



# **NRC PROPOSED ISG TO ADDRESS CCF USING ANALYSIS RESULTS & STAFF EVALUATION OF NEI 16-16**

February 2017

# MP #1

## Activities

- MP #1A – Develop guidance to perform and use coping analysis to address CCF when replacing or modifying safety system auxiliary and/or support digital I&C systems (e.g., chiller control systems).
- MP #1B – Evaluate NEI’s proposed guidance in NEI 16-16.
- MP #1C – Evaluate any impacts to the current NRC position on CCF, as described in SRM-SECY 93-087.

# MP #1A

## Interim Staff Guidance

- Guidance to perform and use D3 analysis to identify and address CCF based on the results obtained (bounded or coping alternatives)
- This guidance will apply to both Part 50 and Part 52.
- This guidance is for support and auxiliary systems, not for replacing or modifying protection I&C systems.
- This guidance is compatible with guidance in BTP 7-19.
- Facilitate replacement of non-critical systems (e.g., chillers) using 50.59 process.
- As this guidance includes provisions for performing 10 CFR 50.59 evaluations, it is being developed in concert with colleagues in the 50.59 Working Group (MP #2).

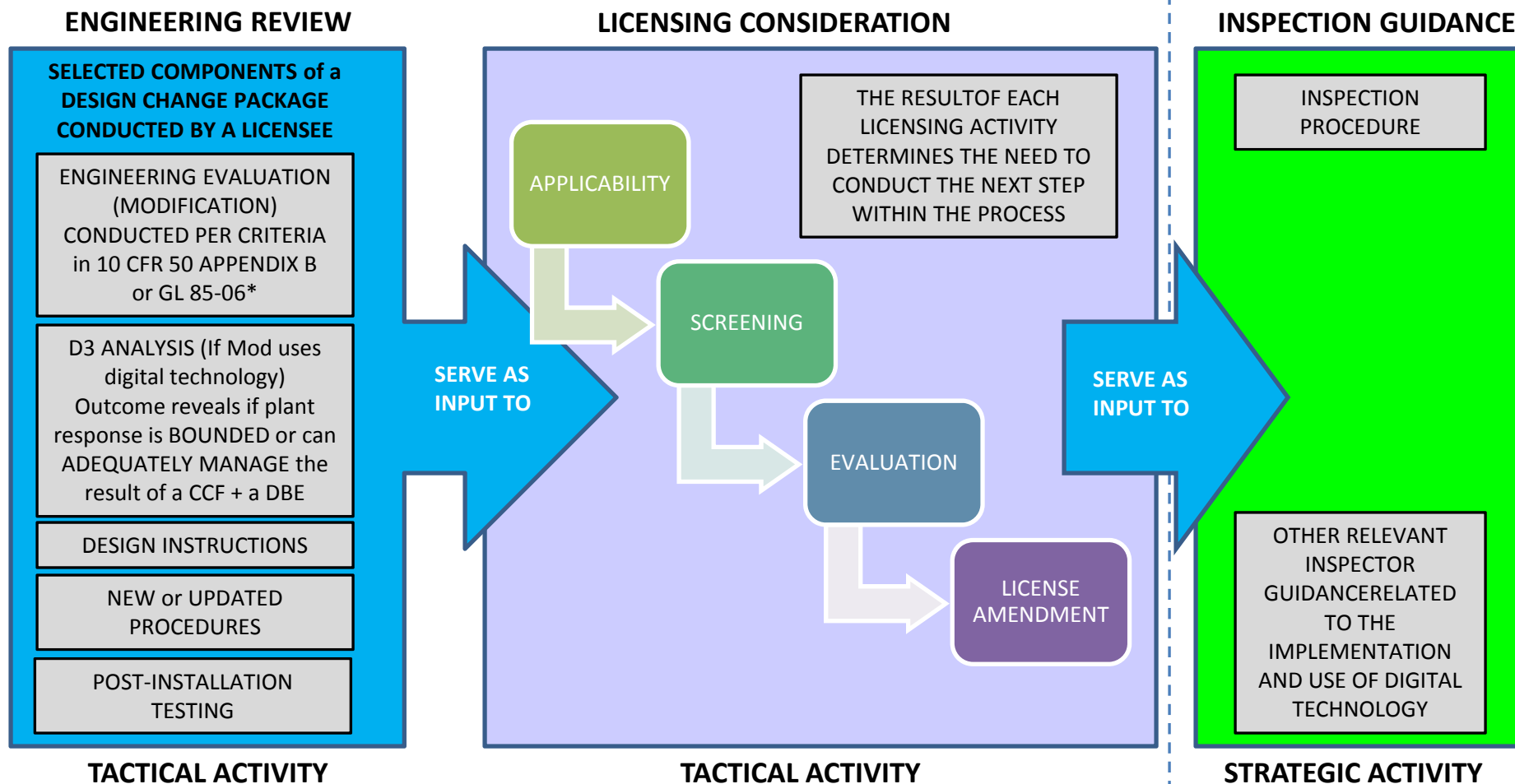
# Schedule MP #1A

A. Guidance to perform and use coping analysis to address CCF	
Discuss NRC approach and definitions with NEI and industry	December 2016
Receive partial draft NEI 16-16	December 2016
Begin Review of Draft NEI-16-16 "Analysis of CCF Malfunction"	January 2017
Review guidance in BTP 7-19 and other guidance for addressing CCF	January 2017
Receive the remaining of NEI 16-16 applicable to coping analysis	March 2017
Develop internal draft ISG for addressing CCF using coping analysis	March 2017
Discuss proposed approach with I&C staff	March 2017
Provide draft and Engage NEI and industry	April 2017
Engage with I&C Steering Committee	May 2017
Issue draft ISG for public comment and address public comments	June 2017
Present to ACRS	June 2017
Issue guidance for using draft guidance	July 2017

