

DATE

TSTF-17-01
PROJ0753

Attn: Document Control Desk
U. S. Nuclear Regulatory Commission
Washington, DC 20555-0001

SUBJECT: Response to NRC Questions on TSTF-505, "Provide Risk-Informed Extended Completion Times"

Reference: Letter from T. McGinty and A. Boland (NRC) to Technical Specifications Task Force (TSTF), "Issues with Technical Specifications Task Force Traveler TSTF-505, Revision 1, 'Provide Risk-Informed Extended Completion Times - RITSTF Initiative 4b'," dated November 15, 2016

In the referenced letter, the NRC raised concerns with approved TSTF traveler, TSTF-505-A, Revision 1, "Provide Risk-Informed Extended Completion Times." The NRC published in the Federal Register a notice of availability for the Model Safety Evaluation (SE) for plant-specific adoption of TSTF traveler TSTF-505, Revision 1, on March 15, 2012. Currently, six licensees have License Amendment Requests (LARs) under NRC review to adopt risk-informed Completion Times.

On December 13, 2016, the TSTF and the Nuclear Energy Institute (NEI) met with the NRC to discuss the NRC's concerns. Most the NRC concerns were related to proposed Technical Specifications (TS) Actions related to all trains of a TS required system being inoperable (i.e., loss of function). The industry proposed the following short-term and long-term actions to resolve the NRC concerns:

1. The industry will pursue development of a companion traveler for TSTF-505 that addresses the NRC issues with Actions related to a loss of function. Following approval, plants that have adopted TSTF-505 without Actions related to a loss of function could submit a LAR to adopt the companion traveler. Following NRC approval of the companion traveler, plants that have not adopted TSTF-505 can adopt TSTF-505 and the companion traveler in a single LAR.
2. TSTF-505 allows licensees to choose which Action changes are included in their LAR. The TSTF will recommend to the industry that until the companion traveler is approved by the NRC, licensees submitting LARs to adopt TSTF-505 not include Action changes related to a loss of function. Omitting these Actions should allow timely approval of LARs and provide the majority of the benefit of TSTF-505. Attachment 1 contains a list of the Actions revised

by TSTF-505 that should be omitted, as well as conforming changes to the TSTF-505 Section 1.3 TS example and the TS Section 5.5 Administrative Controls program.

3. The proposed actions only apply to future submittals. The licensees with LARs currently under NRC review will decide how to proceed.

The NRC had questions on other aspects of TSTF-505 not related to loss of function. Those questions are addressed in Attachment 2.

The TSTF requests 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 Attachment 1. Following NRC approval of a TSTF traveler that addresses Actions with a risk-informed Completion Time related to loss of function, LARs should be accepted for review that propose to adopt TSTF-505 and the companion traveler.

Should you have any questions, please do not hesitate to contact us.

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Enclosure

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Attachment 1

TSTF-505 Recommended Changes to Exclude Provisions Related to Loss of Function

TSTF-505 Markup to NUREG-1430, Babcock and Wilcox STS

Specification	Specification Title	Notes
1.3	Completion Times	See attached recommended changes
Action 3.3.1.C	RPS Instrumentation	LOF. Do not include
Action 3.3.5.B	ESFAS Instrumentation	LOF. Do not include
Action 3.3.6.B	ESFAS Manual Initiation	LOF. Do not include
Action 3.3.11.D	EFIC System Instrumentation	LOF. Do not include
Action 3.3.13.B	EFIC Logic	LOF. Do not include
Action 3.3.14.B	EFIC-EFW- Vector Valve Logic	LOF. Do not include
Action 3.5.1.A	CFTs	Do not include
Action 3.5.1.C	CFTs	LOF. Do not include
Action 3.5.2.C	ECCS - Operating	LOF. Do not include
Action 3.5.4.A	BWST	Do not include
Action 3.6.6.F	Containment Spray and Cooling Systems	LOF. Do not include
Action 3.7.2.C	MSIVs	LOF. Do not include
Action 3.7.5.C	EFW System	LOF. Do not include
Action 3.7.8.B	SWS	LOF. Do not include
Action 3.7.9.C	UHS	LOF. Do not include
Action 3.7.11.B	CREVS	LOF. Do not include
Action 3.8.1.G	AC Sources - Operating	LOF. Do not include
Action 3.8.4.D	DC Sources - Operating	LOF. Do not include
Action 3.8.7.B	Inverters - Operating	LOF. Do not include
Action 3.8.9.D	Distribution Systems - Operating	LOF. Do not include
5.5.18	Risk Informed Completion Time Program	See attached recommended changes

