg - Low interlock setpoint

low Tavg

543°F

61

the steam header and one 52

3 (with Tavg < 543°F) 61

(continued)

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1

BASES

APPLICABLE SAFETY ANALYSES, LCO, and APPLICABILITY (continued)

c. Containment Spray - Containment Pressure

This signal provides protection against a LOCA or an SLB inside containment. The transmitters (d/p cells) are located outside of containment with the sensing line (high pressure side of the transmitter) located inside containment. The transmitters and electronics are located outside of containment. Thus, they will not experience any adverse environmental conditions and the Trip Setpoint reflects only steady state instrument uncertainties.

65

This is one of the only Functions that requires the bistable output to energize to perform its required action. It is not desirable to have a loss of power actuate containment spray, since the consequences of an inadvertent actuation of containment spray could be serious. INSERT B 3.3.2-5 Note that this Function ~~also has the inoperable channel placed in bypass rather than trip~~ INSERT B 3.3.2-4 to decrease the probability of an inadvertent actuation. 67 66

~~Two different logic configurations are typically used. Three and four loop units use four channels in a two-out-of-four logic configuration. This configuration may be called the Containment Pressure - High 3 Setpoint for three and four loop units, and Containment Pressure - High High Setpoint for other units. Some two loop units use three sets of two channels, each set combined in a one-out-of-two configuration, with these outputs combined so that two-out-of-three sets tripped initiates containment spray. This configuration is called Containment Pressure - High 3 Setpoint. Since containment pressure is not used for control, both of these arrangements exceed the minimum redundancy requirements.~~ 67 ~~Additional redundancy is warranted because this Function is energize to trip.~~ 18 Containment Pressure - ~~[High 3]~~ [High High] must be OPERABLE in MODES 1, ~~2, and 3~~ 3, and 4 when there is sufficient energy in the primary and secondary sides to pressurize the containment following a pipe break. In MODES ~~4~~, 5, and 6, there is insufficient energy in the primary and secondary 48

(continued)

ITS Insert B 3.3.2-4 (ESFAS Instrumentation)

... has the requirement that no more than one channel is permitted to be placed in trip ...

ITS Insert B 3.3.2-5 (ESFAS Instrumentation)

Therefore, two-out-of-three logic, on two sets of three (total of six channels), is used to generate the Containment Pressure - High High signal.

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BASES

APPLICABLE SAFETY ANALYSES, LCO, and APPLICABILITY

3. Containment Isolation (continued)

actuation of Phase A Containment Isolation also actuates Containment ~~Purge and Exhaust~~ Ventilation Isolation.

The Phase B signal isolates CCW and RCP seal water return. This occurs at a relatively high containment pressure that is indicative of a large break LOCA or an SLB. For these events, forced circulation using the RCPs is no longer desirable. ~~Isolating the CCW at the higher pressure does not pose a challenge to the containment boundary because the CCW System is a closed loop inside containment. Although some system components do not meet all of the ASME Code requirements applied to the containment itself, the system is continuously pressurized to a pressure greater than the Phase B setpoint. Thus, routine operation demonstrates the integrity of the system pressure boundary for pressures exceeding the Phase B setpoint. Furthermore, because system pressure exceeds the Phase B setpoint, any system leakage prior to initiation of Phase B isolation would be into containment. Therefore, the combination of CCW System design and Phase B isolation ensures the CCW System is not a potential path for radioactive release from containment.~~

Both the CCW and RCP Seal water return penetrations are classified as essential penetrations in the UFSAR, Section 6.2.4 (Ref. 7). The RCP seal water return valves are isolated after the associated RCP is shut down.

Phase B containment isolation is actuated by ~~Containment Pressure - High 3 or~~ Containment Pressure - High High, or manually, ~~via the automatic actuation logic~~, as previously discussed. For containment pressure to reach a value high enough to actuate ~~Containment Pressure - High 3 or~~ Containment Pressure - High High, a large break LOCA or SLB must have occurred ~~and containment spray must have been actuated~~. RCP operation will no longer be required and CCW to the RCPs is, therefore, no longer necessary. The RCPs can be operated with seal injection flow alone and without CCW flow to the thermal barrier heat exchanger. 18

Manual Phase B Containment Isolation is accomplished by the same ~~switches~~ pushbuttons that actuate Containment Spray. When the two ~~switches in either set are turned~~ pushbuttons are depressed simultaneously, Phase B Containment Isolation and Containment Ventilation Isolation, Containment Spray will be actuated in both trains. 10

(continued)

1

BASES

APPLICABLE SAFETY ANALYSES, LCO, and APPLICABILITY (continued)

b. Steam Line Isolation - Automatic Actuation Logic and Actuation Relays

Automatic actuation logic and actuation relays consist of the same features and operate in the same manner as described for ESFAS Function 1.b.

