

Objective 3: Address Additional Gaps in the Peer Review Process

The industry and NRC working groups each conducted an exhaustive review of current issues with the peer review process to determine if there were any additional issues associated with PRA technical adequacy and the peer review process that the working groups could address. One such topic, process for assuring peer reviewer is technically qualified for the technical area being reviewed, was identified and discussed by the working group. The term "qualified" means that the individual peer reviewer has adequate technical depth and breadth of experience for the PRA areas being reviewed.

Currently, the NRC-endorsed industry peer review guidance, as well as the ASME/ANS PRA Standard, gives clear qualification standards for peer reviewers. The industry peer review guidance documents further call for reviewers to provide resumes documenting their qualifications for inclusion in the final peer review report.

However, questions have still occasionally arisen regarding reviewer qualifications for completed reviews, which is problematic for both the NRC and the licensee. Although the industry has worked to ensure that peer review teams are qualified for all technical elements under review, documentation of this qualification needs to reflect this effort. In some cases, reviewer resumes may not fully reflect relevant experience and expertise, resulting in questions during risk informed license application reviews.

In order to prevent this in the future, the process outlined in the industry peer review guidance documents should be updated to give the host utility for a peer review the responsibility to review documentation of peer review team qualification in advance of the review. Specifically, reviewer resumes should be provided when the team is identified to the host utility. This will allow the host utility sufficient time to ensure adequate documentation of qualification prior to conduct of the on-site peer review.

Summary and Path Forward

The recommendations in this paper, if fully implemented, will substantially improve the regulatory processes associated with verification of PRA technical adequacy for risk-informed licensing applications. Addressing technical adequacy of methods in advance of peer reviews and more clearly defining expectations for F&O closeout, in particular, will reduce burden to licensees and the NRC, and facilitate improved efficiency in the review of risk-informed licensing applications.

Implementation of these recommendations will require updates to existing industry guidance documents and NRC regulatory guides, as well as development of new supporting documents.

Documents to be developed or updated are as follows:

- New industry guidance document describing the process for making new methods available for regulatory application
- Revisions to industry peer review guidance documents (NEI 05-04, NEI 07-12, NEI 12-13) to include description of process for closure of peer review F&Os and detailing timeline and process for verification of reviewer qualifications
- New NRC Interim Staff Guidance document(s) endorsing the above

In the long term, these changes should be incorporated into the next scheduled revision of Regulatory Guide 1.200 to consolidate the guidance associated with PRA technical adequacy for risk-informed licensing applications.

Additionally, given the number of new steps associated with the proposed process proposed for making new methods available for regulatory application, the process should be piloted following drafting of the new industry guidance document to ensure that the process, as described, is effective.