

March 1, 2004

Mr. Robert L. Clark  
Office of Nuclear Regulatory Regulation  
U.S. Nuclear Regulatory Commission  
ATTN: Document Control Desk  
Washington, DC 20555

Subject: Application For Technical Specification Change  
Regarding Mode Change Limitations  
R. E. Ginna Nuclear Power Plant  
Docket No. 50-244

Dear Mr. Clark:

In accordance with the provisions of 10 CFR 50.90 of Title 10 of the Code of Federal Regulations (10 CFR), Rochester Gas & Electric (RG&E) is submitting a request for an amendment to the technical specifications (TS) for the R. E. Ginna Nuclear Power Plant.

The proposed amendment would modify TS requirements for mode change limitations in LCO 3.0.4 and SR 3.0.4. The availability of this technical specification improvement was announced in the Federal Register on April 4, 2003 as part of the consolidated line item improvement process (CLIIP).

Enclosure 1 provides a description of the proposed change (including a table of affected TS with a brief descriptor of the change), the requested confirmation of applicability, and plant-specific verifications. Enclosure 2 provides the existing TS pages marked-up to show the proposed change. Enclosure 3 provides the revised (clean) TS pages. Enclosure 4 provides the existing TS Bases pages marked up to reflect the proposed change (for information only). Changes to the TS Bases will be provided in a future update in accordance with the Bases Control Program. Enclosure 5 provides a summary of the regulatory commitments made in this submittal.

RG&E requests approval of the proposed license amendment by December 3, 2004 with the amendment being implemented within 60 days.

In accordance with 10 CFR 50.91, a copy of this application, with enclosures, is being provided to the designated New York State Official.

An equal opportunity employer

89 East Avenue | Rochester, NY 14649

tel (585) 546-2700

www.rge.com

1000955

A001

I declare under penalty of perjury under the laws of the United States of America that I am authorized by RG&E to make this submittal and that the foregoing is true and correct.

Any questions concerning this submittal should be directed to Tom Harding, Nuclear Safety and Licensing at (585) 771-3384.

Very truly yours,

Executed on March 1, 2004

  
Robert C. Mecredy

Enclosures:   1. Description and Assessment  
                  2. Proposed Technical Specification Changes (markup)  
                  3. Revised Technical Specification Pages  
                  4. Planned Technical Specification Bases Changes (for information only)  
                  5. List of Regulatory Commitments

xc:   Mr. Robert L. Clark (Mail Stop O-8-C2)  
      Project Directorate I  
      Division of Licensing Project Management  
      Office of Nuclear Regulatory Regulation  
      U.S. Nuclear Regulatory Commission  
      One White Flint North  
      11555 Rockville Pike  
      Rockville, MD 20852

Regional Administrator, Region I  
U.S. Nuclear Regulatory Commission  
475 Allendale Road  
King of Prussia, PA 19406

U.S. NRC Ginna Senior Resident Inspector

Mr. Peter R. Smith  
New York State Energy, Research, and Development Authority  
17 Columbia Circle  
Albany, NY 12203-6399

Mr. Paul Eddy  
NYS Department of Public Service  
3 Empire Plaza, 10th Floor  
Albany, NY 12223

**Enclosure 1**  
**R.E. Ginna Nuclear Power Plant**

**Description and Assessment**

**1.0**    **DESCRIPTION**

The proposed amendment would modify the R. E. Ginna Nuclear Power Plant technical specification (TS) requirements for mode change limitations in Limiting Condition for Operation (LCO) 3.0.4 and Surveillance Requirement (SR) 3.0.4. The affected TS and a summary of proposed changes are included in Table 1.

The changes are consistent with Nuclear Regulatory Commission (NRC) approved Industry/Technical Specification Task Force (TSTF) Standard TS (STS) change TSTF-359 Revision 8, as modified by the notice in the Federal Register published on April 4, 2003. That Federal Register Notice (FRN) announced the availability of this TS improvement through the consolidated line item improvement process (CLIIP). TSTF-359, Revision 8, was subsequently revised to incorporate the modifications discussed in the April 4, 2003, FRN and other minor changes, and was submitted to the NRC on April 28, 2003, as TSTF-359, Revision 9.

The R. E. Ginna Nuclear Power Plant Technical Specifications are based on the Improved Standard Technical Specifications and contain a Technical Specification Bases Control Program and the plant-specific SR 3.0.1 and SR 3.0.1 Bases are equivalent to those in the Improved Standard Technical Specifications.

**2.0**    **ASSESSMENT**

**2.1**    **Applicability of Published Safety Evaluation**

Rochester Gas & Electric (RG&E) has reviewed the safety evaluation published on April 4, 2003 (68 FR 16584) as part of the CLIIP. This review included a review of the NRC staff's evaluation, as well as the supporting information provided to support TSTF-359 Revision 8, and included the updates made in TSTF-359, Revision 9. RG&E has concluded that the justifications presented in the TSTF proposal and the safety evaluation prepared by the NRC staff are applicable to the R. E. Ginna Nuclear Power Plant and justify this amendment for the incorporation of the changes to the TS.

## 2.2 Optional Changes and Variations

RG&E is not proposing any variations and deviations from the technical specification changes described in TSTF-359 Revision 9 and the NRC staff's model safety evaluation published on April 4, 2003, with the following two exceptions.

### A. LCO 3.1.3, Moderator Temperature Coefficient (MTC)

**Description:** The R. E. Ginna TS LCO 3.1.3, Moderator Temperature Coefficient (MTC), differs significantly from the STS. Currently the R. E. Ginna TS include a Note in LCO 3.1.3 Condition C, which states that LCO 3.0.4 does not apply. With the revised LCO 3.0.4, RG&E proposes to include a similar Note in LCO 3.1.3 Condition C, which states that LCO 3.0.4.c applies.

**Justification:** R. E. Ginna TS include SR 3.1.3.3, which requires verification that the MTC will be within limits at the core end of cycle life (EOL). This SR must be performed prior to entering Mode 1 after each refueling outage. If the SR is performed and subsequently not met, then LCO 3.1.3, Condition C would be entered. Condition C allows operation to continue, but the Required Action requires the core design to be re-evaluated prior to reaching an all rods out boron concentration of 300 ppm. Thus, absent relief from LCO 3.0.4, power ascension would not be allowed. Because this is a variable or parameter that does not lend itself readily to the use of the new LCO 3.0.4.b, RG&E proposes to include a Note invoking LCO 3.0.4.c in Required Action C.1 of LCO 3.1.3 in the R. E. Ginna TS.

As discussed in the Bases to LCO 3.1.3, the MTC lower limit is only of concern at EOL. For this reason the Completion Time allows plant operation to continue until "reaching the equivalent of an equilibrium RTP all rods out boron concentration of 300 ppm." This Completion Time defines the core "end of cycle life" at which the lower MTC limit is of concern. Prior to this point in the core operating cycle, the plant can operate safely without concern for the MTC lower limit.

The wording of Required Action C.1 and the associated Completion Time are clearly intended to allow plant operation to continue. The current Note intended power ascension to be allowed if Condition C was entered prior to entering a higher Mode of Applicability. The plant can continue to operate safely until the limit in the Completion Time is reached. If the Required Action C.1 is not completed by this time, Condition D would be entered, and the Mode of Applicability would be exited. Re-entering the Mode of Applicability is not allowed (neither currently nor with the proposed new LCO 3.0.4.c allowance) without completing the reevaluation, as the Completion Time for Condition C would have already expired. Thus, the proposed LCO 3.0.4.c allowance will preclude an unintended hardship with the adoption of TSTF-359, is consistent with the current licensing basis, and will not allow any undue relaxation in current operation.

## B. LCO 3.7.5, Auxiliary Feedwater (AFW) System

**Description:** The R. E. Ginna TS LCO 3.7.5, Auxiliary Feedwater (AFW) System, differs significantly from the STS (LCO 3.7.4). R. E. Ginna has five sources of safety related auxiliary feedwater (as compared to three in the STS) including: two Motor Driven Auxiliary Feedwater (MDAFW) Pumps, one Turbine Driven Auxiliary Feedwater (TDAFW) Pump, and two Standby Auxiliary Feedwater (SAFW) Pumps. With the revised LCO 3.0.4, RG&E proposes to include Notes in LCO 3.7.5 Conditions C and D, which state that LCO 3.0.4.b is not applicable to the specific combinations of inoperable equipment covered by those Conditions.

**Justification:** The AFW System is a safety-related system that provides at least the minimum required flow rate to the steam generators (SGs) when the main feedwater pumps are unavailable, to remove decay heat and other residual heat. The R. E. Ginna sources of safety related auxiliary feedwater include: two MDAFW Pumps rated at 200 GPM each, one TDAFW Pump rated at > 400 GPM, and two SAFW Pumps rated at 200 GPM each. The minimum auxiliary feedwater flow for the most limiting accident is 200 GPM within 10 minutes. In an accident situation, the MDAFW Pumps and the TDAFW Pump will automatically start and supply flow which far exceeds the required amount of flow. In addition, the SAFW pumps would be manually started if required by Emergency Operating Procedures. The total available auxiliary feedwater flow is approximately six times the minimum required for postulated at power events. The decay heat level is much less during a startup from a lower Mode than the decay heat level following a reactor trip.

The specific combinations of inoperable equipment covered by LCO 3.7.5 Conditions C and D for which LCO 3.0.4.b is not applicable are:

- a TDAFW train inoperable, or
- both MDAFW trains inoperable, or
- one TDAFW train flow path and one MDAFW train inoperable to opposite SGs, or
- all AFW trains to one or both SGs inoperable.

The Westinghouse Owners Group (WOG) qualitative risk assessment contained within TSTF-359, Revision 9, states that for plants not starting up on AFW, that there should be no limitations for startup with inoperable AFW equipment. The SAFW system is not normally used for startup and clearly meets the WOG assessment criteria for removing any LCO 3.0.4 restrictions. Given the significant amount of redundancy available, allowing a mode change with a single MDAFW train or a single TDAFW flowpath to or from a SG inoperable is also acceptable. At least two trains of AFW must be operable to a single SG, with one train operable to the opposite SG, to allow a mode change. In addition, one of these two trains must be comprised of the TDAFW pump with the second comprised of a MDAFW pump. This ensures the reliability of the AFW system with diverse sources of power. Therefore, there is no increase in the probability of an accident during lower modes, even assuming a loss of offsite power.

Due to differences between the R. E. Ginna TS and TS Bases and their corresponding model STS (NUREG-1431) in several cases variances from the TSTF marked-up changes are made. These variances are discussed below and do not affect the adoption or application of TSTF-359, Revision 9.

1. In the TSTF mark-ups, STS 3.3.4, Remote Shutdown System, is modified. R. E. Ginna TS do not include this TS, therefore no changes are needed.
2. In the R. E. Ginna TS 3.4.5, RCS Loops - MODES 1  $\leq$  8.5% RTP, 2, and 3, the Note in Condition A stating "LCO 3.0.4 is not Applicable" is deleted.
3. In the TSTF mark-ups, STS 3.4.15, RCS Leakage Detection Instrumentation, the Actions Note is being deleted. In the R. E. Ginna TS the equivalent Note is being deleted from Conditions A, B, C, and D.
4. In the TSTF mark-ups, STS 3.5.3, ECCS - Shutdown, an Actions Note is added stating that "LCO 3.0.4.b is not applicable to ECCS high head subsystem." The equivalent R. E. Ginna TS 3.5.3 is labeled ECCS - Mode 4 and the Note is being added to Condition B with the terminology "Safety Injection" or "SI" for the high head subsystem.
5. In the TSTF mark-ups, STS 3.6.9, Hydrogen Mixing System (HMS), is modified. R. E. Ginna TS do not include this TS, therefore no changes are needed.
6. In the TSTF mark-ups, STS 3.7.4, Atmospheric Dump Valves (ADV), is modified. The equivalent R. E. Ginna TS 3.7.4 is labeled Atmospheric Relief Valves (ARVs).
7. In the TSTF mark-ups, STS 3.8.1, AC Sources - Operating, is modified. The equivalent R. E. Ginna TS 3.8.1 is labeled AC Sources - MODES 1, 2, 3, and 4.

In addition, changes to the R. E. Ginna TS Bases are being made for consistency with the above TS changes, as allowed by the TS Bases Control Program of TS 5.5.13.

### 3.0 REGULATORY ANALYSIS

#### 3.1 No Significant Hazards Determination

RG&E has reviewed the proposed no significant hazards consideration determination (NSHCD) published in the Federal Register as part of the CLIIP. RG&E has concluded that the proposed NSHCD presented in the Federal Register notice is applicable to the R. E. Ginna Nuclear Power Plant and is hereby incorporated by reference to satisfy the requirements of 10 CFR 50.91(a).

### 3.2 Verification and Commitments

As discussed in the notice of availability published in the Federal Register on April 4, 2003 (68 FR 16584) for this TS improvement, plant-specific verifications were performed as follows:

RG&E has established TS Bases for LCO 3.0.4 and SR 3.0.4 which state that use of the TS mode change limitation flexibility established by LCO 3.0.4 and SR 3.0.4 is not to be interpreted as endorsing the failure to exercise the good practice of restoring systems or components to operable status before entering an associated mode or other specified condition in the TS Applicability.

The proposal also includes changes to the bases for LCO 3.0.4 and SR 3.0.4 that provide details on how to implement the new requirements. The bases changes provide guidance for changing Modes or other specified conditions in the Applicability when an LCO is not met. The bases changes describe in detail how: LCO 3.0.4.a allows entry into a MODE or other specified condition in the Applicability with the LCO not met when the associated ACTIONS to be entered permit continued operation in the MODE or other specified condition in the Applicability for an unlimited period of time; LCO 3.0.4.b allows entry into a MODE or other specified condition in the Applicability with the LCO not met after performance of a risk assessment addressing inoperable systems and components, consideration of the results, determination of the acceptability of entering the MODE or other specified condition in the Applicability, and establishment of risk management actions, if appropriate; and LCO 3.0.4.c allows entry into a MODE or other specified condition in the Applicability with the LCO not met based on a Note in the Specification, which is typically applied to Specifications which describe values and parameters (e.g., Moderator Temperature Coefficient, RCS Specific Activity), and may be applied to other Specifications based on NRC plant-specific approval. The bases will also state that any risk impact should be managed through the program in place to implement 10 CFR 50.65(a)(4) and its implementation guidance, NRC Regulatory Guide 1.182. "Assessing and Managing Risks Before Maintenance Activities at Nuclear Power Plants," and that the results of the risk assessment shall be considered in determining the acceptability of entering the MODE or other specified condition in the Applicability, and any corresponding risk management actions. In addition, the bases will state that upon entry into a MODE or other specified condition in the Applicability with the LCO not met, LCO 3.0.1 and LCO 3.0.2 require entry into the applicable Conditions and Required Actions until the Condition is resolved, until the LCO is met, or until the unit is not within the Applicability of the Technical Specification. The bases will also state that SR 3.0.4 does not restrict changing MODES or other specified conditions of the Applicability when a Surveillance has not been performed within the specified Frequency, provided the requirement to declare the LCO not met has been delayed in accordance with SR 3.0.3. Finally, RG&E currently has in place a bases control program consistent with Section 5.5 of the STS, and the equivalent of STS SR 3.0.1 and associated bases.

#### 4.0 ENVIRONMENTAL EVALUATION

RG&E has reviewed the environmental evaluation included in the model safety evaluation published on April 4, 2003 (68 FR 16584) as part of the CLIP. RG&E has concluded that the NRC staff's findings presented in that evaluation are applicable to the R. E. Ginna Nuclear Power Plant and the evaluation is hereby incorporated by reference for this application.