Manual and automatic initiation of steam line isolation must be OPERABLE in MODES 1, 2, and 3 when there is sufficient energy in the RCS and SGs to have an SLB or other accident. This could result in the release of significant quantities of energy and cause a cooldown of the primary system. The Steam Line Isolation Function is required in MODES 2 and 3 unless all MSIVs are closed ~~and [de-activated]~~. In MODES 4, 5, and 6, there is insufficient energy in the RCS and SGs to experience an SLB or other accident releasing significant quantities of energy.

c. Steam Line Isolation - Containment Pressure - High ~~2~~ High

This Function actuates closure of the MSIVs in the event of a LOCA or an SLB inside containment to maintain at least one unfaulted SG as a heat sink for the reactor, and to limit the mass and energy release to containment. ~~The transmitters (d/p cells) are located outside containment with the sensing line (high pressure side of the transmitter) located inside containment. Containment Pressure - High 2 provides no input to any control functions. Thus, three OPERABLE channels are sufficient to satisfy protective requirements with two-out-of-three logic. However, for enhanced reliability, this Function was designed with four channels and a two-out-of-four logic. The transmitters and electronics are located outside of containment. Thus, they will not experience any adverse environmental conditions, and the Trip Setpoint reflects only steady state instrument uncertainties.~~

Actuation logic is discussed under "Containment Spray - Containment Pressure," Function 2.c.

71

Containment Pressure - High ~~2~~ High must be OPERABLE in MODES 1, 2, and 3, when there is sufficient energy in the primary and secondary side to pressurize the containment following a pipe

(continued)

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1

BASES

APPLICABLE SAFETY ANALYSES, LCO, and APPLICABILITY

c. Steam Line Isolation - Containment Pressure - High ~~2~~ High
(continued)

break. This would cause a significant increase in the containment pressure, thus allowing detection and closure of the MSIVs. The Steam Line Isolation Function remains OPERABLE in MODES 2 and 3 unless all MSIVs are closed ~~and~~ ~~de-activated~~. In MODES 4, 5, and 6, there is not enough energy in the primary and secondary sides to pressurize the containment to the Containment Pressure - High ~~2~~ High setpoint. 118

d. ~~Steam Line Isolation - Steam Line Pressure~~

~~(1) Steam Line Pressure - Low~~

~~Steam Line Pressure - Low provides closure of the MSIVs in the event of an SLB to maintain at least one unfaulted SG as a heat sink for the reactor, and to limit the mass and energy release to containment. This Function provides closure of the MSIVs in the event of a feed line break to ensure a supply of steam for the turbine driven AFW pump. Steam Line Pressure - Low was discussed previously under SI Function 1.e.1.~~ 51

~~Steam Line Pressure - Low Function must be OPERABLE in MODES 1, 2, and 3 (above P-11), with any main steam valve open, when a secondary side break or stuck open valve could result in the rapid depressurization of the steam lines. This signal may be manually blocked by the operator below the P-11 setpoint. Below P-11, an inside containment SLB will be terminated by automatic actuation via Containment Pressure - High 2. Stuck valve transients and outside containment SLBs will be terminated by the Steam Line Pressure - Negative Rate - High signal for Steam Line Isolation below P-11 when SI has been manually blocked. The Steam Line Isolation Function is required in MODES 2~~

(continued)

Supplement 4

BASES (continued)

1 110

ACTIONS

A Note 1 has been added in the ACTIONS to clarify the application of Completion Time rules. The Conditions of this Specification may be entered independently for each Function listed on Table 3.3.2-1. INSERT B 3.3.2-9

In the event a channel's Trip Setpoint is found nonconservative with respect to the Allowable Value, or the transmitter, instrument Loop, signal processing electronics, or bistable is found inoperable, then all affected Functions provided by that channel must be declared inoperable and the LCO Condition(s) entered for the protection Function(s) affected. When the Required Channels in Table 3.3.2-1 are specified (e.g., on a per steam line, per loop, per SG, etc., basis), then the Condition may be entered separately for each steam line, loop, SG, etc., as appropriate.

When the number of inoperable channels in a trip function exceed those specified in one or other related Conditions associated with a trip function, then the unit is outside the safety analysis. Therefore, LCO 3.0.3 should be immediately entered if applicable in the current MODE of operation.

[~~Reviewer's Note: Certain LCO Completion Times are based on approved topical reports. In order for a licensee to use these times, the licensee must justify the Completion Times as required by the staff Safety Evaluation Report (SER) for the topical report.~~]

A.1

Condition A applies to all ESFAS protection functions.

