

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

Public Meeting to Discuss  
NEI 16-16 [Draft 2]  
November 02, 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
  - Discussion of Selected NEI 16-16 [Draft 2] Comments (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 October/November 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.
4. Better understanding of NEI's argument that defensive measures lead to "sufficiently low" likelihood of CCF conclusions. Clarity on systems that NEI 16-16 is intended to apply to.
5. Clarity on systems that NEI 16-16 is intended to apply to.
6. Clarity on path forward for NEI 16-16 development and review.

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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 (CCF Definition and Other Items) (ADAMS Accession Number [ML17285A944](#))

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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].
- 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)
All items below are subject to change. No commitments have been made as of November 2, 2017.		
B.11	NEI to deliver NEI 16-16 [Draft 3].	December 2017
B.12	NRC to begin drafting Regulatory Guide Draft and updating throughout review. Earliest draft will list regulations that must be met to address CCF concerns.	January 2018
B.13	NRC staff to review and provide comments on NEI 16-16 draft updates, update Regulatory guide draft.	February 2018
B.14	Finalization of NRC Regulatory Guide Draft for ACRS, public, and Commission comment.	March 2018
B.15	Issue Draft Regulatory Guide for Public Comment	March 2018
B.16	Present to ACRS Subcommittee and Full ACRS Committee (Relevant Information related to CCF SECY)	March 21, 2018 April 03, 2018
B.17	Present to Commission (status of NEI 16-16 review available to Commission because related to CCF policy development)	June 2018
B.18	Adjustments of NEI 16-16 and Regulatory Guide draft post Commission direction with regard.	July-September 2018
B.19	Public Meetings (if needed) on Draft Regulatory Guide	August – November 2018
B.20	Issuance of Regulatory Guide endorsing NEI 16-16.	December 2018

# 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 technical basis document to support affirmation or modification of NRC’s position.	December 2017
C.5	Engage outside peer reviewer to assess staff’s findings.	February – April 2018
C.6	Present to ACRS DI&C Subcommittee and Full ACRS Committee.	March and April 2018
C.7	Submit SECY paper (with technical basis document) identifying proposed position to address CCF concerns in digital systems to the Commission.	June 2018
C.8	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