Attachment 1

TSTF-505 Recommended Changes to Exclude Provisions Related to Loss of Function

TSTF-505 Markup to NUREG-1431, Westinghouse STS

Specification	Specification Title	Notes
1.3	Completion Times	See attached recommended changes
Action 3.3.1.C	RTS Instrumentation	LOF. Do not include
Action 3.3.1.E	RTS Instrumentation	LOF. Do not include
Action 3.3.1.G	RTS Instrumentation	LOF. Do not include
Action 3.3.1.I	RTS Instrumentation	LOF. Do not include
Action 3.3.1.Q	RTS Instrumentation	LOF. Do not include
Action 3.3.1.T	RTS Instrumentation	LOF. Do not include
Action 3.3.1.W	RTS Instrumentation	LOF. Do not include
Action 3.3.1.Z	RTS Instrumentation	LOF. Do not include
Action 3.3.1.CC	RTS Instrumentation	LOF. Do not include
Action 3.3.1.EE	RTS Instrumentation	LOF. Do not include
Action 3.3.1.JJ	RTS Instrumentation	LOF. Do not include
Action 3.3.2.C	ESFAS Instrumentation	LOF. Do not include
Action 3.3.2.E	ESFAS Instrumentation	LOF. Do not include
Action 3.3.2.G	ESFAS Instrumentation	LOF. Do not include
Action 3.3.2.I	ESFAS Instrumentation	LOF. Do not include
Action 3.3.2.K	ESFAS Instrumentation	LOF. Do not include
Action 3.3.2.M	ESFAS Instrumentation	LOF. Do not include
Action 3.3.2.O	ESFAS Instrumentation	LOF. Do not include
Action 3.3.2.Q	ESFAS Instrumentation	LOF. Do not include
Action 3.3.2.S	ESFAS Instrumentation	LOF. Do not include
Action 3.3.2.U	ESFAS Instrumentation	LOF. Do not include
Action 3.3.9.B	BDPS	LOF. Do not include
Action 3.4.9.C	Pressurizer	LOF. Do not include.
Action 3.5.1.A	Accumulators	Do not include.

Attachment 1

TSTF-505 Recommended Changes to Exclude Provisions Related to Loss of Function

TSTF-505 Markup to NUREG-1431, Westinghouse STS

Specification	Specification Title	Notes
Action 3.5.1.C	Accumulators	LOF. Do not include.
Action 3.5.2.B	ECCS - Operating	LOF. Do not include.
Action 3.5.4.A	RWST	Do not include.
Action 3.6.6A.E	Containment Spray and Cooling Systems (Atmospheric and Dual)	LOF. Do not include.
Action 3.6.6B.G	Containment Spray and Cooling Systems (Atmospheric and Dual)	LOF. Do not include.
Action 3.6.6C.B	Containment Spray System (Ice Condenser)	LOF. Do not include.
Action 3.6.6D.B	QS System (Subatmospheric)	LOF. Do not include.
Action 3.6.6E.F	RS System (Subatmospheric)	LOF. Do not include.
Action 3.6.10.C	HIS (Ice Condenser)	LOF. Do not include.
Action 3.6.14.B	ARS (Ice Condenser)	LOF. Do not include.
Action 3.6.18.A	Containment Recirculation Drains (Ice Condenser)	LOF. Do not include.
Action 3.6.18.B	Containment Recirculation Drains (Ice Condenser)	LOF. Do not include.
Action 3.7.2.C	MSIVs	LOF. Do not include.
Action 3.7.5.C	AFW System	LOF. Do not include.
Action 3.7.7.B	CCW System	LOF. Do not include.
Action 3.7.8.B	SWS	LOF. Do not include.
Action 3.7.9.C	UHS	LOF. Do not include.
Action 3.7.11.B	CREATCS	LOF. Do not include.
Action 3.8.1.G	AC Sources - Operating	LOF. Do not include
Action 3.8.4.D	DC Sources - Operating	LOF. Do not include
Action 3.8.7.B	Inverters - Operating	LOF. Do not include
Action 3.8.9.D	Distribution Systems - Operating	LOF. Do not include
5.5.18	Risk Informed Completion Time Program	See attached Recommended Changes

