

TSTF 576 Rev 2 Comments

NRC Major Concerns with the Proposed Traveler

- Revision 2 of TSTF-576 proposes moving the S/RV as-found lift pressure limits to a licensee-controlled document, however, it failed to provide any justification as to why this is acceptable. Currently if a licensee wants to increase the limits, a license amendment request is required. This would allow the NRC staff to review the effects of the change on items such as the overpressure analysis, thermal limits, containment response, high pressure system performance, etc., prior to the change going into effect. Under the current proposal, these calculations/evaluations would no longer be provided to NRC for review and approval. Except for the overpressure analysis, the NRC staff would not be aware of how the other items were evaluated. Why is it acceptable for a licensee to make changes to a TS parameter without NRC review? **The methodology that will be used to control the setpoints must be NRC approved for this use.**
- NRC staff does not consider the Core Operating Limits Report (COLR) an appropriate location for the S/RV as-found lift pressure limits. The COLR is specifically for reactor physics parameters that generally change with each reload core and was not intended for other items that may be allowed under licensee control. The S/RV limits are not core related and are not expected to vary each cycle. If creation of a new licensee-controlled document is not desired, perhaps the Pressure and Temperature Limits Report (PTLR) would be a better fit (assuming the limits can be justified for inclusion in a licensee-controlled document). **Option for consideration - the setpoints may be changed from specific valve setpoint to a valve-independent curve (example previously presented by the NRC staff) but remain in TS. This would resolve the issue of excessive number of LARs and allow NRC staff to review the overall effects of the changes.**

Specific Comments

- 1) PDF page 16 states "Licensees have robust Foreign Material Exclusion (FME) programs to ensure systems are not contaminated during maintenance." Licensees should confirm this in their application when applying this traveler.
- 2) PDF page 18 states "The proposed change removes the low tolerance about the as-found lift pressure limit from the TS." The Inservice Testing Program requires that the valves open within \pm tolerance. The lower tolerance is not important relative to overpressure protection, however, a valve that opens at a significantly low pressure could initiate a transient or event. Justify that the requirements to establish setpoints, test valves, and evaluate and take corrective action for low as-found lift settings are adequate.
- 3) PDF page 13 states "Therefore, the Bases changes are provided for information and approval of the Bases is not requested." This applies to licensees. As a TSTF change to the STS, NRC staff reviews and approves the Bases. Therefore, this statement should be removed.
- 4) PDF page 11 – in the proposed changes to BWR/6 LCO 3.4.4, the statement "AND The relief function of [seven] additional S/RVs shall be OPERABLE" is being deleted. It is assumed that the relief function valves are required for the OPS to be operable. Provide the requirement that verifies the relief mode valves are operable. Provide the TS requirement for ensuring their setpoints. Provide information regarding how the methodology for the overpressure (and other required analyses) ensure that the relief

and safety mode valves prevent the analyzed limits from being exceeded. Will the COLR list the as-found limits for valves operating in the relief mode along with those operating in the safety mode? The COLR should clearly differentiate between the safety and relief mode valves and ensure that any valve is not credited for both modes of operation. Does an SR (3.4.4.2?) require the setpoints be verified?

- 5) PDF page 19 states “For example, one combination may assume that all S/RVs open within 3% of the lift setpoint, while another combination may assume that a one S/RV opens within 5% of the lift setpoint and the remainder open at 2.5% of the lift setpoint.”
 - a) The values used in the overpressure analysis are in psia, so the as-found limits should be in psia (or psig) as well.
 - b) If two groups of valves are at setpoints of 1,090 psia and 1,110 psia respectively, and one valve opens at 5% above its setpoint, a worse result for peak pressure would be obtained if the valve is in the higher setpoint group rather than the lower setpoint group. Explain how the lift groups will factor into the allowable as-found limits for the valves.
 - c) Note that there is a typo in the sentence ...that a one S/RV...

Current TS Compliance with Regulations, SLs, and Protection of Safety Function

- 6) PDF page 7 states “The proposed change revises the Safety/Relief Valve (S/RV) Technical Specifications (TS) to align the overpressure protection requirements with the safety limits and the regulations.” This implies that the current LCO is not aligned with the safety function and regulations which is incorrect. This type of language is repeated throughout the traveler and implies that the current TS is not aligned with the SL and regulations, which is not true. The LCO is being revised to allow demonstration that the SL, function, and regulations will be met using a method that allows flexibility in the TS requirements.

