

The purpose of this document is to provide a description of issues that require resolution to enable the NRC staff to lift/revoke its suspension of approval for Traveler TSTF-505.

Background:

The staff provided an overview of some examples of its concerns with TSTF-505 in a letter to the TSTF dated November 15, 2016. Further clarification and discussion was provided in a public meeting on December 13, 2016. The TSTF provided a draft response to the staff's concerns in draft letter TSTF-17-01 (ADAMS Accession No. ML17037C193).

The staff has developed a conceptual plan for addressing its concern with the Risk Informed Completion Time (RICT) program. The plan includes near term actions and longer term actions.

The near term actions include (the numbered sections below correspond to this bulleted list):

- revising TS 5.5.18, Risk Informed Completion Time Program
- revising the technical description/analysis for TSTF-505 (including the staff's response to the TSTF draft letter)
- revising the model application for TSTF-505
- issuing a new model SE to reflect the changes
- revising the list of Actions within the scope of TSTF-505

Additional high level topics to discuss:

- Common Cause Failure for planned maintenance and emergent conditions.
 - This topic will be addressed by revision to TS 5.5.18. The approved version of NEI 06-09 does not fully address treatment of Common Cause Failure for planned maintenance or emergent conditions. Currently, staff is working with LAR in-house to generically implement. Additional interaction with stakeholders necessary.
- Credit for planned modifications to meet baseline CDF acceptance criteria
 - Planned modifications to meet acceptance criteria for baseline CDF is of concern for staff when considering PRA readiness and implementation timeline. Additional Interaction with stakeholders necessary.
- Potential for creation of LOF condition if multiple equipment is inoperable.
 - Individual LCO's are generally specific to a component or a system. LCO 3.0.6 describes the provisions for determination that the safety function can be accomplished when support system LCOs are not met. If the safety function cannot be accomplished and both trains are considered inoperable, the RICT program would not be applicable. For example, if the instrumentation supporting one train of a system is inoperable, and the mechanical portion of the other train of that system becomes inoperable, a TS LOF condition would exist. The RICT program controls should specifically address that a RICT cannot be calculated for this condition.

The longer term actions would be development of a companion traveler to include loss-of-function (LOF) configurations.

I. Revision to TS 5.5.18, Risk Informed Completion Time Program

TSTF 17-01 contained a revision to TS 5.5.18, Risk Informed Completion Time. The revision included:

- replacing the reference to NEI 06-09 to reference NEI 06-09-A, Revision 0,
- deleting the word “voluntary” in subpart d, and
- deleting Subpart e which discussed use of a RICT during LOF,

The staff agrees with these proposed changes.

The staff has reviewed the discussion of the treatment of common cause considerations provided in TSTF 17-01, and believes additional changes are necessary to provide the appropriate administrative controls for the Risk Informed Completion Time Program. These changes are:

- Revising subpart c to state that “when a RICT is being used, any plant configuration change within the scope of the Configuration Risk Management Program (or equivalent) must be considered for the effect on the RICT.
- Inserting a discussion of the appropriate treatment of common cause factor considerations. The staff’s proposed language is:

If a high degree of confidence cannot be established that there is no common cause failure that could affect the redundant components, the RICT shall account for the increased possibility of common cause failure. Accounting for the increased possibility of common cause failure shall be accomplished by one of the two methods below. If one of the two methods below is not used, the TS front stop shall not be exceeded.

- The RICT calculation shall be adjusted to numerically account for the increased possibility of CCF, in accordance with RG 1.177, as specified in Section A-1.3.2.1 of Appendix A of the RG. That is, when a component fails, the CCF probability for the remaining redundant components shall be increased to represent the conditional failure probability due to CCF of these components, in order to account for the possibility that the first failure was caused by a CCF mechanism.

OR

- Prior to exceeding the front stop, RMAs shall be implemented. These RMAs shall not already be credited in the RICT calculation, and shall target the success of redundant and/or diverse SSCs that perform the function(s) of the failed SSC, and, if possible, reduce the frequency of initiating events that call upon the function(s) performed by the failed SSC. Documentation of the RMAs shall be available for NRC review.

II. Changes to Technical Description/Analysis for TSTF-505

- The description should be revised to reflect that the program is based on NEI 06-09-A, Revision 0. For clarity, it would be appropriate to indicate that the staff's SE for NEI 06-09 provide some precautions and limitations on the use of NEI 06-09.
- The scope and technical analysis sections should be revised to delete the LOF discussion.
- NEI 06-09-0-A describes the applicability of the RICT to restorative Required Actions. There are a number of Required Actions included within the reduced scope of TSTF-505 that are not explicitly restorative actions. Examples include purring an instrument channel in trip or Required Actions in response to an inoperable containment airlock. These Required Actions should be clearly identified and a technical basis for their inclusion in the RICT program should be documented.
- As stated in the safety evaluation for NEI 06-09, it is necessary for licensees to have a license condition to clarify which changes in PRA methodology require prior staff approval. The staff's proposed language is as follows:

The risk assessment approach, methods, and data shall be acceptable to the NRC, be based on the as-built, as-operated, and maintained plant; and reflect the operating experience at the plant. Acceptable methods to assess the risk from extending the completion times may include methods that are approved for use in the RICT program, or methods generically approved for use by NRC. If a licensee wishes to change its methods, and the change is outside the bounds of the license condition, the licensee will need NRC approval, via a license amendment, of the implementation of the new method in its RMTS program.

This should be reflected in the technical description/analysis of TSTF-505.

III. Revision to the Model Application

The model application should be revised to reflect that licensee applications should include the license condition from Section II above.

The Model Application includes ENCLOSURE 1 - LIST OF REVISED REQUIRED ACTIONS TO CORRESPONDING PRA FUNCTIONS. The discussion of this Enclosure states: "When requesting adoption of this Traveler, the licensee must list each specification and Required Action to which the Risk Informed Completion Time Program will be applied and, for each Required Action, describe the corresponding function modeled in the PRA."

During its review of several LARs requesting adoption of TSTF-505 prior to its suspension, the staff noted that the information provided in this enclosure did not provide enough detail for the staff to properly evaluate the information. In addition, the staff has observed some inconsistencies in terminology regarding the use of the terms "train", "system", "subsystem", "division" and

“subdivision”. In order to promote an efficient review by the staff, the explanation of this closure could be expanded to emphasize the need for plant specific detail regarding the safety function(s) under consideration.

Treatment of External Hazards/PRA for RICT calculation	The NRC staff has requested additional information on the updated external hazards analysis for individual licensee. If using PRA, additional review scope to evaluate quality may be appropriate. Additional Interaction with stakeholders necessary.
Treatment of Fire PRA models for non-NFPA 805 plants	The PRA staff will still evaluate the technical adequacy of the fire PRA with possibility for additional review scope. Unreviewed and unapproved methods may require a different level of review. Additional Interaction with stakeholders necessary.