Condition A addresses the situation where one or more channels or trains for one or more Functions are inoperable at the same time. The Required Action is to refer to Table 3.3.2-1 and to take the Required Actions for the protection functions affected. The Completion Times are those from the referenced Conditions and Required Actions.

(continued)

ITS Insert B 3.3.2-9 (ESFAS Instrumentation)

Due to the plant design, maintenance or testing of a single channel can not be performed without causing all channels of the associated Function to be inoperable. In many cases, maintenance or testing will also cause the associated train to be inoperable. Therefore, Note 2 has been added in the ACTIONS to permit a single train to be inoperable for the purpose of maintenance for up to 12 hours provided the redundant train is OPERABLE. Note 2 to the Surveillance Requirements provides a 6 hour allowance for the performance of surveillance tests. If maintenance is required as a result of a failed surveillance test, Note 2 to LCO 3.3.2 ACTIONS is applicable and the delay period will begin upon completion of the surveillance test or expiration of the 6 hour testing allowance, whichever is less.

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BASES

ACTIONS (continued)

E.1, E.2.1, and E.2.2

Condition E applies to:

Safety Injection

- ~~Containment Spray~~ Containment Pressure – High ~~3 (High High) (two, three, and four loop units)~~; and 80

Spray

- Containment ~~Phase B Isolation~~ Containment Pressure – ~~High 3 (~~High, High~~)~~.

None of these signals has input to a control function. Thus, two-out-of-three logic is necessary to meet acceptable protective requirements. However, a two-out-of-three design would require tripping a failed channel. This is undesirable because a single failure would then cause spurious containment spray initiation. Spurious spray actuation is undesirable because of the cleanup problems presented. Therefore, these channels are designed with ~~two-out-of-four logic so that a failed channel may be bypassed rather than tripped. Note that one channel may be bypassed and still satisfy the single failure criterion. Furthermore, with one channel bypassed, a single instrumentation channel failure will not spuriously initiate containment spray~~.

INSERT B3.3.2-10 66

To avoid the inadvertent actuation of containment spray and Phase B containment isolation, ~~the inoperable channel should not be placed in the tripped condition. Instead it is bypassed.~~ Restoring the channel to OPERABLE status, or placing the inoperable channel in ~~the bypass condition~~ trip within 6 hours, is sufficient to assure that the Function remains OPERABLE and minimizes the time that the Function may be in a partial trip condition (assuming the inoperable channel has failed high). The Completion Time is further justified based on the low probability of an event occurring during this interval. Failure to restore the inoperable channel to OPERABLE status, or place it in ~~the bypassed condition~~ trip within 6 hours, requires the unit be placed in MODE 3 within the following 6 hours, ~~and~~ MODE 4 within the next 6 hours, and MODE 5 within the next 24 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required unit conditions from full power conditions in an orderly manner and without challenging unit systems. In MODE ~~4~~ 5 these Functions are no longer required OPERABLE.

INSERT B3.3.2-11 66

48

(continued)

Supplement 4

1

BASES

ACTIONS

E.1. E.2.1. and E.2.2 (continued)

~~The Required Actions are modified by a Note that allows one additional channel to be bypassed for up to [4] hours for surveillance testing. Placing a second channel in the bypass condition for up to 4 hours for testing purposes is acceptable based on the results of Reference 8.~~ 66

F.1. F.2.1. and F.2.2

Condition F applies to:

- Manual Initiation of Steam Line Isolation;
- ~~Loss of Offsite Power;~~
- ~~Auxiliary Feedwater Pump Suction Transfer on Suction Pressure - Low; and~~ 76
- ~~P-4 Interlock.~~ 74

For the Manual Initiation ~~and the P-4 Interlock~~ Function~~s~~ this action addresses the train orientation of the ~~SSPS~~ relay logic. 3 ~~For the Loss of Offsite Power Function, this action recognizes the lack of manual trip provision for a failed channel. For the AFW System pump suction transfer channels, this action recognizes that placing a failed channel in trip during operation is not necessarily a conservative action. Spurious trip of this function could align the AFW System to a source that is not immediately capable of supporting pump suction.~~ 76 If a train or channel is inoperable, 48 hours ~~are~~ is allowed to return it to OPERABLE status. The specified Completion Time is reasonable considering the nature of ~~these~~ this Function~~s~~, the available redundancy, and the low probability of an event occurring during this interval. If the Function cannot be returned to OPERABLE status, the unit must be placed in MODE 3 within the next 6 hours and MODE 4 within the following 6 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required unit conditions from full power in an orderly manner and without challenging unit systems. In MODE 4, the unit does not have any analyzed transients or conditions that require the explicit use of the protection functions noted above.

(continued)

Supplement 4

ITS Insert B 3.3.2-12 (ESFAS Instrumentation)

Not used.

