



UNITED STATES
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555-0001

April 26, 2002

Mr. Anthony R. Pietrangelo, Director
Risk and Performance Based Regulation
Nuclear Energy Institute
1776 Eye Street, N.W.
Suite 400
Washington, DC 20006-2496

Dear Mr. Pietrangelo:

The NRC staff has been reviewing and preparing a safety evaluation on TSTF-359, R.6, which contains proposed changes to the Standard Technical Specification (STS) NUREGs made by the NEI Technical Specification Task Force (TSTF), related to a Risk-Informed Technical Specification (RITS) Initiative 3, to increase flexibility in mode transition limits. The staff had requested, at the last RITSTF meeting, that the increased flexibility provided by the LCO 3.0.4 and SR 3.0.4 allowances, not be provided to the TS systems/structures/components (SSCs) that are pre-analyzed as what we are calling "high transition risk SSCs." While this requested change was reflected in the proposed Bases included in TSTF-359, R.6, it was not reflected in the actual TS LCO 3.0.4 or TS SR 3.0.4. The staff therefore suggests that the enclosed proposed modifications be considered for incorporation into a TSTF-359, Revision 7.

Please contact me at (301) 415-1161 or e-mail wdb@nrc.gov if you have any questions or need further information on this disposition.

Sincerely,

A handwritten signature in cursive script that reads "William D. Beckner".

William D. Beckner, Program Director
Operating Reactor Improvements Program
Division of Regulatory Improvement Programs
Office of Nuclear Reactor Regulation

Enclosure: As stated

cc: J. Arbuckle, BWROG
D. Bice, CEOG
N. Clarkson, BWOG
S. Wideman, WOG
D. Hoffman, EXCEL
B. Bradley, NEI
M. Schoppman, NEI

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/RA/

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DATE	4/26/2002	4/26/2002	4/26/2002

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PROPOSED CHANGES to TSTF-359, Rev 6;

Changes to Technical Specifications:

Revisions to INSERT 1, to 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 that MODE or other specified condition in the Applicability for an unlimited period of time, or*
- (b) *when systems/structures/components (SSCs) are not high transition risk SSCs, and after a risk assessment, 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 for no more than the duration of the applicable ACTIONS Completion Time or until the LCO is met, or*
- (c) *when specific value or parameter allowances are stated in individual Specifications, and for no more than the duration of the applicable ACTIONS Completion Time or until the LCO is met."*

Revisions to INSERT 2, to SR 3.0.4:

"When an LCO is not met due to a Surveillance not having been 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 that MODE or other specified condition in the Applicability for an unlimited period of time, or*
- (b) *when systems/structures/components (SSCs) are not high transition risk SSCs, and after a risk assessment, 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 for no more than the duration of the applicable ACTIONS Completion Time or until the LCO is met, or*
- (c) *when specific value or parameter allowances are stated in individual Specifications, and for no more than the duration of the applicable ACTIONS Completion Time or until the LCO is met."*

Revisions to INSERT 3, to LCO 3.0.4 Bases, and to INSERT 4, to SR 3.0.4 Bases:

Insert 3a -

When an LCO is not met, LCO 3.0.4 and SR 3.0.4 also allow entering MODES or other specified conditions in the Applicability for those systems/structures/components (SSCs) which are not "high transition risk SSCs" (that are not listed on Table [B3.0.4-1]), after the risk assessment has been performed and risk management actions established, through the program established to implement 10 CFR 50.65(a)(4), as appropriate. Entry into the MODES or other specified conditions in the Applicability shall be for no more than the duration of the applicable ACTIONS Completion Time or until the LCO is met.

Insert 3b -

, called "high transition risk SSCs" in the TS,

INSERT 1 (LCO 3.0.4) (ALL OWNERS GROUPS)

- 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 evaluation, 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, or~~
- c. ~~When a specific value or parameter allowance has been approved by the NRC.~~

REPLACE
~~here~~

INSERT 2 (SR 3.0.4) (ALL OWNERS GROUPS)

~~When an LCO is not met due to Surveillances not having been met, entry into a MODE or other specific 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 evaluation, 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, or~~
- c. ~~When a specific value or parameter allowance has been approved by the NRC.~~

REPLACE
~~here~~

and INSERT 4 (SR 3.0.4 Bases)

INSERT 3 (LCO 3.0.4 BASES) (ALL OWNERS GROUPS)

Insert
3a

~~When an LCO is not met, LCO 3.0.4 also allows entering MODES or other specified conditions in the Applicability following assessment of the risk impact and determination that the impact can be managed. The risk evaluation may use quantitative, qualitative, or blended approaches, and the risk evaluation 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 evaluations 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."~~

The results of the risk evaluation shall be considered in determining the acceptability of entering the MODE or other specified condition in the Applicability, and any corresponding risk management actions. Consideration will 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.

