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SUBJECT: Technical Specifications Task Force (TSTF) Response to July 31, 2012
Federal Register Notice, "NRC Position on the Relationship Between General
Design Criteria and Technical Specification Operability"
Docket ID NRC-2012-0179

Enclosed for NRC consideration are comments prepared by the Technical Specification Task
Force (TSTF) on the subject Federal Register Notice regarding "NRC Position on the
Relationship Between General Design Criteria and Technical Specification Operability."

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

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Technical Specification Task Force (TSTF) Response to the July 31, 2012 Federal Register Notice, "NRC Position on the Relationship Between General Design Criteria and Technical Specification Operability," Docket ID NRC-2012-0179

General Comment

1. The draft RIS does little more than restate the Inspection Manual Part 9900 Technical Guidance, "Operability Determinations & Functionality Assessments for Resolution of Degraded or Nonconforming Conditions Adverse to Quality or Safety," (hereafter referred to as the Part 9900 guidance). The Part 9900 guidance was announced in RIS 2005-20, Revisions 0 and 1. The draft RIS does not provide additional clarification and may lead to confusion due to restating information in the Part 9900 guidance in a different manner. Therefore, we recommend that the NRC reconsider the need for issuing a final RIS.

Draft RIS Section "Background Information"

2. The draft RIS states that the relationship between CLB design requirements and Technical Specifications (TS) was addressed in a 1994 memorandum from Thomas E. Murley to the NRC staff and that the positions described in the memo were incorporated into the Part 9900 guidance. This statement is not entirely accurate. The Part 9900 guidance, issued in 2005, changed the historical use of the term "operable" by incorporating the concept of "functionality" for structures, systems, and components (SSCs) that are not required to be operable by a TS LCO. As a result, some degraded or nonconforming conditions described in the 1994 memorandum as affecting "operability" may be considered to affect "functionality" under the 2005 Part 9900 guidance. We recommend that reference to the 1994 Murley memo be removed or that it be placed in proper historical context.

Draft RIS Section "Relationship of the GDC to the Technical Specifications"

3. The draft RIS (fifth and sixth sentences) states:

"Both the design capability of the facility to meet the GDC (or a plant-specific equivalent) and the operational restrictions which are to be included in the TS, are described in the final safety analysis report (FSAR). The staff safety evaluation documents the acceptability of these analyses, and it is the combination of the FSAR analyses and the staff safety evaluation that forms the bases from which the TS are derived."

The underline portion is not accurate. As stated in 10 CFR 50.36, TSs are to be "derived from the analyses and evaluations included in the safety analysis report." The TS are not derived from the NRC's safety evaluation and the UFSAR does not typically include the operational restrictions in the TS. The draft RIS should be revised to be consistent with 10 CFR 50.36 by replacing both sentences with, "The TS are derived from the analyses and evaluation included in the safety analysis report."

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4. The draft RIS (last sentence) states , "Thus, TS are intended to ensure that the most safety-significant design features of a plant, as determined by the safety analysis, maintain their capability to perform their safety functions." The TSTF disagrees with this statement.

First, the TS ensure that SSCs required to be operable are capable of performing their "specified safety functions," or necessary and required support functions, not their "safety functions." Specifically, the Standard Technical Specifications (NUREG-1430 through 1433) define the terms "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 functions, 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 function(s) **are also capable of performing their related support function(s).**"

This definition of operability is expressly incorporated into the Part 9900 guidance. Precision in the use of the terms "specified safety function," and "specified function," and avoiding undefined terms such as "safety function," is extremely important when discussing operability because those terms distinguish the functions that are the subject of evaluation during an operability determination (i.e., specified safety functions and related support functions), from the larger group of functions being evaluated when examining functionality (i.e., specified functions).

Second, TS contain many design features of the plant that are not "most safety-significant design features." Many TS systems have very low plant risk ranking based on probabilistic risk assessment.

Most importantly, we strongly disagree with formulating a new statement on the purpose of TS in a RIS. The 1993 NRC "Final Policy Statement on Technical Specifications Improvements for NRC Licensed Nuclear Power Plants," begins with a statement on the purpose of TS:

"The purpose of Technical Specifications is to impose those conditions or limitations upon reactor operation necessary to obviate the possibility of an abnormal situation or event giving rise to an immediate threat to the public health and safety by identifying those features that are of controlling importance to safety and establishing on them certain conditions of operation which cannot be changed without prior Commission approval."

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The statement of purpose of the TS in the draft RIS is not consistent with the policy statement of the Commission and does not appear to have an established regulatory basis. The Commission policy makes no reference to design features or safety functions. We recommend that the proposed statement on the purpose of TS in the RIS be deleted and the NRC policy on the purpose of TS be included.