IV. Issuance of Revised Model SE

The staff intends to revise its model SE to reflect the changes described in this document. The revised Model SE will describe the changes that have been made, and will document the staff’s basis for lifting the suspension of approval of TSTF-505.

V. TS Actions within the scope of TSTF-505

The following tables are a listing of high level PRA topics to discuss and of LOF actions that the NRC staff has determined should be removed from TSTF-505 *in addition to* the actions proposed by the TSTF in draft letter TSTF 17-01. The following tables contain the list of additional Conditions that may be outside the scope of TSTF-505 as modified. These tables do not repeat the list of conditions tabulated in TSTF 17-01. Please note that the listing is based on Revision 3 to the NUREGs for easy cross-referencing to TSTF-505.

The draft response letter requested “that the NRC rescind the suspension of the approval of TSTF-505, Revision 1, and accept LARs to adopt TSTF-505 that do not include proposed Actions with risk informed Completion Times related to loss of function, as described in” an Attachment. This attachment generally included conditions that were added to the STS by TSTF-505 and included a LOF; however, this attachment did not include all TS conditions related to a loss of function (LOF). For example, there are single train systems addressed in the TS whose inoperability would represent a LOF.

The NRC staff has also identified some Conditions that are conventionally not modeled in licensee’s PRAs. These Conditions would be outside the scope of TSTF-505 as well. These Conditions are included in the tables below.

Furthermore, the staff’s safety evaluation for Topical Report NEI 96-07, which provides the technical basis for TSTF-505, stated that a RICT was applicable to restorative actions; the TSTF applied the RICT to some actions that were not restorative. In some cases, functionality can be restored by taking actions that are not explicitly required by the current STS (e.g., placing a channel or train in trip or isolating an isolation valve).

NUREG-1430 B&W

NUREG-1430 LCO Condition	LCO and Condition Text/Description	Comments/ Notes	Outcome
3.3.2.A	<p>LCO: The Reactor Protection System (RPS) Manual Reactor Trip Function shall be OPERABLE.</p> <p>Condition: Manual Reactor Trip Function inoperable.</p>	LOF	
3.3.8.B	<p>LCO: Three channels of loss of voltage Function and three channels of degraded voltage Function EDG LOPS instrumentation per EDG shall be OPERABLE.</p> <p>Condition: One or more Functions with two or more channels per EDG inoperable.</p>	LOF	
3.3.12.B	<p>LCO: Two manual initiation switches per actuation channel for each of the following emergency feedwater initiation and control (EFIC) Functions shall be OPERABLE:</p> <ul style="list-style-type: none"> a. Steam generator (SG) A Main Feedwater (MFW) Isolation, b. SG B MFW Isolation, c. SG A Main Steam Line Isolation, d. SG B Main Steam Line Isolation, and e. Emergency Feedwater Actuation. <p>Condition: One or more EFIC Function(s) with one or both manual initiation switches inoperable in both actuation channels.</p>	LOF	
3.4.9.C	<p>LCO: The pressurizer shall be OPERABLE.</p> <p>Condition: Capacity of pressurizer heaters [capable of being powered by emergency power supply] less than limit.</p>	Not modeled in PRA.	
3.4.10.A	<p>LCO: Two pressurizer safety valves shall be OPERABLE with lift settings \geq [2475] psig and \leq [2525] psig.</p> <p>Condition: One pressurizer safety valve inoperable.</p>	LOF Not modeled in PRA	
3.4.14.C	<p>LCO: RCS Pressure Isolation Valve (PIV) Leakage</p> <p>Condition: Decay Heat Removal (DHR) System autoclosure interlock function inoperable.</p>	LOF	

NUREG-1430 LCO Condition	LCO and Condition Text/Description	Comments/ Notes	Outcome
3.5.1.B	LCO: Two CFTs shall be OPERABLE Condition: One CFT inoperable for reasons other than to boron concentration not within limits.	LOF TS Bases describe requirement for both CFTs to inject on LOCA	
3.5.2.B	LCO: Two ECCS trains shall be OPERABLE. Condition: One or more [ECCS] trains inoperable for reasons other than one LPI subsystem inoperable.	LOF, unless plant TS have Condition D requires 100% flow equivalence.	
3.5.3.B	LCO: One ECCS train shall be OPERABLE. Condition: Required ECCS HPI subsystem inoperable in Mode 4.	LOF	
3.5.4.B	LCO: The BWST shall be OPERABLE. Condition: BWST inoperable for other than boron concentration or water temperature not within limits.	LCO Single train system.	
3.6.2.C	LCO: [Two] containment air lock[s] shall be OPERABLE. Condition: One or more containment air locks inoperable for reasons other than an inoperable door or inoperable interlock mechanism.	Not a restorative action covered in NEI 06-09; therefore, needs justification for Completion Time extension.	
3.6.3.B	LCO: Each containment isolation valve shall be OPERABLE. Condition: One or more penetration flow paths with two [or more] containment isolation valves inoperable [for reasons other than purge valve leakage not within limit].	LOF	
3.6.3.D	LCO: Each containment isolation valve shall be OPERABLE. Condition: One or more penetration flow paths with one or more containment purge valves not within purge valve leakage limits.	LOF	

NUREG-1430 LCO Condition	LCO and Condition Text/Description	Comments/ Notes	Outcome
3.6.6	<p>LCO: Containment Spray and Cooling Systems</p> <p>Condition A: One containment spray train inoperable</p> <p>Condition C: One [required] containment cooling train inoperable.</p> <p>Condition D: One containment spray train and one [required] containment cooling train inoperable.</p> <p>Condition E: Two [required] containment cooling trains inoperable.</p>	Generally does not affect CDF or LERF.	
3.7.4.B	<p>LCO: [Two] Atmospheric Vent Valves (AV) [lines per steam generator] shall be OPERABLE.</p> <p>Condition: Two or more required AVV lines inoperable</p>	LOF	
3.7.6.A	<p>LCO: The [two] Condensate Storage Tanks (CST) shall be OPERABLE.</p> <p>Condition: [Two] CSTs inoperable</p>	LOF	
3.8.1.E	Two [required] DGs inoperable	Treat as LOF.	
3.8.4.A	<p>LCO: The Train A and Train B DC electrical power subsystems shall be OPERABLE.</p> <p>Condition: One [or two] battery charger[s] on one subsystem inoperable.</p>	Staff evaluating potential to be treated as LOF.	
3.8.4.B	<p>LCO: The Train A and Train B DC electrical power subsystems shall be OPERABLE.</p> <p>Condition: One [or two] batter[y][ies on one subsystem] inoperable.</p>	Staff evaluating potential to be treated as LOF.	
3.8.4.C	<p>LCO: The Train A and Train B DC electrical power subsystems shall be OPERABLE.</p> <p>Condition: One DC electrical power subsystem inoperable for reasons other than Condition A [or B].</p>	Staff evaluating potential to be treated as LOF.	
3.8.7.A	<p>LCO: The required Train A and Train B inverters shall be OPERABLE.</p> <p>Condition: One [required] inverter inoperable.</p>	Staff evaluating potential to be treated as LOF.	

