

## **Overview of Public and Stakeholder Interactions**

In response to Staff Requirements Memorandum for SECY-15-0106<sup>1</sup>, "Proposed Rule: Incorporation by Reference of Institute of Electrical and Electronics Engineers Standard 603-2009, "IEEE Standard Criteria for Safety Systems for Nuclear Power Generating Stations" (RIN 3150-AI98)," dated February 25, 2016, the staff held public meetings with Institute of Electrical and Electronics Engineers (IEEE) standards setting committee responsible for IEEE Standard (Std.) 603<sup>2</sup>, and 7-4.3.2<sup>3</sup>, digital instrumentation and controls (I&C) vendors, licensees and other external stakeholders<sup>4</sup>. This was accomplished through several avenues to maximize visibility of the staff's preliminary draft action plan and allow the most opportunity to receive stakeholder feedback. The staff also engaged with stakeholders during the 2016 Regulatory Information Conference (RIC), and participated in public interactions in support of the working groups for Common Cause Failure (CCF) and Title 10 of the *Code of Federal Regulations* (10 CFR), Section 50.59 which aided in the development of the Integrated Action Plan (IAP).

The staff continues to engage with stakeholders and will participate the IEEE Standards Committee during the next regularly scheduled meeting (July 2016). Although the IEEE Standards Committee will not meet until July, the staff has taken action to ensure the committee is aware of the staff's goals and intended actions related to the IAP.

### **Overview of Stakeholder interactions:**

#### **January 20, 2016 – Public Meeting – Staff meeting with the Nuclear Energy Institute on Digital Instrument & Control**

The U.S. Nuclear Regulatory Commission (NRC) staff met with representatives from the Nuclear Energy Institute (NEI) to discuss and coordinate NEI's digital I&C roadmap with the NRC's digital I&C action plan<sup>5</sup> and to provide information/status on various activities being undertaken by the NRC staff and industry in the digital I&C area. During this meeting industry representatives stated that two conditions are necessary to support the transition of safety-related systems to digital technologies: 1) the modifications would need to be economical and 2) the expected duration and costs of the regulatory review process would need to be quantifiable and predictable. The staff requested NEI feedback on the draft action plan. NEI provided written comments (ADAMS Accession No. ML16067A356). These comments were considered during the generation of the IAP. The meeting summary is located in ADAMS Accession No. ML16012A004.

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<sup>1</sup> Agencywide Document Access and Management System (ADAMS) Accession No. ML16056A614.

<sup>2</sup> IEEE Std. 603, "IEEE Standard Criteria for Safety Systems for Nuclear Power Generating Stations."

<sup>3</sup> IEEE Std. 7-4.3.2, "IEEE Standard Criteria for Digital Computers in Safety Systems of Nuclear Power Generating Stations."

<sup>4</sup> The Nuclear Energy Institute (NEI) was the primary non-licensee external stakeholder, however several members of the public were routinely involved in the staff-stakeholder interactions.

<sup>5</sup> ADAMS Accession No. ML16014A085.

**March 10, 2016 – The Regulatory Information Conference Panel Discussion – On the Path Forward: Implementing Digital Instrumentation and Controls (RIC Session TH36)**

The RIC Panel discussion highlighted that the NRC staff is evaluating its licensing infrastructure for digital I&C. While the existing licensing infrastructure allows the staff to successfully complete its safety evaluation process, additional clarity, efficiency, and reliability is needed for addressing the potential for CCF, and methods of incorporating risk insights into this process need to be developed. Revised guidance in this area is needed for both the licensing process and in the reactor oversight process employed for inspecting 10 CFR 50.59 upgrades of digital I&C systems.

**March 21, 2016 – Public Meeting – Technical Basis for Common Cause Failure**

The NRC staff met with representatives from the NEI and industry to discuss the technical basis for CCF in digital systems and gather information from stakeholders on what areas of the current NRC policy on CCF may need to be updated or modified. Staff and industry representatives agreed that CCF is a high priority item that needs to be addressed in the short-term due to the potential need for future revisions to the regulatory framework. Information related to the meeting, including presentations and the attendees list, can be found in ADAMS Accession No. ML16068A072.

**March 24, 2016 – Preliminary Draft Integrated Action Plan<sup>6</sup> Issued**

To allow the most opportunity for stakeholder review and comment on the preliminary draft version of the IAP, an electronic version of the plan was sent to the listserve distribution list (approximately 7000 email addresses), posted on the NRC's Public Website, the availability of the document was published in the *Federal Register* on March 30, 2016 (81 FR 17740), and the action plan was attached to the March 30, 2016, public meeting notice.

At the completion of the 30-day public comment period, the NRC received written comments from the six commenters listed in the table below. All comments were reviewed and considered during the development of the IAP. All commenters were notified that the due to schedule for development of the IAP, formal written responses to comments would not be issued. Most comments were incorporated into MP #4 of the IAP.

<b>Letter No.</b>	<b>ADAMS Accession No.</b>	<b>Name of Commenter</b>
1	ML16117A089	Canadian Nuclear Safety Commission
2	ML16117A090	NewClear Day, Inc.
3	ML16118A279	NEI
4	ML16118A280	Mr. Travis Chapman
5	ML16118A281	Oklo, Inc.
6	ML16120A519	NextEra Energy, Inc.

<sup>6</sup> Preliminary Draft IAP – ADAMS Accession No. ML16075A466.

