NRR-DMPSPEm Resource

From: Miller, Ed
Sent: Friday, May 4, 2018 12:48 PM
To: Miller, Ed
Subject: NEI presentation materials for public meeting
Attachments: PRA Reporting Requirement for 505 - April 2018.docx; Proposed Resolution to NRC Comments on Industry Proposal for Treatment of PRA Updates by Licensees Adopting TSTF.docx

Attached are NEI's presentation materials for an upcoming public meeting on new PRA methods following implementation of a risk-informed completion time program.

Hearing Identifier: NRR_DMPS
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MESSAGE	164	5/4/2018 12:48:30 PM
PRA Reporting Requirement for 505 - April 2018.docx	28371	
Proposed Resolution to NRC Comments on Industry Proposal for Treatment of PRA Updates by Licensees Adopting TSTF.docx	18819	

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Proposal to Address Treatment of PRA Methods for TSTF-505

Proposal in September 27, 2017 TSTF to NRC Letter:

e. A RICT must be calculated using the PRA and non-PRA methods approved by the NRC, including [list specific PRA and non-PRA methods (e.g., Fire PRA and Seismic Margins Analysis) used to assess risk]. Changes to these PRA and non-PRA methods require prior NRC approval. The PRA maintenance and upgrade process will validate that changes to the PRA models used in the RICT program follow the guidance in Appendix 1-A of ASME/ANS RA-Sa-2009, "Standard for Level 1/Large Early Release Frequency Probabilistic Risk Assessment for Nuclear Power Plant Applications," and will be documented for NRC inspection.

Change to Approaches

A RICT must be calculated using the following PRA and non-PRA methods approved by the NRC, including [list specific PRA and non-PRA methods used for fire and seismic analysis (e.g., Fire PRA and Seismic Margins Analysis)]. Changes to these PRA and non-PRA methods require prior NRC approval.

Reference to PRA Standard

The PRA maintenance and upgrade process will validate that other changes to the PRA models used in the RICT program follow the guidance in Appendix 1-A of ASME/ANS RA-Sa-2009, "Standard for Level 1/Large Early Release Frequency Probabilistic Risk Assessment for Nuclear Power Plant Applications."

Notification of PRA Upgrade

Propose the following, which is consistent with other TS reporting requirements, such as the Post Accident Monitoring Report and the Steam Generator Tube Inspection Report.

f. A report shall be submitted to the licensee's NRC Headquarters Project Manager and Resident Inspectors, in accordance with Specification [5.6.X] following each PRA upgrade and associated peer review, and at least 30 days prior to using the upgraded PRA to calculate a RICT.

To ensure the reporting requirement is not overlooked, it is separated into a separate paragraph. It's not necessary or consistent with other TS reporting requirements to state that the report is sent to the NRC or that it's being sent "by letter."

To be consistent with similar TS requirements, a reporting requirement is added to TS Section 5.6, "Reports":

A report shall be submitted to the licensee's NRC Headquarters Project Manager and Resident Inspectors, in accordance with Specification [5.6.X] following each PRA upgrade and associated peer review, and at least 30 days prior to using the upgraded PRA to calculate a RICT. The report shall describe the scope of the upgrade, including (1) the PRA models upgraded, (2) the peer review and finding closure reports available to the NRC for oversight and inspection activities, (3) the number of, and characterization of,

the open findings remaining in the upgraded model, and (4) identification of any RICTs of less than 30 days calculated to change by more than 50% for the zero-maintenance configuration.

5.5.18 Risk Informed Completion Time Program

This program provides controls to calculate a Risk Informed Completion Time (RICT) and must be implemented in accordance with NEI 06-09-**A**, Revision 0, "Risk-Managed Technical Specifications (RMTS) Guidelines." The program shall include the following:

a. The RICT may not exceed 30 days;

---------- REVIEWER'S NOTE ----------
The Risk Informed Completion Time is only applicable in MODES supported by the Licensees PRA. Licensee's applying the RICT Program to MODES other than Modes 1 and 2 must demonstrate that they have the capability to calculate a RICT in those MODES or that the risk indicated by their MODE 1 and 2 PRA model is bounding with respect to the lower MODE conditions.
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b. A RICT may only be utilized in MODE 1, 2 [, and 3, and MODE 4 while relying on steam generators for heat removal];

c. When a RICT is being used, any change to the plant configuration, as defined in NEI 06-09-A, Appendix A, must be considered for the effect on the RICT.

   1. For planned changes, the revised RICT must be determined prior to implementation of the change in configuration.

   2. For emergent conditions, the revised RICT must be determined within the time limits of the Required Action Completion Time (i.e., not the RICT) or 12 hours after the plant configuration change, whichever is less.

