

Comments on draft traveler TSTF-585, "Revise LCO 3.0.3"
(ADAMS Accession No. ML21109A295)

Items 1 through 6 are High Level Comments

Items 7 through 18 are lower level issues and suggested revisions.

1. Provide specific steps that plants will take and information that will be included when:
 - 1) performing the risk analysis, 2) determining appropriate risk management actions (RMAs), and 3) re-evaluating risk considering the RMAs.
 - a. Provide the time periods in which the evaluations will be made.
 - i. Provide examples to demonstrate how it is expected that the required evaluations can be made in the required period.
 - b. Provide the metrics (risk and any additional) required to be met to justify the 24 (23)-hour delay in the action.
 - c. Describe how the process assesses risk for conditions that do not directly affect core damage frequency (CDF) or large early release frequency (LERF), but result in a significant degradation of defense-in-depth (DiD), safety margin, or plant personnel safety.
 - d. How are potential external events considered in the risk assessment? (For example, imminent extreme weather.)
 - e. How will the risk evaluation be revised if conditions in the plant change from assumptions initially used for the evaluation? How will this be tracked?
 - f. There may be situations where the required technical specifications (TSs) conditions were met, but the plant condition was degraded based on observations from the TS (or other) equipment. An inoperability that causes entry into limiting condition for operation (LCO) 3.0.3 could then occur making measurement of the parameter impossible. How does the risk analysis account for these type scenarios? (For example, a loss of all reactor coolant system (RCS) leakage detection equipment when RCS leakage has been trending higher or has been at a relatively high level.)
 - g. Consider adding a program to the TS Section 5, Administrative Controls, to delineate the requirements to implement the proposed implementation of LCO 3.0.3.
 - h. The NRC staff understands that the intent of LCO 3.0.3 is to provide appropriate actions for scenarios when plants are outside analyzed conditions. For cases that are outside the analysis and the 1-hour preparation time is increased to 24 hours, the timing of risk determination is critical. In addition, deterministic evaluation of the unanalyzed condition should be completed.
 - i. If this change is a deterministic change, provide a deterministic evaluation for those LCOs that explicitly require entry into LCO 3.0.3 and those LCO that drive you there by default.
2. We understand that a few plants have loss of function allowed in their risk-informed completion time (RICT) programs. However, TSTF-505, Revision 2, does not include loss of function conditions. In the traveler, provide a clear exemption indicating that the TSTF-585 changes are not applicable to plants that have loss of function in their RICT program.
3. TSTF-585 only evaluated conditions that require direct entry into LCO 3.0.3. The traveler did not address conditions that require entry into LCO 3.0.3 that are caused by inoperable equipment beyond requirements specified in the TS. The NRC staff calls these "default" entries to LCO 3.0.3. Include information on how each of these conditions are treated under the proposal.
4. Provide information that describes how the proposed change was evaluated to ensure that it, and any actions that may be taken as a result, will not violate regulations, particularly *Title*

10 of the Code of Federal Regulations (10 CFR) Paragraph 50.36(c)(2)(i), which states (emphasis added). What are the remedial actions in the proposed change?

Limiting conditions for operation are the lowest functional capability or performance levels of equipment required for safe operation of the facility. When a limiting condition for operation of a nuclear reactor is not met, the licensee shall shut down the reactor or follow any remedial action permitted by the technical specifications until the condition can be met.

