October 8, 2013

Technical Specifications Task Force
11921 Rockville Pike, Suite 100
Rockville, MD 20852

SUBJECT: NON-ACCEPTANCE OF TRAVELER TSTF-540, REVISION 0, "PROVIDE COMPLETION TIMES IN LIEU OF IMMEDIATE SHUTDOWN RISK-INFORMED TECHNICAL SPECIFICATIONS TASK FORCE INITIATIVE 6" (TAC NO. ME8721)

Dear Members of the Technical Specifications Task Force:

By letter dated May 16, 2012 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML12137A263), you submitted Traveler TSTF-540, Revision 0, "Provide Completion Times in Lieu of Immediate Shutdown (Risk-Informed Technical Specifications Task Force Initiative 6)," to the U.S. Nuclear Regulatory Commission (NRC) staff for review and approval. The purpose of this letter is to provide the results of the NRC staff's acceptance review of this Technical Specifications Task Force (TSTF) Traveler. The acceptance review was performed to determine if there is sufficient technical information in scope and depth to allow the NRC staff to complete its detailed technical review. The acceptance review is also intended to identify whether the application has any readily apparent information insufficiencies.

The NRC staff has reviewed your submittal and concluded that it is insufficient to begin our review. The enclosure provides the basis for this conclusion as it pertains to the Technical Specification changes requested.

Your letter requested that review of this Traveler be exempt from review fees under Title 10 of the *Code of Federal Regulations* Part 170. In accordance with the January 10, 2003, letter (ADAMS Accession No. ML030100090) to A. Pietrangelo, the acceptance review of Traveler TSTF-540 was fee exempt.

If you have any questions, please contact me at (301) 415-1774 or Michelle.Honcharik@nrc.gov.

Sincerely,

/RA/

Michelle C. Honcharik, Sr. Project Manager
Licensing Processes Branch
Division of Policy and Rulemaking
Office of Nuclear Reactor Regulation

Project No. 753

Enclosure:
NRC Staff Basis for Non-Acceptance
of TSTF-540

cc: See next page

If you have any questions, please contact me at (301) 415-1774 or Michelle.Honcharik@nrc.gov.

Sincerely,

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ADAMS Accession No.: ML12212A090 *concurred via e-mail **NRR-106**

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NRC Staff Basis for Non-Acceptance of TSTF-540

By letter dated May 16, 2012 (Agencywide Documents Access and Management System Accession No. ML12137A263), the Technical Specifications Task Force (TSTF) submitted Traveler TSTF-540, Revision 0, "Provide Completion Times in Lieu of Immediate Shutdown (RITSTF [Risk-Informed TSTF] Initiative 6."

The proposed change provides risk-informed Technical Specifications (TS) modifications which the TSTF stated will improve plant safety by precluding certain unnecessary, exigent plant shutdowns." It revises the current TS for the standby gas treatment system and the control room environmental control system in Standard Technical Specification (STS) NUREG-1433 and NUREG-1434 when both subsystems are inoperable to provide a 24-hour Completion Time (CT) to restore at least one subsystem to Operable status.

The Traveler TSTF-540 provided the results of the application of a risk-informed analysis to identify improvements to selected Boiling Water Reactor (BWR) TS for conditions leading to exigent plant shutdown due to loss of system function requiring entry into Limiting Condition for Operation (LCO) 3.0.3. The analysis provided a basis for replacing LCO 3.0.3 entry with a risk-informed action based on the system's risk significance.

The TS modified by the proposed change are:

NUREG-1433, BWR/4 Plants
- 3.6.4.3, Standby Gas Treatment (SGT) System; and
- 3.7.4, Main Control Room Environmental Control (MCREC) System.

NUREG-1434, BWR/6 Plants
- 3.6.4.3, Standby Gas Treatment (SGT) System; and
- 3.7.3, Control Room Fresh Air (CRFA) System.

REGULATORY BASIS

The Commission's 1995 final probabilistic risk assessment (PRA) policy statement emphasizes that PRA methods and data should be supported in a manner that complements NRC's deterministic approach and traditional defense-in-depth philosophy. Regulatory Guides (RGs) 1.174 and 1.177 provide applicable guidance for risk-informed submittals for proposed changes to TS. RG 1.174 identifies five key principles which proposed changes are expected to meet and RG 1.177 provides additional guidance for these key principles applicable to proposed changes to TS. Three of the five key principles are related to: (1) meeting current regulations, (2) consistency with the defense-in-depth philosophy, and (3) maintenance of sufficient safety margins. These deterministic principles are intended to be supplemented with risk insights (key principle 4) and performance measurement strategies (key principle 5) of RG 1.174.