**Table 1****Proposed Technical Specification (TS) Changes**

<b>Affected TS</b>	<b>Description of Change</b>
LCO 3.0.4	Addition of risk-informed evaluation of Mode changes.
SR 3.0.4	Clarification of relationship to SR 3.0.3.
3.1.3 Moderator Temperature Coefficient (MTC)	Addition of Note stating applicability of LCO 3.0.4.c to Condition C.
3.3.3 Post Accident Monitoring (PAM) Instrumentation	Deletion of Note exempting TS from LCO 3.0.4.
3.4.5 RCS Loops - MODES 1 ≤ 8.5% RTP, 2, and 3	Deletion of Note exempting Condition A from LCO 3.0.4.
3.4.11 Pressurizer Power Operated Relief Valves (PORVs)	Deletion of Note exempting TS from LCO 3.0.4.
3.4.12 Low Temperature Overpressure Protection (LTOP) System	Addition of Note stating that LCO 3.0.4.b is not applicable when entering Mode 4.
3.4.15 RCS Leakage Detection Instrumentation	Deletion of Notes exempting Conditions A, B, C, and D from LCO 3.0.4.
3.4.16 RCS Specific Activity	Deletion of Note exempting Condition A from LCO 3.0.4. Addition of Note stating applicability of LCO 3.0.4.c to Condition A.
3.5.3 ECCS - MODE 4	Addition of Note stating that LCO 3.0.4.b is not applicable to Condition B.
3.6.7 Hydrogen Recombiners	Deletion of Note exempting Condition A from LCO 3.0.4.
3.7.4 Atmospheric Relief Valves	Deletion of Note exempting Condition A from LCO 3.0.4.
3.7.5 Auxiliary Feedwater (AFW) System	Addition of Notes stating that LCO 3.0.4.b is not applicable to Conditions C and D.
3.8.1 AC Sources - MODES 1, 2, 3, and 4	Addition of Note stating that LCO 3.0.4.b is not applicable to the diesel generators (DGs).

---

**Enclosure 2**  
**R.E. Ginna Nuclear Power Plant**

**Proposed Technical Specification Changes (markup)**

## ITS Mode Change LCO Inserts

### LCO Insert 1 (LCO 3.0.4)

When an LCO is not met, entry into a MODE or other specified condition in the Applicability shall only be made:

- a. When the associated ACTIONS to be entered permit continued operation in the MODE or other specified condition in the Applicability for an unlimited period of time;
- b. After performance of a risk assessment addressing inoperable systems and components, consideration of the results, determination of the acceptability of entering the MODE or other specified condition in the Applicability, and establishment of risk management actions, if appropriate; exceptions to this Specification are stated in the individual Specifications, or
- c. When an allowance is stated in the individual value, parameter, or other Specification.

This Specification shall not prevent changes in MODES or other specified conditions in the Applicability that are required to comply with ACTIONS or that are part of a shutdown of the unit.

### LCO Insert 2 (SR 3.0.4)

Entry into a MODE or other specified condition in the Applicability of an LCO shall only be made when the LCO's Surveillances have been met within their specified Frequency, except as provided by SR 3.0.3. When an LCO is not met due to Surveillances not having been met, entry into a MODE or other specified condition in the Applicability shall only be made in accordance with LCO 3.0.4.

This provision shall not prevent entry into MODES or other specified conditions in the Applicability that are required to comply with ACTIONS or that are part of a shutdown of the unit.

### LCO Insert 3 (LCO 3.4.12, LTOP System)

---

-Note-

LCO 3.0.4.b is not applicable when entering MODE 4.

---

**LCO Insert 4 (LCO 3.5.3, ECCS - MODE 4)  
(LCO 3.7.5, Auxiliary Feedwater (AFW) System)**

---

-Note-  
LCO 3.0.4.b is not applicable.

---

**LCO Insert 5 (LCO 3.8.1, AC Sources - MODES 1, 2, 3, and 4)**

---

-Note-  
LCO 3.0.4.b is not applicable to DGs.

---

LCO 3.0.4

LCO  
Insert 1

When an LCO is not met, entry into a MODE or other specified condition in the Applicability shall not be made except when the associated ACTIONS to be entered permit continued operation in the MODE or other specified condition in the Applicability for an unlimited period of time. This Specification shall not prevent changes in MODES or other specified conditions in the Applicability that are required to comply with ACTIONS. Exceptions to this Specification are stated in the individual Specifications.

LCO 3.0.5

Equipment removed from service or declared inoperable to comply with ACTIONS may be returned to service under administrative control solely to perform testing required to demonstrate its OPERABILITY or the OPERABILITY of other equipment. This is an exception to LCO 3.0.2 for the system returned to service under administrative control to perform the testing required to determine OPERABILITY.

LCO 3.0.6

When a supported system LCO is not met solely due to a support system LCO not being met, the Conditions and Required Actions associated with this supported system are not required to be entered. Only the support system LCO ACTIONS are required to be entered. This is an exception to LCO 3.0.2 for the supported system. In this event, additional evaluations and limitations may be required in accordance with Specification 5.5.14, "Safety Function Determination Program (SFDP)." If a loss of safety function is determined to exist by this program, the appropriate Conditions and Required Actions of the LCO in which the loss of safety function exists are required to be entered.

When a support system's Required Action directs a supported system to be declared inoperable or directs entry into Conditions and Required Actions for a supported system, the applicable Conditions and Required Actions shall be entered in accordance with LCO 3.0.2.

SR 3.0.4

LCO  
Insert 2

Entry into a MODE or other specified condition in the Applicability of an LCO shall not be made unless the LCO's Surveillances have been met within their specified Frequency. This provision shall not prevent entry into MODES or other specified conditions in the Applicability that are required to comply with ACTIONS.



3.1 REACTIVITY CONTROL SYSTEMS

3.1.3 Moderator Temperature Coefficient (MTC)

LCO 3.1.3 The MTC shall be maintained within the limits specified in the COLR. The maximum upper limit shall be less than or equal to 5 pcm/°F for power levels below 70% RTP and less than or equal to 0 pcm/°F at or above 70% RTP.

APPLICABILITY: MODE 1 and MODE 2 with  $k_{eff} \geq 1.0$  for the upper MTC limit, MODES 1, 2, and 3 for the lower MTC limit.

ACTIONS

CONDITION		REQUIRED ACTION	COMPLETION TIME
A.	MTC not within upper limit.	A.1 Establish administrative withdrawal limits for control banks to maintain MTC within limit.	24 hours
B.	Required Action and associated Completion Time of Condition A not met.	B.1 Be in MODE 2 with $k_{eff} < 1.0$ .	6 hours
C.	<p>- NOTE - Required Action C.1 must be completed whenever Condition C is entered.</p> <p>Projected end of cycle life (EOL) MTC not within lower limit.</p>	<p>- NOTE - LCO 3.0.4 is <del>not</del> applicable.</p> <p>C.1 Re-evaluate core design and safety analysis, and determine that the reactor core is acceptable for continued operation.</p>	Once prior to reaching the equivalent of an equilibrium RTP all rods out (ARO) boron concentration of 300 ppm
D.	Required Action and associated Completion Time of Condition C not met.	D.1 Be in MODE 4.	12 hours

3.3 INSTRUMENTATION

3.3.3 Post Accident Monitoring (PAM) Instrumentation

LCO 3.3.3 The PAM instrumentation for each Function in Table 3.3.3-1 shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3.

ACTIONS

- NOTE -

1. LCO 3.0.4 is not applicable.
2. Separate Condition entry is allowed for each Function.

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>A.</p> <p>-----</p> <p>- NOTE - Not applicable to Functions 3 and 4.</p> <p>-----</p> <p>One or more Functions with one required channel inoperable.</p>	<p>A.1</p> <p>Restore required channel to OPERABLE status.</p>	<p>30 days</p>
<p>B.</p> <p>Required Action and associated Completion Time of Condition A not met.</p>	<p>B.1</p> <p>Initiate action to prepare and submit a special report.</p>	<p>Immediately</p>
<p>C.</p> <p>-----</p> <p>- NOTE - Only applicable to Functions 3 and 4.</p> <p>-----</p> <p>One or more Functions with required channel inoperable.</p>	<p>C.1</p> <p>Restore required channel to OPERABLE status.</p>	<p>7 days</p>

3.4 REACTOR COOLANT SYSTEM (RCS)

3.4.5 RCS Loops - MODES 1 ≤ 8.5% RTP, 2, and 3

LCO 3.4.5 Two RCS loops shall be OPERABLE and one loop shall be in operation.

- NOTE -

Both reactor coolant pumps may be de-energized in MODE 3 for ≤ 1 hour per 8 hour period provided:

- a. No operations are permitted that would cause reduction of the RCS boron concentration; and
- b. Core outlet temperature is maintained at least 10°F below saturation temperature.

APPLICABILITY: MODES 1 ≤ 8.5% RTP,  
MODES 2 and 3.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One RCS loop inoperable.	<div style="border: 1px solid black; border-radius: 50%; padding: 5px; display: inline-block;"> <p style="text-align: center;">- NOTE - LCO 3.0.4 is not applicable.</p> </div>	Once per 12 hours
	<p>A.1 Verify SDM is within limits specified in the COLR.</p> <p><u>AND</u></p> <p>A.2 Restore inoperable RCS loop to OPERABLE status.</p>	
B. Required Action and associated Completion Time of Condition A not met.	B.1 Be in MODE 4.	12 hours

3.4 REACTOR COOLANT SYSTEM (RCS)

3.4.11 Pressurizer Power Operated Relief Valves (PORVs)

LCO 3.4.11 Each PORV and associated block valve shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3.

ACTIONS

- NOTE -

1. Separate entry into Condition A is allowed for each PORV.
2. Separate entry into Condition C is allowed for each block valve.
3. ~~LCO 3.0.4 is not applicable.~~

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or both PORVs OPERABLE and not capable of being automatically controlled.	A.1 Close and maintain power to associated block valve.	1 hour
	<u>OR</u> A.2 Place associated PORV in manual control.	1 hour
B. One PORV inoperable.	B.1 Close associated block valve.	1 hour
	<u>AND</u> B.2 Remove power from associated block valve.	1 hour
	<u>AND</u> B.3 Restore PORV to OPERABLE status.	72 hours
C. One block valve inoperable.	C.1 Place associated PORV in manual control.	1 hour
	<u>AND</u>	

LCO  
Insert 3

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>A.</p> <p>-----</p> <p>- NOTE - Only applicable to LCO 3.4.12.a.</p> <p>-----</p> <p>One or more SI pumps capable of injecting into the RCS.</p>	<p>A.1</p> <p>Initiate action to verify no SI pump is capable of injecting into the RCS.</p>	<p>Immediately</p>
<p>B.</p> <p>-----</p> <p>- NOTE - Only applicable to LCO 3.4.12.a.</p> <p>-----</p> <p>One required PORV inoperable in MODE 4.</p>	<p>B.1</p> <p>Restore required PORV to OPERABLE status.</p>	<p>7 days</p>
<p>C.</p> <p>-----</p> <p>- NOTE - Only applicable to LCO 3.4.12.a.</p> <p>-----</p> <p>One required PORV inoperable in MODE 5 or MODE 6.</p>	<p>C.1</p> <p>Restore required PORV to OPERABLE status.</p>	<p>72 hours</p>
<p>D.</p> <p>-----</p> <p>- NOTE - Only applicable to LCO 3.4.12.b.</p> <p>-----</p> <p>Two or more SI pumps capable of injecting into the RCS.</p>	<p>D.1</p> <p>Initiate action to verify a maximum of one SI pump is capable of injecting into the RCS.</p>	<p>Immediately</p>

3.4 REACTOR COOLANT SYSTEM (RCS)

3.4.15 RCS Leakage Detection Instrumentation

LCO 3.4.15 The following RCS leakage detection instrumentation shall be OPERABLE:

- a. One containment sump A monitor (level or pump actuation);
- b. Gaseous containment atmosphere radioactivity monitor; and
- c. Particulate containment atmosphere radioactivity monitor.

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

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Required containment sump monitor inoperable.	<div style="border: 1px dashed black; border-radius: 15px; padding: 5px; display: inline-block;">                     - NOTE -                      LCO 3.0.4 is not applicable.                 </div>	
	A.1.1 Perform SR 3.4.13.1.	Once per 24 hours
	<u>OR</u>	
A.1.2 Verify containment air cooler condensate collection system is OPERABLE.	24 hours	
<u>AND</u>		
A.2 Restore required containment sump monitor to OPERABLE status.	30 days	
B. Gaseous containment atmosphere radioactivity monitor inoperable.	<div style="border: 1px dashed black; border-radius: 15px; padding: 5px; display: inline-block;">                     - NOTE -                      LCO 3.0.4 is not applicable.                 </div>	
	B.1 Verify particulate containment atmosphere radioactivity monitor OPERABLE.	1 hour

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>C. Particulate containment atmosphere radioactivity monitor inoperable.</p> <p><u>OR</u></p> <p>Required Action and associated Completion Time of Condition B not met.</p>	<p style="text-align: center;">- NOTE - LCO 3.0.4 is not applicable.</p> <p>C.1 Analyze grab samples of the containment atmosphere.</p> <p><u>OR</u></p> <p>C.2 Perform SR 3.4.13.1.</p>	<p>Once within 12 hours and every 12 hours thereafter</p> <p>Once within 12 hours and every 12 hours thereafter</p>
<p>D. Gaseous containment atmosphere radioactivity monitor inoperable.</p> <p><u>AND</u></p> <p>Particulate containment atmosphere radioactivity monitor inoperable.</p>	<p style="text-align: center;">- NOTE - LCO 3.0.4 is not applicable.</p> <p>D.1 Restore gaseous containment atmosphere radioactivity monitor to OPERABLE status.</p> <p><u>OR</u></p> <p>D.2 Restore particulate containment atmosphere radioactivity monitor to OPERABLE status.</p>	<p>30 days</p> <p>30 days</p>
<p>E. Required Action and associated Completion Time of Conditions A, C, or D not met.</p>	<p>E.1 Be in MODE 3.</p> <p><u>AND</u></p> <p>E.2 Be in MODE 5.</p>	<p>6 hours</p> <p>36 hours</p>
<p>F. All required monitors inoperable.</p>	<p>F.1 Enter LCO 3.0.3.</p>	<p>Immediately</p>

3.4 REACTOR COOLANT SYSTEM (RCS)

3.4.16 RCS Specific Activity

LCO 3.4.16 The specific activity of the reactor coolant shall be within limits.

APPLICABILITY: MODES 1 and 2,  
MODE 3 with RCS average temperature ( $T_{avg}$ )  $\geq$  500°F.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. DOSE EQUIVALENT I-131 specific activity not within limit.	<p><u>.C</u> - NOTE - LCO 3.0.4 is <u>not</u> applicable.</p>	Once per 8 hours
	<p>A.1 Verify DOSE EQUIVALENT I-131 within the acceptable region of Figure 3.4.16-1.</p> <p><u>AND</u></p> <p>A.2 Restore DOSE EQUIVALENT I-131 to within limit.</p>	
<p>B. Required Action and associated Completion Time of Condition A not met.</p> <p><u>OR</u></p> <p>DOSE EQUIVALENT I-131 specific activity in the unacceptable region of Figure 3.4.16-1.</p>	B.1 Be in MODE 3 with $T_{avg}$ < 500°F.	8 hours
C. Gross specific activity not within limit.	C.1 Be in MODE 3 with $T_{avg}$ < 500°F.	8 hours

3.5 EMERGENCY CORE COOLING SYSTEMS (ECCS)

3.5.3 ECCS - MODE 4

LCO 3.5.3 One ECCS train shall be OPERABLE.