Draft RIS Section "Technical Specification Operability Determinations and the GDC"

5. The draft RIS states, "It is the staff's position that any nonconformance with a GDC, or a plant-specific equivalent included in the CLB should be evaluated to determine if the nonconformance affects or alters the operability status of a TS SSC." Section 4.0 of the Part 9900 guidance states:

"Determinations of operability are appropriate whenever a review, TS surveillance, or other information calls into question the ability of SSCs to perform specified safety functions. The operability determination process is used to assess operability of SSCs and support functions for compliance with TSs when a degraded or nonconforming condition is identified for a specific SSC described in TSs, or when a degraded or nonconforming condition is identified for a necessary and related support function."

The draft RIS should be revised to be more consistent with the Part 9900 guidance. Specifically, the above-quoted statement in the draft RIS should be revised to more clearly communicate the fact that a licensee may be able to determine that nonconformance with certain GDC will not affect a specified safety function or required support function of a TS SSC. For example, there are some GDC which typically would not affect a specified safety function (such as GDC 60, "Control of releases of radioactive materials to the environment"). We recommend the sentence be revised similar to:

"It is the staff's position that any nonconformance with a GDC, or a plant-specific equivalent included in the CLB should be ~~evaluated to determine if the affects or alters the operability status of a TS SSC~~ *considered a nonconforming condition and evaluated to determine if a specified safety function or a necessary and required support function of a TS SCC is affected.*"

6. The third paragraph of the draft RIS section states, "As set forth in Part 9900, a documented determination is needed to establish the basis for concluding that an SSC remains capable of performing its safety function in the presence of the nonconforming condition." The sentence is incorrect, as licensees are required to determine that an SSC remains capable of performing its "specified safety function," consistent with the definition of operability. Further, Part 9900 is inspector guidance and, as such, places no requirements on licensees. The paragraph defines "degraded condition" which is not discussed in the paragraph. The

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paragraph quotes part of the Part 9900 guidance definition of a nonconforming condition. The remainder of the definition is included, but not as a quote, and varies from the Part 9900 guidance definition. The draft RIS states, "(4) documentation required by NRC requirements such as 10 CFR 50.54, 'Conditions of licenses,' or 10 CFR 50.59, 'Changes, Tests, and Experiments,' that is unavailable or deficient," but the Part 9900 guidance definition states, "Documentation required by NRC requirements such as 10 CFR 50.49 is unavailable or deficient." We recommend changing "safety function" to "specified safety function *or a necessary and required support function*," removing the definition of "degraded condition," and including the entire definition of "nonconforming condition" as a quote from the Part 9900 guidance.

7. The draft RIS states:

"Section 3.8 of Part 9900 covers the definition of operability. The definition includes the following statement:

In order to be considered operable, an SSC must be capable of performing the safety functions specified by its design, within the required range of design physical conditions, initiation times, and mission times."

The quoted statement does not appear in the definition of Operability as used in the Part 9900 guidance or as used in the Improved Technical Specifications (ITS) in use at 76 of 104 nuclear power plants. To the contrary, operability is defined in the Standard Technical Specifications and the Part 9900 guidance 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)."

The statement quoted in the RIS appears in the Part 9900 guidance discussion in Section 3.8 following the definition of Operability and, as discussed in the July 5, 2011 letter from the TSTF to the NRC, that section is incorrect. The TSTF and the NRC are planning a workshop to discuss the disconnect between the TS definition of Operability and the definitions used in the Part 9900 guidance. The statement is inconsistent with the definition of Operability as it states, "safety functions" and not "specified safety functions" (which are required for Operability) and attempts to expand Operability beyond the definition in the TS. We recommend that the RIS be revised to quote the definition of Operability in the ITS and the Part 9900 guidance.

8. The draft RIS quotes Section 3.10 of the Part 9900 guidance for the definition of specified function/specified safety function. As discussed in the July 5, 2011 letter from the TSTF to

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the NRC, the Part 9900 guidance definitions for "specified function" and "specified safety function" are inconsistent (i.e., reversed) from the usage in the ITS definition of "Operability" and from the usage within the Part 9900 guidance. We recommend that staff avoid perpetuating this error in the final RIS, as this will likely be an important issue in the planned NRC/industry workshop to discuss revision of the Part 9900 guidance. Therefore, we recommend deleting the discussion.

9. The draft RIS states,

"Thus, an operability determination (or functionality assessment) is performed upon identification of a degraded or nonconforming condition, including any nonconforming condition with a GDC included in either the CLB for an SSC described in TS or for a necessary and related support function required by the definition of operability."