Attachment 1

TSTF-505 Recommended Changes to Exclude Provisions Related to Loss of Function

TSTF-505 Markup to NUREG-1432, Combustion Engineering STS

Specification	Specification Title	Notes
1.3	Completion Times	See attached recommended changes
Action 3.3.4.B	ESFAS Instrumentation (Analog)	LOF. Do not include.
Action 3.3.5.B	ESFAS Logic and Manual Trip (Analog)	LOF. Do not include.
Action 3.3.5.E	ESFAS Logic and Manual Trip (Analog)	LOF. Do not include.
Action 3.3.6.E	ESFAS Logic and Manual Trip (Digital)	LOF. Do not include.
Action 3.4.9.C	Pressurizer	LOF. Do not include.
Action 3.5.1.A	SITs	Do not include.
Action 3.5.1.C	SITs	LOF. Do not include.
Action 3.5.2.C	ECCS - Operating	LOF. Do not include.
Action 3.5.4.A	RWT	Do not include.
Action 3.6.6A.F	Containment Spray and Cooling Systems (Atmospheric and Dual)	LOF. Do not include.
Action 3.6.6B.F	Containment Spray and Cooling Systems (Atmospheric and Dual)	LOF. Do not include.
Action 3.7.2.C	MSIVs	LOF. Do not include.
Action 3.7.5.C	AFW System	LOF. Do not include.
Action 3.7.7.B	CCW System	LOF. Do not include.
Action 3.7.8.B	SWS	LOF. Do not include.
Action 3.7.9.C	UHS	LOF. Do not include.
Action 3.7.10.B	ECW	LOF. Do not include.
Action 3.7.12.B	CREATCS	LOF. Do not include.
Action 3.8.1.G	AC Sources - Operating	LOF. Do not include
Action 3.8.4.D	DC Sources - Operating	LOF. Do not include
Action 3.8.7.B	Inverters - Operating	LOF. Do not include
Action 3.8.9.D	Distribution Systems - Operating	LOF. Do not include
5.5.18	Risk Informed Completion Time Program	See attached recommended changes

Attachment 1

TSTF-505 Recommended Changes to Exclude Provisions Related to Loss of Function

TSTF-505 Markup to NUREG-1433, BWR/4 STS

Specification	Specification Title	Notes
1.3	Completion Times	See attached recommended changes
Action 3.1.7.A	SLC System	Do not include.
Action 3.3.6.3.D	LLS Instrumentation	LOF. Do not include.
Action 3.4.3.B	S/RVs	LOF. Do not include.
Action 3.5.1.G	ECCS - Operating	LOF. Do not include.
Action 3.5.1.I	ECCS - Operating	LOF. Do not include.
Action 3.7.2.F	[PSW] System and [UHS]	LOF. Do not include.
Action 3.7.5.B	[Control Room AC] System	LOF. Do not include.
Action 3.8.1.G	AC Sources - Operating	LOF. Do not include
Action 3.8.4.D	DC Sources - Operating	LOF. Do not include
Action 3.8.7.B	Inverters - Operating	LOF. Do not include
Action 3.8.9.D	Distribution Systems - Operating	LOF. Do not include
5.5.15	Risk Informed Completion Time Program	See attached recommended changes

Attachment 1

TSTF-505 Recommended Changes to Exclude Provisions Related to Loss of Function

TSTF-505 Markup to NUREG-1434, BWR/6 STS

Specification	Specification Title	Notes
1.3	Completion Times	See attached recommended changes
Action 3.1.7.A	SLC System	Do not include.
Action 3.3.6.5.B	Relief and LLS Instrumentation	LOF. Do not include.
Action 3.4.4.B	S/RVs	LOF. Do not include.
Action 3.5.1.G	ECCS - Operating	LOF. Do not include.
Action 3.5.1.I	ECCS - Operating	LOF. Do not include.
Action 3.5.1.J	ECCS - Operating	LOF. Do not include.
Action 3.5.1.K	ECCS - Operating	LOF. Do not include.
Action 3.5.1.L	ECCS - Operating	LOF. Do not include.
Action 3.6.2.4.D	SPMU System	LOF. Do not include.
Action 3.6.5.6.F	Drywell Vacuum Relief System	LOF. Do not include.
Action 3.7.1.D	[SSW] System and [UHS]	LOF. Do not include.
Action 3.7.4.B	[Control Room AC] System	LOF. Do not include.
Action 3.8.1.G	AC Sources - Operating	LOF. Do not include
Action 3.8.4.D	DC Sources - Operating	LOF. Do not include
Action 3.8.7.B	Inverters - Operating	LOF. Do not include
Action 3.8.9.D	Distribution Systems - Operating	LOF. Do not include
5.5.15	Risk Informed Completion Time Program	See attached recommended changes