The Traveler TSTF-540 proposal seeks to allow CTs for SGT and MCREC Systems in lieu of plant shutdown. The MCREC system primarily protects the main control room operators from radiological consequences. The submittal considers the BWR/6 Control Room Fresh Air (CRFA) system to be similar to the MCREC system and does not discuss it separately. The SGT system filters radioactive materials from the primary containment to secondary

containment, and maintains secondary containment negative pressure. These systems are not modeled for core damage frequency or large early release frequency.

Since the submittal cites RGs 1.174 and 1.177, the acceptability of operating with these systems inoperable should consider all the five key principles. The submittal does not appear to contain information on all five; for example, key principles 1 and 5 do not appear to be discussed. In addition, the submittal needs clarification on how it is addressing key principle 4. It appears to appropriately recognize that the "occurrence frequency" is not a regulatory metric; however, the submittal concludes that the proposed changes are consistent with the acceptance criteria in the Standard Review Plans for risk-informed changes. The "occurrence frequency" is related to defense-in-depth (DID) considerations, rather than for evaluating a length of a CT for these systems.

In addition, the proposed DID and safety margins (SM) measures need further justification. There is very little discussion as to the acceptability of the proposed DID and SM measures. This should be discussed fully for all three systems being considered in the submittal.

SUFFICIENCY OF INFORMATION

The NRC staff has reviewed the application and concluded that it did not provide technical information in sufficient detail to enable the NRC staff to complete its detailed review and make an independent assessment regarding the acceptability of the proposed changes in terms of regulatory requirements and the protection of public health and safety and the environment.

The Traveler proposed an alternative methodology to approved approaches for calculating the radiological consequences of design basis accidents described in NRC guidance documents, but does not provide a justification for the alternative approach. For example, the Traveler proposes to use realistic atmospheric dispersion factors and "other more realistic assumptions" but does not provide sufficient information to determine the acceptability of the assumptions supporting the proposed approach.

Because of the extensive nature of additional information needed to support the review, the NRC staff finds the application unacceptable for NRC review.

COMPLETENESS OF SCOPE

The Traveler proposes a new term "Main Control Room Environmental Control System effectiveness" as the representative radiological assessment for all sites implementing the Traveler. Offsite and CR radiological consequences are site-specific due to a wide range of design and siting considerations impacting the analysis. The assumed 95^{th} percentile and realistic atmospheric dispersion factors (χ/Q values) have not been adequately identified nor discussed with respect to the basis for their selection and justification for their use. The methodology, inputs, and assumptions used to generate the χ/Q values have not been provided. With regard to CR χ/Q values, specific values were not presented, but were implied as a part of the CR dose approximations. The basis and justification for use of 30-day low population zone (LPZ) χ/Q values to estimate the implied CR χ/Q values were not provided. The quantitative relationship between the LPZ and CR χ/Q values was not discussed. The

Traveler's representative radiological assessment does not address or justify why it is appropriate or limiting for all sites.

ADDITIONAL COMMENTS

There is an additional issue that would not have prevented acceptance for review, but would require further discussion. Events such as a radioactive release outside containment (e.g., radioactive waste tank rupture), hazardous chemicals, or smoke; were omitted in the evaluation for the proposed TS actions to be taken when both CR emergency ventilation system trains are inoperable for both BWR/4 and 6. Due to the possibility these types of events, the NRC staff would request a discussion of the implementation of compensatory actions. The NRC staff would need to ensure that the CR habitability requirements are met during the proposed 24-hour CT while one of the two inoperable MCREC/CRFA trains is restored.

In addition, a discussion of the assessment of risk associated with external events would be necessary for the systems in the submittal.

CONCLUSION

The NRC staff concludes that there is not sufficient information for us to proceed with reviewing the alternative approach proposed in the Traveler with respect to the MCREC/CRFA and SGT. Additionally, the information provided in the Traveler TSTF-540 does not provide assurance that the proposed CT is either conservative or reasonable.

cc:

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