APPLICABILITY: MODE 4.

ACTIONS

LCO  
Insert 4

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Required ECCS residual heat removal (RHR) subsystem inoperable.	A.1 Initiate action to restore required ECCS RHR subsystem to OPERABLE status.	Immediately
B. Required ECCS Safety Injection (SI) subsystem inoperable.	B.1 Restore required ECCS SI subsystem to OPERABLE status.	1 hour
C. Required Action and associated Completion Time of Condition B not met.	C.1 Be in MODE 5.	24 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
<p>SR 3.5.3.1</p> <p style="text-align: center;">- NOTE -</p> <p>An RHR train may be considered OPERABLE during alignment and operation for decay heat removal, if capable of being manually realigned to the ECCS mode of operation.</p> <p>SR 3.5.2.4 is applicable for all equipment required to be OPERABLE.</p>	<p>In accordance with applicable SR</p>

3.6 CONTAINMENT SYSTEMS

3.6.7 Hydrogen Recombiners

LCO 3.6.7 Two hydrogen recombiners shall be OPERABLE.

APPLICABILITY: MODES 1 and 2.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One hydrogen recombiner inoperable.	A.1 <div style="border: 1px dashed black; border-radius: 15px; padding: 5px; display: inline-block; margin: 10px 0;"> <p style="text-align: center;">- NOTE - LCO 3.0.4 is not applicable.</p> </div> <p>Restore hydrogen recombiner to OPERABLE status.</p>	30 days
B. Two hydrogen recombiners inoperable.	B.1 Verify by administrative means that the hydrogen control function is maintained.  <u>AND</u> B.2 Restore one hydrogen recombiner to OPERABLE status.	1 hour  <u>AND</u> Once per 12 hours thereafter  7 days
C. Required Action and associated Completion Time not met.	C.1 Be in MODE 3.	6 hours

3.7 PLANT SYSTEMS

3.7.4 Atmospheric Relief Valves (ARVs)

LCO 3.7.4 Two ARV lines shall be OPERABLE.

APPLICABILITY: MODES 1 and 2,  
MODE 3 with Reactor Coolant System average temperature ( $T_{avg}$ )  
 $\geq 500^{\circ}\text{F}$ .

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One ARV line inoperable.	A.1 <div style="border: 1px dashed black; border-radius: 15px; padding: 5px; display: inline-block; margin: 10px 0;">                     NOTE - LCO 3.0.4 is not applicable.                 </div> Restore ARV line to OPERABLE status.	7 days
B. Required Action and associated Completion Time of Condition A not met.	B.1 Be in MODE 3 with $T_{avg} < 500^{\circ}\text{F}$ .	8 hours
C. Two ARV lines inoperable.	C.1 Enter LCO 3.0.3.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.7.4.1 Perform a complete cycle of each ARV.	24 months
SR 3.7.4.2 Verify one complete cycle of each ARV block valve.	24 months

3.7 PLANT SYSTEMS

3.7.5 Auxiliary Feedwater (AFW) System

LCO 3.7.5 Two motor driven AFW (MDAFW) trains, one turbine driven AFW (TDAFW) train, and two standby AFW (SAFW) trains shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One TDAFW train flowpath inoperable.	A.1 Restore TDAFW train flowpath to OPERABLE status.	7 days
B. One MDAFW train inoperable.	B.1 Restore MDAFW train to OPERABLE status.	7 days
C. TDAFW train inoperable. <u>OR</u> Two MDAFW trains inoperable. <u>OR</u> One TDAFW train flowpath and one MDAFW train inoperable to opposite steam generators (SGs).	C.1 Restore one MDAFW train or TDAFW train flowpath to OPERABLE status.	72 hours
D. All AFW trains to one or more SGs inoperable.	D.1 Restore one AFW train or TDAFW flowpath to each affected SG to OPERABLE status.	4 hours
E. One SAFW train inoperable.	E.1 Restore SAFW train to OPERABLE status.	14 days

LCO Insert 4

LCO Insert 4

3.8 ELECTRICAL POWER SYSTEMS

3.8.1 AC Sources - MODES 1, 2, 3, and 4

LCO 3.8.1 The following AC electrical sources shall be OPERABLE:

- a. One qualified independent offsite power circuit connected between the offsite transmission network and each of the onsite 480 V safeguards buses required by LCO 3.8.9, "Distribution Subsystems - MODES 1, 2, 3, and 4"; and
- b. Two emergency diesel generators (DGs) capable of supplying their respective onsite 480 V safeguards buses required by LCO 3.8.9.

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

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Offsite power to one or more 480 V safeguards bus(es) inoperable.	A.1 Declare required feature(s) inoperable when its redundant required feature(s) is inoperable.	12 hours from discovery of Condition A concurrent with inoperability of redundant required feature(s)
	<u>AND</u>	
	A.2 Restore offsite circuit to OPERABLE status.	72 hours
B. One DG inoperable.	B.1 Perform SR 3.8.1.1 for the offsite circuit.	1 hour
	<u>AND</u>	<u>AND</u> Once per 8 hours thereafter

LCO Insert 5

**Enclosure 3**  
**R.E. Ginna Nuclear Power Plant**  
**Revised Technical Specification Pages**

3.0 LIMITING CONDITION FOR OPERATION (LCO) AND SURVEILLANCE  
REQUIREMENT (SR) APPLICABILITY

3.0 Limiting Condition For Operation (LCO) Applicability

---

LCO 3.0.1 LCOs shall be met during the MODES, or other specified conditions in the Applicability, except as provided in LCO 3.0.2 and LCO 3.0.7.

---

LCO 3.0.2 Upon discovery of a failure to meet an LCO, the Required Actions of the associated Conditions shall be met, except as provided in LCO 3.0.5 and LCO 3.0.6.

If the LCO is met or is no longer applicable prior to expiration of the specified Completion Time(s), completion of the Required Action(s) is not required unless otherwise stated.

---

LCO 3.0.3 When an LCO is not met and (1) the associated ACTIONS are not met, (2) an associated ACTION is not provided, or (3) if directed by the associated ACTIONS, the plant shall be placed in a MODE or other specified condition in which the LCO is not applicable. Action shall be initiated to place the plant, as applicable, in:

- a. MODE 3 within 6 hours;
- b. MODE 4 within 12 hours; and
- c. MODE 5 within 36 hours.

Exceptions to this Specification are stated in the individual Specifications.

Where corrective measures are completed that permit operation in accordance with the LCO or ACTIONS, completion of the actions required by LCO 3.0.3 is not required.

LCO 3.0.3 is only applicable in MODES 1, 2, 3, and 4.

---

- LCO 3.0.4            When an LCO is not met, entry into a MODE or other specified condition in the Applicability shall only be made:
- a.    When the associated ACTIONS to be entered permit continued operation in the MODE or other specified condition in the Applicability for an unlimited period of time;
  - b.    After performance of a risk assessment addressing inoperable systems and components, consideration of the results, determination of the acceptability of entering the MODE or other specified condition in the Applicability, and establishment of risk management actions, if appropriate; exceptions to this Specification are stated in the individual Specifications, or
  - c.    When an allowance is stated in the individual value, parameter, or other Specification.

This Specification shall not prevent changes in MODES or other specified conditions in the Applicability that are required to comply with ACTIONS or that are part of a shutdown of the unit.

---

- LCO 3.0.5            Equipment removed from service or declared inoperable to comply with ACTIONS may be returned to service under administrative control solely to perform testing required to demonstrate its OPERABILITY or the OPERABILITY of other equipment. This is an exception to LCO 3.0.2 for the system returned to service under administrative control to perform the testing required to determine OPERABILITY.
- 

- LCO 3.0.6            When a supported system LCO is not met solely due to a support system LCO not being met, the Conditions and Required Actions associated with this supported system are not required to be entered. Only the support system LCO ACTIONS are required to be entered. This is an exception to LCO 3.0.2 for the supported system. In this event, additional evaluations and limitations may be required in accordance with Specification 5.5.14, "Safety Function Determination Program (SFDP)." If a loss of safety function is determined to exist by this program, the appropriate Conditions and Required Actions of the LCO in which the loss of safety function exists are required to be entered.

When a support system's Required Action directs a supported system to be declared inoperable or directs entry into Conditions and Required Actions for a supported system, the applicable Conditions and Required Actions shall be entered in accordance with LCO 3.0.2.

---

LCO 3.0.7

Test Exception LCO 3.1.8, "PHYSICS TEST Exceptions - MODE 2," allows specified Technical Specification (TS) requirements to be changed to permit performance of special tests and operations. Unless otherwise specified, all other TS requirements remain unchanged. When a Test Exception LCO is desired to be met but is not met, the ACTIONS of the Test Exception LCO shall be met. When a Test Exception LCO is not desired to be met, entry into a MODE or other specified condition in the Applicability shall be made in accordance with the other applicable Specifications.

---

---

3.0 LIMITING CONDITION FOR OPERATION (LCO) AND SURVEILLANCE  
REQUIREMENT (SR) APPLICABILITY

3.0 Surveillance Requirement (SR) Applicability

---

SR 3.0.1 SRs shall be met during the MODES or other specified conditions in the Applicability for individual LCOs, unless otherwise stated in the SR. Failure to meet a SR, whether such failure is experienced during the performance of the Surveillance or between performances of the Surveillance, shall be failure to meet the LCO. Failure to perform a Surveillance within the specified Frequency shall be failure to meet the LCO except as provided in SR 3.0.3. Surveillances do not have to be performed on inoperable equipment or variables outside specified limits.

---

SR 3.0.2 The specified Frequency for each SR is met if the Surveillance is performed within 1.25 times the interval specified in the Frequency, as measured from the previous performance or as measured from the time a specified condition of the Frequency is met.

For Frequencies specified as "once," the above interval extension does not apply.

If a Completion Time requires periodic performance on a "once per . . ." basis, the above Frequency extension applies to each performance after the initial performance.

Exceptions to this Specification are stated in the individual Specifications.

---

SR 3.0.3 If it is discovered that a Surveillance was not performed within its specified Frequency, then compliance with the requirement to declare the LCO not met may be delayed, from the time of discovery, up to 24 hours or up to the limit of the specified Frequency, whichever is greater. This delay period is permitted to allow performance of the Surveillance.

If the Surveillance is not performed within the delay period, the LCO must immediately be declared not met, and the applicable Condition(s) must be entered. A risk evaluation shall be performed for any Surveillance delayed greater than 24 hours and the risk impact shall be managed.

When the Surveillance is performed within the delay period and the Surveillance is not met, the LCO must immediately be declared not met, and the applicable Condition(s) must be entered.

---

SR 3.0.4

Entry into a MODE or other specified condition in the Applicability of an LCO shall only be made when the LCO's Surveillances have been met within their specified Frequency, except as provided by SR 3.0.3. When an LCO is not met due to Surveillances not having been met, entry into a MODE or other specified condition in the Applicability shall only be made in accordance with LCO 3.0.4.

This provision shall not prevent entry into MODES or other specified conditions in the Applicability that are required to comply with ACTIONS or that are part of a shutdown of the unit.

---

3.1 REACTIVITY CONTROL SYSTEMS

3.1.3 Moderator Temperature Coefficient (MTC)

LCO 3.1.3 The MTC shall be maintained within the limits specified in the COLR. The maximum upper limit shall be less than or equal to 5 pcm/°F for power levels below 70% RTP and less than or equal to 0 pcm/°F at or above 70% RTP.

APPLICABILITY: MODE 1 and MODE 2 with  $k_{eff} \geq 1.0$  for the upper MTC limit, MODES 1, 2, and 3 for the lower MTC limit.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. MTC not within upper limit.	A.1 Establish administrative withdrawal limits for control banks to maintain MTC within limit.	24 hours
B. Required Action and associated Completion Time of Condition A not met.	B.1 Be in MODE 2 with $k_{eff} < 1.0$ .	6 hours
C. ----- - NOTE - Required Action C.1 must be completed whenever Condition C is entered. -----  Projected end of cycle life (EOL) MTC not within lower limit.	C.1 ----- - NOTE - LCO 3.0.4.c is applicable. -----  Re-evaluate core design and safety analysis, and determine that the reactor core is acceptable for continued operation.	Once prior to reaching the equivalent of an equilibrium RTP all rods out (ARO) boron concentration of 300 ppm
D. Required Action and associated Completion Time of Condition C not met.	D.1 Be in MODE 4.	12 hours

**SURVEILLANCE REQUIREMENTS**

SURVEILLANCE		FREQUENCY
SR 3.1.3.1	Verify MTC is within upper limit.	Once prior to entering MODE 1 after each refueling
SR 3.1.3.2	Confirm that MTC will be within limits at 70% RTP.	Once prior to entering MODE 1 after each refueling
SR 3.1.3.3	Confirm that MTC will be within limits at EOL.	Once prior to entering MODE 1 after each refueling.

3.3 INSTRUMENTATION

3.3.3 Post Accident Monitoring (PAM) Instrumentation

LCO 3.3.3 The PAM instrumentation for each Function in Table 3.3.3-1 shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3.

ACTIONS

- NOTE -

Separate Condition entry is allowed for each Function.

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>A.</p> <p>- NOTE - Not applicable to Functions 3 and 4.</p> <p>One or more Functions with one required channel inoperable.</p>	<p>A.1 Restore required channel to OPERABLE status.</p>	<p>30 days</p>
<p>B. Required Action and associated Completion Time of Condition A not met.</p>	<p>B.1 Initiate action to prepare and submit a special report.</p>	<p>Immediately</p>
<p>C.</p> <p>- NOTE - Only applicable to Functions 3 and 4.</p> <p>One or more Functions with required channel inoperable.</p>	<p>C.1 Restore required channel to OPERABLE status.</p>	<p>7 days</p>

CONDITION	REQUIRED ACTION	COMPLETION TIME
D. ----- - NOTE - Not applicable to Function 11. -----  One or more Functions with two required channels inoperable.	D.1 Restore one channel to OPERABLE status.	7 days
E. Two hydrogen monitor channels inoperable.	E.1 Restore one hydrogen monitor channel to OPERABLE status.	72 hours
F. Required Action and associated Completion Time of Condition C, D, or E not met.	F.1 Enter the Condition referenced in Table 3.3.3-1 for the channel.	Immediately
G. As required by Required Action F.1 and referenced in Table 3.3.3-1.	G.1 Be in MODE 3.	6 hours
	<u>AND</u> G.2 Be in MODE 4.	12 hours
H: As required by Required Action F.1 and referenced in Table 3.3.3-1.	H.1 Initiate action to prepare and submit a special report.	Immediately

SURVEILLANCE REQUIREMENTS

-----  
 - NOTE -  
 SR 3.3.3.1 and SR 3.3.3.2 apply to each PAM instrumentation Function in Table 3.3.3-1.  
 -----

SURVEILLANCE	FREQUENCY
SR 3.3.3.1 Perform CHANNEL CHECK for each required instrumentation channel that is normally energized.	31 days
SR 3.3.3.2 Perform CHANNEL CALIBRATION.	24 months

Table 3.3.3-1  
Post Accident Monitoring Instrumentation

FUNCTION	REQUIRED CHANNELS	CONDITION
1. Pressurizer Pressure	2	G
2. Pressurizer Level	2	G
3. Reactor Coolant System (RCS) Hot Leg Temperature	1 per loop	G
4. RCS Cold Leg Temperature	1 per loop	G
5. RCS Pressure (Wide Range)	2	G
6. RCS Subcooling Monitor	2	G
7. Reactor Vessel Water Level	2	H
8. Containment Sump B Water Level	2	G
9. Containment Pressure (Wide Range)	2	G
10. Containment Area Radiation (High Range)	2	H
11. Hydrogen Monitors	2	G
12. Condensate Storage Tank Level	2	G
13. Refueling Water Storage Tank Level	2	G
14. Residual Heat Removal Flow	2	G
15. Core Exit Temperature-Quadrant 1	2 <sup>(a)</sup>	G
16. Core Exit Temperature-Quadrant 2	2 <sup>(a)</sup>	G
17. Core Exit Temperature-Quadrant 3	2 <sup>(a)</sup>	G
18. Core Exit Temperature-Quadrant 4	2 <sup>(a)</sup>	G
19. Auxiliary Feedwater (AFW) Flow to Steam Generator (SG) A	2	G
20. AFW Flow to SG B	2	G
21. SG A Water Level (Narrow Range)	2	G
22. SG B Water Level (Narrow Range)	2	G

Table 3.3.3-1  
Post Accident Monitoring Instrumentation

	FUNCTION	REQUIRED CHANNELS	CONDITION
23.	SG A Water Level (Wide Range)	2	G
24.	SG B Water Level (Wide Range)	2	G
25.	SG A Pressure	2	G
26.	SG B Pressure	2	G

(a) A channel consists of two core exit thermocouples (CETs).