COLR Implementation Issues

- 7) PDF page 18 states “The proposed change adds the as-found S/RV lift pressure limits to the Core Operating Limits Report (COLR),” and “The COLR will contain the as-found S/RV lift pressure limits assumed in the overpressure protection analysis.” Explain whether there will be both as-found limits AND the values used in the analysis. Unless otherwise justified both should be included. An example of the COLR format for the limits should be provided, especially considering many, but potentially not all values, will be valve independent. Consider including a COLR markup in the model application to reduce the potential for NRC questions regarding content and format when LARs are submitted.
- 8) Provide a markup of the COLR section (5.6.3) in the traveler and include it in the model application. The traveler states that paragraph a would have the OPS added and paragraph b would have the methodology added as a reference. This will ensure consistency in the implementation of the TS among plants.
- 9) PDF Page 19 discusses COLR paragraph c. Normally the NRC allows additions to the COLR for items using methodology approved by the NRC. In this case the NRC will know how licensees determine the peak pressure but will not know how determinations for other items such as S/RV dynamic piping loads, effects on high pressure systems, etc. are evaluated. Currently an increase in tolerance from +3% to +5% would require the staff to review the documentation/calculations for these other items. Under the proposal, the staff would not review these calculations. The NRC is concerned that these

calculations, for S/RV tolerances greater than +3%, have not been performed for these other items. How will adequate control of these calculations be ensured? This question and some of the following are closely related to the main issue that the NRC identified with the traveler.

- 10) PDF page 19 states “These effects fall within the requirement of existing paragraph c, and it is unnecessary to list every possible effect in the examples.” The NRC staff position is that the traveler should identify specific effects and parameters to be included in the evaluation when setpoint tolerances are increased above +3%. As an example, during the increase in S/RV setpoints from +1% to +3% there was a TR that described the required evaluations. These evaluations should be specified in the traveler. Refer to page 3 of the NRC SE to NEDC 31753P (ADAMS No. ML20126E038 – publicly available).
- 11) If specific valves require limits for reasons other than the overpressure analysis will the as-found limits be listed in the COLR or the TS? How will these specific instances be documented?
- 12) The paragraph near the bottom of PDF page 19 states the COLR will not specify a particular NRC approved method to perform the evaluations. Provide justification as to why these evaluations can be performed without an approved method.
- 13) PDF page 17 states “The S/RV lift pressure limits specified in the COLR protect the assumptions in the overpressure accident analysis while providing the licensee with the flexibility to revise the limits to reflect actual S/RV testing performance.” On PDF Page 19 the traveler states “The licensee may include as many analyzed combinations as needed to reflect the actual or analyzed test results.” These statements imply that a licensee could update the COLR to justify a failed SR. The NRC does not agree with such use of the proposal. The traveler should be clarified throughout to address the fact that the limits can be updated based on actual valve performance, but cannot be updated to justify a failed SR.

Conditions

- 14) For plants that currently have the Condition(s) that allows a number of S/RVs to be inoperable without proceeding to shutdown provide justification that its removal does not affect OPS reliability as currently discussed in the bases.

Surveillance Requirement

- 15) The proposal states that the as-found limits will be located in the COLR. Should there be an option to keep the as-found limits in an SR, with the SR change being that the limits are no longer valve specific?
- 16) PDF pages 11 and 12 provide the revised SRs for as-left setpoint requirements. These are BWR/4 SR 3.4.3.1 and BWR/6 SR 3.4.4.1. The SR includes the nominal setpoints for the [required] S/RVs. The SR should clearly state that the setpoints for ALL the S/RVs should be included and ALL S/RVs must be set properly, not just the “[required]” S/RVs. Multiple existing TS list the setpoint for ALL the valves, not just the required ones. Verify that the SR is consistent with ASME code and plant analysis requirements for valve setpoints. This is related to NRC concerns with respect to the use of “[required]” throughout the TS (below).
- 17) The number of [required] valves is no longer directly defined in the TS (moved to the COLR). Since the as-found setpoints are proposed to allow “multiple combinations of

as-found S/RV lift pressure limits,” as stated on PDF page 19, there could be different numbers of required S/RVs. For example, one case could have 10 of 11 required where they open at X%, while another case could have 9 of 11 required where they open at Y%. The use of the term “required” should be eliminated wherever possible, and explicitly defined if its use is still required. If still used the term “required” should be clearly defined for both safety and relief mode valves.