NUREG-1430 LCO Condition	LCO and Condition Text/Description	Comments/ Notes	Outcome
3.8.9.A	<p>LCO: Train A and Train B AC, DC, and AC vital bus electrical power distribution subsystems shall be OPERABLE.</p> <p>Condition: One or more AC electrical power distribution subsystems inoperable.</p>	Staff evaluating potential to be treated as LOF.	
3.8.9.B	<p>LCO: Train A and Train B AC, DC, and AC vital bus electrical power distribution subsystems shall be OPERABLE.</p> <p>Condition: One or more AC vital buses inoperable.</p>	Staff evaluating potential to be treated as LOF.	
3.8.9.C	<p>LCO: Train A and Train B AC, DC, and AC vital bus electrical power distribution subsystems shall be OPERABLE.</p> <p>Condition: One or more DC electrical power distribution subsystems inoperable.</p>	Staff evaluating potential to be treated as LOF.	

NUREG-1431 Westinghouse

NUREG-1431 LCO Condition	LCO and Condition Text/Description	Comments/ Notes	Outcome
3.3.1.F	<p>LCO: The RTS instrumentation for each Function in Table 3.3.1-1 shall be OPERABLE.</p> <p>Condition: One Power Range Neutron Flux - High channel inoperable.</p>	Treat as LOF	
3.3.1.S	<p>LCO: The RTS instrumentation for each Function in Table 3.3.1-1 shall be OPERABLE.</p> <p>Condition: One Reactor Coolant Pump Breaker Position (Single Loop) channel inoperable.</p>	LOF	
3.3.1.V	<p>LCO: The RTS instrumentation for each Function in Table 3.3.1-1 shall be OPERABLE.</p> <p>Condition: One Reactor Coolant Breaker Position (Two Loops) channel</p>	LOF	
3.3.1.DD	<p>LCO: The RTS instrumentation for each Function in Table 3.3.1-1 shall be OPERABLE.</p> <p>Condition: One RTB train inoperable.</p>	Treat as LOF.	
3.3.2.V	<p>LCO: The ESFAS instrumentation for each Function in Table 3.3.2-1 shall be OPERABLE.</p> <p>Condition: One or more channels inoperable.</p> <p>Action: V.1 Verify interlock is in required state for existing unit condition.</p>	LOF	
3.3.5.B	<p>LCO: [Three] channels per bus of the loss of voltage Function and [three] channels per bus of the degraded voltage Function shall be OPERABLE.</p> <p>Condition: One or more Functions with two or more channels per bus inoperable.</p>	LOF	
3.3.9.A	<p>LCO: Boron Dilution Protection System (BDPS)</p> <p>Condition: One train inoperable (applicable to MODES [2,] 3, 4, and 5.)</p>	Not modeled in PRA.	
3.4.9.B	<p>LCO: The pressurizer shall be OPERABLE...</p> <p>Condition: One [required] group of pressurizer heaters inoperable.</p>	Not modeled in PRA	

NUREG-1431 LCO Condition	LCO and Condition Text/Description	Comments/ Notes	Outcome
3.4.10.A	<p>LCO: [Three] pressurizer safety valves shall be OPERABLE with lift settings \geq [2460] psig and \leq [2510] psig.</p> <p>Condition: One pressurizer safety inoperable</p>	LOF Not modeled in PRA.	
3.4.11.E	<p>LCO: Each PORV and associated block valve shall be OPERABLE.</p> <p>Condition: Two [three] PORVs inoperable and not capable of being manually cycled.</p>	LOF	
3.4.11.F	<p>LCO: Each PORV and associated block valve shall be OPERABLE.</p> <p>Condition: Two [three] block valves inoperable.</p>	LOF	
3.5.1.B	<p>LCO: [Four] ECCS accumulators shall be OPERABLE.</p> <p>Condition: One accumulator inoperable for reasons other than boron concentration.</p>	LOF	
3.5.2.A	<p>LCO: Two ECCS trains shall be OPERABLE.</p> <p>Condition: One or more [ECCS] trains inoperable.</p>	LOF, unless plant TS have Condition D requires 100% flow equivalence.	
3.5.3.B	<p>LCO: One ECCS train shall be OPERABLE.</p> <p>Condition: Required ECCS [high head subsystem] in operable. (Mode 4).</p>	LOF	
3.5.4.B	<p>LCO: The Refueling Water Storage Tank (RWST) shall be OPERABLE.</p> <p>Condition: RWST inoperable for reasons other than boron concentration or temperature</p>	LOF. Single train system.	
3.5.6.A	<p>LCO: The Boron Injection Tank (BIT) shall be OPERABLE.</p> <p>Condition: BIT inoperable</p>	LOF Not modeled in PRA.	
3.6.2.C	<p>LCO: [Two] containment air lock[s] shall be OPERABLE.</p> <p>Condition: One or more containment air locks inoperable for reasons other than an inoperable door or inoperable interlock.</p>	Not a restorative action covered in NEI 06-09; therefore, needs justification for Completion Time extension.	

NUREG-1431 LCO Condition	LCO and Condition Text/Description	Comments/ Notes	Outcome
3.6.3.B	<p>LCO: Each containment isolation valve shall be OPERABLE.</p> <p>Condition: One or more penetration flow paths with two [or more] containment isolation valves inoperable [for reasons other than shield building bypass leakage and containment purge valves not within leakage limit]]</p>	LOF	
3.6.3.C	<p>LCO: Each containment isolation valve shall be OPERABLE.</p> <p>Condition: One or more penetration flow paths with one containment isolation valve inoperable (for penetrations with only one isolation valve).</p>	LOF	
3.6.3.D	<p>LCO: Each containment isolation valve shall be OPERABLE.</p> <p>Condition: [One or more shield building bypass leakage [or purge valve leakage] not within limit].</p>	LOF	
3.6.3.E	<p>LCO: Each containment isolation valve shall be OPERABLE.</p> <p>Condition: [One or more penetration flow paths with one or more containment purge valves not within leakage limits.]</p>	LOF	
3.6.6A	<p>LCO: Containment Spray and Cooling Systems (Atmospheric and Dual) (Credit taken for iodine removal by the Containment Spray System)</p> <p>Condition A: One containment spray train inoperable.</p> <p>Condition C: One [required] containment cooling train inoperable.</p> <p>Condition D: Two [required] containment cooling trains inoperable.</p>	Generally does not affect CDF or LERF.	