TSTF-505 Recommended Changes to Exclude Provisions Related to Loss of Function

Recommended Changes to the Section 1.3 Example in TSTF-505

----- Reviewer's Note -----

Example 1.3-8 is only applicable to plants that have adopted the Risk Informed Completion Time Program.

[EXAMPLE 1.3-8ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One subsystem inoperable.	A.1 Restore subsystem to OPERABLE status.	7 days <u>OR</u> In accordance with the Risk Informed Completion Time Program
B. <u>NOTE</u> — Not applicable when second subsystem intentionally made inoperable. — — Two subsystems inoperable. —	B.1 Restore subsystems to OPERABLE status.	1 hour <u>OR</u> In accordance with the Risk Informed Completion Time Program
BE. Required Action and associated Completion Time not met.	BE.1 Be in MODE 3. <u>AND</u> BE.2 Be in MODE 5.	6 hours 36 hours

When a subsystem is declared inoperable, Condition A is entered. The 7 day Completion Time may be applied as discussed in Example 1.3-2. However, the

TSTF-505 Recommended Changes to Exclude Provisions Related to Loss of Function

Recommended Changes to the Section 1.3 Example in TSTF-505

licensee may elect to apply the Risk Informed Completion Time Program which permits calculation of a Risk Informed Completion Time (RICT) that may be used to complete the Required Action beyond the 7 day Completion Time. The RICT cannot exceed 30 days. After the 7 day Completion Time has expired, the subsystem must be restored to OPERABLE status within the RICT or Condition **BC** must also be entered.

~~If a second subsystem is declared inoperable, Condition B may also be entered. The Condition is modified by a Note stating it is not applicable if the second subsystem is intentionally made inoperable. The Required Actions of Condition B are not intended for voluntary removal of redundant subsystems from service. The Required Action is only applicable if one subsystem is inoperable for any reason and the second subsystem is found to be inoperable, or if both subsystems are found to be inoperable at the same time. If Condition B is applicable, at least one subsystem must be restored to OPERABLE status within 1 hour or Condition C must also be entered. The licensee may be able to apply a RICT to extend the Completion Time beyond 1 hour if the requirements of the Risk Informed Completion Time Program are met. If two subsystems are inoperable and Condition B is not applicable (i.e., the second subsystem was intentionally made inoperable), LCO 3.0.3 is entered as there is no applicable Condition.~~

The Risk Informed Completion Time Program requires recalculation of the RICT to reflect changing plant conditions. For planned changes, the revised RICT must be determined prior to implementation of the change in configuration. For emergent conditions, the revised RICT must be determined within the time limits of the Required Action Completion Time (i.e., not the RICT) or 12 hours after the plant configuration change, whichever is less.

If the 7 day Completion Time clock of Condition A ~~or the 1 hour Completion Time clock of Condition B have~~ **has** expired and subsequent changes in plant condition result in exiting the applicability of the Risk Informed Completion Time Program without restoring the inoperable subsystem to OPERABLE status, Condition **BC** is also entered and the Completion Time clocks for Required Actions **BC.1** and **BC.2** start.

If the RICT expires or is recalculated to be less than the elapsed time since the Condition was entered and the inoperable subsystem has not been restored to OPERABLE status, Condition **BC** is also entered and the Completion Time clocks for Required Actions **BC.1** and **BC.2** start. If the inoperable subsystems are restored to OPERABLE status after Condition **BC** is entered, Conditions **A**, **B**, and **BC** are exited, and therefore, the Required Actions of Condition **BC** may be terminated.]