3.4 REACTOR COOLANT SYSTEM (RCS)

3.4.5 RCS Loops - MODES 1 ≤ 8.5% RTP, 2, and 3

LCO 3.4.5 Two RCS loops shall be OPERABLE and one loop shall be in operation.

-----  
- NOTE -  
-----

Both reactor coolant pumps may be de-energized in MODE 3 for ≤ 1 hour per 8 hour period provided:

- a. No operations are permitted that would cause reduction of the RCS boron concentration; and
  - b. Core outlet temperature is maintained at least 10°F below saturation temperature.
- 

APPLICABILITY: MODES 1 ≤ 8.5% RTP,  
MODES 2 and 3.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A: One RCS loop inoperable.	A.1 Verify SDM is within limits specified in the COLR.	Once per 12 hours
	<u>AND</u>	
	A.2 Restore inoperable RCS loop to OPERABLE status.	72 hours
B. Required Action and associated Completion Time of Condition A not met.	B.1 Be in MODE 4.	12 hours

CONDITION	REQUIRED ACTION	COMPLETION TIME
C. Both RCS loops inoperable.  <u>OR</u>  No RCS loop in operation.	C.1 De-energize all CRDMs.  <u>AND</u>	Immediately
	C.2 Suspend all operations involving a reduction of RCS boron concentration.  <u>AND</u>	Immediately
	C.3 Initiate action to restore one RCS loop to OPERABLE status and operation.	Immediately

**SURVEILLANCE REQUIREMENTS**

SURVEILLANCE	FREQUENCY
SR 3.4.5.1      Verify required RCS loop is in operation.	12 hours
SR 3.4.5.2      Verify steam generator secondary side water levels are ≥ 16% for two RCS loops.	12 hours
SR 3.4.5.3      Verify correct breaker alignment and indicated power are available to the required RCP that is not in operation.	7 days

3.4 REACTOR COOLANT SYSTEM (RCS)

3.4.11 Pressurizer Power Operated Relief Valves (PORVs)

LCO 3.4.11 Each PORV and associated block valve shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3.

ACTIONS

- NOTE -

1. Separate entry into Condition A is allowed for each PORV.
2. Separate entry into Condition C is allowed for each block valve.

CONDITION		REQUIRED ACTION	COMPLETION TIME
A.	One or both PORVs OPERABLE and not capable of being automatically controlled.	A.1 Close and maintain power to associated block valve.	1 hour
		<u>OR</u>	
		A.2 Place associated PORV in manual control.	1 hour
B.	One PORV inoperable.	B.1 Close associated block valve.	1 hour
		<u>AND</u>	
		B.2 Remove power from associated block valve.	1 hour
		<u>AND</u>	
		B.3 Restore PORV to OPERABLE status.	72 hours
C.	One block valve inoperable.	C.1 Place associated PORV in manual control.	1 hour
		<u>AND</u>	

CONDITION	REQUIRED ACTION	COMPLETION TIME
	C.2 Restore block valve to OPERABLE status.	7 days
D. Both block valves inoperable.	D.1 Place associated PORVs in manual control.  <u>AND</u> D.2 Restore at least one block valve to OPERABLE status.	1 hour  72 hours
E. Required Action and associated Completion Time of Condition A, B, C, or D not met.	E.1 Be in MODE 3.  <u>AND</u> E.2 Be in MODE 4.	6 hours  12 hours
F. Two PORVs inoperable.	F.1 Initiate action to restore one PORV to OPERABLE status.  <u>AND</u> F.2 Close associated block valves.  <u>AND</u> F.3 Remove power from associated block valves.  <u>AND</u> F.4 Be in MODE 3 with $T_{avg} < 500^{\circ}\text{F}$ .	Immediately  1 hour  1 hour  8 hours

**SURVEILLANCE REQUIREMENTS**

SURVEILLANCE		FREQUENCY
SR 3.4.11.1	<p style="text-align: center;">- NOTE -</p> <p>Not required to be performed with block valve closed per LCO 3.4.13.</p> <p>Perform a complete cycle of each block valve.</p>	92 days
SR 3.4.11.2	Perform a complete cycle of each PORV.	24 months

3.4 REACTOR COOLANT SYSTEM (RCS)

3.4.12 Low Temperature Overpressure Protection (LTOP) System

LCO 3.4.12 An LTOP System shall be OPERABLE with the Emergency Core Cooling System (ECCS) accumulators isolated and either a or b below.

- a. Two power operated relief valves (PORVs) with lift settings within the limits specified in the PTLR and no safety injection (SI) pump capable of injecting into the RCS.
- b. The RCS depressurized and an RCS vent of  $\geq 1.1$  square inches and a maximum of one SI pump capable of injecting into the RCS.

-----  
- NOTE -

1. The PORVs and an RCS vent  $\geq 1.1$  square inches are not required to be OPERABLE during performance of the secondary side hydrostatic tests. However, no SI pump may be capable of injecting into the RCS during this test.
  2. ECCS accumulator isolation is only required when accumulator pressure is greater than or equal to the maximum RCS pressure for the existing RCS cold leg temperature allowed by the P/T limit curves provided in the PTLR.
- 

APPLICABILITY: MODE 4 when any RCS cold leg temperature is less than or equal to the LTOP enable temperature specified in the PTLR or when the RHR system is in the RHR mode of operation,  
MODE 5 when the SG primary system manway and pressurizer manway are closed and secured in position,  
MODE 6 when the reactor vessel head is on and the SG primary system manway and pressurizer manway are closed and secured in position.

ACTIONS

- NOTE -

LCO 3.0.4.b is not applicable when entering MODE 4.

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>A.</p> <p>-----</p> <p>- NOTE - Only applicable to LCO 3.4.12.a.</p> <p>-----</p> <p>One or more SI pumps capable of injecting into the RCS.</p>	<p>A.1</p> <p>Initiate action to verify no SI pump is capable of injecting into the RCS.</p>	<p>Immediately</p>
<p>B.</p> <p>-----</p> <p>- NOTE - Only applicable to LCO 3.4.12.a.</p> <p>-----</p> <p>One required PORV inoperable in MODE 4.</p>	<p>B.1</p> <p>Restore required PORV to OPERABLE status.</p>	<p>7 days</p>
<p>C.</p> <p>-----</p> <p>- NOTE - Only applicable to LCO 3.4.12.a.</p> <p>-----</p> <p>One required PORV inoperable in MODE 5 or MODE 6.</p>	<p>C.1</p> <p>Restore required PORV to OPERABLE status.</p>	<p>72 hours</p>
<p>D.</p> <p>-----</p> <p>- NOTE - Only applicable to LCO 3.4.12.b.</p> <p>-----</p> <p>Two or more SI pumps capable of injecting into the RCS.</p>	<p>D.1</p> <p>Initiate action to verify a maximum of one SI pump is capable of injecting into the RCS.</p>	<p>Immediately</p>

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>E. An ECCS accumulator not isolated when the accumulator pressure is greater than or equal to the maximum RCS pressure for the existing cold leg temperature allowed in the PTLR.</p>	<p>E.1 Isolate affected ECCS accumulator.</p>	<p>1 hour</p>
<p>F. Required Action and associated Completion Time of Condition E not met.</p>	<p>F.1 Increase RCS cold leg temperature to greater than the LTOP enable temperature specified in the PTLR.</p> <p><u>OR</u></p> <p>F.2 Depressurize affected accumulator to less than the maximum RCS pressure for existing cold leg temperature allowed in the PTLR.</p>	<p>12 hours</p> <p>12 hours</p>
<p>G. Two required PORVs inoperable for LCO 3.4.12.a.</p> <p><u>OR</u></p> <p>Required Action and associated Completion Time of Condition A, B, C, or F not met.</p> <p><u>OR</u></p> <p>LTOP System inoperable for any reason other than Condition A, B, C, or E.</p>	<p>G.1 Verify at least one charging pump is in the pull-stop position.</p> <p><u>AND</u></p> <p>G.2 Depressurize RCS and establish RCS vent of <math>\geq 1.1</math> square inches.</p>	<p>1 hour</p> <p>8 hours</p>

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
<p>SR 3.4.12.1</p> <p>----- - NOTE - ----- Only required to be performed when complying with LCO 3.4.12.a. ----- Verify no SI pump is capable of injecting into the RCS.</p>	<p>12 hours</p>
<p>SR 3.4.12.2</p> <p>----- - NOTE - ----- Only required to be performed when complying with LCO 3.4.12.b. ----- Verify a maximum of one SI pump is capable of injecting into the RCS.</p>	<p>12 hours</p>
<p>SR 3.4.12.3</p> <p>----- - NOTE - ----- Only required to be performed when ECCS accumulator pressure is greater than or equal to the maximum RCS pressure for the existing RCS cold leg temperature allowed in the PTLR. ----- Verify each ECCS accumulator motor operated isolation valve is closed.</p>	<p>Once within 12 hours and every 12 hours thereafter</p>
<p>SR 3.4.12.4</p> <p>----- - NOTE - ----- Only required to be performed when complying with LCO 3.4.12.b. ----- Verify RCS vent <math>\geq 1.1</math> square inches open.</p>	<p>12 hours for unlocked open vent valve(s)</p> <p><u>AND</u></p> <p>31 days for locked open vent valve(s)</p>
<p>SR 3.4.12.5</p> <p>Verify PORV block valve is open for each required PORV.</p>	<p>72 hours</p>

SURVEILLANCE		FREQUENCY
SR 3.4.12.6	<p>-----            - NOTE -            Required to be performed within 12 hours after decreasing RCS cold leg temperature to less than or equal to the LTOP enable temperature specified in the PTLR.            -----</p> <p>Perform a COT on each required PORV, excluding actuation.</p>	31 days
SR 3.4.12.7	<p>-----            - NOTE -            Only required to be performed when ECCS accumulator pressure is greater than or equal to the maximum RCS pressure for the existing RCS cold leg temperature allowed in the PTLR.            -----</p> <p>Verify power is removed from each ECCS accumulator motor operated isolation valve operator.</p>	Once within 12 hours and every 31 days thereafter
SR 3.4.12.8	Perform CHANNEL CALIBRATION for each required PORV actuation channel.	24 months

3.4 REACTOR COOLANT SYSTEM (RCS)

3.4.15 RCS Leakage Detection Instrumentation

LCO 3.4.15 The following RCS leakage detection instrumentation shall be OPERABLE:

- a. One containment sump A monitor (level or pump actuation);
- b. Gaseous containment atmosphere radioactivity monitor; and
- c. Particulate containment atmosphere radioactivity monitor.

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

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Required containment sump monitor inoperable.	A.1.1 Perform SR 3.4.13.1.	Once per 24 hours
	<u>OR</u>	
	A.1.2 Verify containment air cooler condensate collection system is OPERABLE.	24 hours
	<u>AND</u>	
	A.2 Restore required containment sump monitor to OPERABLE status.	30 days
B. Gaseous containment atmosphere radioactivity monitor inoperable.	B.1 Verify particulate containment atmosphere radioactivity monitor OPERABLE.	1 hour

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>C. Particulate containment atmosphere radioactivity monitor inoperable.</p> <p><u>OR</u></p> <p>Required Action and associated Completion Time of Condition B not met.</p>	C.1 Analyze grab samples of the containment atmosphere.	Once within 12 hours and every 12 hours thereafter
	C.2 Perform SR 3.4.13.1.	Once within 12 hours and every 12 hours thereafter
<p>D. Gaseous containment atmosphere radioactivity monitor inoperable.</p> <p><u>AND</u></p> <p>Particulate containment atmosphere radioactivity monitor inoperable.</p>	D.1 Restore gaseous containment atmosphere radioactivity monitor to OPERABLE status.	30 days
	D.2 Restore particulate containment atmosphere radioactivity monitor to OPERABLE status.	30 days
<p>E. Required Action and associated Completion Time of Conditions A, C, or D not met.</p>	E.1 Be in MODE 3.	6 hours
	E.2 Be in MODE 5.	36 hours
F. All required monitors inoperable.	F.1 Enter LCO 3.0.3.	Immediately

**SURVEILLANCE REQUIREMENTS**

SURVEILLANCE		FREQUENCY
SR 3.4.15.1	Perform CHANNEL CHECK of containment atmosphere radioactivity monitors.	12 hours
SR 3.4.15.2	Perform COT of containment atmosphere radioactivity monitors.	92 days
SR 3.4.15.3	Perform CHANNEL CALIBRATION of the required containment sump monitor.	24 months
SR 3.4.15.4 -	Perform CHANNEL CALIBRATION of containment atmosphere radioactivity monitors.	24 months

3.4 REACTOR COOLANT SYSTEM (RCS)

3.4.16 RCS Specific Activity

LCO 3.4.16 The specific activity of the reactor coolant shall be within limits.