NUREG-1431 LCO Condition	LCO and Condition Text/Description	Comments/ Notes	Outcome
3.6.6B	<p>LCO: Containment Spray and Cooling Systems (Atmospheric and Dual (Credit not taken for iodine removal by the Containment Spray System))</p> <p>Condition A: One containment spray train inoperable.</p> <p>Condition B: One [required] containment cooling train inoperable.</p> <p>Condition C: Two containment spray trains inoperable.</p> <p>Condition D: One containment spray train and one [required] containment cooling train inoperable.</p> <p>Condition E: Two [required] containment cooling trains inoperable.</p>	Generally does not affect CDF or LERF.	
3.6.6C.A	<p>LCO: Containment Spray System (Ice Condenser)</p> <p>Condition: One containment spray train inoperable.</p>	Generally does not affect CDF or LERF.	
3.6.6D.A	<p>LCO: Quench Spray (QS) System (Subatmospheric)</p> <p>Condition: One QS train inoperable</p>	Generally does not affect CDF or LERF.	
3.6.6E	<p>LCO: Recirculation Spray (RS) System (Subatmospheric)</p> <p>Condition A: One RS subsystem inoperable.</p> <p>Condition B: Two RS subsystems inoperable in one train.</p> <p>Condition C: Two inside RS subsystems inoperable</p> <p>Condition D: Two outside RS subsystems inoperable.</p> <p>Condition E: Casing cooling tank inoperable.</p>	Generally does not affect CDF or LERF.	
3.6.9.B	<p>LCO: [Two] Hydrogen Mixing System (HMS) trains shall be OPERABLE.</p> <p>Condition: Two HMS trains inoperable.</p>	LOF	
3.6.15.A	<p>LCO: The ice bed shall be OPERABLE.</p> <p>Condition: Ice bed inoperable</p>	LOF. Single train system.	
3.6.16.A	<p>LCO: The ice condenser inlet doors, intermediate deck doors, and top deck [doors] shall be OPERABLE and closed.</p> <p>Condition: One or more ice condenser doors physically restrained from opening</p>	LOF, if 1 door can't open.	

NUREG-1431 LCO Condition	LCO and Condition Text/Description	Comments/ Notes	Outcome
3.6.17.A	LCO: Divider barrier integrity shall be maintained. Condition: One or more personnel access doors or equipment hatches open or inoperable, except for entry and exit.	LOF	
3.6.17.B	LCO: Divider barrier integrity shall be maintained. Condition: Divider barrier seal inoperable	LOF	
3.7.4.B	LOC: [Three] Atmospheric Dump Valves (ADV) lines shall be OPERABLE. Condition: Two or more required ADV lines inoperable	LOF	
3.7.6.A	LOC: The Condensate Storage Tank (CST) shall be OPERABLE. Condition: CST inoperable	LOF Single train system.	
3.8.1.E	LCO: The following AC electrical sources shall be OPERABLE...: Condition: Two [required] DGs inoperable.	Treat as LOF.	
3.8.4.A	LCO: The Train A and Train B DC electrical power subsystems shall be OPERABLE. Condition: One [or two] battery charger[s] on one subsystem inoperable.	Staff evaluating potential to be treated as LOF.	
3.8.4.B	LCO: The Train A and Train B DC electrical power subsystems shall be OPERABLE. Condition: One [or two] batter[y][ies on one subsystem] inoperable.	Staff evaluating potential to be treated as LOF.	
3.8.4.C	LCO: The Train A and Train B DC electrical power subsystems shall be OPERABLE. Condition: One DC electrical power subsystem inoperable for reasons other than Condition A [or B].	Staff evaluating potential to be treated as LOF.	
3.8.7.A	LCO: The required Train A and Train B inverters shall be OPERABLE. Condition: One [required] inverter inoperable.	Staff evaluating potential to be treated as LOF.	

NUREG-1431 LCO Condition	LCO and Condition Text/Description	Comments/ Notes	Outcome
3.8.9.A	<p>LCO: Train A and Train B AC, DC, and AC vital bus electrical power distribution subsystems shall be OPERABLE.</p> <p>Condition: One or more AC electrical power distribution subsystems inoperable.</p>	Staff evaluating potential to be treated as LOF.	
3.8.9.B	<p>LCO: Train A and Train B AC, DC, and AC vital bus electrical power distribution subsystems shall be OPERABLE.</p> <p>Condition: One or more AC vital buses inoperable.</p>	Staff evaluating potential to be treated as LOF.	
3.8.9.C	<p>LCO: Train A and Train B AC, DC, and AC vital bus electrical power distribution subsystems shall be OPERABLE.</p> <p>Condition: One or more DC electrical power distribution subsystems inoperable.</p>	Staff evaluating potential to be treated as LOF.	

NUREG-1432 CEOG

NUREG-1432 LCO Condition	LCO and Condition Text/Description	Comments/ Notes	Outcome
3.3.6.C	<p>LCO: [Four] channels of Loss of Voltage Function and [four] channels of Degraded Voltage Function auto-initiation instrumentation per DG shall be OPERABLE. (Analog)</p> <p>Condition: One or more Functions with more than two channels inoperable.</p>	LOF	
3.4.9.B	<p>LCO: The pressurizer shall be OPERABLE...</p> <p>Condition: One [required] group of pressurizer heaters inoperable.</p>	Not modeled in PRA.	
3.4.10.A	<p>LCO: [Two] pressurizer safety valves shall be OPERABLE with lift settings \geq [2475] psia and \leq [2525] psia.</p> <p>Condition: One pressurizer safety valve inoperable</p>	LOF Not modeled in PRA.	
3.4.11.E	<p>LCO: Each Power Operated Relief Valve (PORV) and associated block valve shall be OPERABLE</p> <p>Condition: Two PORVs inoperable and incapable of being manually cycled.</p>	LOF	
3.4.11.F	<p>LCO: Each PORV and associated block valve shall be OPERABLE</p> <p>Condition: Two block valves inoperable</p>	LOF	
3.4.14.C	<p>LCO: Leakage from each reactor coolant system (RCS) pressure isolation valve (PIV) shall be within limits.</p> <p>Condition: Shutdown Cooling System autoclosure interlock function inoperable.</p>	LOF	
3.5.1.B	<p>LCO: [Four] Safety Injection Tanks (SIT) shall be OPERABLE.</p> <p>Condition: One SIT inoperable</p>	LOF	
3.5.2.D	<p>LCO: Two ECCS trains shall be OPERABLE.</p> <p>Condition: Less than 100% of the ECCS flow equivalent to a single OPERABLE train available.</p>	LOF	