As discussed above, it is more consistent with the Part 9900 guidance to state,

"Thus, licensee's procedures typically require a formal determination of operability ~~an operability determination (or functionality assessment)~~ is performed upon identification of a degraded or nonconforming condition that calls into question the ability of SSCs to perform their specified safety function, including any nonconforming condition with a GDC included in either the CLB for an SSC described in TS or for a necessary and related support function required by the definition of operability."

Draft RIS Section "Example: Operability Determination for a Nonconformance with GDC 2 for Natural Phenomenon"

10. The draft RIS states:

"As indicated in the January 24, 1994, memo, the design bases for protection against natural phenomena (GDC 2), when included in the CLB, are inherently considered in the operability of safety-related SSCs that satisfy the criteria for inclusion in the TS. The Part 9900 operability determination process should be entered when a licensee identifies any nonconformance with GDC 2 or its equivalent, as incorporated into a plant licensing basis (e.g., nonconformance with the CLB for protection against flooding, seismic events, tornadoes, etc.)."

As discussed above, some uses of the terms "operable" or "operability" in the 1994 Murley memo may now be considered "functionality" under the 2005 Part 9900 guidance. Further, the reference to the 1994 memo is not needed to support the position in the paragraph. We recommend revising the paragraph to state:

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~~"As indicated in the January 24, 1994, memo, the design bases for protection against natural phenomena (GDC 2), when included in the CLB, are inherently considered in the operability of safety related SSCs that satisfy the criteria for inclusion in the TS. The licensee's operability determination process should be entered when a licensee identifies any nonconformance with GDC 2 or its equivalent, as incorporated into a plant licensing basis (e.g., nonconformance with the CLB for protection against flooding, seismic events, tornadoes, etc.) that calls into question the ability of SSCs to perform their specified safety function(s) or necessary and required support function(s)."~~

11. The draft RIS states:

"Failure to meet GDC 2, as described in the licensing basis should be treated as a nonconforming condition and is an entry point for an operability determination for any impacted TS-required SSC or a necessary and related support function."

As discussed above, this sentence should be revised by appending the following, "*if the nonconforming condition calls into question the ability of the SSCs to perform their specified safety function(s) or necessary and required support function(s).*"

12. The draft RIS states:

"For example, if a licensee with GDC 2 in its CLB identified that the exhaust stacks for the emergency diesel generators (EDGs) were not protected from the impact of tornado missiles, then this condition would call into question the operability of the EDGs. EDG operability is called into question because the exhaust stacks are an integral component of the EDGs, which, if crimped by a missile, could prevent the EDGs from performing their specified safety function. Accordingly, the licensee should then enter the operability determination process to evaluate the impact of not meeting the CLB requirement for tornado missile protection."

This paragraph is inconsistent with GDC 2 and the Part 9900 guidance. We recommend the following changes:

"For example, if a licensee with GDC 2 in its CLB identified that the exhaust stacks for the emergency diesel generators (EDGs) were not protected from the impact of tornado missiles, then this condition would call into question the operability of the EDGs. EDG operability is called into question because the exhaust stacks are an integral component of the EDGs, which, if crimped by a missile, could prevent the EDGs from *operating*. *If EDG operation following a tornado missile is required by a combination of the effects of normal and accident conditions assumed in the licensing basis, the nonconforming condition may affect the ability of the EDGs to perform their specified safety function(s),*

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~~which could result in the EDGs being inoperable. Accordingly, the licensee should then enter the operability determination process to evaluate the impact on operability of not meeting the CLB requirement for tornado missile protection.~~

Draft RIS Section "Summary"

13. Based on the previous comments, we recommend the following changes to the section:

"In summary, TS SSCs must be *operable* (i.e., capable of performing their specified safety function(s) ~~(i.e., be operable or have operability)~~) whenever a plant is operating in the modes and other specified conditions of the applicability of TS limiting conditions for operation. In addition to *being operable* ~~providing the safety function~~, a system is expected to perform as designed, tested, and maintained. Any nonconformance with a GDC in the CLB that *calls into question the ability of an SSC to perform its specified safety function(s) or necessary and required support function(s)* has the potential to negatively impact the operability of a TS SSC and must be evaluated to determine if the nonconforming condition has rendered any TS SSC inoperable. When system capability is degraded to a point in which it cannot perform with reasonable expectation or reliability, the system should be judged inoperable, even if the system could provide the specified safety function at this instantaneous point in time."

Editorial Comment

14. The RIS uses the acronym "GDCs" when referring to the General Design Criteria. A more appropriate acronym is "GDC" as the word "criteria" is plural.