A risk assessment and establishment of risk management actions, as appropriate, are required for determination of acceptable risk for entering MODES or other specified conditions in the Applicability when an LCO is not met. The elements of the risk assessment and risk management actions are included in

Regulatory Guide 1.182 which addresses general guidance for conduct of the risk evaluation, 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.

A quantitative, qualitative, or blended risk evaluation must be performed to assess the risk impact of entering the MODE or other specified condition in the Applicability, based on the specific plant configuration at that time and the risk impacts must be managed in accordance with the assessment results.

From generic evaluations, systems/components can be identified which are equally or more important to risk in MODE 1 than in the transition MODES. The Technical Specifications allow continued operation with this equipment unavailable during MODE 1 operation for the duration of the Completion Time. Since this is allowable, and since the risk impact bounds the risk of transitioning up in MODE and entering the Conditions and Required Actions, the use of the LCO 3.0.4 allowance for these systems should be generally acceptable, as long as the risk is assessed and managed as stated above. However, there is a small subset of systems/components that have been generically determined to be more important to risk in [MODES 2 – 5 (for PWRs) / MODES 2 – 4 (for BWRs)] and do not have the LCO 3.0.4 allowance. These system/components are listed in each of the generic Owners Groups Tables. *Insert 3b* *or SR 3.0.4*

The Applicability should be reviewed with respect to the actual plant configuration at that time. Each individual application of LCO 3.0.4.b, whether due to one or more than one LCO 3.0.4.b allowance at the same time, is required to be evaluated under the auspices of 10 CFR 50.65(a)(4) and consideration of risk management actions discussed in Regulatory Guide 1.182. ~~For those cases where the risk of the MODE change may be greater (i.e., the systems and components listed on the generic Owners Group Table), prior NRC review and approval of a specific LCO 3.0.4 allowance is required.~~

The LCO 3.0.4.b allowance typically only applies to systems and components. The values and parameters of the Technical Specifications (e.g., Containment Air Temperature, Containment Pressure, MCPR, Moderator Temperature Coefficient, etc.) are typically not addressed by this LCO 3.0.4.b allowance. These value and parameters are addressed by the LCO 3.0.4.c allowance.

A list of the LCO 3.0.4.c specific value and parameter allowances approved by the NRC is provided below. *[TABLES are included in Insert 3 only, not Insert 4]*
 [TABLE FOR BWOG]

[LCO 3.4.16, RCS Specific Activity]

[TABLE FOR WOG]

[LCO 3.4.16, RCS Specific Activity]

[TABLE FOR CEOG]

[LCO 3.4.16, RCS Specific Activity]

[TABLE FOR BWR/4]

[LCO 3.4.7, RCS Specific Activity]

[TABLE FOR BWR/6]

[LCO 3.4.8, RCS Specific Activity]

In order to support the conduct of the appropriate assessments, each Owners Group has performed an evaluation to identify plant systems or components which are more important to risk in the transition MODES than in MODE 1. ~~To apply the LCO 3.4.16 allowance to these systems and components, prior NRC review and approval is required.~~ These systems are listed in the following table. }

INSERT 4 (SR 3.0.4 BASES) (ALL OWNERS GROUPS)

~~REPLACE INSERT 4~~

~~A provision is included to allow entry into a MODE or other specified condition in the Applicability:~~

- ~~a. When the associated ACTIONS to be entered permit continued operation in the MODE or other specific condition in the Applicability for an unlimited period of time,~~
- ~~b. After performance of a risk evaluation, consideration of the results, determination of the acceptability of the MODE change, and establishment of risk management actions, if appropriate, or~~
- ~~c. When a specific value or parameter allowance has been approved by the NRC.~~

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.

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 the associated ACTIONS are not met, an associated ACTION is not provided, or if directed by the associated ACTIONS, the unit shall be placed in a MODE or other specified condition in which the LCO is not applicable. Action shall be initiated within 1 hour to place the unit, as applicable, in:

- a. MODE 3 within 7 hours;
- b. MODE 4 within 13 hours; and
- c. MODE 5 within 37 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 ^{only} 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

Insert 1 →

(continued)

3.0 LCO APPLICABILITY

LCO 3.0.4
(continued)

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.

Exceptions to this Specification are stated in the individual Specifications. These exceptions allow entry into MODES or other specified conditions in the Applicability when the associated ACTIONS to be entered allow unit operation in the MODE or other specified condition in the Applicability only for a limited period of time.