TSTF-505 Recommended Changes to Exclude Provisions Related to Loss of Function

Recommended Changes to the Risk Informed Completion Time Program in TSTF-505

[5.5.18 Risk Informed Completion Time Program

This program provides controls to calculate a Risk Informed Completion Time (RICT) and must be implemented in accordance with NEI 06-09-A, Revision 0, "Risk-Managed Technical Specifications (RMTS) Guidelines." The program shall include the following:

- a. The RICT may not exceed 30 days;

----- REVIEWER'S NOTE -----

The Risk Informed Completion Time is only applicable in MODES supported by the Licensees PRA. Licensee's applying the RICT Program to MODES other than Modes 1 and 2 must demonstrate that they have the capability to calculate a RICT in those MODES or that the risk indicated by their MODE 1 and 2 PRA model is bounding with respect to the lower MODE conditions.

- b. A RICT may only be utilized in MODE 1, 2 [, and 3, and MODE 4 while relying on steam generators for heat removal];
- c. When a RICT is being used, any plant configuration change within the scope of the Risk Informed Completion Time Program must be considered for the effect on the RICT.
 - 1. For planned changes, the revised RICT must be determined prior to implementation of the change in configuration.
 - 2. For emergent conditions, the revised RICT must be determined within the time limits of the Required Action Completion Time (i.e., not the RICT) or 12 hours after the plant configuration change, whichever is less.
 - 3. Revising the RICT is not required If the plant configuration change would lower plant risk and would result in a longer RICT.
- d. Use of a RICT is not permitted for ~~voluntary~~ entry into a configuration which represents a loss of a specified safety function or inoperability of all required trains of a system required to be OPERABLE.
- ~~e. Use of a RICT is permitted for emergent conditions which represent a loss of a specified safety function or inoperability of all required trains of a system required to be OPERABLE if one or more of the trains are considered "PRA functional" as defined in Section 2.3.1 of NEI 06-09.]~~

Response to NRC Questions on TSTF-505 Not Related to Loss of Function Provisions

1. At the December 13, 2016, public meeting, the NRC asked for more information on the inclusion of a Risk Informed Completion Time (RICT) provision for Required Actions that do not require restoration of the system to Operable status.

Response

At a September 8, 2010, public meeting between the NRC and the TSTF to discuss TSTF-505, the NRC raised concerns with including changes in TSTF-505 that were not in the South Texas Project (STP) lead plant submittal scope of applying a RICT to Required Actions that either 1) require restoring the inoperable system to operable status, 2) require placing an instrument channel in trip, or 3) require isolating a containment isolation valve. As a result, Revision 1 of TSTF-505 removed changes that did not fall into these categories.

In a Request for Additional Information (RAI) on TSTF-505 dated July 27, 2010, the NRC questioned the calculation of a RICT for placing a channel in trip or bypass. The TSTF agreed to remove changes applying a RICT to placing a channel in bypass, and justified applying a RICT for placing a channel in trip. The RAI response stated:

The TSTF believes that the TSTF-505 option to calculate a RICT for placing channels in trip should be retained. The NRC has reviewed and approved risk-based Topical Reports that change the Completion Time for placing a channel in trip, such as WCAP-14333, "Probabilistic Risk Analysis of the RPS and ESFAS Test Times and Completion Times," approved July 15, 1998. A licensee could choose to model these actions and calculate a RICT for placing a channel in trip.

The NRC approved TSTF-505 with provisions to calculate a RICT for Required Actions that require placing a channel in trip.

2. At the December 13, 2016, public meeting, the NRC asked for an explanation of the difference between the TSTF-505 RICT program and the NEI 06-09 Configuration Risk Management Program.

Response

The TSTF-505 justification, Section 2.0, "Proposed Change," states:

There is a new Chapter 5 Program entitled, "Risk Informed Completion Time Program" which is invoked when utilizing a RICT. In NEI 06-09 this program is called the Configuration Risk Management Program. That title is not used in the Traveler because some licensees already have a Chapter 5 program of that name serving a different purpose and the proposed name is more descriptive of the purpose of the new program.

Therefore, the TSTF-505 Risk Informed Completion Time program is the same as the NEI 06-09 Configuration Risk Management Program.

Response to NRC Questions on TSTF-505 Not Related to Loss of Function Provisions

3. At the December 13, 2016, public meeting, the NRC asked for a more detailed discussion regarding treatment of common cause failure term adjustments when calculating a RICT.

Response

The NEI 06-09 and the associated safety evaluation state that common cause must be considered for emergent failures and require consideration and implementation of Risk Management Actions (RMAs) to address the risk of potential common cause failures as identified by the extent of condition evaluation.