BASES

(1)

ACTIONS (H) H.1, H.2.1 and H.2.2 (continued)

LCO 3.0.3 to initiate shutdown actions in the event of a complete loss of ESFAS function. If the interlock is not in the required state (or placed in the required state) for the existing unit condition, the unit must be placed in MODE 3 within the next 6 hours and MODE 4 within the following 6 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required unit conditions from full power conditions in an orderly manner and without challenging unit systems. Placing the unit in MODE 4 removes all requirements for OPERABILITY of these interlocks.

INSERT B 3.3.2-13 (78)

SURVEILLANCE REQUIREMENTS

The SRs for each ESFAS Function are identified by the SRs column of Table 3.3.2-1.

(Note 1)

A Note has been added to the SR Table to clarify that Table 3.3.2-1 determines which SRs apply to which ESFAS Functions.

(110)

INSERT B 3.3.2-13a

Note that each channel of process protection supplies both trains of the ESFAS. When testing channel I, train A and train B must be examined. Similarly, train A and train B must be examined when testing channel II, channel III, and channel IV (if applicable). The CHANNEL CALIBRATION and COTs are performed in a manner that is consistent with the assumptions used in analytically calculating the required channel accuracies.

~~[Reviewer's Note: Certain Frequencies are based on approved topical reports. In order for a licensee to use these times, the licensee must justify the Frequencies as required by the staff SER for the topical report.]~~

SR 3.3.2.1

Performance of the CHANNEL CHECK once every 12 hours ensures that a gross failure of instrumentation has not occurred. A CHANNEL CHECK is normally a comparison of the parameter indicated on one channel to a similar parameter on other channels. It is based on the assumption that instrument channels monitoring the same parameter should read

(continued)

ITS Insert B 3.3.2-13a (ESFAS Instrumentation)

The Surveillances are also modified by Note 2 to indicate that when a channel is placed in an inoperable status solely for the performance of required Surveillances, entry into associated Conditions and Required Actions may be delayed for up to 6 hours provided the redundant ESFAS train is OPERABLE. Upon completion of the Surveillance or expiration of the 6 hour allowance, the channel must be returned to OPERABLE status or the applicable Condition entered and the Required Actions performed. If maintenance is to be subsequently performed as a result of a failed surveillance test, Note 2 to LCO 3.3.2 ACTIONS is applicable and the delay period will begin upon completion of the surveillance test or expiration of the 6 hour testing allowance, whichever is less. Note 2 to the Surveillance Requirements is based on operating history which has shown that 6 hours is generally the time required to perform the channel surveillance with additional time to allow for short term plant changes or verification of any abnormal responses. This 6 hour testing allowance does not significantly reduce the probability that the ESFAS will initiate when necessary.

ITS Insert B 3.3.2-14 (ESFAS Instrumentation)

The master relay is actuated by either a manual or automatic initiation of the function being tested. Contact operation is verified either by a continuity check of the circuit containing the master relay or proper operation of the end device during the supported equipment simulated or actual automatic actuation test. This test is performed every 18 months. The 18 month Frequency is adequate, based on industry operating experience, and is consistent with the typical refueling cycle, which provides the plant conditions necessary for testing.

ITS Insert B 3.3.2-15 (ESFAS Instrumentation)

... with the exception of the transmitter sensing device.

... either by a continuity check of the circuit containing the slave relay, or by verification of proper operation of the end device during supported equipment simulated or actual automatic actuation test. This test is performed every 18 months. The 18 month Frequency is adequate, based on industry operating experience, and is consistent with the typical refueling cycle, which provides the plant conditions necessary for testing.

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BASES

SURVEILLANCE REQUIREMENTS

SR 3.3.2.11 (continued)

~~Trip Interlock, and the Frequency is once per RTB cycle. This Frequency is based on operating experience demonstrating that undetected failure of the P-4 interlock sometimes occurs when the RTB is cycled.~~

~~The SR is modified by a Note that excludes verification of setpoints during the TADOT. The Function tested has no associated setpoint.~~

85

REFERENCES

U

1. FSAR, Chapter (6).
2. FSAR, Chapter (7).
3. FSAR, Chapter (15).

4. UFSAR, Section 3.1

5. ~~4.~~ IEEE-279-~~1971~~ 1968.
6. ~~5.~~ 10 CFR 50.49.
~~6. RTS/ESFAS Setpoint Methodology Study.~~
~~7. NUREG-1218, April 1988.~~
8. WCAP-10271-P-A, Supplement 2, Rev. 1, June 1990.
~~9. Technical Requirements Manual, Section 15, "Response Times."~~

7. UFSAR, Section 6.2.4.

ITS Insert B 3.3.2-17 (ESFAS Instrumentation)

Not used.