APPLICABILITY: MODES 1 and 2,  
MODE 3 with RCS average temperature ( $T_{avg}$ )  $\geq$  500°F.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. DOSE EQUIVALENT I-131 specific activity not within limit.	----- - NOTE - LCO 3.0.4.c is applicable. -----	Once per 8 hours
	A.1 Verify DOSE EQUIVALENT I-131 within the acceptable region of Figure 3.4.16-1.	
	<u>AND</u>	
	A.2 Restore DOSE EQUIVALENT I-131 to within limit.	7 days
B. Required Action and associated Completion Time of Condition A not met.  <u>OR</u>  DOSE EQUIVALENT I-131 specific activity in the unacceptable region of Figure 3.4.16-1.	B.1 Be in MODE 3 with $T_{avg}$ < 500°F.	8 hours
C. Gross specific activity not within limit.	C.1 Be in MODE 3 with $T_{avg}$ < 500°F.	8 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.4.16.1	Verify reactor coolant gross specific activity $\leq 100/\bar{E}$ $\mu\text{Ci/gm}$ .	7 days
SR 3.4.16.2	<p>-----            - NOTE -            Only required to be performed in MODE 1.            -----</p> <p>Verify reactor coolant DOSE EQUIVALENT I-131 specific activity <math>\leq 1.0 \mu\text{Ci/gm}</math>.</p>	<p>14 days</p> <p><u>AND</u></p> <p>Between 2 and 10 hours after a THERMAL POWER change of <math>\geq 15\%</math> RTP within a 1 hour period</p>
SR 3.4.16.3	<p>-----            - NOTE -            Only required to be performed in MODE 1.            -----</p> <p>Determine <math>\bar{E}</math> from a reactor coolant sample.</p>	<p>Once within 31 days after a minimum of 2 effective full power days and 20 days of MODE 1 operation have elapsed since the reactor was last subcritical for <math>\geq 48</math> hours.</p> <p><u>AND</u></p> <p>Every 184 days thereafter</p>

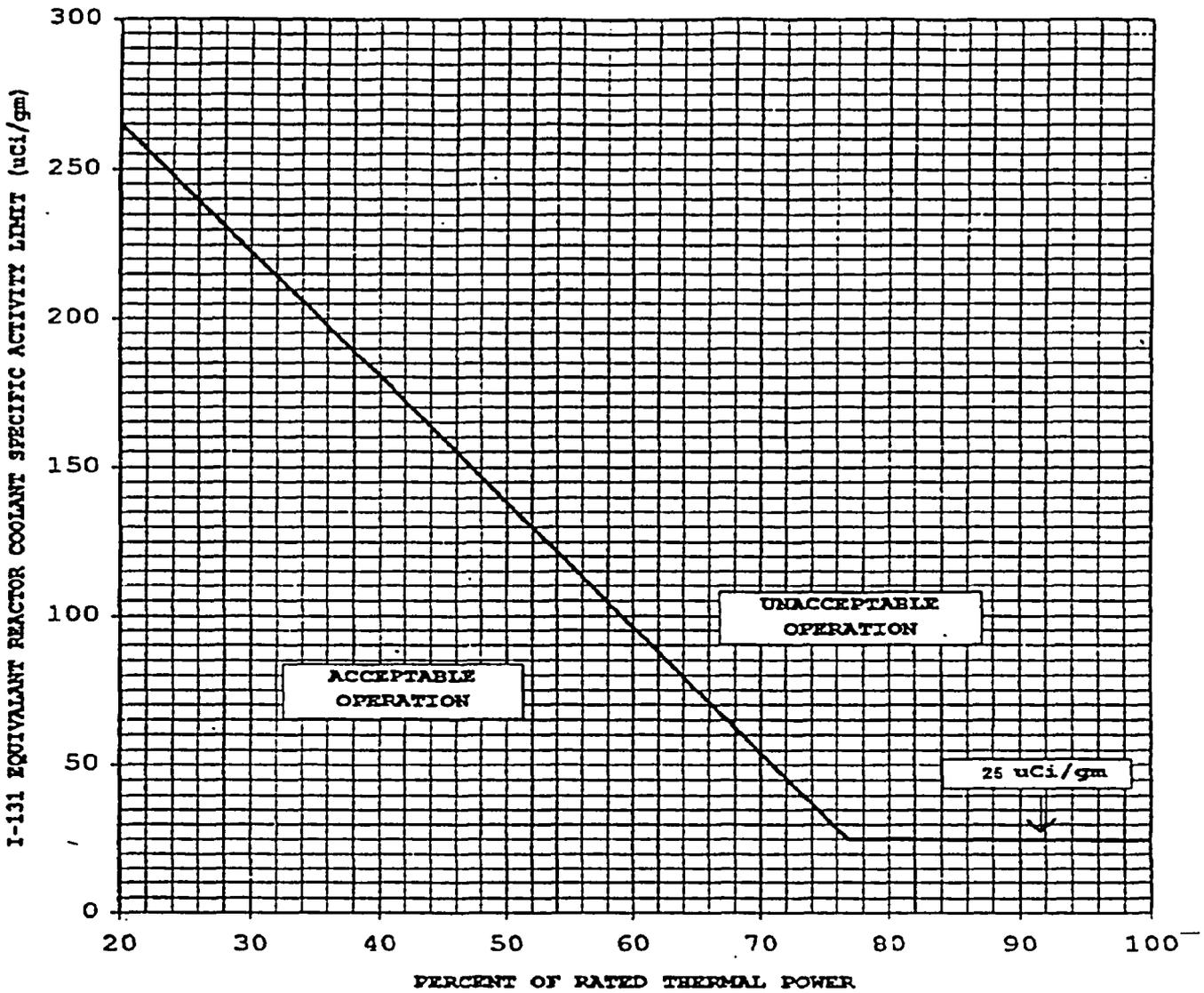


Figure 3.4.16-1  
Reactor Coolant DOSE EQUIVALENT I-131 Specific Activity Limit Versus Percent of RATED THERMAL POWER

3.5 EMERGENCY CORE COOLING SYSTEMS (ECCS)

3.5.3 ECCS - MODE 4

LCO 3.5.3 One ECCS train shall be OPERABLE.

APPLICABILITY: MODE 4.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Required ECCS residual heat removal (RHR) subsystem inoperable.	A.1 Initiate action to restore required ECCS RHR subsystem to OPERABLE status.	Immediately
B. Required ECCS Safety Injection (SI) subsystem inoperable.	B.1 ----- - NOTE - LCO 3.0.4.b is not applicable. -----  Restore required ECCS SI subsystem to OPERABLE status.	1 hour
C. Required Action and associated Completion Time of Condition B not met.	C.1 Be in MODE 5.	24 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
<p>SR 3.5.3.1</p> <p>----- - NOTE - An RHR train may be considered OPERABLE during alignment and operation for decay heat removal, if capable of being manually realigned to the ECCS mode of operation. -----</p> <p>SR 3.5.2.4 is applicable for all equipment required to be OPERABLE.</p>	<p>In accordance with applicable SR</p>

3.6 CONTAINMENT SYSTEMS

3.6.7 Hydrogen Recombiners

LCO 3.6.7 Two hydrogen recombiners shall be OPERABLE.

APPLICABILITY: MODES 1 and 2.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One hydrogen recombiner inoperable.	A.1 Restore hydrogen recombiner to OPERABLE status.	30 days
B. Two hydrogen recombiners inoperable.	B.1 Verify by administrative means that the hydrogen control function is maintained.	1 hour <u>AND</u> Once per 12 hours thereafter
	<u>AND</u> B.2 Restore one hydrogen recombiner to OPERABLE status.	7 days
C. Required Action and associated Completion Time not met.	C.1 Be in MODE 3.	6 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.6.7.1 Perform a system functional check for each hydrogen recombiner.	24 months
SR 3.6.7.2 Perform CHANNEL CALIBRATION for each hydrogen recombiner actuation and control channel.	24 months

3.7 PLANT SYSTEMS

3.7.4 Atmospheric Relief Valves (ARVs)

LCO 3.7.4 Two ARV lines shall be OPERABLE.

APPLICABILITY: MODES 1 and 2,  
MODE 3 with Reactor Coolant System average temperature ( $T_{avg}$ )  
 $\geq 500^{\circ}\text{F}$ .

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One ARV line inoperable.	A.1 Restore ARV line to OPERABLE status.	7 days
B. Required Action and associated Completion Time of Condition A not met.	B.1 Be in MODE 3 with $T_{avg} < 500^{\circ}\text{F}$ .	8 hours
C. Two ARV lines inoperable.	C.1 Enter LCO 3.0.3.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.7.4.1 Perform a complete cycle of each ARV.	24 months
SR 3.7.4.2 Verify one complete cycle of each ARV block valve.	24 months

3.7 PLANT SYSTEMS

3.7.5 Auxiliary Feedwater (AFW) System

LCO 3.7.5 Two motor driven AFW (MDAFW) trains, one turbine driven AFW (TDAFW) train, and two standby AFW (SAFW) trains shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3.

ACTIONS

CONDITION		REQUIRED ACTION	COMPLETION TIME
A.	One TDAFW train flowpath inoperable.	A.1 Restore TDAFW train flowpath to OPERABLE status.	7 days
B.	One MDAFW train inoperable.	B.1 Restore MDAFW train to OPERABLE status.	7 days
C.	<p>TDAFW train inoperable.</p> <p><u>OR</u></p> <p>Two MDAFW trains inoperable.</p> <p><u>OR</u></p> <p>One TDAFW train flowpath and one MDAFW train inoperable to opposite steam generators (SGs).</p>	<p>C.1</p> <p>----- - NOTE - LCO 3.0.4.b is not applicable. -----</p> <p>Restore one MDAFW train or TDAFW train flowpath to OPERABLE status.</p>	72 hours

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>D. All AFW trains to one or more SGs inoperable.</p>	<p>D.1</p> <p>----- - NOTE - LCO 3.0.4.b is not applicable. -----</p> <p>Restore one AFW train or TDAFW flowpath to each affected SG to OPERABLE status.</p>	<p>4 hours</p>
<p>E. One SAFW train inoperable.</p>	<p>E.1 Restore SAFW train to OPERABLE status.</p>	<p>14 days</p>
<p>F. Both SAFW trains inoperable.</p>	<p>F.1 Restore one SAFW train to OPERABLE status.</p>	<p>7 days</p>
<p>G. Required Action and associated Completion Time for Condition A, B, C, D, E, or F not met.</p>	<p>G.1 Be in MODE 3.</p> <p><u>AND</u></p> <p>G.2 Be in MODE 4.</p>	<p>6 hours</p> <p>12 hours</p>
<p>H. Three AFW trains and both SAFW trains inoperable.</p>	<p>H.1</p> <p>----- - NOTE - LCO 3.0.3 and all other LCO Required Actions requiring MODE changes are suspended until one MDAFW, TDAFW, or SAFW train is restored to OPERABLE status. -----</p> <p>Initiate action to restore one MDAFW, TDAFW, or SAFW train to OPERABLE status.</p>	<p>Immediately</p>

**SURVEILLANCE REQUIREMENTS**

SURVEILLANCE		FREQUENCY
SR 3.7.5.1	Verify each AFW and SAFW manual, power operated, and automatic valve in each water flow path, and in both steam supply flow paths to the turbine driven pump, that is not locked, sealed, or otherwise secured in position, is in the correct position.	31 days
SR 3.7.5.2	<p>----- - NOTE - -----</p> <p>Required to be met prior to entering MODE 1 for the TDAFW pump.</p> <p>-----</p> <p>Verify the developed head of each AFW pump at the flow test point is greater than or equal to the required developed head.</p>	In accordance with the Inservice Testing Program
SR 3.7.5.3	Verify the developed head of each SAFW pump at the flow test point is greater than or equal to the required developed head.	In accordance with the Inservice Testing Program
SR 3.7.5.4	Perform a complete cycle of each AFW and SAFW motor operated suction valve from the Service Water System, each AFW and SAFW discharge motor operated isolation valve, and each SAFW cross-tie motor operated valve.	In accordance with the Inservice Testing Program
SR 3.7.5.5	Verify each AFW automatic valve that is not locked, sealed, or otherwise secured in position, actuates to the correct position on an actual or simulated actuation signal.	24 months
SR 3.7.5.6	<p>----- - NOTE - -----</p> <p>Required to be met prior to entering MODE 1 for the TDAFW pump.</p> <p>-----</p> <p>Verify each AFW pump starts automatically on an actual or simulated actuation signal.</p>	24 months
SR 3.7.5.7	Verify each SAFW train can be actuated and controlled from the control room.	24 months

3.8 ELECTRICAL POWER SYSTEMS

3.8.1 AC Sources - MODES 1, 2, 3, and 4

LCO 3.8.1 The following AC electrical sources shall be OPERABLE:

- a. One qualified independent offsite power circuit connected between the offsite transmission network and each of the onsite 480 V safeguards buses required by LCO 3.8.9, "Distribution Subsystems - MODES 1, 2, 3, and 4"; and
- b. Two emergency diesel generators (DGs) capable of supplying their respective onsite 480 V safeguards buses required by LCO 3.8.9.

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

ACTIONS

- NOTE -

LCO 3.0.4.b is not applicable to DGs.

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Offsite power to one or more 480 V safeguards bus(es) inoperable.	A.1 Declare required feature(s) inoperable when its redundant required feature(s) is inoperable.	12 hours from discovery of Condition A concurrent with inoperability of redundant required feature(s)
	<u>AND</u> A.2 Restore offsite circuit to OPERABLE status.	72 hours
B. One DG inoperable.	B.1 Perform SR 3.8.1.1 for the offsite circuit.	1 hour
	<u>AND</u>	<u>AND</u> Once per 8 hours thereafter

CONDITION	REQUIRED ACTION	COMPLETION TIME
	<p>B.2 Declare required feature(s) supported by the inoperable DG inoperable when its required redundant feature(s) is inoperable.</p> <p><u>AND</u></p> <p>B.3.1 Determine OPERABLE DG is not inoperable due to common cause failure.</p> <p><u>OR</u></p> <p>B.3.2 Perform SR 3.8.1.2 for OPERABLE DG.</p> <p><u>AND</u></p> <p>B.4 Restore DG to OPERABLE status.</p>	<p>4 hours from discovery of Condition B concurrent with inoperability of redundant required feature(s)</p> <p>24 hours</p> <p>24 hours</p> <p>7 days</p>
<p>C. Offsite power to one or more 480 V safeguards bus(es) inoperable.</p> <p><u>AND</u></p> <p>One DG inoperable.</p>	<p>----- - NOTE - Enter applicable Conditions and Required Actions of LCO 3.8.9, "Distribution Systems - MODES 1, 2, 3, and 4," when Condition C is entered with no AC power source to one distribution train. -----</p> <p>C.1 Restore required offsite circuit to OPERABLE status.</p> <p><u>OR</u></p> <p>C.2 Restore DG to OPERABLE status.</p>	<p>12 hours</p> <p>12 hours</p>

CONDITION	REQUIRED ACTION	COMPLETION TIME
D. Required Action and associated Completion Time of Condition A, B, or C not met.	D.1 Be in MODE 3.	6 hours
	<u>AND</u>	
	D.2 Be in MODE 5.	36 hours
E. Two DGs inoperable.	E.1 Enter LCO 3.0.3.	Immediately

**SURVEILLANCE REQUIREMENTS**

SURVEILLANCE	FREQUENCY
SR 3.8.1.1 Verify correct breaker alignment and indicated power availability for the offsite circuit to each of the 480 V safeguards buses.	7 days
SR 3.8.1.2	
----- - NOTE - 1. Performance of SR 3.8.1.9 satisfies this SR. 2. All DG starts may be preceded by an engine prelube period and followed by a warmup period prior to loading. -----	
Verify each DG starts from standby conditions and achieves rated voltage and frequency.	31 days

SURVEILLANCE	FREQUENCY
<p>SR 3.8.1.3</p> <p style="text-align: center;">- NOTE -</p> <ol style="list-style-type: none"> <li>1. DG loadings may include gradual loading as recommended by the manufacturer.</li> <li>2. Momentary transients outside the load range do not invalidate this test.</li> <li>3. This Surveillance shall be conducted on only one DG at a time.</li> <li>4. This SR shall be preceded by and immediately follow without shutdown a successful performance of SR 3.8.1.2 or SR 3.8.1.9.</li> </ol> <p>Verify each DG is synchronized and loaded and operates for <math>\geq 60</math> minutes and <math>&lt; 120</math> minutes at a load <math>\geq 1950</math> kW and <math>&lt; 2250</math> kW.</p>	<p>31 days</p>
<p>SR 3.8.1.4</p> <p>Verify the fuel oil level in each day tank.</p>	<p>31 days</p>
<p>SR 3.8.1.5</p> <p>Verify the DG fuel oil transfer system operates to transfer fuel oil from each storage tank to the associated day tank.</p>	<p>31 days</p>
<p>SR 3.8.1.6</p> <p>Verify transfer of AC power sources from the 50/50 mode to the 100/0 mode and 0/100 mode.</p>	<p>24 months</p>
<p>SR 3.8.1.7</p> <p style="text-align: center;">- NOTE -</p> <ol style="list-style-type: none"> <li>1. This Surveillance shall not be performed in MODE 1, 2, 3, or 4.</li> <li>2. Credit may be taken for unplanned events that satisfy this SR.</li> </ol> <p>Verify each DG does not trip during and following a load rejection of <math>\geq 295</math> kW.</p>	<p>24 months</p>