The last paragraph of section 2.3.1 of NEI 06-09 states:

15. Operability determinations should follow regulatory guidance established in Part 9900 of the NRC Inspection Manual [9]. RMA and RICT calculations performed for emergent conditions shall be performed assuming that all equipment not declared inoperable during the operability determination process are functional. However, the station shall establish appropriate RMAs based on an assessment of the potential for increased risks due to common cause failure of similar equipment. (Note that if there is not evidence for increased potential for common cause failures, no RMAs are required).

The safety evaluation for NEI 06-09, in the section titled "emergent failures," states:

Emergent Failures. During the time when an RICT is in effect and risk is being assessed and managed, it is possible that emergent failures of SSCs may occur, and these must be assessed to determine the impact on the RICT. If a failed component is one of two or more redundant components in separate trains of a system, then there is potential for a common cause failure mechanism. Licensees must continue to assess the remaining redundant components to determine there is reasonable assurance of their continued operability, and this is not changed by implementation of the RMTS. If a licensee concludes that the redundant components remain operable, then these components are functional for purposes of the RICT. However, the licensee is required to consider and implement additional risk management actions (RMAs), due to the potential for increased risks from common cause failure of similar equipment. The staff interprets TR NEI 06-09, Revision 0, as requiring consideration of such RMAs whenever the redundant components are considered to remain operable, but the licensee has not completed the extent of condition evaluations, and additionally, as required by a follow-up prompt operability determination. (emphasis added)

NEI 06-09 includes the following guidance on consideration of common cause failures:

3.3.6 Common Cause Failure Consideration

Common cause failures are required to be considered for all RICT assessments. For all RICT assessments of planned configurations, the treatment of common cause failures in the quantitative CRM Tools may be performed by considering only the removal of the planned equipment and not adjusting common cause failure terms. For RICT assessments involving unplanned or emergent conditions, the potential for common cause failure is

Response to NRC Questions on TSTF-505 Not Related to Loss of Function Provisions

considered during the operability determination process. This assessment is more accurately described as an "extent of condition" assessment. Licensed operators recognize that an emergent condition identified on a Technical Specifications component may have the potential to affect a redundant component or similar components. In addition to a determination of operability on the affected component, the operator should make a judgment with regard to whether the operability of similar or redundant components might be affected. In accordance with the operability determination guidance in Part 9900 of the NRC Inspection Manual (provided in Regulatory Information Summary 2005-20), the determination of operability should be done promptly, commensurate with the safety significance of the affected component. If a common condition affects the operability of multiple components (e.g., that more than one common cause group functional train is affected), action should be taken via the Technical Specifications. Based on the information available, the licensed operator is often able to make an immediate determination that there is reasonable assurance that redundant or similar components are not affected. Using judgment with regard to the specific condition, the operator may direct that similar or redundant components be inspected for evidence of the degradation. For conditions where the operator has less information, assistance from other organizations, such as Station Engineering, is typically requested. These support organizations continue to perform the evaluation promptly, as described above. The guidance contained in Part 9900 of the Inspection Manual is used as well as conservative decision-making for extent of condition evaluations. The components are considered functional in the PRA unless the operability evaluation determines otherwise.

While quantitative changes to the PRA are not required, the PRA should be used as appropriate to provide insights for the qualitative treatment of potential common cause failures and RMAs that may be applied for the affected configuration. Such information may be used in prioritizing the repair, ensuring proper resource application, and taking other compensatory measures as deemed prudent by station management."

NRC Regulatory Guide 1.177, "An Approach for Plant-Specific, Risk-Informed Decisionmaking: Technical Specifications," addresses common cause failure treatment for risk-informed changes to Technical Specifications. Appendix A, Section 1.3.1.1, discusses quantitative adjustment of the common cause failure probabilities based on the cause of the equipment unavailability. Section 2.3 of the Regulatory Guide states that Appendix A outlines issues associated with Tier 1. Tier 1 is an assessment of the risk impact of a proposed change that is submitted to the NRC as part of a license amendment request. This is contrasted with Tier 3, which is a contemporaneous configuration risk management risk assessment performed by the licensee while the equipment is out of service.