NUREG-1432 LCO Condition	LCO and Condition Text/Description	Comments/ Notes	Outcome
3.5.3.A	<p>LCO: One high pressure safety injection (HPSI) train shall be OPERABLE.</p> <p>Condition: Required HPCI train inoperable (Mode 4)</p>	LOF	
3.5.4.A	<p>LCO: The Refueling Water Tank (RWT) shall be OPERABLE.</p> <p>Condition: RWT inoperable due to boron concentration or borated water temperature not within limits.</p>	LOF Not modeled in PRA. TSTF letter recommends removal, but for the wrong reason.	
3.5.4.B	<p>LCO: The Refueling Water Tank (RWT) shall be OPERABLE.</p> <p>Condition: RWT inoperable other than Condition A (above).</p>	LOF Single train system	
3.6.2.C	<p>LCO: [Two] containment air lock[s] shall be OPERABLE.</p> <p>Condition: One or more containment air locks inoperable for reasons other than an inoperable door or inoperable interlock</p>	Not a restorative action covered in NEI 06-09; therefore, needs justification for Completion Time extension.	
3.6.3.B	<p>LCO: Each containment isolation valve shall be OPERABLE.</p> <p>Condition: One or more penetration flow paths with two [or more] containment isolation valves inoperable [for reasons other than leakage limits</p>	Not a restorative action covered in NEI 06-09; therefore, needs justification for Completion Time extension.	
3.6.3.C	<p>LCO: Each containment isolation valve shall be OPERABLE.</p> <p>Condition: One or more penetration flow paths with one containment isolation valve inoperable.</p>	Not a restorative action covered in NEI 06-09; therefore, needs justification for Completion Time extension.	
3.6.3.D	<p>LCO: Each containment isolation valve shall be OPERABLE.</p> <p>Condition: One or more secondary containment bypass leakage [or purge valve leakage] not within limit.</p>	Not a restorative action covered in NEI 06-09; therefore, needs justification for Completion Time extension.	

NUREG-1432 LCO Condition	LCO and Condition Text/Description	Comments/ Notes	Outcome
3.6.3.E	<p>LCO: Each containment isolation valve shall be OPERABLE.</p> <p>Condition: One or more penetration flow paths with one or more containment purge valves not within purge valve leakage limits.</p>	Not a restorative action covered in NEI 06-09; therefore, needs justification for Completion Time extension.	
3.6.6A	<p>LCO: Containment Spray and Cooling Systems (Atmospheric and Dual) (Credit taken for iodine removal by the Containment Spray System)</p> <p>Condition A: One containment spray train inoperable.</p> <p>Condition C: One containment cooling train inoperable.</p> <p>Condition D: One containment spray and one containment cooling train inoperable.</p> <p>Condition E: Two containment cooling trains inoperable.</p>	Generally does not affect CDF or LERF.	
3.6.6B	<p>LCO: Containment Spray and Cooling Systems (Atmospheric and Dual) (Credit not taken for iodine removal by the Containment Spray System)</p> <p>Condition A: One containment spray train inoperable.</p> <p>Condition B: One containment cooling train inoperable.</p> <p>Condition C: Two containment spray trains inoperable.</p> <p>Condition D: One containment spray train and one containment cooling train inoperable.</p> <p>Condition E: Two containment cooling trains inoperable.</p>	Generally does not affect CDF or LERF.	
3.6.9.B	<p>LCO: [Two] Hydrogen Mixing System (HMS) trains shall be OPERABLE.</p> <p>Condition: Two HMS trains inoperable.</p>	LOF	
3.7.4.B	<p>LCO: [Two] Atmospheric Dump Valve (ADV) lines shall be OPERABLE. Condition: Two or more [required] ADV lines inoperable.</p>	LOF	
3.7.6.A	<p>LCO: The Condensate Storage Tank (CST) shall be OPERABLE.</p> <p>Condition: CST inoperable</p>	LOF Single train system	

NUREG-1432 LCO Condition	LCO and Condition Text/Description	Comments/ Notes	Outcome
3.8.1.E	<p>LCO: The following AC electrical sources shall be OPERABLE: ...</p> <p>Condition: Two DGs inoperable</p>	Treat as LOF.	
3.8.4.A	<p>LCO: The Train A and Train B DC electrical power subsystems shall be OPERABLE.</p> <p>Condition: One [or two] battery charger[s] on one subsystem inoperable.</p>	Staff evaluating potential to be treated as LOF.	
3.8.4.B	<p>LCO: The Train A and Train B DC electrical power subsystems shall be OPERABLE.</p> <p>Condition: One [or two] batter[y][ies on one subsystem] inoperable.</p>	Staff evaluating potential to be treated as LOF.	
3.8.4.C	<p>LCO: The Train A and Train B DC electrical power subsystems shall be OPERABLE.</p> <p>Condition: One DC electrical power subsystem inoperable for reasons other than Condition A [or B].</p>	Staff evaluating potential to be treated as LOF.	
3.8.7.A	<p>LCO: The required Train A and Train B inverters shall be OPERABLE.</p> <p>Condition: One [required] inverter inoperable.</p>	Staff evaluating potential to be treated as LOF.	
3.8.9.A	<p>LCO: Train A and Train B AC, DC, and AC vital bus electrical power distribution subsystems shall be OPERABLE.</p> <p>Condition: One or more AC electrical power distribution subsystems inoperable.</p>	Staff evaluating potential to be treated as LOF.	
3.8.9.B	<p>LCO: Train A and Train B AC, DC, and AC vital bus electrical power distribution subsystems shall be OPERABLE.</p> <p>Condition: One or more AC vital buses inoperable.</p>	Staff evaluating potential to be treated as LOF.	
3.8.9.C	<p>LCO: Train A and Train B AC, DC, and AC vital bus electrical power distribution subsystems shall be OPERABLE.</p> <p>Condition: One or more DC electrical power distribution subsystems inoperable.</p>	Staff evaluating potential to be treated as LOF.	