SURVEILLANCE	FREQUENCY
<p>SR 3.8.1.8</p> <p style="text-align: center;">- NOTE -</p> <ol style="list-style-type: none"> <li>1. This Surveillance shall not be performed in MODE 1, 2, 3, or 4.</li> <li>2. Credit may be taken for unplanned events that satisfy this SR.</li> </ol> <hr style="border-top: 1px dashed black;"/> <p>Verify each DG automatic trips are bypassed on an actual or simulated safety injection (SI) signal except:</p> <ol style="list-style-type: none"> <li>a. Engine overspeed;</li> <li>b. Low lube oil pressure; and</li> <li>c. Start failure (overcrank) relay.</li> </ol>	<p>24 months</p>
<p>SR 3.8.1.9</p> <p style="text-align: center;">- NOTE -</p> <ol style="list-style-type: none"> <li>1. All DG starts may be preceded by an engine prelube period.</li> <li>2. This Surveillance shall not be performed in MODE 1, 2, 3, or 4.</li> <li>3. Credit may be taken for unplanned events that satisfy this SR.</li> </ol> <hr style="border-top: 1px dashed black;"/> <p>Verify on an actual or simulated loss of offsite power signal in conjunction with an actual or simulated SI actuation signal:</p> <ol style="list-style-type: none"> <li>a. De-energization of 480 V safeguards buses;</li> <li>b. Load shedding from 480 V safeguards buses; and</li> <li>c. DG auto-starts from standby condition and:               <ol style="list-style-type: none"> <li>1. energizes permanently connected loads,</li> <li>2. energizes auto-connected emergency loads through the load sequencer, and</li> <li>3. supplies permanently and auto-connected emergency loads for <math>\geq 5</math> minutes.</li> </ol> </li> </ol>	<p>24 months</p>

**Enclosure 4**  
**R.E. Ginna Nuclear Power Plant**

**Planned Technical Specification Bases Changes (for information only)**

## ITS Mode Change Bases Inserts

### Bases Insert 1 (LCO 3.0.4 Bases)

LCO 3.0.4 establishes limitations on changes in MODES or other specified conditions in the Applicability when an LCO is not met. It allows placing the plant in a MODE or other specified condition stated in that Applicability (e.g., the Applicability desired to be entered) when plant conditions are such that the requirements of the LCO would not be met, in accordance with LCO 3.0.4.a, LCO 3.0.4.b, or LCO 3.0.4.c.

LCO 3.0.4.a allows entry into a MODE or other specified condition in the Applicability with the LCO not met when the associated ACTIONS to be entered permit continued operation in the MODE or other specified condition in the Applicability for an unlimited period of time. Compliance with Required Actions that permit continued operation of the plant for an unlimited period of time in a MODE or other specified condition provides an acceptable level of safety for continued operation. This is without regard to the status of the plant before or after the MODE change. Therefore, in such cases, entry into a MODE or other specified condition in the Applicability may be made in accordance with the provisions of the Required Actions.

LCO 3.0.4.b allows entry into a MODE or other specified condition in the Applicability with the LCO not met after performance of a risk assessment addressing inoperable systems and components, consideration of the results, determination of the acceptability of entering the MODE or other specified condition in the Applicability, and establishment of risk management actions, if appropriate.

The risk assessment may use quantitative, qualitative, or blended approaches, and the risk assessment will be conducted using the plant program, procedures, and criteria in place to implement 10 CFR 50.65(a)(4), which requires that risk impacts of maintenance activities to be assessed and managed. The risk assessment, for the purposes of LCO 3.0.4.b, must take into account all inoperable Technical Specification equipment regardless of whether the equipment is included in the normal 10 CFR 50.65(a)(4) risk assessment scope. The risk assessments will be conducted using the procedures and guidance endorsed by Regulatory Guide 1.182, "Assessing and Managing Risk Before Maintenance Activities at Nuclear Power Plants." Regulatory Guide 1.182 endorses the guidance in Section 11 of NUMARC 93-01, "Industry Guideline for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants." These documents address general guidance for conduct of the risk assessment, quantitative and qualitative guidelines for establishing risk management actions, and example risk management actions. These include actions to plan and conduct other activities in a manner that controls overall risk, increased risk awareness by shift and management personnel, actions to reduce the duration of the condition, actions to minimize the magnitude of risk increases (establishment of backup success paths or compensatory measures), and determination that the proposed MODE change is acceptable. Consideration should also be given to the probability of completing restoration such that the requirements of the LCO would be met prior to the expiration of ACTIONS Completion Times that would require exiting the Applicability.

LCO 3.0.4.b may be used with single, or multiple systems and components unavailable. NUMARC 93-01 provides guidance relative to consideration of simultaneous unavailability of multiple systems and components.

The results of the risk assessment shall be considered in determining the acceptability of entering the MODE or other specified condition in the Applicability, and any corresponding risk management actions. The LCO 3.0.4.b risk assessments do not have to be documented.

The Technical Specifications allow continued operation with equipment unavailable in MODE 1 for the duration of the Completion Time. Since this is allowable, and since in general the risk impact in that particular MODE bounds the risk of transitioning into and through the applicable MODES or other specified conditions in the Applicability of the LCO, the use of the LCO 3.0.4.b allowance should be generally acceptable, as long as the risk is assessed and managed as stated above. However, there is a small subset of systems and components that have been determined to be more important to risk and use of the LCO 3.0.4.b allowance is prohibited. The LCOs governing these system and components contain Notes prohibiting the use of LCO 3.0.4.b by stating that LCO 3.0.4.b is not applicable.

LCO 3.0.4.c allows entry into a MODE or other specified condition in the Applicability with the LCO not met based on a Note in the Specification which states LCO 3.0.4.c is applicable. These specific allowances permit entry into MODES or other specified conditions in the Applicability when the associated ACTIONS to be entered do not provide for continued operation for an unlimited period of time and a risk assessment has not been performed. This allowance may apply to all the ACTIONS or to a specific Required Action of a Specification. The risk assessments performed to justify the use of LCO 3.0.4.b usually only consider systems and components. For this reason, LCO 3.0.4.c is typically applied to Specifications which describe values and parameters (e.g., Moderator Temperature Coefficient, RCS Specific Activity), and may be applied to other Specifications based on NRC plant-specific approval.

The provisions of this Specification should not be interpreted as endorsing the failure to exercise the good practice of restoring systems or components to OPERABLE status before entering an associated MODE or other specified condition in the Applicability.

The provisions of LCO 3.0.4 shall not prevent changes in MODES or other specified conditions in the Applicability that are required to comply with ACTIONS. In addition, the provisions of LCO 3.0.4 shall not prevent changes in MODES or other specified conditions in the Applicability that result from any plant shutdown. In this context, a plant shutdown is defined as a change in MODE or other specified condition in the Applicability associated with transitioning from MODE 1 to MODE 2, MODE 2 to MODE 3, MODE 3 to MODE 4, and MODE 4 to MODE 5.

Upon entry into a MODE or other specified condition in the Applicability with the LCO not met, LCO 3.0.1 and LCO 3.0.2 require entry into the applicable Conditions and Required Actions until the Condition is resolved, until the LCO is met, or until the plant is not within the Applicability of the Technical Specification.

Surveillances do not have to be performed on the associated inoperable equipment (or on variables outside the specified limits), as permitted by SR 3.0.1. Therefore, utilizing LCO 3.0.4 is not a violation of SR 3.0.1 or SR 3.0.4 for any Surveillances that have not been performed on inoperable equipment. However, SRs must be met to ensure OPERABILITY prior to declaring the associated equipment OPERABLE (or variable within limits) and restoring compliance with the affected LCO.

## **Bases Insert 2 (SR 3.0.4 Bases)**

SR 3.0.4 establishes the requirement that all applicable SRs must be met before entry into a MODE or other specified condition in the Applicability.

This Specification ensures that system and component OPERABILITY requirements and variable limits are met before entry into MODES or other specified conditions in the Applicability for which these systems and components ensure safe operation of the plant. The provisions of this Specification should not be interpreted as endorsing the failure to exercise the good practice of restoring systems or components to OPERABLE status before entering an associated MODE or other specified condition in the Applicability.

A provision is included to allow entry into a MODE or other specified condition in the Applicability when an LCO is not met due to Surveillance not being met in accordance with LCO 3.0.4.

However, in certain circumstances, failing to meet an SR will not result in SR 3.0.4 restricting a MODE change or other specified condition change. When a system, subsystem, division, component, device, or variable is inoperable or outside its specified limits, the associated SR(s) are not required to be performed, per SR 3.0.1, which states that surveillances do not have to be performed on inoperable equipment. When equipment is inoperable, SR 3.0.4 does not apply to the associated SR(s) since the requirement for the SR(s) to be performed is removed. Therefore, failing to perform the Surveillance(s) within the specified Frequency does not result in an SR 3.0.4 restriction to changing MODES or other specified conditions of the Applicability. However, since the LCO is not met in this instance, LCO 3.0.4 will govern any restrictions that may (or may not) apply to MODE or other specified condition changes. SR 3.0.4 does not restrict changing MODES or other specified conditions of the Applicability when a Surveillance has not been performed within the specified Frequency, provided the requirement to declare the LCO not met has been delayed in accordance with SR 3.0.3.

The provisions of SR 3.0.4 shall not prevent entry into MODES or other specified conditions in the Applicability that are required to comply with ACTIONS. In addition, the provisions of SR 3.0.4 shall not prevent changes in MODES or other specified conditions in the Applicability that result from any plant shutdown. In this context, a plant shutdown is defined as a change in MODE or other specified condition in the Applicability associated with transitioning from MODE 1 to MODE 2, MODE 2 to MODE 3, MODE 3 to MODE 4, and MODE 4 to MODE 5.

The precise requirements for performance of SRs are specified such that exceptions to SR 3.0.4 are not necessary. The specific time frames and conditions necessary for meeting the SRs are specified in the Frequency, in the Surveillance, or both. This allows performance of Surveillances when the prerequisite condition(s) specified in a Surveillance procedure require entry into the MODE or other specified condition in the Applicability of the associated LCO prior to the performance or completion of a Surveillance. A Surveillance that could not be performed until after entering the LCO's Applicability, would have its Frequency specified such that it is not "due" until the specific conditions needed are met. Alternately, the Surveillance may be stated in the form of a Note, as not required (to be met or performed) until a particular event, condition, or time has been reached. Further discussion of the specific formats of SRs' annotation is found in Section 1.4, Frequency.

### **Bases Insert 3 (LCO 3.4.12 Bases, LTOP System)**

A Note prohibits the application of LCO 3.0.4.b to an inoperable LTOP system. There is an increased risk associated with entering MODE 4 from MODE 5 with LTOP inoperable and the provisions of LCO 3.0.4.b, which allow entry into a MODE or other specified condition in the Applicability with the LCO not met after performance of a risk assessment addressing inoperable systems and components, should not be applied in this circumstance.

### **Bases Insert 4 (LCO 3.4.16 Bases, RCS Specific Activity)**

A Note permits the use of the provisions of LCO 3.0.4.c. This allowance permits entry into the applicable MODE(S) while relying on the ACTIONS.

### **Bases Insert 5 (LCO 3.5.3 Bases, ECCS - MODE 4)**

Condition B is modified by a Note which prohibits the application of LCO 3.0.4.b to an inoperable ECCS SI subsystem when entering MODE 4. There is an increased risk associated with entering MODE 4 from MODE 5 with an inoperable ECCS SI subsystem and the provisions of LCO 3.0.4.b, which allow entry into a MODE or other specified condition in the Applicability with the LCO not met after performance of a risk assessment addressing inoperable systems and components, should not be applied in this circumstance.

### **Bases Insert 6 (LCO 3.7.5, Auxiliary Feedwater (AFW) System)**

Condition C is modified by a Note which prohibits the application of LCO 3.0.4.b with a TDAFW train inoperable, or both MDAFW trains inoperable, or one TDAFW train flow path and one MDAFW train inoperable to opposite SGs. There is an increased risk associated with entering a MODE or other specified condition in the Applicability with a TDAFW train inoperable, or both MDAFW trains inoperable, or one TDAFW train flow path and one MDAFW train inoperable to opposite SGs consequently the provisions of LCO 3.0.4.b, which allow entry into a MODE or other specified condition in the Applicability with the LCO not met after performance of a risk assessment addressing inoperable systems and components, should not be applied in these circumstances.

**Bases Insert 7 (LCO 3.7.5, Auxiliary Feedwater (AFW) System)**

Condition D is modified by a Note which prohibits the application of LCO 3.0.4.b with all AFW trains to one or both SGs inoperable. There is an increased risk associated with entering a MODE or other specified condition in the Applicability with all AFW trains to one or both SGs inoperable and the provisions of LCO 3.0.4.b, which allow entry into a MODE or other specified condition in the Applicability with the LCO not met after performance of a risk assessment addressing inoperable systems and components, should not be applied in these circumstances.

**Bases Insert 8 (LCO 3.8.1, AC Sources - MODES 1, 2, 3, and 4)**

A Note prohibits the application of LCO 3.0.4.b to an inoperable DG. There is an increased risk associated with entering a MODE or other specified condition in the Applicability with an inoperable DG and the provisions of LCO 3.0.4.b, which allow entry into a MODE or other specified condition in the Applicability with the LCO not met after performance of a risk assessment addressing inoperable systems and components, should not be applied in this circumstance.

Required Action of LCO 3.7.11 of "Suspend movement of irradiated fuel assemblies in the SFP" is the appropriate Required Action to complete in lieu of the actions of LCO 3.0.3. These exceptions are addressed in the individual Specifications.

LCO 3.0.4

LCO 3.0.4 establishes limitations on changes in MODES or other specified conditions in the Applicability when an LCO is not met. It precludes placing the plant in a different MODE or other specified condition stated in the Applicability when the following exist:

- a. Plant conditions are such that the requirements of an LCO would not be met in the MODE or other specified condition in the Applicability desired to be entered; and
- b. The plant would be required to exit the MODE or other specified condition in the Applicability desired to be entered in order to comply with the Required Actions of the affected LCO.

Compliance with Required Actions that permit continued operation of the plant for an unlimited period of time in a MODE or other specified condition provides an acceptable level of safety for continued operation. This is without regard to the status of the plant before or after the MODE change. Therefore, in such cases, entry into a MODE or other specified condition in the Applicability may be made in accordance with the provisions of the Required Actions. The provisions of this Specification should not be interpreted as endorsing the failure to exercise the good practice of restoring systems or components to OPERABLE status before entering an associated MODE or other specified condition in the Applicability.

The provisions of LCO 3.0.4 shall not prevent changes in MODES or other specified conditions in the Applicability that are required to comply with ACTIONS. In addition, the provisions of LCO 3.0.4 shall not prevent changes in MODES or other specified conditions in the Applicability that result from a shutdown performed in response to the expected failure to comply with ACTIONS.

Exceptions to LCO 3.0.4 are stated in the individual Specifications. The exceptions allow entry into MODES or other specified conditions in the Applicability when the associated ACTIONS to be entered do not provide for continued operation for an unlimited period of time. Exceptions may apply to all the ACTIONS or to a specific Required Action of a Specification.

Bases  
Insert 1

LCO 3.0.4 is applicable when entering all MODES, whether increasing in MODES (e.g., MODE 5 to MODE 4) or decreasing in MODES (e.g., MODE 4 to MODE 5). This requirement precluding entry into another MODE when the associated ACTIONS do not provide for continued operation for an unlimited period of time ensures that the plant maintains sufficient equipment OPERABILITY and redundancy as assumed in the accident analyses.

