

Modernization Plan #1-Protection Against Common Cause Failure

Public Meeting to Discuss
NEI 16-16 [Draft 2]
December 13, 2017
MP #1B/1C Working Group
Mauricio Gutierrez, Working Group Lead

Outline

- Opening Remarks, Safety, Introductions
- Objectives of MP #1B and #1C
- Desired Outcomes for Today
- NEI 16-16 Review Recap
- NEI 16-16 Action Item Recap (Nov. 29 Public Meeting)
- Discussion of NEI 16-16 [Draft 2] Comments
- Next Actions
- Path Forward
- Stakeholder Participation
- Summary and Action Items

Objectives of MP #1B and MP#1C

- MP #1B - Evaluate Industry's proposed guidance in NEI 16-16.
- MP #1C – Evaluate the Nuclear Regulatory Commission's (NRC) current position on protection of DI&C systems and components against CCF concerns.

For more details, see Revision 1-Draft to Integrated Action Plan (IAP) to Modernize Digital Instrumentation and Controls Regulatory Infrastructure [Agencywide Document Access and Management System (ADAMS) Accession Number [ML16326A275](#)]. Note that IAP Revision 2 is in development (Accession Number not yet available) and will be publicly available in December 2017.

Desired Outcomes for Today

1. Progress on alignment between NEI and NRC on regulatory purpose of NEI 16-16.
2. Progress on alignment between NEI and NRC on technical and regulatory requirements NEI must meet for endorsement of NEI 16-16.
3. Alignment between NEI and NRC on CCF definition related notes.
4. Resolve action items from Nov. 29 public meeting.
5. Clarity on path forward for NEI 16-16 development and review.

NEI 16-16 Review Recap

- NEI 16-16 [Draft 1]
 - December 2016 – ADAMS Accession Number [ML17033B139](#), February 8, 2017 – [ML17004A259](#), March 13, 2017 [ML17072A142](#), March 29, 2017 – [ML17073A002](#).
- NEI 16-16 [Draft 2]
 - May 12, 2017 – NEI 16-16 [Draft 2] submitted to NRC ([ML17135A253](#))
 - July 14, 2017 – NRC comments sent to NEI ([ML17195A282](#))
 - August 1, 2017 – Public Meeting on NEI 16-16 and NEI 96-07, Appendix D ([ML17137A326](#))
 - August 10, 2017 – NEI provides informal reply to staff's comments ([ML17241A028](#))
 - September 07, 2017 – Public Meeting on NEI 16-16 Staff Comments ([ML17234A026](#))
 - November 02, 2017 – Public Meeting on NEI 16-16 Staff Comments ([ML17285A944](#))
 - November 29, 2017 – Conference Call on NEI 16-16 Staff Comments ([ML17310A088](#))
 - December 13, 2017 – Public Meeting on NEI 16-16 Staff Comments ([ML17331B029](#))

NEI 16-16 Action Item Recap

(Nov. 29 Public Meeting)

- The Nuclear Energy Institute (NEI) will look at aligning NEI 16-16 and NEI 96-07, Appendix D, Section 4.3.6 and discuss at the November 30, 2017, meeting. (comment 2) – Will be discussed today.
- NEI will develop a position to better align the topics in Comments 8 and 10 – Future discussion. Remains open.
- NEI will look at using the term malfunction and information from the November 30, 2017, meeting on NEI 96-07, Appendix D Section 4.3.6 to further discuss the term at the December 13, 2017, meeting on NEI 16-16 (comment 21) – Will be discussed today.
- NEI will look at the term preferred malfunction state and the term safe state in the Regulatory Issue Summary 2017-XX (comment 23) – Will be partially discussed today. RIS content, however, will not be discussed.
- NEI will add clarification to Section 3.4 (comment 26) – Will be discussed today.
- NEI will add more detail on how the evaluation feeds into a Code of Federal Regulation, Title 10, Section 50.59 analysis (comment 27) – Future discussion. Remains open.
- NEI will present examples at a future meeting, other than the December 13, 2017, meeting. (comment 29) – Future discussion. Remains open.
- This comment will be revisited after the November 30, 2017, meeting on NEI 96-07, Appendix D, Section 4.3.6 (comment 38) – Will be discussed today.
- NEI will look at clarifying the discussions related to this comment (comment 39) – Will be discussed today.
- NEI will review the flowchart to make sure it accurately reflects the process (comment 41) – Will be discussed today.
- NEI will look at revising the title. (comment 43) – Will be discussed today.
- NEI will look at adding a lead paragraph (comment 46) – Will be discussed today.
- NEI will look at Section 4.2.2.4 and Appendix B and develop a better lead into what they are intended to do (comment 48) – Will be discussed today.
- NEI will get internal alignment and discuss this at a future meeting (comment 49) – Will be discussed today.

Discussion of NEI 16-16 [Draft 2]

- This portion of the meeting turned over to NEI to lead discussion on resolving staff comments on NEI 16-16 [Draft 2].