- 18) PDF page 19 discusses the as-found S/RV lift pressure limits. Provide a discussion of how the proposed limits will be defined in the COLR. For example, will the COLR contain specific valve lift pressures, or will calculations be required to demonstrate the SR is met?
- 19) PDF page 21 states “The ASME Code testing of the removed S/RVs is completed and the as-found lift pressures for some of the S/RVs was not within the SR limit specified in the COLR. If an evaluation of the deficient condition performed under the Corrective Action Program determines that the affected S/RVs did not satisfy the SR while the plant was operating within the Applicability, a Licensee Event Report documenting that the TS were not followed is required.” Does this imply that an evaluation is necessary to determine if the SR was met?
- 20) If all S/RVs are not tested, how will the test population be determined? If some valve limits are less than 3% for overpressure or other reasons, the IST criteria for expanding the test population may not be valid. Provide the methodology and the controls that will be used to determine the requirements for the population of valves to be tested.

TSTF Implementation Details

- 21) PDF page 24 refers to the CLIP. The CLIP designation appears inappropriate for the proposed traveler. Due to the technical complexity, variations between plants, and lack of detail in the traveler on implementation of the COLR methods, the tech branches should participate in all LAR reviews.
- 22) The elimination of the optional note for plants that may have some valves move to a lower setpoint group should be addressed for the plants that have this option in their TS.
- 23) The traveler should provide bracketed language for the two BWR 4 plants that credit valves in the relief mode to ensure they will retain the requirements in the TS when adopting the TSTF.

Bases Contents

- 24) The bases for the SRs (3.4.3.2 and 3.4.4.3) should include additional detail for the methods used to establish and document the required as-found settings. For example, the bases should include a description of the COLR method used so that the concept behind the setpoint requirements is understood. The Bases should also describe the considerations other than overpressure that may impact the plant setpoints and describe if any of the individual setpoints are limited by a parameter other than overpressure of the RCS pressure boundary. Specifically, the Bases should include additional details of how the COLR is tied to the TS and how the COLR methods ensure that the SL is not exceeded. Credit for both safety mode and relief mode valves should be discussed as applicable. The bases should also discuss that other factors like ECCS performance, structural loading, and fuel parameters can be affected by the changes in the S/RV setpoints and how they apply to the plant.

Editorial Issues

- 25) The first paragraph in Section 3 contains extraneous information and opinion. Simplify to state that the TS is renamed to match the revised TS.
- 26) On PDF page 46 the second sentence in the LCO section for B 3.4.3 is repetitive. (Similar for PDF page 66 for BWR 6.)
- 27) On PDF page 46 the second paragraph in the LCO section for B 3.4.3 should be read for clarity and grammar. (Similar for PDF page 67 for BWR 6.)
- 28) On PDF page 48 the first sentence under B SR 3.4.3.1 should be checked for clarity. It should include all S/RVs, not just those used by the OPS.
- 29) In the BWR 6 Bases should Rx Steam Dome Press. High (ATWS-RPT Inst) be changed from S/RV to OPS. Pg B 3.3.4.2-3?
- 30) On PDF page 26 the SR in brackets is 3.4.4.2. It should be 3.4.3.3 since this is what both Quad and Dresden have. The similar requirement for BWR 6 plants is not discussed here and should be added or the paragraph reworded to exclude BWR6 design.
- 31) In the bases markups should the Applicability for the LLS be changed to OPS instead of S/RV?
- 32) On PDF page 44 the sentence near the bottom is unclear. Maybe add "function" after Automatic Depressurization System.
- 33) On PDF page 45, under 3.4.3 applicable safety analyses, provide additional details on the meaning of "system integrity is maintained." Does it mean that the discharge piping and containment integrity is maintained?
- 34) On PDF Page 18, the STS number for COLR is listed as 5.5.3. It should be 5.6.3.
- 35) On PDF page 10, the first paragraph in Section 2.4 lists some sections of the bases that require revision, but not all of them. Is this intentional? The other sections are listed in a bulleted list below.
- 36) PDF page 12 states "A new BWR SR 3.4.3.2 and a new BWR/6 SR 3.4.4.3 is added." It should state "A new **BWR/4** SR 3.4.3.2..."
- 37) PDF page 10 states "This title change requires revision to the Table of Contents and a reference..." There are many more places where this title change needs to be made other than the few that are listed here.
- 38) On PDF page 56, the wording of SR 3.4.4.2 is unclear. "Verify each S/RV acting in the relief mode" implies that the valve has to be acting in the relief mode to be included. Reword to "Verify each S/RV that is required to act in the relief mode..." Or something similar. This may prevent future issues with OGC as we had with the TSTF-567 SR. This should also be applied to the BWR4 plants that require relief mode valves to meet the SL.