Surveillances do not have to be performed on the associated inoperable equipment (or on variables outside the specified limits), as permitted by SR 3.0.1. Therefore, changing MODES or other specified conditions while in an ACTIONS Condition, in compliance with LCO 3.0.4 or where an exception to LCO 3.0.4 is stated, is not a violation of SR 3.0.1 or SR 3.0.4 for those Surveillances that do not have to be performed due to the associated inoperable equipment. However, SRs must be met to ensure OPERABILITY prior to declaring the associated equipment OPERABLE (or variable within limits) and restoring compliance with the affected LCO.

#### LCO 3.0.5

LCO 3.0.5 establishes the allowance for restoring equipment to service under administrative controls when it has been removed from service or declared inoperable to comply with ACTIONS. The sole purpose of this LCO is to provide an exception to LCO 3.0.2 (e.g., to not comply with the applicable Required Action(s)) to allow the performance of SRs to demonstrate:

- a. The OPERABILITY of the equipment being returned to service; or
- b. The OPERABILITY of other equipment.

The administrative controls ensure the time the equipment is returned to service in conflict with the requirements of the ACTIONS is limited to the time absolutely necessary to perform the allowed SRs. This Specification does not provide time to perform any other preventive or corrective maintenance.

An example of demonstrating the OPERABILITY of the equipment being returned to service is reopening a containment isolation valve that has been closed to comply with Required Actions and must be reopened to perform the SRs.

reasonable opportunity should include consideration of the impact on plant risk (from delaying the Surveillance as well as any plant configuration changes required or shutting the plant down to perform the Surveillance) and impact on any analysis assumptions, in addition to unit conditions, planning, availability of personnel, and the time required to perform the Surveillance. This risk impact should be managed through the program in place to implement 10 CFR 50.65(a)(4) and its implementation guidance, NRC Regulatory Guide 1.182, 'Assessing and Managing Risk Before Maintenance Activities at Nuclear Power Plants.' This Regulatory Guide addresses consideration of temporary and aggregate risk impacts, determination of risk management action thresholds, and risk management action up to and including plant shutdown. The missed Surveillance should be treated as an emergent condition as discussed in the Regulatory Guide. The risk evaluation may use quantitative, qualitative, or blended methods. The degree of depth and rigor of the evaluation should be commensurate with the importance of the component. Missed Surveillances for important components should be analyzed quantitatively. If the results of the risk evaluation determine the risk increase is significant, this evaluation should be used to determine the safest course of action. All missed Surveillances will be placed within the Corrective Action Program.

If a Surveillance is not completed within the allowed delay period, then the equipment is considered inoperable or the variable is considered outside the specified limits and the Completion Times of the Required Actions for the applicable LCO Conditions begin immediately upon expiration of the delay period. If a Surveillance is failed within the delay period, then the equipment is inoperable, or the variable is outside the specified limits and the Completion Times of the Required Actions for the applicable LCO Conditions begin immediately upon the failure of the Surveillance.

Completion of the Surveillance within the delay period allowed by this Specification, or within the Completion Time of the ACTIONS, restores compliance with SR 3.0.1.

SR 3.0.4

Bases  
Insert 2

SR 3.0.4 establishes the requirement that all applicable SRs must be met before entry into a MODE or other specified condition in the Applicability.

This Specification ensures that system and component OPERABILITY requirements and variable limits are met before entry into MODES or other specified conditions in the Applicability for which these systems and components ensure safe operation of the plant. This Specification applies to changes in MODES or other specified conditions in the Applicability associated with plant shutdown as well as startup.

The provisions of this specification should not be interpreted as endorsing the failure to exercise the good practice of restoring systems or components to OPERABLE status before entering an associated MODE or other specified condition in the Applicability.

The provisions of SR 3.0.4 shall not prevent changes in MODES or other specified conditions in the Applicability that are required to comply with ACTIONS. In addition, the provisions of SR 3.0.4 shall not prevent changes in MODES or other specified conditions in the Applicability that result from a shutdown performed in response to the expected failure to comply with ACTIONS.

However, in certain circumstances, failing to meet an SR will not result in SR 3.0.4 restricting a MODE change or other specified condition change. When a system, subsystem, train, component, device, or variable is inoperable or outside its specified limits, the associated SR(s) are not required to be performed, per SR 3.0.1, which states that surveillances do not have to be performed on inoperable equipment. When equipment is inoperable, SR 3.0.4 does not apply to the associated SR(s) since the requirement for the SR(s) to be performed is removed. Therefore, failing to perform the Surveillance(s) within the specified Frequency, on equipment that is inoperable, does not result in an SR 3.0.4 restriction to changing MODES or other specified conditions of the Applicability. However, since the LCO is not met in this instance, LCO 3.0.4 will govern any restrictions that may (or may not) apply to MODE or other specified condition changes.

The precise requirements for performance of SRs are specified such that exceptions to SR 3.0.4 are not necessary. The specific time frames and conditions necessary for meeting the SRs are specified in the Frequency, in the Surveillance, or both. This allows performance of Surveillances when the prerequisite condition(s) specified in a Surveillance procedure require entry into the MODE or other specified condition in the Applicability of the associated LCO prior to the performance or completion of a Surveillance. A Surveillance that could not be performed until after entering the LCO Applicability, would have its Frequency specified such that it is not "due" until the specific conditions needed are met. Alternately, the Surveillance may be stated in the form of a Note as not required (to be met or performed) until a particular event, condition, or time has been reached. Further discussion of the specific formats of SRs' annotation is found in Section 1.4, Frequency.

SR 3.0.4 is applicable when entering all MODES, whether increasing in MODES (e.g., MODE 5 to MODE 4) or decreasing in MODES (e.g., MODE 4 to MODE 5). This requirement precluding entry into another MODE when the associated ACTIONS do not provide for continued operation for an unlimited period of time ensures that the plant maintains

sufficient equipment OPERABILITY and redundancy as assumed in the  
accident analyses.

---

---

Condition C has been modified by a Note that requires that Required Action C.1 must be completed whenever this Condition is entered. This is necessary to ensure that the plant does not operate at conditions where the MTC would be below the most negative limit specified in the COLR.

Required Action C.1 is modified by a Note which states that LCO 3.0.4 is not applicable. This Note is provided since the requirement to re-evaluate the core design and safety analysis prior to reaching an equivalent RTP ARO boron concentration of 300 ppm is adequate action without restricting entry into MODE 1.



D.1

If the re-evaluation of the accident analysis cannot support the predicted EOL MTC lower limit, or if the Required Actions of Condition C are not completed within the associated Completion Time the plant must be brought to a MODE or Condition in which the LCO requirements are not applicable. To achieve this status, the plant must be brought to MODE 4 within 12 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 3.1.3.1

This SR requires measurement of the MTC at BOL prior to entering MODE 1 in order to demonstrate compliance with the most positive MTC LCO. Meeting the limit prior to entering MODE 1 ensures that the limit will also be met at higher power levels.

The BOL MTC value for ARO will be inferred from isothermal temperature coefficient (ITC) measurements obtained during the physics tests after refueling. The ARO value can be directly compared to the BOL MTC limit of the LCO. If required, measurement results and predicted design values can be used to establish administrative withdrawal limits for control banks.

The measurement of the MTC at the beginning of the fuel cycle is adequate to confirm that the MTC remains within its upper limits and will be within limits at 70% RTP, full power and at EOL, since this coefficient changes slowly, due principally to the reduction in RCS boron concentration associated with fuel burnup. This measurement is consistent with the recommendations detailed in Reference 4.

---

**APPLICABILITY**      The PAM instrumentation LCO is applicable 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, the PAM instrumentation is not required to be OPERABLE because plant conditions are such that the likelihood of an event that would require PAM instrumentation is low.

---

**ACTIONS**      The ACTIONS are modified by two Notes.

Note 1 has been added to exclude the MODE change restriction of LCO 3.0.4. This exception allows entry into the applicable MODE while relying on the ACTIONS even though the ACTIONS may eventually require plant shutdown. This exception is acceptable due to the passive function of the instruments, the operator's ability to respond to an accident using alternate instruments and methods, and the low probability of an event requiring these instruments.

(A) → Note 2 has been added to clarify the application of Completion Time rules. The Conditions of this Specification may be entered independently for each Function listed on Table 3.3.3-1. The Completion Time(s) of the inoperable channel(s) of a Function will be tracked separately for each Function starting from the time the Condition was entered for that Function.

A.1

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, 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.

Condition A is modified by a Note which states that the Condition is not applicable to Table 3.3.3-1 Functions 3 and 4. These Functions are addressed by Condition C which provides the necessary required actions for these single channel Functions.

---

APPLICABILITY

In MODES 1  $\leq$  8.5% RTP, 2, and 3, this LCO ensures forced circulation of the reactor coolant to remove reactor and decay heat from the core and to provide proper boron mixing.

Operation in other MODES is covered by:

- LCO 3.4.4, "RCS Loops - MODE 1 > 8.5% RTP";
- LCO 3.4.6, "RCS Loops - MODE 4";
- LCO 3.4.7, "RCS Loops - MODE 5, Loops Filled";
- LCO 3.4.8, "RCS Loops - MODE 5, Loops Not Filled";
- LCO 3.9.4, "Residual Heat Removal (RHR) and Coolant Circulation-Water Level  $\geq$  23 Ft" (MODE 6); and
- LCO 3.9.5, "Residual Heat Removal (RHR) and Coolant Circulation-Water Level < 23 Ft" (MODE 6).

---

ACTIONS

A.1 and A.2

If one RCS loop is inoperable, redundancy for heat removal is lost. The Required Actions are to verify that the SDM is within limits specified in the COLR. This action is required to ensure that adequate SDM exists in the event of a main steam line break with only one RCS loop in operation. The Completion Time of once per 12 hour considers the time required to obtain RCS boron concentration samples and the low probability of a main steam line break during this time period.

The inoperable RCS loop must be restored to OPERABLE status within the Completion Time of 72 hours. This time allowance is a justified period to be without the redundant, nonoperating loop because a single loop in operation has a heat transfer capability greater than that needed to remove the reactor and decay heat produced in the reactor core and because of the low probability of a failure in the remaining loop occurring during this period.

Required Action A.1 is modified by a Note that indicates that the provisions of LCO 3.0.4 are not applicable. As a result, a MODE change is allowed when one RCS loop is inoperable. This allowance is provided because a single RCS loop can provide the required cooling to remove reactor and decay heat consistent with safety analysis assumptions.

---

APPLICABILITY

In MODES 1, 2, and 3, the PORV is required to be OPERABLE to mitigate the effects associated with an SGTR and its block valve must be OPERABLE to limit the potential for a small break LOCA through the flow path. The most likely cause for a PORV small break LOCA is a result of a pressure increase transient that causes the PORV to automatically open with a subsequent failure to close. Imbalances in the energy output of the core and heat removal by the secondary system can cause the RCS pressure to increase to the PORV opening setpoint. The most rapid increases will occur at the higher operating power and pressure conditions of MODES 1 and 2. Pressure increases are less prominent in MODE 3 because the core input energy is reduced, but the RCS pressure is high.

The PORVs are also required to be OPERABLE in MODES 1, 2, and 3 to minimize challenges to the pressurizer safety valves by manually opening the PORVs. Therefore, the LCO is applicable in MODES 1, 2, and 3.

The LCO is not applicable in MODE 4 when both pressure and core energy are decreased and the pressure surges become much less significant. The PORV setpoint is reduced for LTOP in MODES 4, 5, and 6 with the reactor vessel head in place. LCO 3.4.12 addresses the PORV requirements in these MODES.

---

ACTIONS

Note 1 has been added to clarify that both pressurizer PORVs are treated as separate entities, each with separate Completion Times (i.e., the Completion Time is on a component basis) for Condition A. Note 2 has been added to clarify that both block valves are treated as separate entities, each with separate Completion Times, for Condition C. The exception for LCO 3.0.4, Note 3, permits entry into MODES 1, 2, and 3 to perform cycling of the PORVs or block valves to verify their OPERABLE status. Testing is not performed in lower MODES due to LTOP considerations.

A.1 and A.2

With the PORVs OPERABLE and not capable of being automatically controlled, either the PORVs must be restored or the flow path isolated within 1 hour. Although a PORV may not be capable of being automatically controlled, it may be able to be manually opened and closed, and therefore, able to perform its function. A PORV is considered not capable of being automatically controlled for any problem which prevents the PORV from automatically closing once it has automatically opened. This may be due to instrumentation problems. Not capable of automatic control does not include problems which only prevent the PORV from automatically opening (e.g., loss of instrument air to the

The second Note only requires an ECCS accumulator to be isolated when the accumulator pressure is greater than or equal to the maximum pressure for the existing RCS cold leg temperature allowed in the PTLR. Accumulator pressure below this limit will not overpressurize the RCS beyond analyzed conditions. The accumulator is isolated when the discharge motor operated valve is closed and its associated power supply is removed.

---

APPLICABILITY

This LCO is applicable in MODE 4 when any RCS cold leg temperature is less than or equal to the LTOP enable temperature specified in the PTLR or the RHR system is in the RHR operating mode, in MODE 5 when the SG primary system manway and pressurizer manway are closed and secured in position, and in MODE 6 when the reactor vessel head is on and the SG primary system manway and pressurizer manway are closed and secured in position. The pressurizer safety valves provide overpressure protection that meets the Reference 1 P/T limits above the LTOP enable temperature specified in the PTLR. When the reactor vessel head is off or the SG primary system manway or pressurizer manway are open, overpressurization cannot occur.

LCO 3.4.3 provides the operational P/T limits for all MODES. LCO 3.4.10, "Pressurizer Safety Valves," requires the OPERABILITY of the pressurizer safety valves that provide overpressure protection during MODES 1, 2, and 3, and MODE 4 above the LTOP enable temperature specified in the PTLR.

Low temperature overpressure prevention is most critical during shutdown when the RCS is water solid, and a mass or heat input transient can cause a very rapid increase in RCS pressure when little or no time allows operator action to mitigate the event.

---

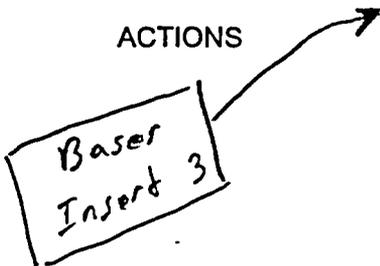
ACTIONS

A.1

With one or more SI pumps capable of injecting into the RCS and the PORVs provide the RCS vent path, RCS overpressurization is possible. To immediately initiate action to restore restricted coolant input capability to the RCS reflects the urgency of taking action to remove the RCS from this potential condition.

Condition A is modified by a Note which states that this condition is only applicable to LCO 3.4.12.a (i.e., when the PORVs provide the RCS vent path).

Basar  
Insert 3



The containment air cooler condensate collection system is OPERABLE if the flow paths from all four containment air coolers to their respective collection tanks are available and a CHANNEL CALIBRATION of the monitor has been performed within the last 24 months. The containment air cooler condensate collection system is provided as an option for detecting RCS leakage since SR 3.4.13.1 is not performed until after 12 hours of steady state operation. Therefore, this collection system can be used during MODE changes if the containment sump monitor is inoperable to meet the LCO.

Restoration of the required sump monitor to OPERABLE status within a Completion Time of 30 days is required to regain the function after the monitor's failure. This time is acceptable, considering the Frequency and adequacy of the RCS water inventory balance required by Required Action A.1.

Required Actions A.1.1, A.1.2, and A.2 are modified by a Note that indicates that the provisions of LCO 3.0.4 are not applicable. As a result, a MODE change is allowed when the containment sump monitor is inoperable. This allowance is provided because other instrumentation is available to monitor RCS leakage.