5. What is the rationale for removing “unit shall be placed in a MODE or other specified condition in which the LCO is not applicable” from LCO 3.0.3? We believe removing this statement does not add value to the proposed changes. It also changes the tone of LCO 3.0.3 from being a shutdown specification to being an allowance. This proposed change also disconnects the LCO from the regulation stated above.
6. The NRC staff has concluded that a **significant technical branch** involvement will be required to assure that all aspects of the change are adequately evaluated.
7. The TSTF-585 language needs to be improved to eliminate misleading the reader. This type of language should be removed or revised to ensure clarity and consistency within the submittal.
 - a. For example, the traveler states that LCO 3.0.3 requires initiation of action to shut down the plant without regard to safety significance. Any condition that places a plant in LCO 3.0.3 is safety significant. If it is not, the TS should be revised.
 - b. The term transient is used such that it is negative when associated with a shutdown of the plant. Consider replacing transient with shutdown since shutdown is more specific. Even though TSTF-585 contains language that says that the operators are capable of rapidly shutting the plant down, transient puts a negative light on such ability and calls this assertion into question.
 - c. Recent travelers include the following language that indicates that plant systems will not be challenged during a rapid shutdown. “To achieve this status, the plant must be brought to at least MODE 3 within 6 hours and to MODE 5 within 36 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required plant conditions from full power conditions in an orderly manner and **without challenging plant systems.**” The traveler language should be consistent with this assertion.
8. Pages 12 and 13 lists actions that may be performed in parallel. All of the actions that support an orderly plant shutdown should be compulsory. They “shall” be performed, not “may” be performed.
9. The complexity of multiple supplier grids is irrelevant to the change. The NRC staff is concerned with safety. A description of how a more rapid shutdown is likely to affect plant safety or the overall integrity of the grid (and thus public and plant safety), may be appropriate.
10. Having redundant equipment (e.g., more than one accumulator, core flood tank, or safety injection tank (SIT), and possible instrumentation or other components) inoperable indicates a potential common cause. Common cause is described as an attribute that should be addressed. How is common cause addressed for equipment that may not be available or accessible for inspection?
11. STSB staff has concerns with some of the specific TS evaluated in the traveler. Additional input from technical branches will be elicited. The following issues should be considered:

- a. Emergency core cooling system (ECCS) operating. It is difficult to meet the condition to enter LCO 3.0.3 for ECCS. If the condition is entered, it indicates that there may be some underlying issue that is not understood or controlled by the licensee. It also results in an unanalyzed condition. There may be multiple issues that need to be addressed simultaneously, making the issue very complex. ECCS is one of the primary systems upon which plants are designed. Robustness and availability of the ECCS provides assurance that many potential scenarios can be mitigated.
 - b. Containment spray system (CSS) and recirculation spray (RS). There are a lot of plant-specific differences. Some plants have significant containment cooler capacity. Also, differences in containment design may have an impact on risk. Is alternate source term (AST) credited? Are CDF and LERF affected? How is risk impact for loss of DiD scenarios evaluated?
 - c. Control room emergency ventilation system (CREVS). How are smoke and chemical hazards evaluated?
 - d. Control room emergency air temperature control system (CREATCS). The CREATCS overheating may affect many system electrical components. Should there be a maximum temperature limit above which shutdown is started immediately? How is the potential for loss of multiple control and indication systems evaluated?
 - e. Alternating current (AC) Sources Operating. With no emergency diesel generators (EDGs) and one offsite supply inoperable, a single failure could result in a station blackout. Considering the potential consequences, how is this considered in the evaluation?
12. On page 9, under the discussion of shutting down the plant, the traveler should specify, for critical unanalyzed conditions, maintenance and testing should be stopped and operations should focus on placing the plant in an analyzed condition (outside the LCO applicability).
 13. On page 19 there is a paragraph (note) about surveillance requirements (SRs), but no SRs are affected.
 14. In the mark-up of LCO 3.0.3, there is a statement "If at the end of the specified period, operation is not in accordance with the LCO or ACTIONS.."; consider referring to the actual specified period to be clear we are referring to a. & b. above.
 15. Need to identify entries into LCO 3.0.3 that result in unanalyzed conditions or high risk conditions. NRR Technical branches will assist with the review of these items.
 16. On PDF page 34, consider adding to the STS Bases under the description of the hour allowed to prepare for shutdown under LCO 3.0.3.a: in this hour the risk assessment should be completed (and assessed and managed) and be acceptable before invoking LCO 3.0.3.b.
 17. On PDF page 34, should the STS Bases read, "LCO 3.0.3.b may **ONLY** be used if risk is assessed and managed."
 18. On PDF page 35, should the STS Bases read "The use of LCO 3.0.3.b is not **SOLELY** dependent on planned restoration of compliance with the LCO or ACTIONS within 24 hours as other actions are available, such as regulatory relief or an orderly shutdown."