

Risk Evaluation Approaches

The NRC has indicated a need to include a requirement related to their acceptance of the PRA models in plant-specific Safety Evaluations for amendments to adopt TSTF-505. The primary purpose of this requirement would be to specify when NRC prior approval is needed.

In a May 4 NRC document on open issues with TSTF-505, the NRC proposed the following as a license condition. The sentences have been numbered for reference:

[1] The risk assessment approach, methods, and data shall be acceptable to the NRC, be based on the as-built, as-operated, and maintained plant; and reflect the operating experience at the plant. [2] Acceptable methods to assess the risk from extending the completion times may include methods that are approved for use in the RICT program, or methods generically approved for use by NRC. [3] If a licensee wishes to change its methods, and the change is outside the bounds of the license condition, the licensee will need NRC approval, via a license amendment, of the implementation of the new method in its RMTS program.

To address the purposes as outlined above, in lieu of a license condition on PRA methods, the industry proposes adding the following paragraph to the Technical Specification (TS) Risk Informed Completion Time Program:

- d. The risk evaluation approaches to calculate a RICT are: [Internal Events PRA to assess internal risk; Fire PRA to assess fire risk; Seismic Margin Analysis (SMA) to assess seismic risk; Individual Plant Examination of External Events (IPEEE) screening to assess the risk from other external hazards (high winds, external floods); and Shutdown Safety Plan to assess shutdown risk]. [Updates and upgrades to the PRA models supporting the RICT program should be done in accordance with NRC-endorsed PRA standards and associated regulatory guidance documents.](#)

Including the requirement in the TS Risk Informed Completion Time Program groups similar requirements together. A license condition is more appropriate for regulatory requirements that are not directly linked with a Technical Specifications requirement. As the TS are an attachment to the license, both approaches have the same legal impact.

Notably, the industry's proposal does not address the concept that methods and data shall be acceptable to the NRC. Given that no such provision was included in the STP SE, it is clear that Section 4 of the NEI 06-09 SE, in referencing "methods," is referencing the specific approach to addressing a specific hazard group (PRA vs. non-PRA). Additionally, the Commission-approved staff plan for a phased approach to PRA quality does not include any provisions for specific methods and data to be accepted by the NRC in the context of evaluating PRA technical adequacy. Rather, the peer review of the base model is relied upon, and the proposed language better aligns with the objectives in the Commission-approved plan.

The following discusses the proposed changes to the May 4 NRC proposal.

Sentence [1] is removed. The purpose of sentence [1] appears to be to specify that the risk assessment approaches supporting the RICT program are acceptable to the NRC. The NRC's Safety Evaluation (SE) for NEI 06-09 states that a license condition is required to assure that

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“the scope of the PRA and non-PRA methods approved by the NRC staff for use in the plant-specific RMTS program” are used. While the meaning of “method” is potentially open to interpretation, Regulatory Guide 1.200 states that “For a method or approach to be considered a PRA, the method or approach (1) provides a quantitative assessment of the identified risk in terms of scenarios that result in undesired consequences (e.g., core damage or a large early release) and their frequencies, and (2) is comprised of specific technical elements in performing the quantification. A method that does not provide a quantified assessment of the defined risk or does not include the technical elements specified in Regulatory Position 1.2 is not considered to be a PRA.” It is clear from the discussion in Regulatory Guide 1.200 that “method,” in this context, means PRA (e.g. seismic PRA) versus non-PRA (e.g. Seismic Margin Analysis) methods. Therefore, the intent of sentence [1] is addressed by specifying the technical approach – e.g. PRA vs. non-PRA – that the NRC has approved for a given hazard are to be used for the RICT program. It is suggested that the term “technical approach” be used in this context to reduce ambiguity.

Sentence [2] is replaced with a list of the NRC approved approaches used in the licensee's application. The purpose of sentence [2] appears to be to specify that the methods (defined per the discussion above) should be acceptable to the NRC. By specifying the NRC approved approach for each hazard group, the purpose of this sentence is achieved.

Sentence [3] is removed. The purpose of sentence [3] appears to be to specify that changes to the approved technical approach for any given hazard group would require a license amendment request. If, as discussed above, the allowable technical approaches are specifically identified, a license amendment would be required to amend the list of technical approaches used. As the Technical Specifications will state which methods may be used, use of methods not listed would require prior NRC approval. It is not necessary or consistent with the TS to state that prior approval is needed to use methods not listed in the paragraph.