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NUREG-1433 LCO Condition	LCO and Condition Text/Description	Comments/Notes	Outcome
3.1.7.C	<p>LCO: Two Standby Liquid Control (SLC) subsystems shall be OPERABLE.</p> <p>Condition: Two SLC subsystems inoperable for other than Boron concentration</p>	LOF	
3.3.1.1.C	<p>LCO: The RPS instrumentation for each Function in Table 3.3.1.1-1 shall be OPERABLE.</p> <p>Condition: One or more Functions with RPS trip capability not maintained.</p>	LOF	
3.3.1.2.A	<p>LCO: The SRM instrumentation in Table 3.3.1.2-1 shall be OPERABLE.</p> <p>Condition: One or more required SRMs inoperable in MODE 2 with intermediate range monitors (IRMs) on Range 2 or below</p>	Includes LOF Not modeled in PRA	
3.3.2.2.B	<p>LCO: [Three] channels of feedwater and main turbine high water level trip instrumentation shall be OPERABLE.</p> <p>Condition: Two or more feedwater and main turbine high water level trip channels inoperable.</p>	LOF	
3.3.4.1.A	<p>LCO: End of Cycle Recirculation Pump Trip (EOC-RPT) Instrumentation</p> <p>Condition: One or more required channels inoperable.</p>	Not modeled in PRA.	
3.3.4.1.B	<p>LCO: a. Two channels per trip system for each EOC-RPT instrumentation Function listed below shall be OPERABLE</p> <p>...</p> <p>Condition: One or more Functions with EOC-RPT trip capability not maintained.</p> <p>AND</p> <p>[MCPR limit for inoperable EOC-RPT not made applicable.]</p>	LOF Not modeled in PRA.	

NUREG-1433 LCO Condition	LCO and Condition Text/Description	Comments/Notes	Outcome
3.3.4.2.B	<p>LCO: Two channels per trip system for each ATWS-RPT instrumentation Function listed below shall be OPERABLE</p> <p>...</p> <p>Condition: One Function with ATWS-RPT trip capability not maintained.</p>	LOF	
3.3.4.2.C	<p>LCO: Two channels per trip system for each ATWS-RPT instrumentation Function listed below shall be OPERABLE</p> <p>...</p> <p>Condition: Both Functions with ATWS-RPT trip capability not maintained.</p>	LOF	
3.3.5.2.C	<p>LCO: The RCIC System instrumentation for each Function in Table 3.3.5.2-1 shall be OPERABLE.</p> <p>Condition: As required by Required Action A.1 and referenced in Table 3.3.5.2-1. (i.e., One or more channels inoperable: - Reactor Vessel Water – High, Level 8 - [Manual Initiation])</p>	LOF	
3.3.6.1.B	<p>LCO: The primary containment isolation instrumentation for each Function in Table 3.3.6.1-1 shall be OPERABLE.</p> <p>Condition: One or more automatic Functions with isolation capability not maintained.</p>	LOF	
3.3.6.3.A	<p>LCO: Low-Low Set (LLS) Instrumentation</p> <p>Condition: One LLS valve inoperable due to inoperable channel(s).</p>	Not modeled in PRA.	
3.3.6.3.C	<p>LCO: The LLS valve instrumentation for each Function in Table 3.3.6.3-1 shall be OPERABLE.</p> <p>Condition: ---NOTE--- Separate Condition entry is allowed for each S/RV.----- One or more S/RVs with two Function 3 channels inoperable.</p>	Includes LOF Not modeled in PRA.	
3.3.8.1.A	<p>LCO: The LOP instrumentation for each Function in Table 3.3.8.1-1 shall be OPERABLE.</p> <p>Condition: One or more channels inoperable.</p>	LOF	

NUREG-1433 LCO Condition	LCO and Condition Text/Description	Comments/Notes	Outcome
3.6.1.2.C	<p>LCO: The primary containment air lock shall be OPERABLE.</p> <p>Condition: Primary containment air lock inoperable for reasons other than an inoperable door or inoperable interlock</p>	LOF	
3.6.1.3.B	<p>LCO: Each PCIV, except reactor building-to-suppression chamber vacuum breakers, shall be OPERABLE.</p> <p>Condition: One or more penetration flow paths with two [or more] PCIVs inoperable for reasons other than {leak rate}</p>	LOF	
3.6.1.3.C	<p>LCO: Each PCIV, except reactor building-to-suppression chamber vacuum breakers, shall be OPERABLE.</p> <p>Condition: One or more penetration flow paths with one inoperable isolation valve (for penetrations with only one valve)</p>	LOF	
3.6.1.3.D	<p>LCO: Each PCIV, except reactor building-to-suppression chamber vacuum breakers, shall be OPERABLE.</p> <p>Condition: [One or more [secondary containment bypass leakage rate,] [MSIV leakage rate,] [purge valve leakage rate,] [hydrostatically tested line leakage rate,] [or] [EFCV leakage rate] not within limit.</p>	LOF	
3.6.1.3.E	<p>LCO: Each PCIV, except reactor building-to-suppression chamber vacuum breakers, shall be OPERABLE.</p> <p>Condition: One or more penetration flow paths with one or more containment purge valves not within purge valve leakage limits.</p>	LOF	
3.6.1.7.D	<p>LCO: Each reactor building-to-suppression chamber vacuum breaker shall be OPERABLE.</p> <p>Condition: Two or more lines with one or more reactor building –to-suppression chamber vacuum breakers inoperable for opening.</p>	LOF	

NUREG-1433 LCO Condition	LCO and Condition Text/Description	Comments/Notes	Outcome
3.6.2.3.B	<p>LCO: Two RHR suppression pool cooling subsystems shall be OPERABLE.</p> <p>Condition: Two RHR suppression pool cooling subsystems inoperable.</p>	LOF	
3.6.2.4.B	<p>LCO: Two RHR suppression pool spray subsystems shall be OPERABLE</p> <p>Condition: Two RHR suppression pool spray subsystems inoperable.</p>	LOF	
3.6.3.3.B	<p>LCO: Two containment atmospheric dilution (CAD) subsystems shall be OPERABLE.</p> <p>Condition: Two CAD systems inoperable</p>	LOF	
3.7.1.D	<p>LCO: Two RHRSW subsystems shall be OPERABLE</p> <p>Condition: Both RHRSW subsystems inoperable for reasons other than one pump in each subsystem inoperable</p>	LOF	
3.7.5	<p>LCO: Two [control room AC] subsystems shall be OPERABLE.</p> <p>Condition: Control Room AC System</p>	Not modeled in PRA	
3.7.7.A	<p>LCO: The Main Turbine Bypass System shall be OPERABLE or...</p> <p>Condition: Requirements of LCO not met or Main Turbine Bypass System inoperable</p>	Not modeled in PRA	

NUREG-1433 LCO Condition	LCO and Condition Text/Description	Comments/Notes	Outcome
3.7.7.A	<p>LCO: The Main Turbine Bypass System shall be OPERABLE. OR The following limits are made applicable: [a. LCO 3.2.1, "AVERAGE PLANAR LINEAR HEAT GENERATION RATE (APLHGR)," limits for an inoperable Main Turbine Bypass System, as specified in the [COLR]; and] [b. LCO 3.2.2, "MINIMUM CRITICAL POWER RATIO (MCPR)," limits for an inoperable Main Turbine Bypass System, as specified in the [COLR].] Condition: [Requirements of the LCO not met or Main Turbine Bypass System inoperable].</p>	Not modeled in PRA.	
3.8.1.E	<p>LCO: The following AC electrical power sources shall be OPERABLE ...: Condition: Two [or three] required DGs inoperable</p>	Treat as LOF.	
3.8.4.A	<p>LCO: The Train A and Train B DC electrical power subsystems shall be OPERABLE. Condition: One [or two] battery charger[s] on one subsystem inoperable.</p>	Staff evaluating potential to be treated as LOF.	
3.8.4.B	<p>LCO: The Train A and Train B DC electrical power subsystems shall be OPERABLE. Condition: One [or two] batter[y][ies on one subsystem] inoperable.</p>	Staff evaluating potential to be treated as LOF.	
3.8.4.C	<p>LCO: The Train A and Train B DC electrical power subsystems shall be OPERABLE. Condition: One DC electrical power subsystem inoperable for reasons other than Condition A [or B].</p>	Staff evaluating potential to be treated as LOF.	