### **March 30, 2016 – Public Meeting<sup>7</sup> – The U.S. Nuclear Regulatory Commission Presentation of Draft Integrated Action Plan**

During the 30-day comment period for the draft IAP, the staff held a public meeting where the staff and NEI made presentations and stakeholder feedback was discussed. Staff members from the Office of Nuclear Reactor Regulation, and the Office of Nuclear Security and Incident Response presented an overview of the draft IAP to modernize the NRC's regulatory infrastructure. NEI presented an overview of questions and concerns based on the initial review of the draft action plan. In addition to the industry stakeholders, several members of the public asked questions and provided input. The meeting summary can be found in ADAMS Accession No. ML16109A363.

### **April 4, 2016 – Digital Instrumentation & Control presentation to the Advisory Committee on Reactor Safeguards Subcommittee**

The staff provided an overview of the digital I&C strategy to the Advisory Committee on Reactor Safeguards (ACRS) digital I&C subcommittee. The ACRS and staff acknowledged that there is a need for the staff to clarify its understanding of "independence" and "data communication requirements", and how these issues are to be addressed in the modernization of the regulatory infrastructure.

### **April 6, 2016 – The Nuclear Energy Institute/Nuclear Regulatory Commission Steering Committee Drop-in**

The NRC digital I&C Steering Committee had a drop-in meeting with the NEI digital I&C Steering Committee with the purpose to identify potential "showstoppers" with the action plan. As part of the public comment process the NRC encouraged NEI to provide clear and insightful comments as the action plans move forward. NEI considered a "showstopper" to be an agency implementation item that from their perspective, would not support licensing certainty, effectiveness, or efficiency. NEI identified CCF, 50.59 guidance, and requiring Factory Acceptance Testing before a license amendment as potential "showstoppers".

### **April 6, 2016 – Public Meeting<sup>8</sup> - Regulatory Issue Summary 2016-05 Embedded Digital Devices in Safety-Related Systems<sup>9</sup> - Comment Resolution**

In advance of issuing the final Regulatory Issue Summary (RIS) clarifying the NRC's technical position concerning embedded digital devices in safety-related systems, the NRC discussed the resolution of public comments on the draft RIS. Industry stakeholders in attendance did not identify any immediate issues regarding the RIS for operating and new reactors. NEI is continuing to look at fuel cycle facilities to determine if this issue is applicable to that community. The RIS was issued on April 29, 2016.

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<sup>7</sup> Public Meeting Notice – ADAMS Accession No. ML16090A017.

<sup>8</sup> Public Meeting Notice – ADAMS Accession No. ML16097A183.

<sup>9</sup> ADAMS Accession No. ML15118A015.

**April 19, 2016 – The U.S. Nuclear Regulatory Commission Standards Executive Meeting with Institute of Electrical and Electronics Engineers Nuclear Power Engineering Committee**

Since the next scheduled IEEE Nuclear Power Engineering Committee (NPEC) meeting is scheduled to take place in July, the NRC Standards Executive held a meeting with NPEC leadership to discuss the staff's intentions to work with the groups within NPEC that develop the IEEE Standards 603, "IEEE Standard Criteria for Safety Systems for Nuclear Power Generating Stations," and 7-4.3.2, "IEEE Standard Criteria for Digital Computers in Safety Systems of Nuclear Power Generating Stations." NRC staff verified that the IEEE NPEC would be receptive to technical staff discussions at the scheduled meeting in July to discuss the possibility of the committees addressing NRC technical concerns and incorporating them, to the extent practicable, into the 2018 Edition of the IEEE Std. 603 and the current draft revision of the IEEE Std. 7-4.3.2 which is currently in the public comment process.

**April 28, 2016 – Public Meeting<sup>10</sup> – Discussion of the Nuclear Energy Institute submission of draft appendix D to NEI Letter 96-07**

The NRC staff met with representatives from the NEI. The purpose of the meeting was to discuss the staff perspectives on the draft Appendix D of NEI 96-07, "Guidelines for 10 CFR 50.59 Evaluations." NEI indicated that Appendix D is only focused on evaluating the specific licensing criteria in 10 CFR 50.59 for digital I&C, and not the supporting technical methodologies. NRC endorsed technical methods and associated regulatory positions are addressed in other existing regulatory documents. NEI is therefore not providing or referencing any technical methodologies (e.g., CCF susceptibility & coping analyses) in the draft document.

**May 16, 2016 – Public Meeting<sup>11</sup> – Revised Integrated Action Plan Discussion with the Nuclear Energy Institute**

The NRC staff held a category 2 public meeting with NEI to discuss industry's feedback on the preliminary final IAP<sup>12</sup>. The staff presented an overview<sup>13</sup> of the integrated action plan and solicited input from NEI for verification of alignment between the staff and industry stakeholders. NEI indicated that in general they were in alignment with the staff's approach, plan to move forward, and had no major objections. However, they had some concerns regarding the staff's plan to incorporate the licensing process changes. They did indicate that additional alignment between NEI and NRC concerning the path forward for licensing process changes will be needed, especially in the area of factory acceptance testing. NEI provided written comments on May 20, 2016<sup>14</sup>, outlining suggestions for continued development of the IAP.

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<sup>10</sup> Public Meeting Agenda – ADAMS Accession No. ML16070A230.

<sup>11</sup> Public Meeting Notice – ADAMS Accession No. ML16127A442.

<sup>12</sup> ADAMS Accession No. ML16132A579.

<sup>13</sup> ADAMS Accession No. ML16133A204.

<sup>14</sup> ADAMS Accession No. ML16145A278