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July 1, 2014

Mr. John E. Thorp
Chief, Instrumentation and Controls Branch
Division of Engineering
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

Subject: Industry Strategy to Address NRC Concerns with NEI 01-01, "Guideline on Licensing Digital Upgrades"

Project Number: 689

Dear Mr. Thorp:

In response to your letter to Anthony R. Pietrangelo (Nuclear Energy Institute¹), dated November 5, 2013, that expressed concerns with NEI 01-01, "Guideline on Licensing Digital Upgrades," NEI provides the attached responses to those concerns and a path forward for resolution. To achieve closure, however, we believe it is necessary to reaffirm the following statement of the problem we are resolving.

Since 2007, the NRC has identified a number of cases of inadequate implementation of the 10 CFR 50.59 guidance in NEI 01-01 with respect to digital instrumentation and control (DI&C) activities. Lack of comprehensive guidance in NEI 01-01 and how NEI 01-01 should be used in concert with NEI 96-07, "Guidelines for 10 CFR 50.59 Implementation," may be contributing factors to the problems identified

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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above. Regulatory communication with the industry on the differing treatment of protection system digital common cause failure (CCF) vs. control system digital CCF has also contributed to the increased difficulty in applying the 10 CFR 50.59 guidance.

Review of the subject licensees' cause determinations has revealed failures to apply, or properly apply, the guidance of NEI 01-01. There appears to be a common training and awareness element to the issue. The industry believes that there is no basis for special treatment of DI&C activities under the current 10 CFR 50.59 regulation. When NEI 01-01 was developed, it was acknowledged that answering the 10 CFR 50.59 criteria can be difficult when proposing digital systems for which there is minimal precedent. Thus, NEI 01-01 focused on supplementary guidance for licensing digital upgrades. By design, NEI 01-01 does not provide comprehensive guidance on designing digital upgrades, rather by necessity it provides limited technical guidance for the purpose of providing licensing examples.

As plant components age and technology continues to shift away from the analog domain, the need for reasonable assurance and efficiency in licensing of safety-related and non-safety-related digital technology becomes increasingly urgent. The industry and NRC share a common goal—safe and reliable operations that protect the public health and safety. Licensees must be able to maintain and improve margins of safety by efficiently managing obsolescence. Increasingly, this is proposed to be accomplished via DI&C activities. The appropriate use of digital technology should be encouraged as a means to improve equipment reliability and by extension reduce initiating events. The operating reactor licensees understand and respect their obligation to adhere to the requirements in 10 CFR 50.59 and, in doing so, fully support ensuring clear criteria, scope and guidance exist for application of 10 CFR 50.59 to DI&C activities that allow licensees to maintain and improve margins of safety by efficiently managing obsolescence.

We understand the NRC's sense of urgency in this matter and welcome NRC input to refine the problem statement and work toward expeditious solution(s). To help facilitate this interaction, an NEI 01-01 Focus Team has been formed to ensure clear criteria, scope and guidance exist for application of 10 CFR 50.59 to DI&C activities that allow licensees to maintain and improve margins of safety by efficiently managing obsolescence. A description of the team's approach to address NRC concerns, next steps and schedule are included in the attachment to this letter.

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We look forward to further discussions. If you have any questions, please feel free to contact me, Kati Austgen (202.739.8068, kra@nei.org) or Gordon Clefthon (202.739.8086, gac@nei.org).

Sincerely,

A handwritten signature in black ink that reads "Chris Earls". The signature is written in a cursive style with a long, sweeping underline.

Christopher Earls

Attachment

c: Mr. Norbert N. Carte, NRR/DE/EICB, NRC
Mr. Steven A. Arndt, NRR/DE, NRC
Mr. Joseph Holonich, Jr., NRR/DPR/PLPB, NRC
Mr. Paul J. Rebstock, Jr., RES/DE/ICEEB, NRC
Mr. Dinesh Taneja, NRO/DE/ICE2, NRC
Mr. Richard J. Stattel, NRR/DE/EICB, NRC
Mr. Robert Austin, EPRI