#### B.1

With the gaseous (R-12) containment atmosphere radioactivity monitoring instrumentation channel inoperable (and its alternate R-14), a verification that the particulate (R-11) containment atmosphere radioactivity monitor is OPERABLE is required. The 1 hour Completion Time is based on the low probability of a RCS leak occurring during this time frame.

Required Action B.1 is modified by a Note that indicates that the provisions of LCO 3.0.4 are not applicable. As a result, a MODE change is allowed when the gaseous containment atmosphere radioactivity monitor is inoperable. This allowance is provided because other instrumentation is available to monitor for RCS LEAKAGE.

#### C.1 and C.2

With the particulate (R-11) containment atmosphere radioactivity monitoring instrumentation channel inoperable (and its alternate R-13) or Required Action B.1 not met, alternative action is required. Either grab samples of the containment atmosphere must be taken and analyzed or water inventory balances, in accordance with SR 3.4.13.1, must be performed to provide alternate periodic information as the gaseous (R-12) containment atmosphere radioactivity monitor can only measure between a 2.0 and 10.0 gpm leak within one hour and the containment sump monitor can only measure a 2.0 gpm leak within one hour.

The 12 hour interval provides periodic information that is adequate to detect leakage and recognizes that at least one other form of leakage detection is available.

Required Actions C.1 and C.2 are modified by a Note that indicates that the provisions of LCO 3.0.4 are not applicable. As a result, a MODE change is allowed when the particulate containment atmosphere radioactivity monitor is inoperable. This allowance is provided because other instrumentation is available to monitor for RCS LEAKAGE.

#### D.1 and D.2

With the gaseous (R-12) and the particulate (R-11) containment atmosphere radioactivity monitors inoperable, the only installed means of detecting leakage is the containment sump monitor. This condition does not provide a diverse means of leakage detection. Also, the sump monitor can only measure a 2.0 gpm leak within 1 hour.

In addition to the Required Actions of Conditions B and C, restoration of either of the inoperable monitors to OPERABLE status within 30 days is required to regain the intended leakage detection diversity. The 30 day Completion Time ensures that the plant will not be operated in a reduced configuration for a lengthy period of time.

Required Actions D.1 and D.2 are modified by a Note that indicates that the provisions of LCO 3.0.4 are not applicable. As a result, a MODE change is allowed when the gaseous and particulate containment atmosphere radioactivity monitors are inoperable. This allowance is provided because other instrumentation is available to monitor RCS leakage.

#### E.1 and E.2

If a Required Action of Condition A, C, or D cannot be met, 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 and to MODE 5 within 36 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required plant conditions from full power conditions in an orderly manner and without challenging plant systems.

#### E.1

With all required monitors inoperable, no automatic means of monitoring leakage are available, and immediate plant shutdown in accordance with LCO 3.0.3 is required.

Bases  
Insert 4

Required Action A.1 is modified by a Note that indicates that the provisions of LCO 3.0.4 are not applicable. As a result, a MODE change is allowed when the DOSE EQUIVALENT I-131 is greater than the LCO limit and within the acceptable range of Figure 3.4.16-1. This allowance is provided because of the significant conservatism included in the LCO limit. Also, reducing the DOSE EQUIVALENT I-131 to within limits is accomplished through use of the Chemical and Volume Control System (CVCS) demineralizers. This cleanup operation parallels plant restart following a reactor trip which frequently results in iodine spikes due to the large step decrease in reactor power level and RCS pressure excursion. The cleanup operation can normally be accomplished within the LCO Completion Time of 7 days.

### B.1

If a Required Action and the associated Completion Time of Condition A is not met or if the DOSE EQUIVALENT I-131 specific activity is in the unacceptable region of Figure 3.4.16-1, the reactor must be brought to MODE 3 with RCS average temperature < 500°F within 8 hours. The change within 8 hours to MODE 3 and RCS average temperature < 500°F lowers the saturation pressure of the reactor coolant below the setpoints of the main steam safety valves and prevents automatically venting the SG to the environment in an SGTR event. The Completion Time of 8 hours is reasonable, based on operating experience, to reach MODE 3 below 500°F from full power conditions in an orderly manner and without challenging plant systems.

### C.1

If the gross specific activity is not within limit, the change within 8 hours to MODE 3 and RCS average temperature < 500°F lowers the saturation pressure of the reactor coolant below the setpoints of the main steam safety valves and prevents automatically venting the SG to the environment in an SGTR event. The allowed Completion Time of 8 hours is reasonable, based on operating experience, to reach MODE 3 below 500°F from full power conditions in an orderly manner and without challenging plant systems.

---

## SURVEILLANCE REQUIREMENTS

### SR 3.4.16.1

This SR requires performing a gamma isotopic analysis as a measure of the gross specific activity of the reactor coolant at least once every 7 days. While basically a quantitative measure of radionuclides with half lives longer than 15 minutes, excluding iodines, this measurement is the sum of the degassed gamma activities and the gaseous gamma activities in the sample taken. This Surveillance provides an indication of any increase in gross specific activity.

B.1

With no ECCS SI subsystem OPERABLE, due to the inoperability of the SI pump or flow path from the RWST, the plant is not prepared to provide high pressure response to an accident requiring SI. The 1 hour Completion Time to restore at least one SI subsystem to OPERABLE status ensures that prompt action is taken to provide the required cooling capacity or to initiate actions to place the plant in MODE 5, where an ECCS train is not required.

Bases  
Insert 5



C.1

When the Required Actions of Condition B cannot be completed within the required Completion Time, a controlled shutdown should be initiated. Twenty-four hours is a reasonable time, based on operating experience, to reach MODE 5 in an orderly manner and without challenging plant systems or operators.

---

**SURVEILLANCE  
REQUIREMENTS**

SR 3.5.3.1

The applicable Surveillance description from Bases 3.5.2 apply. This SR is modified by a Note that allows an RHR train to be considered OPERABLE during alignment and operation for decay heat removal, if capable of being manually realigned (remote or local) to the ECCS mode of operation and not otherwise inoperable. This allows operation in the RHR mode during MODE 4, if necessary.

---

**REFERENCES**

1. None.
- 
-

ACTIONS

A.1

With one containment hydrogen recombiner inoperable, the inoperable recombiner must be restored to OPERABLE status within 30 days. In this condition, the remaining OPERABLE hydrogen recombiner is adequate to perform the hydrogen control function. However, the overall reliability is reduced because a single failure in the OPERABLE recombiner could result in reduced hydrogen control capability. The 30 day Completion Time is based on the availability of the other hydrogen recombiner, the small probability of a LOCA or SLB occurring (that would generate an amount of hydrogen that exceeds the flammability limit), and the amount of time available after a LOCA or SLB (should one occur) for operator action to prevent hydrogen accumulation from exceeding the flammability limit.

Required Action A.1 has been modified by a Note that states the provisions of LCO 3.0.4 are not applicable. As a result, a MODE change is allowed when one recombiner is inoperable. This allowance is based on the availability of the other hydrogen recombiner, the small probability of a LOCA or SLB occurring (that would generate an amount of hydrogen that exceeds the flammability limit), and the amount of time available after a LOCA or SLB (should one occur) for operator action to prevent hydrogen accumulation from exceeding the flammability limit.

B.1 and B.2

With two hydrogen recombiners inoperable, the ability to perform the hydrogen control function via alternate capabilities must be verified by administrative means within 1 hour. The alternate hydrogen control capabilities are provided by the Mini-Purge System which consists of two isolation valves per penetration flow path that are capable of opening and a supply fan capable of performing purging functions. The 1 hour Completion Time allows a reasonable period of time to verify that a loss of hydrogen control function does not exist. In addition, the alternate hydrogen control system capability must be verified once per 12 hours thereafter to ensure its continued availability. Both the initial verification and all subsequent verifications may be performed as an administrative check by examining logs or other information to determine the availability of the alternate hydrogen control system. It does not mean to perform any Surveillances needed to demonstrate OPERABILITY of the alternate hydrogen control system (e.g., opening of mini-purge valves). If the ability to perform the hydrogen control function is maintained, continued operation is permitted with two hydrogen recombiners inoperable for up to 7 days. Seven days is a reasonable time to allow two hydrogen recombiners to be inoperable because the hydrogen control function is maintained and because of the low probability of the occurrence of a

---

**APPLICABILITY**      In MODES 1 and 2, and in MODE 3 with RCS average temperature  $\geq 500^{\circ}\text{F}$ , the ARV lines are required to be OPERABLE.

In MODE 3 with RCS average temperature  $< 500^{\circ}\text{F}$ , and in MODE 4, the ARVs are not required since the saturation pressure of the reactor coolant is below the lift settings of the MSSVs. In MODE 5 or 6, an SGTR is not a credible event since the water in the SGs is below the boiling point and RCS pressure is low.

---

**ACTIONS**            A.1

With one ARV line inoperable, ACTION must be taken to restore the valve to OPERABLE status within 7 days. The 7 day Completion Time allows for the redundant capability afforded by the remaining OPERABLE ARV line and a nonsafety grade backup in the steam dump system.

Required Action A.1 is modified by a Note indicating that LCO 3.0.4 does not apply since the steam dump system would normally be in service during lower MODES of operation and can provide an acceptable alternative to the inoperable ARV line.

B.1

If the ARV line cannot be restored to OPERABLE status within the associated Completion Time, the plant must be placed in a MODE in which the LCO does not apply. To achieve this status, the plant must be placed in at least MODE 3 with RCS average temperature  $< 500^{\circ}\text{F}$  within 8 hours. The allowed Completion Time is reasonable, based on operating experience, to reach the required plant conditions from full power conditions in an orderly manner and without challenging plant systems.

C.1

If both ARV lines are inoperable, the plant is in a condition outside of the accident analyses for a SGTR event; therefore, LCO 3.0.3 must be entered immediately.

A TDAFW train flow path is defined as the steam supply line and SG injection line from/to the same SG.

B.1

If one MDAFW train is inoperable, action must be taken to restore the train to OPERABLE status within 7 days. The 7 day Completion Time is reasonable, based on the following reasons:

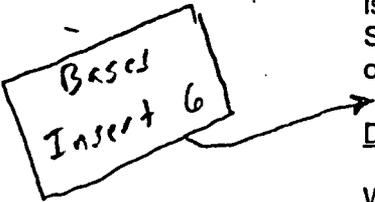
- a. The redundant OPERABLE MDAFW train;
- b. The availability of redundant OPERABLE TDAFW and SAFW pumps; and
- c. The low probability of an event occurring that requires the inoperable MDAFW train.

C.1

With the TDAFW train inoperable, or both MDAFW trains inoperable, or one TDAFW train flow path and one MDAFW train inoperable to opposite SGs, action must be taken to restore OPERABLE status within 72 hours. If the inoperable MDAFW train supplies the same SG as the inoperable TDAFW flow path, Condition D must be entered.

The combination of failures which requires entry into this Condition all result in the loss of one train (or one flow path) of preferred AFW cooling to each SG such that redundancy is lost. The 72 hour Completion Time is reasonable, based on redundant capabilities afforded by the SAFW System, time needed for repairs, and the low probability of a DBA occurring during this time period.

Based  
Insert 6



D.1

With all AFW trains to one or both SGs inoperable, action must be taken to restore at least one train or TDAFW flow path to each affected SG to OPERABLE status within 4 hours.

The combination of failures which require entry into this Condition all result in the loss of preferred AFW cooling to at least one SG. If a SGTR were to occur in this condition, preferred AFW is potentially unavailable to the unaffected SG. If AFW is unavailable to both SGs, the accident analyses for small break LOCAs and loss of MFW would not be met.

The two MDAFW trains of the preferred AFW System are normally used for decay heat removal during low power operations since air operated bypass control valves are installed in each train to better control SG level (see Figure B 3.7.5-1). Since a feedwater transient is more likely during reduced power conditions, 4 hours is provided to restore at least one train of additional preferred AFW before requiring a controlled cooldown. This will also provide time to find a condensate source other than the SW System for the SAFW System if all three AFW trains are inoperable. The 4 hour Completion Time is reasonable, based on redundant capabilities afforded by the SAFW System, time needed for repairs, and the low probability of a DBA occurring during this time period.

Bases  
Insert 7

E.1

With one SAFW train inoperable, action must be taken to restore OPERABLE status within 14 days. This Condition includes the inoperability of one of the two SAFW cross-tie valves which requires declaring the associated SAFW train inoperable (e.g., failure of 9703B would result in declaring SAFW train D inoperable). The 14 day Completion Time is reasonable, based on redundant capabilities afforded by the AFW System, time needed for repairs, and the low probability of a HELB or other event which would require the use of the SAFW System during this time period.

F.1

With both SAFW trains inoperable, action must be taken to restore at least one SAFW train to OPERABLE status within 7 days. This Condition includes the inoperability of the SAFW cross-tie. The 7 day Completion Time is reasonable, based on redundant capabilities afforded by the AFW System, time needed for repairs, and the low probability of a HELB or other event which would require the use of the SAFW System during this time period.

G.1 and G.2

When Required Action A.1, B.1, C.1, D.1, E.1, or F.1 cannot be completed within the required Completion Time, the plant must be placed in a MODE in which the LCO does not apply. To achieve this status, the plant must be placed in at least MODE 3 within 6 hours, and in MODE 4 within 12 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required plant condition from full power conditions in an orderly manner and without challenging plant systems.

Any 480 V bus fault which opens and/or prevents closure of the breakers from offsite power or the DGs requires declaring the offsite power source or DG inoperable, as applicable.

The AC sources in one train must be separate and independent of the AC sources in the other train. For the DGs, separation and independence must be complete assuming a single active failure. For the independent offsite power source, separation and independence are to the extent practical (i.e., operation is preferred in the 50/50 mode, but may also exist in the 100/0 or 0/100 mode).

---

APPLICABILITY

The AC sources are required to be OPERABLE in MODES 1, 2, 3, and 4 to ensure that:

- a. Acceptable fuel design limits and reactor coolant pressure boundary limits are not exceeded as a result of AOOs or abnormal transients; and
- b. Adequate core cooling is provided and containment OPERABILITY and other vital functions are maintained in the event of a postulated DBA.

The AC power requirements for MODES 5 and 6 are covered in LCO 3.8.2, "AC Sources - MODES 5 and 6."

---

ACTIONS

A.1 and A.2

With offsite power to one or more 480V safeguard bus(es) inoperable, assurance must be provided that a coincident single failure will not result in a complete loss of required safety features. If the redundant safety feature to the component or train affected by the loss of offsite power is also unavailable, the assumption that two complete safety trains are OPERABLE may no longer exist. As an example, if offsite power were unavailable to 480 V Bus 14, DG A could supply the necessary power to the bus. If residual heat removal pump (RHR) B (supplied power by Bus 16) were inoperable at the same time, or at any time after the loss of offsite power to Bus 14, a loss of redundant required safety features exists since a failure of DG A would result in the loss of emergency core cooling. Therefore, RHR pump A on Bus 14 would have to be declared inoperable within 12 hours after RHR pump B and offsite power to Bus 14 were declared unavailable.

Bases  
Insert 8

**Enclosure 5**  
**R.E. Ginna Nuclear Power Plant**

**List of Regulatory Commitments**

The following table identifies those actions committed to by Rochester Gas & Electric (RG&E) in this document. Any other statements in this submittal are provided for information purposes and are not considered to be regulatory commitments. Please direct questions regarding these commitments to Tom Harding, Nuclear Safety and Licensing at (585) 771-3384.

REGULATORY COMMITMENT	DUE DATE
RG&E will establish the Technical Specification Bases as adopted with the applicable license amendment.	Implemented with the amendment.