NUREG-1433 LCO Condition	LCO and Condition Text/Description	Comments/Notes	Outcome
3.8.7.A	<p>LCO: The required Train A and Train B inverters shall be OPERABLE.</p> <p>Condition: One [required] inverter inoperable.</p>	Staff evaluating potential to be treated as LOF.	
3.8.9.A	<p>LCO: Train A and Train B AC, DC, and AC vital bus electrical power distribution subsystems shall be OPERABLE.</p> <p>Condition: One or more AC electrical power distribution subsystems inoperable.</p>	Staff evaluating potential to be treated as LOF.	
3.8.9.B	<p>LCO: Train A and Train B AC, DC, and AC vital bus electrical power distribution subsystems shall be OPERABLE.</p> <p>Condition: One or more AC vital buses inoperable.</p>	Staff evaluating potential to be treated as LOF.	
3.8.9.C	<p>LCO: Train A and Train B AC, DC, and AC vital bus electrical power distribution subsystems shall be OPERABLE.</p> <p>Condition: One or more DC electrical power distribution subsystems inoperable.</p>	Staff evaluating potential to be treated as LOF.	

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NUREG-1434 LCO Condition	LCO and Condition Text/Description	Comments/Notes	Outcome
3.1.7.C	<p>LCO: Two SLC subsystems shall be OPERABLE.</p> <p>Condition: Two SLC subsystems inoperable for other than Boron concentration</p>	LOF	
3.3.1.1.C	<p>LCO: The RPS instrumentation for each Function in Table 3.3.1.1-1 shall be OPERABLE.</p> <p>Condition: One or more Functions with RPS trip capability not maintained.</p>	LOF	
3.3.1.2.A	<p>LCO: The SRM instrumentation in Table 3.3.1.2-1 shall be OPERABLE.</p> <p>Condition: One or more required SRMs inoperable in MODE 2 with intermediate range monitors (IRMs) on Range 2 or below.</p>	Includes LOF Not modeled in PRA.	
3.3.4.1.A	<p>LCO: End of Cycle Recirculation Pump Trip (EOC-RPT) Instrumentation</p> <p>Condition: One or more required channels inoperable.</p>	Not modeled in PRA.	
3.3.4.1.B	<p>LCO: a. Two channels per trip system for each EOC-RPT instrumentation Function listed below shall be OPERABLE: 1. Turbine Stop Valve (TSV) - Closure and 2. Turbine Control Valve (TCV) Fast Closure, Trip Oil Pressure -Low. [OR b. LCO 3.2.2, "MINIMUM CRITICAL POWER RATIO (MCPR)," limits for inoperable EOC-RPT as specified in the COLR are made applicable.]</p> <p>Condition: One or more Functions with EOC-RPT trip capability not maintained. AND [MCPR limit for inoperable EOC-RPT not made applicable.]</p>	LOF Not modeled in PRA.	

NUREG-1434 LCO Condition	LCO and Condition Text/Description	Comments/Notes	Outcome
3.3.4.2.B	<p>LCO: Two channels per trip system for each ATWS-RPT instrumentation Function listed below shall be OPERABLE:</p> <p>a. Reactor Vessel Water Level - Low Low, Level 2 and</p> <p>b. Reactor Steam Dome Pressure - High.</p> <p>Condition: One Function with ATWS-RPT trip capability not maintained.</p>	LOF	
3.3.4.2.C	<p>LCO: Two channels per trip system for each ATWS-RPT instrumentation Function listed below shall be OPERABLE:</p> <p>a. Reactor Vessel Water Level - Low Low, Level 2 and</p> <p>b. Reactor Steam Dome Pressure - High.</p> <p>Condition: Both Functions with ATWS-RPT trip capability not maintained.</p>	LOF	
3.3.5.2.C	<p>LCO: The RCIC System instrumentation for each Function in Table 3.3.5.2-1 shall be OPERABLE.</p> <p>Condition: As required by Required Action A.1 and referenced in Table 3.3.5.2-1.</p> <p>(i.e., One or more channels inoperable:</p> <ul style="list-style-type: none"> - Reactor Vessel Water Level – High, Level 8 - [Manual Initiation) 	LOF	
3.3.6.1.B	<p>LCO: The primary containment isolation instrumentation for each Function in Table 3.3.6.1-1 shall be OPERABLE.</p> <p>Condition: One or more automatic Functions with isolation capability not maintained.</p>	LOF	
3.3.6.4.B	<p>LCO: The SPMU System instrumentation for each Function in Table 3.3.6.4-1 shall be OPERABLE.</p> <p>Condition: B.1 Declare associated SPMU subsystem inoperable.</p> <p>AND</p> <p>B.2 Place channel in trip.</p>	Includes LOF	

NUREG-1434 LCO Condition	LCO and Condition Text/Description	Comments/Notes	Outcome
3.3.6.4.C	<p>LCO: The SPMU System instrumentation for each Function in Table 3.3.6.4-1 shall be OPERABLE.</p> <p>Condition: C.1 -NOTE--Only applicable for Functions 3 and 6. ---- Declare associated SPMU subsystem inoperable. AND C.2 Restore channel to OPERABLE status.</p>	Includes LOF	
3.3.6.5.A	<p>LCO: Relief and Low-Low Set (LLS) Instrumentation</p> <p>Condition: One trip system inoperable.</p>	Not modeled in PRA.	
3.3.8.1.A	<p>LCO: The LOP instrumentation for each Function in Table 3.3.8.1-1 shall be OPERABLE.</p> <p>Condition: One or more channels inoperable.</p>	LOF	
3.6.1.3.B	<p>LCO: Each PCIV shall be OPERABLE.</p> <p>Condition: One or more penetration flow paths with two [or more] PCIVs inoperable for reasons other than {leak rate}</p>	LOF	
3.6.1.3.C	<p>LCO: Each PCIV shall be OPERABLE.</p> <p>Condition: One or more penetration flow paths with one inoperable isolation valve (for penetrations with only one valve)</p>	LOF	
3.6.1.3.D	<p>LCO: Each PCIV shall be OPERABLE.</p> <p>Condition: [One or more [secondary containment bypass leakage rate,] [MSIV leakage rate,] [purge valve leakage rate,] [hydrostatically tested line leakage rate,] [or] [EFCV leakage rate] not within limit.</p>	LOF	
3.6.1.3.E	<p>LCO: Each PCIV shall be OPERABLE.</p> <p>Condition: One or more penetration flow paths with one or more containment purge valves not within purge valve leakage limits.</p>	LOF	
3.6.1.6.A	<p>LCO: The LLS function of [six] safety/relief valves shall be OPERABLE.</p> <p>Condition: One Low-Low Set Valve inoperable.</p>	LOF	