BASES

1

LCO (continued)

10. Containment Area Radiation (High Range)

Containment Area Radiation is provided to monitor for the potential of significant radiation releases and to provide release assessment for use by operators in determining the need to invoke site emergency plans. Containment radiation level is used to determine ~~if a~~ that the type of high energy line break (HELB) has occurred ~~and whether the event is~~ inside ~~or outside of~~ containment.

11. Hydrogen Monitors

Hydrogen Monitors are provided to detect high hydrogen concentration conditions that represent a potential for containment breach from a hydrogen explosion. This variable is also important in verifying the adequacy of mitigating actions.

12. Pressurizer Level

Pressurizer Level is used to determine whether to terminate SI, if still in progress, or to reinitiate SI if it has been stopped. Knowledge of pressurizer water level is also used to verify the unit conditions necessary to establish natural circulation in the RCS and to verify that the unit is maintained in a safe shutdown condition.

13. Steam Generator Water Level (~~Wide~~ Narrow Range)

SG Water Level is provided to monitor operation of decay heat removal via the SGs. ~~The Category I indication of SG level is the extended startup range level instrumentation. The extended startup range level covers a span of ≥ 6 inches to ≤ 394 inches above the lower tubesheet. The measured differential pressure is displayed in inches of water at 68°F.~~

~~Temperature compensation of this indication is performed manually by the operator.~~ Redundant monitoring capability is provided by ~~two trains of instrumentation~~ two channels per SG. The ~~uncompensated~~ level signal is

18

(continued)

BASES

1

LCO

14. Condensate Storage Tank (CST) Level (continued)

15 ~~annunciator are~~ considered the primary indication used by the operator.

The DBAs that require AFW are the loss of electric power, steam line break (SLB), and small break LOCA.

The CST is the initial source of water for the AFW System. However, as the CST is depleted, manual operator action is necessary to replenish the CST or align suction to the AFW pumps from the ~~hotwell~~. Service Water System

15, 16, 17, 18. Core Exit Temperature

Core Exit Temperature is provided for verification and long term surveillance of core cooling.

~~An evaluation was made of the minimum number of valid core exit thermocouples (CET) necessary for measuring core cooling. The evaluation determined the reduced complement of CETs necessary to detect initial core recovery and trend the ensuing core heatup. The evaluations account for core nonuniformities, including incore effects of the radial decay power distribution, excore effects of condensate runback in the hot legs, and nonuniform inlet temperatures.~~ Based on these evaluations, adequate core cooling is ensured with two valid Core Exit Temperature channels per quadrant with ~~two CETs~~ one core exit thermocouple per required channel. (Ref. 4) ~~The CET pair are oriented radially to permit evaluation of core radial decay power distribution.~~ 18 Core Exit Temperature is used to determine whether to terminate SI, if still in progress, or to reinitiate SI if it has been stopped. Core Exit Temperature is also used for unit stabilization and cooldown control.

Two OPERABLE channels of Core Exit Temperature are required in each quadrant to provide indication of radial distribution of the coolant temperature rise across representative regions of the core. Power distribution symmetry was considered in determining the specific number and locations provided for diagnosis of local core problems. INSERT B3.3.3-4 ~~Therefore, two randomly selected thermocouples are not sufficient to~~

(continued)

Supplement 4

BASES

1

ACTIONS (continued)

A.1

93

Condition A is modified by a Note that excludes certain PAM Functions since each of these Functions has only one channel. Condition D provides appropriate Required Actions for PAM Functions that have only one channel with that channel inoperable.

Condition A applies when one or more Functions have one required channel that is inoperable. Required Action A.1 requires restoring the inoperable channel to OPERABLE status within 30 days. The 30 day Completion Time is based on operating experience and takes into account the remaining OPERABLE channel (or in the case of a Function that has only one required channel, other non-Regulatory Guide 1.97 instrument channels to monitor the Function), the passive nature of the instrument (no critical automatic action is assumed to occur from these instruments), and the low probability of an event requiring PAM instrumentation during this interval.

B.1

Condition B applies when the Required Action and associated Completion Time for Condition A are not met. This Required Action specifies initiation of actions in Specification 5.6.[illegible], which requires a written report to be submitted to the NRC immediately. This report discusses the results of the root cause evaluation of the inoperability and identifies proposed restorative actions. This action is appropriate in lieu of a shutdown requirement since alternative actions are identified before loss of functional capability, and given the likelihood of unit conditions that would require information provided by this instrumentation.