As noted in NEI 06-09, Section 1.1, and throughout the document, the assessment and management of configuration-specific risk is within the context of a configuration risk management program, and the RICT is required to be re-calculated for any configuration changes. Since common cause failure quantitative adjustments are explicitly excluded from Tier 3 methods in Regulatory Guide 1.177 and since the RICT calculations are configuration risk

Response to NRC Questions on TSTF-505 Not Related to Loss of Function Provisions

assessments associated with Tier 3 assessments, these quantitative adjustments are not applicable to calculating a RICT.

Therefore, the RICT process explicitly addresses common cause failure and mitigates the associated risk by development and implementation of RMAs specifically targeted toward common cause failure, consistent with regulatory guidance.

4. At the December 13, 2016, public meeting, the NRC asked for a discussion regarding the differences between the Risk Informed Completion Time Program and the 10 CFR 50.65 Maintenance Rule program.

Response

Most TS provide a Completion Time during which the LCO may not be met to permit a licensee to perform required testing, maintenance, or repair activities. Normally, upon expiration of the Completion Time, the requirement to shut down the reactor or follow remedial action is imposed. NEI 06-09 provides a means for the licensee to extend the Completion Time and thereby delay reactor shutdown or remedial actions, if risk is assessed and managed within specified limits and programmatic requirements established by the TS. The regulatory requirements for the content of LCOs will continue to be met, since only the Completion Time is changed. The specific functional capabilities or performance levels of equipment required by the safety analyses are unchanged, and the remedial actions, including the requirement to shut down the reactor, are also unchanged; only the specific time limits for initiating actions are extended by the methodology documented in NEI 06-09.

The maintenance rule, 10 CFR 50.65, "Requirements for monitoring the effectiveness of maintenance at nuclear power plants," requires licensees to monitor the performance or condition of structures, systems and components (SSCs) against licensee-established goals in a manner sufficient to provide a reasonable assurance that these SSCs are capable of fulfilling their intended functions. In addition, 10 CFR 50.65(a)(4) requires the assessment and management of the increase in risk that may result from a proposed maintenance activity. The methodology in NEI 06-09 uses processes that are complementary to the requirements of 10 CFR 50.65(a)(4).

Both processes recognize that plant risk is increased when equipment is out of service. Both processes take actions commensurate with the risk due to the specific configuration. If a system is addressed in the Technical Specifications any work performed under the Maintenance Rule program is performed within the constraints of the TS completion time. The RICT program allows the completion time available to perform work to potentially be adjusted within the constraints of the program and plant configuration. Thus, the two programs are interrelated and implementation of the RICT program builds on the existing Maintenance Rule configuration control process.

5. At the December 13, 2016, public meeting, the NRC questioned applying a RICT to existing TS Actions that appeared to be a loss of function. In particular, the staff questioned calculating a RICT for the existing Actions for two inoperable emergency diesel generators and two inoperable offsite circuits.

Response to NRC Questions on TSTF-505 Not Related to Loss of Function ProvisionsResponse

The ISTS defines "operable/operability" as:

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

In order to be operable, a system must have either normal electrical power (offsite circuits) or emergency electrical power (emergency diesel generators). Losing one power source does not render the supported systems inoperable. TS 3.8.1, "AC Sources - Operating," contains requirements on both the offsite circuits and the emergency diesel generators because either system can perform the safety function.

TS Administrative Controls Section 5.5, "Safety Function Determination Program," defines a loss of safety function. It states:

A loss of safety function exists when, assuming no concurrent single failure, no concurrent loss of offsite power, or no concurrent loss of onsite diesel generator(s), a safety function assumed in the accident analysis cannot be performed.

Under this TS definition, a single offsite circuit or a single emergency diesel generator can perform the safety function. Therefore, the existing TS 3.8.1 Actions for two inoperable offsite circuits (Action C) or two inoperable diesel generators (Action E) do not represent a loss of safety function. This is consistent with the TS Bases. The Bases for Condition H, which is applicable when three or more required AC sources are inoperable, states, "Condition H corresponds to a level of degradation in which all redundancy in the AC electrical power supplies has been lost. At this severely degraded level, any further losses in the AC electrical power system will cause a loss of function" (emphasis added). In other words, a loss of safety function occurs when there is no operable offsite circuits or emergency diesel generators. Therefore, a RICT can be calculated for two inoperable offsite circuits (Condition C) or two inoperable emergency diesel generators (Condition E) without considering PRA Functionality or a loss of function.