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June 14, 2017

Mr. Michael E. Mayfield
Deputy Director (Acting)
Office of New Reactors
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

Subject: NEI White Paper, *First Principles for Use in Developing Design Certification Tier 1 and Information and Inspections, Tests, Analyses and Acceptance Criteria*, dated June 2017

Project Number: 689

Dear Mr. Mayfield:

On behalf of the nuclear industry, the Nuclear Energy Institute (NEI)¹ is pleased to submit for NRC review and feedback the attached NEI white paper, *First Principles for Design Certification Tier 1 Information and Inspections, Tests, Analyses and Acceptance Criteria*, dated June 2017. This paper contains guidance to assist in developing design certification applications.

From 2013 to 2016, the NRC held numerous public meetings with the industry to discuss the standardization of inspections, tests, analyses and acceptance criteria (ITAAC) with the objective to clarify the scope of ITAAC required for design certification applications. This process has been guided by the application of First Principles that have been expressed in several NRC policy papers from the early 1990s concerning the scope of Tier 1 and ITAAC. Lessons learned from the development and implementation of ITAAC for the lead new plant projects have also been incorporated to improve clarity. Our interactions with the NRC have underscored the importance of First Principles as a basis for assuring that applications contain the appropriate scope of Tier 1 and ITAAC.

¹ The Nuclear Energy Institute (NEI) is the organization responsible for establishing unified industry policy on matters affecting the nuclear energy industry, including the regulatory aspects of generic operational and technical issues. NEI's members include all entities licensed to operate commercial nuclear power plants in the United States, nuclear plant designers, major architect/engineering firms, fuel cycle facilities, nuclear materials licensees, and other organizations and entities involved in the nuclear energy industry.

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Over the same period, the industry has engaged NRC in several public meetings on the use of Tier 2* information – information that resides in Tier 2 of a design certification but requires prior NRC approval to change, similar to Tier 1. The industry has argued that the use of Tier 2* has proven problematic and burdensome and should be ended in favor of designating design information as either Tier 1 or Tier 2. The NRC staff has agreed that use of Tier 2* should be minimized and more tightly controlled. Whether the goal is to eliminate or minimize Tier 2*, we and the staff have discussed that clear guidance is needed to determine the proper scope of Tier 1 versus Tier 2.

Thus, we are providing this white paper as a basis for further discussion leading to a common understanding on Tier 1/ITAAC First Principles. Establishing a clear set of First Principles will support determinations on the scope of Tier 1 and Tier 2 information in ongoing and future design certifications. With the benefit of First Principles, the ongoing reviews are expected to indicate whether future design control documents can contain only Tier 1 and Tier 2 information, or that a limited scope of Tier 2* information is necessary.

The First Principles in the attached white paper are taken from a draft revision of NEI 15-02, *Industry Guideline for the Development of Tier 1 and ITAAC Under 10 CFR Part 52*, which contains guidance to applicants to standardize Tier 1 and ITAAC. We plan to submit for NRC review and endorsement the revision to NEI 15-02 that incorporates feedback on the standardized ITAAC provided in connection with the ongoing NuScale design certification review. In addition, the revision of NEI 15-02 will include Tier 1/ITAAC First Principles updated based on the outcome of discussions with the NRC staff on the attached white paper.

We will be in contact with you to request a public meeting to discuss Tier 1/ITAAC First Principles. In the meantime, if you have any questions or require additional information, please contact Russ Bell (rjb@nei.org; 202.739.8087) or me.

Sincerely,

A handwritten signature in black ink, appearing to read "Michael Tschiltz". The signature is fluid and cursive, written over a horizontal line.

Michael D. Tschiltz

Attachment

c: Mr. Timothy J. McGinty, NRO/DCIP, NRC
Mr. Joseph Colaccino, NRO/DARR/NRGB, NRC
NRC Document Control Desk