6

C.1

Condition C applies when one or more Functions have two inoperable required channels (i.e., two channels inoperable in the same Function). Required Action C.1 requires restoring one channel in the Function(s) to OPERABLE status within 7 days. The Completion Time of 7 days is based on the relatively low probability of an event requiring PAM instrument operation and the availability of alternate means to obtain the required information. Continuous operation with two required channels inoperable in a Function is not acceptable because the alternate indications may not fully meet all performance qualification requirements applied to the PAM instrumentation. Therefore, requiring restoration

(continued)

Supplement 4

D.1

Condition D applies when one or more Functions, which have single, non-redundant position indication channels, have one required channel inoperable. Required Action D.1 requires that channel be restored to OPERABLE status within 7 days. The Completion Time of 7 days is based on the relatively low probability of an event requiring PAM instrument operation and the availability of alternate means to obtain the required information. Continuous operation with the required position indication channel inoperable is not acceptable because the alternate indications may not fully meet all performance qualification requirements applied to the PAM instrumentation. Therefore, requiring restoration of the inoperable channel limits the risk that the PAM Function will be in a degraded condition should an accident occur. Condition D is modified by a Note that excludes PAM Functions that have two or more required channels. Condition A provides appropriate Required Actions for PAM Functions that have two or more channels with one channel inoperable.

BASES

1

ACTIONS

G ~~F~~.1 and ~~F~~.2 (continued)

from full power conditions in an orderly manner and without challenging unit systems.

H ~~G~~.1

INSERT B 3.3.3-8

~~At this unit, alternate means of monitoring Reactor Vessel Water Level and Containment Area Radiation have been developed and tested.~~ These alternate means may be temporarily installed if the normal PAM channel cannot be restored to OPERABLE status within the allotted time. If these alternate means are used, the Required Action is not to shut down the unit but rather to follow the directions of Specification 5.6.~~8~~ 6 in the Administrative Controls section of the TS. The report provided to the NRC should discuss the alternate means used, describe the degree to which the alternate means are equivalent to the installed PAM channels, justify the areas in which they are not equivalent, and provide a schedule for restoring the normal PAM channels. 18

SURVEILLANCE REQUIREMENTS

A Note has been added to ~~the SR Table~~ 2 to clarify that SR 3.3.3.1 and SR 3.3.3.~~3~~ ~~apply~~ applies to each PAM instrumentation Function in Table 3.3.3-1 except Function 9, Containment Isolation Valve Position; SR 3.3.3.3 applies only to Function 9. 110 110

Applies to each PAM instrumentation Function in Table 3.3.3-1

SR 3.3.3.1

Performance of the CHANNEL CHECK once every 31 days ensures that a gross instrumentation failure has not occurred. A CHANNEL CHECK is normally a comparison of the parameter indicated on one channel to a similar parameter on other channels. It is based on the assumption that instrument channels monitoring the same parameter should read approximately the same value. Significant deviations between the two instrument channels could be an indication of excessive instrument drift in one of the channels or of something even more serious. A CHANNEL CHECK will detect gross channel failure; thus, it is key to verifying the instrumentation continues to operate properly between each CHANNEL CALIBRATION. The high radiation instrumentation 110

(continued)

Supplement 4

BASES

1

SURVEILLANCE REQUIREMENTS

SR 3.3.3.1 (continued)

should be compared to similar unit instruments located throughout the unit.

Channel deviation

~~Agreement~~ criteria are determined by the unit staff, based on a combination of the channel instrument uncertainties, including isolation, indication, and readability. If a channel is outside the criteria, it may be an indication that the sensor or the signal processing equipment has drifted outside its limit. If the channels are within the criteria, it is an indication that the channels are OPERABLE.

As specified in the SR, a CHANNEL CHECK is only required for those channels that are normally energized.

The Frequency of 31 days is based on operating experience that demonstrates that channel failure is rare. The CHANNEL CHECK supplements less formal, but more frequent, checks of channels during normal operational use of the displays associated with the LCO required channels.

110

INSERT B 3.3.3-11

SR 3.3.3.2

A CHANNEL CALIBRATION is performed every [18] months, or approximately at every refueling. CHANNEL CALIBRATION is a complete check of the instrument loop, including the sensor. The test verifies that the channel responds to measured parameter with the necessary range and accuracy. This SR is modified by a Note that excludes neutron detectors. The calibration method for neutron detectors is specified in the Bases of LCO 3.3.1, "Reactor ~~Trip~~ Protection System (~~RTS~~ RPS) Instrumentation." The Frequency is based on operating experience and consistency with the typical industry refueling cycle.

INSERT B 3.3.3-9

REFERENCES

1. ~~[Unit specific document (e.g., FSAR, NRC Regulatory Guide 1.97 SER letter).]~~
2. Regulatory Guide 1.97, ~~[date]~~. Revision 3, May 1983.
3. NUREG-0737, Supplement 1, "TMI Action Items."