SR 3.0.4 is only applicable for entry into a Mode or other specified condition in the Applicability in Modes 1, 2, 3 and 4.

Reviewer's Note: LCO 3.0.4 has been revised so that changes in MODES or other specified conditions in the Applicability that are part of a shutdown of the unit shall not be prevented. In addition, LCO 3.0.4 has been revised so that it is only applicable for entry into a MODE or other specified condition in the Applicability in MODES 1, 2, 3, and 4. The MODE change restrictions in LCO 3.0.4 were previously applicable in all MODES. Before this version of LCO 3.0.4 can be implemented on a plant-specific basis, the licensee must review the existing technical specifications to determine where specific restrictions on MODE changes or Required Actions should be included in individual LCOs to justify this change; such an evaluation should be summarized in a matrix of all existing LCOs to facilitate NRC staff review of a conversion to the STS.

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 demonstrate OPERABILITY.

(continued)

3.0 SR APPLICABILITY

SR 3.0.3 declared not met, and the applicable Condition(s) must be entered.
(continued)

SR 3.0.4 Entry into a MODE or other ^{only} specified condition in the ^{when} Applicability of an LCO shall ~~not~~ be made ~~unless~~ the LCO's Surveillances have been met within their specified Frequency. *Insert 2* 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.

SR 3.0.4 is only applicable for entry into a MODE or other specified condition in the Applicability in MODES 1, 2, 3, and 4.

Reviewer's Note: SR 3.0.4 has been revised so that changes in MODES or other specified conditions in the Applicability that are part of a shutdown of the unit shall not be prevented. In addition, SR 3.0.4 has been revised so that it is only applicable for entry into a MODE or other specified condition in the Applicability in MODES 1, 2, 3, and 4. The MODE change restrictions in SR 3.0.4 were previously applicable in all MODES. Before this version of SR 3.0.4 can be implemented on a plant-specific basis, the licensee must review the existing technical specifications to determine where specific restrictions on MODE changes or Required Actions should be included in individual LCOs to justify this change; such an evaluation should be summarized in a matrix of all existing LCOs to facilitate NRC staff review of a conversion to the STS.

BASES

LCO 3.0.3
(continued)

assemblies in fuel storage pool." Therefore, this LCO can be applicable in any or all MODES. If the LCO and the Required Actions of LCO 3.7.14 are not met while in MODE 1, 2, 3, or 4, there is no safety benefit to be gained by placing the unit in a shutdown condition. The Required Action of LCO 3.7.14 of "Suspend movement of irradiated fuel assemblies in fuel storage pool" 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

allows

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 unit in a MODE or other specified condition stated in that Applicability (e.g., Applicability desired to be entered) when the following exist:

- a. Unit conditions are such that the requirements of the LCO would not be met in the Applicability desired to be entered; and
- b. Continued noncompliance with the LCO requirements, if the Applicability were entered, would result in the unit being required to exit the Applicability desired to be entered to comply with the Required Actions.

Compliance with Required Actions that permit continued operation of the unit 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 unit 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. Insert 3

P 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

(continued)

BASES

LCO 3.0.4
(continued)

provisions of LCO 3.0.4 shall not prevent changes in MODES or other specified conditions in the Applicability that result from any unit shutdown.

~~Exceptions to LCO 3.0.4 are stated in the individual Specifications. Exceptions may apply to all the ACTIONS or to a specific Required Action of a Specification.~~

LCO 3.0.4 is only applicable when entering MODE 4 from MODE 5, MODE 3 from MODE 4, MODE 2 from MODE 3, or Mode 1 from Mode 2. Furthermore, LCO 3.0.4 is applicable when entering any other specified condition in the Applicability only while operating in MODES 1, 2, 3, or 4. The requirements of LCO 3.0.4 do not apply in MODES 5 and 6, or in other specified conditions of the Applicability (unless in MODES 1, 2, 3, or 4) because the ACTIONS or individual specifications sufficiently define the remedial measures to be taken. [In some cases (e.g., ..) these ACTIONS provide a Note that states "While this LCO is not met, entry into a MODE or other specified condition in the Applicability is not permitted, unless required to comply with ACTIONS." This Note is a requirement explicitly precluding entry into a MODE or other specified condition of the Applicability.]

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 Specification is to provide an exception to LCO 3.0.2 (e.g., to not comply with

(continued)

BASES

SR 3.0.4
(continued)

Insert 4

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.

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.

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 LCO 3.0.4 shall not prevent changes in MODES or other specified conditions in the Applicability that result from any unit shutdown.

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

(continued)