Next Actions

- NRC to schedule Public Meeting for January 2018?
- NEI to develop NEI 16-16 [Draft 3]. NEI to provide input to NRC for updating NEI 16-16 review schedule.
- NRC to develop SECY paper on Protection of DI&C Systems against Common Cause Failure Concerns.
- NRC to review NEI 16-16 in parallel with SECY paper development.
- Actions identified throughout today's meeting.

Path forward – Draft Schedule MP #1B

Evaluation of NEI 16-16

| | Activity | Schedule |
|-----|---|-------------------------|
| B.1 | Begin staff evaluation of NEI 16-16 [Draft 1] received 12/22/2016 and develop staff comments/gap analysis. | December 2016 (c) |
| B.2 | Meeting to discuss NEI's plans for completion of CCF likelihood technical basis, associated defensive measures, Appendices, and the balance of NEI 16-16 content. | February 8-9 2017 (c) |
| B.3 | NRC to provide comments on NEI 16-16 [Draft 1] | March 13, 2017(c) |
| B.4 | Meeting to discuss and clarify NRC comments on NEI 16-16 [Draft 1] | March 29, 2017(c) |
| B.5 | Meeting to preview NEI 16-16 Appendix A content to be included in Draft 2 of NEI 16-16. | April 11, 2017(c) |
| B.6 | NEI delivery of Draft 2 of NEI 16-16, including technical basis, examples, and Appendices. | May 12, 2017(c) |
| B.7 | NRC provided comments on NEI 16-16 [Draft 2]. | July 14, 2017(c) |
| B.8 | Meeting to discuss NRC comments on NEI 16-16 [Draft 2] | September 7, 2017(c) |
| B.9 | Meetings to discuss methodology, content, regulatory and technical basis of NEI 16-16. | November - January 2017 |

Path forward – Draft Schedule MP #1B

Evaluation of NEI 16-16

| | Activity | Schedule |
|------|---|---------------------------------|
| B.10 | Meeting to discuss NRC comments on NEI 16-16 [Draft 2] | November 2, 2017 (c) |
| B.11 | Teleconference Call/Webinar on NEI 16-16 [Draft 2] | November 29, 2017 (c) |
| B.12 | Public Meeting on NEI 16-16 [Draft 2] | December 13, 2017 (c) |
| B.13 | NRC to deliver final comments on NEI 16-16 [Draft 2], Appendix A | February 2018 |
| B.14 | Conference Call to clarify comments on Appendix A | February 2018 |
| B.15 | NEI to deliver NEI 16-16 [Draft 3]. | February 2018 |
| B.16 | NRC endorsement decision based on NEI 16-16 [Draft 3]. | March 2018 |
| B.17 | NEI to submit NEI 16-16 Rev. 0 | April 2018 |
| B.18 | Release NRC Regulatory Guide Draft for public comment | March 2018 |
| B.19 | Present to ACRS Subcommittee and ACRS Committee (CCF SECY with relevant NEI 16-16 info) | April 03, 2018 May 3-4, 2018 |
| B.20 | Present to Commission (status of NEI 16-16 review available to Commission because related to CCF policy development) | June 2018 |
| B.21 | Adjustments of NEI 16-16 and Regulatory Guide draft post Commission direction with regard? | July-September 2018 |
| B.22 | Public Meetings (if needed) on Draft Regulatory Guide | August – November 2018 |
| B.23 | Issuance of Regulatory Guide endorsing NEI 16-16. | December 2018 |

Items in Red are subject to change.

Path forward – Draft Schedule MP #1C

Evaluation of NRC’s current position on defense against CCF in digital I&C systems and components

| | Activity | Schedule |
|-----|--|-----------------------------------|
| C.1 | Begin staff review to identify specific aspects of NRC’s position on CCF and communicate any policy issues that need to be modified. Meet with DI&C Steering Committee and other stakeholders as needed. | April-July 2017 (c) |
| C.2 | Develop and finalize list of specific aspects of NRC’s position on CCF impacted by review of NEI 16-16 draft updates and alert Commission of policy issues that will require attention. | April - August 2017(c) |
| C.3 | Begin development of SECY on recommendations regarding NRC policy to protect digital I&C systems against CCF concerns. | September 2017 (c) |
| C.4 | Produce SECY Draft | December 15, 2017 |
| C.5 | Produce enclosure(s) to support NRC’s policy recommendations in SECY. | November 2017 – January 2017 |
| C.6 | Engage outside peer reviewer to assess staff’s findings. | February – April 2018 |
| C.7 | Present to ACRS DI&C Subcommittee. Present to Full ACRS Committee. | April 03, 2018 May 03-04, 2018 |
| C.8 | Submit SECY paper (with technical basis document) identifying proposed position to address CCF concerns in digital systems to the Commission. | June 2018 |
| C.9 | Implement resolution as determined by the Commission. | June – September 2018 |

Acronyms

ACRS – Advisory Commission on Reactor Safeguards

ADAMS - Agencywide Document Access and Management System

CCF – Common Cause Failure

DI&C – Digital Instrumentation and Controls

MP – Modernization Plan

NEI – Nuclear Energy Institute

NRC – Nuclear Regulatory Commission
