

# **Modernization Plan #1-Protection Against Common Cause Failure**

Public Conference Call to Discuss

NEI 16-16 [Draft 2]

November 29, 2017

MP #1B/1C Working Group

Mauricio Gutierrez, Working Group Lead

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# 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. 2 Public Meeting)
  - Discussion of NEI 16-16 [Draft 2] Comments Status (See Agenda)
  - Next Actions
  - Path Forward
  - Stakeholder Participation
  - Summary and Action Items
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# Objectives of MP #1B and MP#1C

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

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. Alignment between NEI and NRC on regulatory purpose of NEI 16-16
2. 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 definition of CCF and related notes.
4. Resolve action items from Nov. 2, 2017 public meeting.
5. Clarity on path forward for remaining unresolved staff comments.
6. Clarity on path forward for NEI 16-16 development and review considering status of comments and plan to finish review of NEI 16-16, Appendix A.

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# NEI 16-16 Review Recap

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

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# NEI 16-16 Action Item Recap (Nov. 2 Public Meeting)

1. NRC staff will provide a final recommendation on the notes provided with the definition of CCF in NEI 16-16.
2. NEI will consider how to better articulate the regulatory basis in NEI 16-16.
3. NEI will include in NEI 16-16 the concept that if a design defect is found it will be fixed.
4. NEI will include a figure in NEI 16-16 to be consistent with the NRC meeting handout on CCF Susceptibility Analysis and CCF Malfunction Result Analysis.
5. NEI will compare NEI 16-16 to Table 1 in RIS 2017-XX and identify any significant differences for further discussion.
6. NRC staff will look at its comments and the NEI responses and inform NEI which have been addressed and are closed and highlight comments which still need to be addressed.
7. NEI will contact the research and test reactors to determine what participation, if any, they want in the development of NEI 16-16.
8. NEI will add an explicit purpose statement to NEI 16-16.

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# Discussion of NEI 16-16 [Draft 2]

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

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# Next Actions

- NEI and NRC to continue discussion of comments on NEI 16-16 [Draft 2] on December 19, 2017.
- 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
B.12	Public Meeting on NEI 16-16 [Draft 2]	December 13, 2017
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

	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

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# 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

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