INSERT B 3.3.3-10

Supplement 4

ITS Insert B 3.3.3-11

SR 3.3.3.3

SR 3.3.3.3 is the performance of a TADOT of containment isolation valve position indication. This TADOT is performed every 18 months. The test shall independently verify the OPERABILITY of containment isolation valve position indication against the actual position of the valves.

The Frequency is based upon the known reliability of the Function and has been shown to be acceptable through operating experience.

The SR is modified by a Note that excludes verification of setpoints from the TADOT. The affected Function has no setpoints.

1

BASES

APPLICABLE SAFETY ANALYSES (continued)

The Remote Shutdown System is considered an important contributor to the reduction of unit risk to accidents and as such it has been retained in the Technical Specifications as indicated in the NRC Policy Statement.

LCO

The Remote Shutdown System LCO provides the OPERABILITY requirements of the instrumentation and controls necessary ~~to place and maintain the unit in MODE 3 from a~~ location 5 other than the control room. The instrumentation and controls typically required are listed in Table 3.3.4-1 ~~in the accompanying LCO~~ Bases B 94

[Reviewer's Note: For channels that fulfill GDC 19 requirements, the number of OPERABLE channels required depends upon the unit licensing basis as described in the NRC unit specific Safety Evaluation Report (SER). Generally, two divisions are required OPERABLE. However, only one channel per a given Function is required if the unit has justified such a design, and NRC's SER accepted the justification.] 118

The controls, instrumentation, and transfer switches are required for:

- Core reactivity control (initial and long term);
- RCS pressure control;
- Decay heat removal via the AFW System and the SG safety valves ~~or SG ADVs~~;
- RCS inventory control via charging flow; and
- Safety support systems for the above Functions, including service water, component cooling water, ~~and onsite power, including the diesel generators~~.

and 119

A Function of a Remote Shutdown System is OPERABLE if all instrument and control channels needed to support the Remote Shutdown System Function are OPERABLE. In some cases, ~~Table 3.3.4-1 may indicate that~~ the required information or control capability is available from several alternate sources. In these cases, the Function is OPERABLE as long 96

(continued)

Supplement 4

1

BASES

LCO (continued)

as one channel of any of the alternate information or control sources is OPERABLE.

The remote shutdown instrument and control circuits covered by this LCO do not need to be energized to be considered OPERABLE. This LCO is intended to ensure the instruments and control circuits will be OPERABLE if unit conditions require that the Remote Shutdown System be placed in operation.

APPLICABILITY

The Remote Shutdown System LCO is applicable in MODES 1, 2, and 3. This is required so that the unit can be placed and maintained in MODE 3 for an extended period of time from a location other than the control room.

This LCO is not applicable in MODE 4, 5, or 6. In these MODES, the ~~facility~~ unit is already subcritical and in a condition of reduced RCS energy. Under these conditions, considerable time is available to restore necessary instrument control functions if control room instruments or controls become unavailable. 97

ACTIONS

Note 1 is included which excludes the MODE change restriction of LCO 3.0.4. This exception allows entry into an applicable MODE while relying on the ACTIONS even though the ACTIONS may eventually require a unit shutdown. This exception is acceptable due to the low probability of an event requiring the Remote Shutdown System and because the equipment can generally be repaired during operation without significant risk of spurious trip. 118 B

Note 2 has been added to the ACTIONS to clarify the application of Completion Time rules. Separate Condition entry is allowed for each Function listed on Table 3.3.4-1. The Completion Time(s) of the inoperable channel(s)/train(s) of a Function ~~will be~~ are tracked separately for each Function starting from the time the Condition was entered for that Function. 34

(continued)

1

BASES

ACTIONS (continued)

A.1

Condition A addresses the situation where one or more required Functions of the Remote Shutdown System are inoperable. This includes any Function listed in Table 3.3.4-1. as well as the control and transfer switches.

118

B

The Required Action is to restore the required Function to OPERABLE status within 30 days. The Completion Time is based on operating experience and the low probability of an event that would require evacuation of the control room.

B.1 and B.2

If the Required Action and associated Completion Time of Condition A is not met. the unit must be brought to a MODE in which the LCO does not apply. To achieve this status. the unit must be brought to at least MODE 3 within 6 hours and to MODE 4 within 12 hours. The allowed Completion Times are reasonable. based on operating experience. to reach the required unit conditions from full power conditions in an orderly manner and without challenging unit systems.