NUREG-1434 LCO Condition	LCO and Condition Text/Description	Comments/Notes	Outcome
3.6.1.7.A	LCO: Residual Heat Removal (RHR) Containment Spray System Condition: One RHR containment spray subsystem inoperable.	May not affect CDF or LERF.	
3.6.1.7.B	LCO: Two RHR containment spray subsystems shall be OPERABLE. Condition: Two RHR containment spray subsystems inoperable.	LOF May not affect CDF or LERF.	
3.6.2.3.B	LCO: Two RHR suppression pool cooling subsystems shall be OPERABLE. Condition: Two RHR suppression pool cooling subsystems inoperable.	LOF	
3.6.2.4.A	LCO: Two Suppression Pool Makeup (SPMU) System subsystems shall be OPERABLE. Condition: Upper containment pool water level not within limit.	LOF	
3.6.2.4.B	LCO: Two SPMU subsystems shall be OPERABLE. Condition: Upper containment pool water temperature not within limit.	LOF	
3.6.3.1.B	LCO: Two divisions of primary containment and drywell hydrogen ignitors shall be OPERABLE, each with > 90% of the associated ignitor assemblies OPERABLE. Condition: Two primary containment and drywell hydrogen ignitor divisions inoperable.	LOF	
3.6.3.2.B	LCO: Two [drywell purge] subsystems shall be OPERABLE. Condition: Two [drywell purge] subsystems inoperable.	LOF	
3.6.5.1.A	LCO: The drywell shall be OPERABLE. Condition: Drywell inoperable	LOF Single train system	

NUREG-1434 LCO Condition	LCO and Condition Text/Description	Comments/Notes	Outcome
3.6.5.2.C	<p>LCO: The drywell air lock shall be OPERABLE.</p> <p>Condition: Drywell air lock inoperable for reasons other than an inoperable door or inoperable interlock.</p>	Not a restorative action covered in NEI 06-09; therefore, needs justification for Completion Time extension.	
3.6.5.3.B	<p>LCO: Each drywell isolation valve [,except for Drywell Vacuum Relief System valves,] shall be OPERABLE.</p> <p>Condition: One or more penetration flow paths with two drywell isolation valves inoperable.</p>	LOF	
3.6.5.6.D	<p>LCO: [Two] drywell post-LOCA and [two] drywell purge vacuum relief subsystems shall be OPERABLE.</p> <p>Condition: [Two] drywell purge vacuum relief subsystems inoperable for reasons other than vacuum relief subsystem not closed.</p>	LOF	
3.6.5.6.E	<p>LCO: [Two] drywell post-LOCA and [two] drywell purge vacuum relief subsystems shall be OPERABLE.</p> <p>Condition: [Two] drywell post-LOCA vacuum relief subsystems inoperable for reasons other than Condition A. AND One drywell purge vacuum relief subsystem inoperable for reasons other than Condition A.</p>	LOF	
3.7.4.A	<p>LCO: Two [control room AC] subsystems shall be OPERABLE.</p> <p>Condition: One [control room AC] subsystem inoperable.</p>	Not modeled in PRA	

NUREG-1434 LCO Condition	LCO and Condition Text/Description	Comments/Notes	Outcome
3.7.6.A	<p>LCO: The Main Turbine Bypass System shall be OPERABLE. OR The following limits are made applicable: [a. LCO 3.2.1, "AVERAGE PLANAR LINEAR HEAT GENERATION RATE (APLHGR)," limits for an inoperable Main Turbine Bypass System, as specified in the [COLR] and] [b. LCO 3.2.2, "MINIMUM CRITICAL POWER RATIO (MCPR)," limits for an inoperable Main Turbine Bypass System, as specified in the [COLR].] Condition: [Requirements of the LCO not met or Main Turbine Bypass System inoperable].</p>	Not modeled in PRA.	
3.8.1.E	<p>LCO: The following AC electrical power sources shall be OPERABLE ...: Condition: Two [required] DGs inoperable.</p>	Treat as LOF	
3.8.4.A	<p>LCO: The Train A and Train B DC electrical power subsystems shall be OPERABLE. Condition: One [or two] battery charger[s] on one subsystem inoperable.</p>	Staff evaluating potential to be treated as LOF.	
3.8.4.B	<p>LCO: The Train A and Train B DC electrical power subsystems shall be OPERABLE. Condition: One [or two] batter[y][ies on one subsystem] inoperable.</p>	Staff evaluating potential to be treated as LOF.	
3.8.4.C	<p>LCO: The Train A and Train B DC electrical power subsystems shall be OPERABLE. Condition: One DC electrical power subsystem inoperable for reasons other than Condition A [or B].</p>	Staff evaluating potential to be treated as LOF.	

NUREG-1434 LCO Condition	LCO and Condition Text/Description	Comments/Notes	Outcome
3.8.7.A	<p>LCO: The required Train A and Train B inverters shall be OPERABLE.</p> <p>Condition: One [required] inverter inoperable.</p>	Staff evaluating potential to be treated as LOF.	
3.8.9.A	<p>LCO: Train A and Train B AC, DC, and AC vital bus electrical power distribution subsystems shall be OPERABLE.</p> <p>Condition: One or more AC electrical power distribution subsystems inoperable.</p>	Staff evaluating potential to be treated as LOF.	
3.8.9.B	<p>LCO: Train A and Train B AC, DC, and AC vital bus electrical power distribution subsystems shall be OPERABLE.</p> <p>Condition: One or more AC vital buses inoperable.</p>	Staff evaluating potential to be treated as LOF.	
3.8.9.C	<p>LCO: Train A and Train B AC, DC, and AC vital bus electrical power distribution subsystems shall be OPERABLE.</p> <p>Condition: One or more DC electrical power distribution subsystems inoperable.</p>	Staff evaluating potential to be treated as LOF.	

The staff agrees with the Recommended Changes to Example 1.3-8 delineated in TSTF 17-01.

The necessary changes to TS 5.5.18 are addressed in Section III.