   3. Revising the RICT is not required If the plant configuration change would lower plant risk and would result in a longer RICT.

d. If the extent of condition evaluation for inoperable structures, systems, or components (SSCs) is not complete prior to exceeding the Completion Time, the RICT shall account for the increased possibility of common cause failure (CCF) by either:

   1. Numerically accounting for the increased possibility of CCF in the RICT calculation; or

   2. Risk Management Actions (RMAs) not already credited in the RICT calculation shall be implemented that support redundant or diverse SSCs that perform the function(s) of the inoperable SSCs, and, if

practicable, reduce the frequency of initiating events that challenge the function(s) performed by the inoperable SSCs.

e. A RICT must be calculated using the following PRA and non-PRA methods approved by the NRC, including [list specific PRA and non-PRA methods used for fire and seismic analysis (e.g., Fire PRA and Seismic Margins Analysis)]. Changes to these PRA and non-PRA methods require prior NRC approval. The PRA maintenance and upgrade process will validate that other changes to the PRA models used in the RICT program follow the guidance in Appendix 1-A of ASME/ANS RA-Sa-2009, "Standard for Level 1/Large Early Release Frequency Probabilistic Risk Assessment for Nuclear Power Plant Applications."

f. A report shall be submitted to the licensee's NRC Headquarters Project Manager and Resident Inspectors, in accordance with Specification [5.6.X] following each PRA upgrade and associated peer review, and at least 30 days prior to using the upgraded PRA to calculate a RICT.

[5.6.X Probabilistic Risk Assessment (PRA) Upgrade Report

A report shall be submitted to the licensee's NRC Headquarters Project Manager and Resident Inspectors following each PRA upgrade and associated peer review, and at least 30 days prior to using the upgraded PRA to calculate a Risk Informed Completion Time in accordance with Specification [5.5.18]. The report shall describe the scope of the upgrade, including (1) the PRA models upgraded, (2) the peer review and finding closure reports available to the NRC for oversight and inspection activities, (3) the number of, and characterization of, the open findings remaining in the upgraded model, and (4) identification of any RICTs of less than 30 days calculated to change by more than 50% for the zero-maintenance configuration.]

Proposed Resolution to NRC Comments on Industry Proposal for Treatment of PRA Updates by Licensees Adopting TSTF-505 (Option 3)

NRC Comment (2/2018)	Proposed Resolution
Proposed approach includes 1) relying on industry peer review teams to accept newly developed methods, 2) formal notification to the NRC of all upgrades to PRAs, and 3) subsequent PRA inspection activities	It is notable that on item 3, inspection *and oversight* activities are part of the process, with an expected emphasis on oversight vs. inspection.
Proposed approach is not defined in sufficient detail	In answering these questions, and integrating the answers into the proposal, the industry has now provided sufficient detail to the NRC staff.
Proposed approach necessitates an NRR review/Region inspection framework that does not currently exist	The proposal is modeled after other reporting requirements, and does not require a new framework.
RISC WG 1 should be reconvened to develop approach and associated guidance	There is no need to reconvene the working group to address a very limited-scope topic.
NEI should provide justification for NRC resource expenditure and communicate the prioritization for this and other risk-informed applications	Addressing new methods in a global manner, using an approach that drastically reduces the need for licensing reviews, will ultimately reduce the use of NRC and industry resources in implementation of TSTF-505.
To begin discussions on their proposed alternative, NRC/Industry RISC WG 1 would need to fully define the proposed approach, including but not limited to:	
▪ Establish acceptance criteria to be used by the peer review teams for newly developed methods	This has been provided in NEI 17-07, which was sent to the NRC staff in December 2017.
▪ Define what will be included in the notification to the NRC	Propose that this would include: • The scope of the upgrade • The availability of peer review reports • The number of open findings remaining in the upgraded model • Identification of key changes to calculated RICTs
▪ Define an appropriate time window between notification to the NRC and the use in risk-informed programs	30 days, as originally proposed, would result in more than 30 days before use, as RICTs are only used a few times a year, per available operating experience.
▪ Define how and when the NRC is expected to respond to the	The NRC would be expected to respond to the licensee, by letter, indicating negative consent for use of the model within 30 days of

notification, including what no response by the NRC implies (NEI proposed a 30 day negative NRC consent process which implies that no response is acceptance which is contrary to the similar 50.59 process)	receipt of the notification letter. No written response from the NRC implies that the model may be used in the licensee's RICT program, and does not imply that the model is inherently acceptable for other licensing applications.
▪ Establish process for reviewing peer review findings outside of licensing process	The NRC resident inspector will have access to the peer review reports. Headquarters staff will work through the NRC PM.
▪ Establish process for NRC/Licensee interaction if NRC identifies a technical concern	There are two avenues for this. The first is during the 30 day window following licensee notification to the NRC regarding the model upgrade. The second is during the RICT program inspections.
▪ Define content of notification, including (1) information on PRA upgrade and peer review results needed for NRC evaluation, including description of any new-to-the-industry methods, if applicable and (2) What criteria beyond "scope of upgrade" should be provided in notification	Propose that this would include: • The scope of the upgrade • The availability of peer review reports • The number of open findings remaining in the upgraded model • Identification of key changes to calculated RICTs
▪ Who is the addressee for licensee notification (e.g. Regions or Headquarters?)	The notification will be sent to the licensee's PM at headquarters, with a copy to the resident inspectors.
▪ Where would a repository for acceptability of methods be documented?	The NRC-accepted method for evaluating PRA technical adequacy is document in RG 1.200, and includes endorsed standards and peer review guidance. There is no need for an additional repository to document this.