SURVEILLANCE REQUIREMENTS

SR 3.3.4.1

Performance of the CHANNEL CHECK once every 31 days ensures that a gross failure of instrumentation has not occurred. A CHANNEL CHECK is normally a comparison of the parameter indicated on one channel to a similar parameter on other channels. It is based on the assumption that instrument channels monitoring the same parameter should read approximately the same value. Significant deviations between the two instrument channels could be an indication of excessive instrument drift in one of the channels or of something even more serious. CHANNEL CHECK will detect gross channel failure: thus. it is key to verifying that the instrumentation continues to operate properly between each CHANNEL CALIBRATION.

Channel deviation

~~Agreement~~ criteria are determined by the unit staff. based on a combination of the channel instrument uncertainties. including indication and readability. If the channels are

(continued)

Supplement 4

1

BASES

SURVEILLANCE REQUIREMENTS

SR 3.3.4.3 (continued)

The Frequency of [18] months is based upon operating experience and consistency with the typical industry refueling cycle.

~~[SR 3.3.4.4~~

~~SR 3.3.4.4 is the performance of a TADOT every 18 months. This test should verify the OPERABILITY of the reactor trip breakers (RTBs) open and closed indication on the remote shutdown panel by actuating the RTBs. The Frequency is based upon operating experience and consistency with the typical industry refueling outage.]~~

REFERENCES

1. ~~10 CFR 50, Appendix A, GDC 19.~~

UFSAR, Section 7.4.1

INSERT B TABLE

118

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INSERT — B TABLE

1

118

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CTS

[M35]

B Table 3.3.4-1 (page 1 of 1)
Remote Shutdown System Instrumentation and Controls

-- NOTE --

~~Reviewer's Note: This table is for illustration purposes only. It does not attempt to encompass every Function used at every unit, but does contain the types of Functions commonly found.~~

FUNCTION/INSTRUMENT OR CONTROL PARAMETER	REQUIRED NUMBER OF FUNCTIONS
1. Reactivity Control	
a. Source Range Neutron Flux	(1)
b. Reactor Trip Breaker Position (a)	(1 per trip breaker)
c. Manual Reactor Trip (a)	(1) per trip breaker
2. Reactor Coolant System (RCS) Pressure Control	
a. Pressurizer Pressure ~~or RCS Wide Range Pressure~~	(1)
b. Pressurizer Heater Controls ~~Power Operated Relief Valve (PORV) Control and Block Valve Control~~	2 ~~1, controls must be for PORV & block valves on same line~~
3. Decay Heat Removal via Steam Generators (SGs)	
a. RCS Hot Leg Temperature wide range Loop A	(1 ~~per loop~~)
b. RCS Cold Leg Temperature	(1 ~~per loop~~)
c. motor driven AFW Pump Controls ~~Condensate Storage Tank Level~~	(1)
d. SG Pressure	(1 per SG)
e. SG Level (wide range)	(1 per SG)
~~AFW Flow~~ f. Condensate Storage Tank Level	1
4. RCS Inventory Control	
a. Pressurizer Level	(1)
b. Charging Pump Controls	(1) per pump
c. Refuel Water Storage Tank Level	1
5. Support Functions	
a. Component Cooling Water Pump Controls	1
b. Service Water Pump Controls	1

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(a) This function is local indication and manual trip feature at the breaker, and applies to Reactor Trip Breakers and Reactor Trip Bypass Breakers that are racked in.

BASES

1

ACTIONS (continued)

this Specification may be entered independently for each Function listed in the LCO. The Completion Time(s) of the inoperable channel(s) of a Function ~~will be~~ are tracked separately for each Function starting from the time the Condition was entered for that Function.

34

INSERT B 3.3.5-5

103

B ~~A~~.1

Condition B ~~A~~ applies to the LOP DG start Function with one ~~loss of voltage or~~ degraded voltage channel per bus inoperable.

If one of the three channels is inoperable, Required Action B ~~A~~.1 requires that channel to be placed in trip within 6 hours. With a channel in trip, the LOP DG start instrumentation channels are then configured to provide a one-out-of-~~three~~ two logic to initiate a trip of the incoming offsite power.

A Note is added to allow bypassing an inoperable channel for up to 4 hours for surveillance testing of other channels. This allowance is made where bypassing the channel does not cause an actuation and where at least two other channels are monitoring that parameter.

The specified Completion Time and time allowed for bypassing one channel are reasonable considering the Function remains fully OPERABLE on every bus and the low probability of an event occurring during these intervals.

C ~~B~~.1

Condition C ~~B~~ applies when ~~more than one loss of voltage or~~ more than one degraded voltage channel on a single bus is inoperable.

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Required Action C ~~B~~.1 requires restoring all but one channel on each bus to OPERABLE status. The 1 hour Completion Time should allow ample time to repair most failures and takes into account the low probability of an event requiring an LOP start occurring during this interval.

(continued)

Supplement 4