

January 4, 2016

MEMORANDUM TO: Kevin Hsueh, Chief
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Office of Nuclear Reactor Regulation

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SUBJECT: SUMMARY OF OCTOBER 22, 2015, MEETING WITH THE
NUCLEAR ENERGY INSTITUTE

On October 22, 2015, the U.S. Nuclear Regulatory Commission (NRC) staff met with representatives from the Nuclear Energy Institute (NEI). The purpose of the meeting was to discuss NEI 06-09, Revision 0-A, "Risk-Informed Technical Specifications Initiative 4B, Risk-Managed Technical Specifications (RMTS) Guidelines," and its implementation in Technical Specifications (TS) Task Force Traveler (TSTF)-505, Revision 1, "Provide Risk-Informed Extended Completion Times RITSTF [Risk-Informed Technical Specifications Task Force] Initiative 4b." Information related to the meeting can be found in the Agencywide Documents Access and Management System package for the meeting at Accession No. ML15268A004.

The NRC staff began by stating that the meeting was intended to ensure that probabilistic risk assessment (PRA) functionality will be used consistently during full power operation with "loss of a specified safety function or inoperability of all required trains or divisions of a system," and in a manner that maintains safety margins and defense-in-depth. Further, the NRC staff stated that there were some questions related to understanding PRA functionality and that it was important to know how PRA functionality would be used when all trains of a system were inoperable.

The industry opening remarks stated that the NRC staff had issued requests for additional information (RAIs) in ongoing reviews of TSTF-505 licensing action requests (LARs) about PRA functionality. Because of these RAIs, licensees had a question of whether the NRC staff still considered the original safety evaluations (SEs) for NEI 06-09 and TSTF-505 to be valid. The NEI representatives gave a presentation on the background of PRA functionality and proposed steps forward.

Following the NEI presentation, the NRC staff presented some slides that addressed issues for which the staff was seeking further clarification. Copies of the presentations can be found in the meeting package referenced earlier in these minutes. The major issues discussed during the meeting are summarized below.

The first issue concerned whether non-TS systems could be used to support the determination of PRA functionality for a TS required system. After some discussion the meeting participants agreed that the TS Risk Informed Completion Time Program does not allow a non-TS system to be used to consider a TS system PRA functional.

A second issue concerned the possible differences between functions required during the 24-hour mission time in PRA versus those required to reach cold shutdown that is often the end state in the TSs. The industry indicated that, consistent with the approved guidance, PRA functional does not need to achieve cold shutdown but that the plant must be able to achieve a safe and stable state.

A third issue concerned whether system functions beyond those required in the PRA should be included in the PRA-functionality determination. The NRC staff indicated that all design basis functions should be available when a system is declared PRA functional. Industry representatives stated that PRA functionality includes an evaluation of functions not covered in the PRA but did not agree that PRA functionality was required for all design basis functions.

A fourth issue concerned how human actions that need to succeed before a system can be declared PRA functional are or are not included in the PRA. The NRC staff indicated that all such actions should be modelled in the PRA such that the risk associated with failure of the actions would be reflected in the estimated completion time. The staff also stated actions required for PRA functionality should be highly reliable. The industry stated that all such actions are modelled in the PRA.

The final issue concerned how defense-in-depth and safety margins would be maintained when using PRA functionality for "loss of a specified safety function or inoperability of all required trains or divisions of a system." Industry pointed out that the SEs for NEI 06-09 and TSTF-505 stated that the use of compensatory measures or risk management actions maintain defense-in-depth. The NRC SEs also state that sufficient margin was maintained through use of the PRA, consistent with the endorsed American Society of Mechanical Engineers/American Nuclear Society PRA Standard, Regulatory Guide (RG) 1.200, "An Approach for Determining the Technical Adequacy of Probabilistic Risk Assessment Results for Risk-Informed Activities," and the licensee's procedures.

The NRC staff explained that, in accordance with RG 1.174, "An Approach for using Probabilistic Risk Assessment in Risk-Informed Decisions on Plant-Specific Changes to the Licensing Basis," ensuring defense-in-depth and adequate safety margin is required in addition to following the process to provide assurance there is a technically acceptable PRA. RG 1.177, "An Approach for the Plant-Specific, Risk-Informed Decisionmaking: Technical Specifications," provides additional clarification on issues that should be addressed when evaluating defense-in-depth and safety margins for completion time extensions. The industry pointed out that the NRC SEs for NEI 06-09 and TSTF-505 concluded that the guidelines of RG 1.174 and RG 1.77 were met.

At the end of the meeting, the industry representative said that industry did not believe there was a need to revise NEI 06-09 or TSTF-505. The representative said that the industry view was that if detail is needed in license application requests, consistent with the TSTF-505 model application, internal industry guidance could cover that need. A commitment was made to share

that guidance with the NRC staff (e.g., via a letter from the TSTF) but NEI did not see a need for NRC staff endorsement. The NRC staff indicated that some revisions may be needed to NEI 06-09 and TSTF-505 to add examples or clarify the guidance. However, the NRC staff stated that these changes could be made in parallel with ongoing reviews.

The following action items were identified at the meeting:

- 1) Clarify PRA functionality for design basis events in the guidance.
- 2) NEI will work with plant operators on what additional description of the modeling of PRA functionality, consistent with the TSTF-505 model application, should go into the applications.

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