# Process Within ISG

DELIVER by JULY 2017

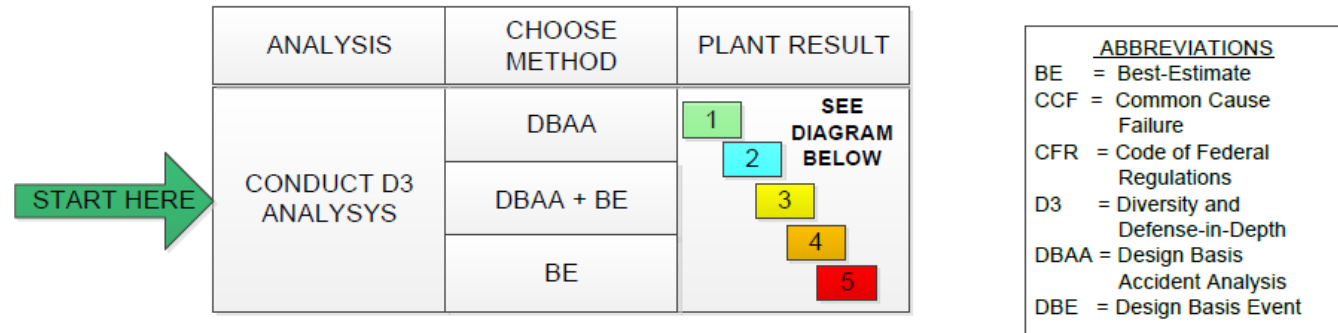
DECEMBER 2017



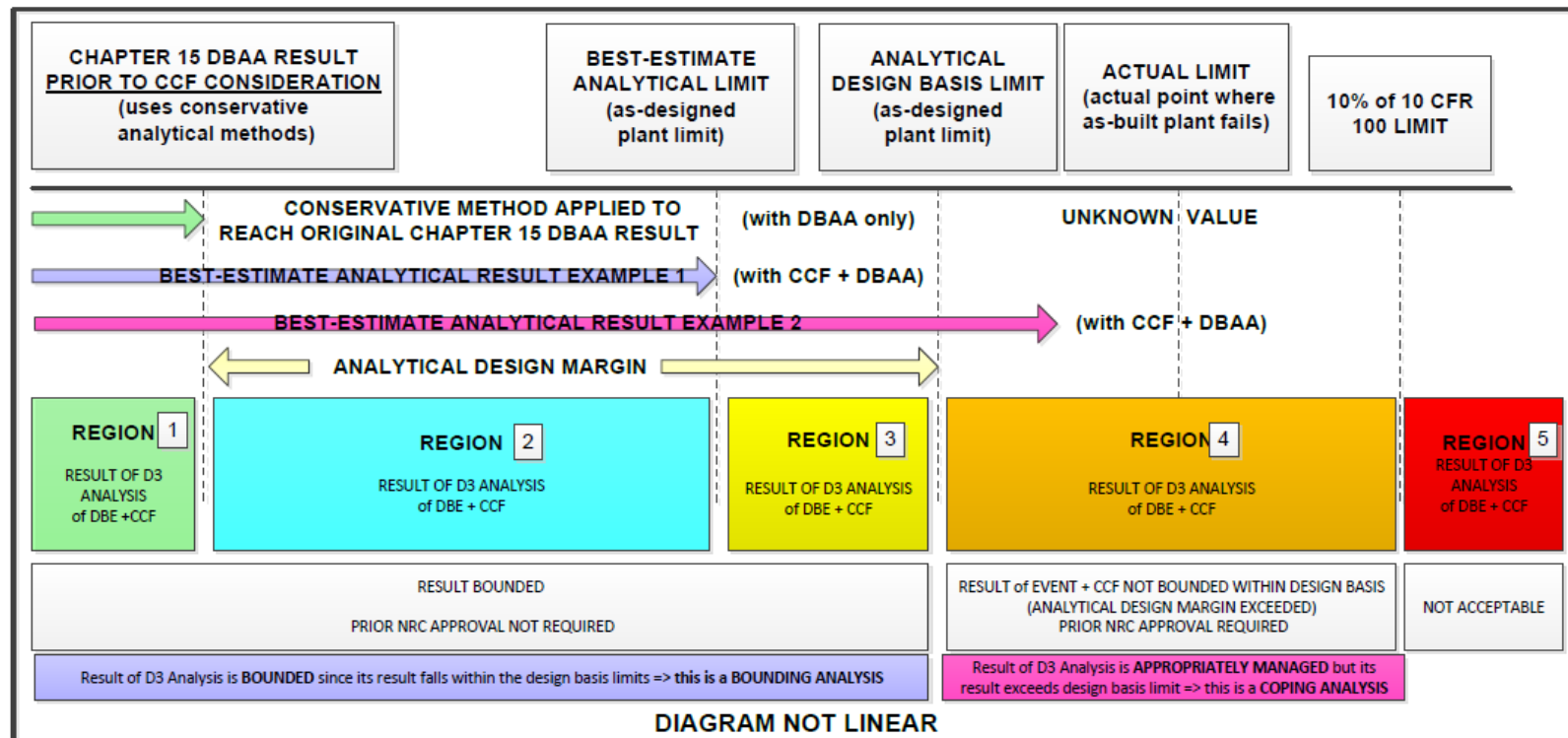
\*Generic Letter 85-06 - Quality Assurance Guidance for ATWS Equipment That Is Not Safety-Related

# D3 Analysis and its Results

## D3 ANALYSIS, METHODOLOGY, RESULT AND PLANT IMPACT DIAGRAM



## RESULT OF D3 ANALYSIS BROKEN DOWN INTO FIVE REGIONS



## MP #1B

# Review of NEI 16-16

- Process the evaluation similar to a topical report evaluation.
- Evaluate NEI's proposed technical basis for assessing the qualitative likelihood of common cause failures in DI&C systems.
- Evaluate the technical basis for industry's proposal to use defensive measures, as described in NEI 16-16.



# MP #1C

## Evaluation of Current NRC Policy

- Staff will evaluate the need to modify NRC's current position on protection of DI&C systems and components against CCF.
- Evaluation will include:
  - Review and clarification of the scope of systems intended to be addressed under the staff's position.
  - Examination of the technical acceptability for using a graded approach based on risk or safety significance.



# Proposed Schedule

## MP #1B

B. Evaluation of NEI 16-16 with respect to guidance to address “credible” common cause failures via use of defensive measures.	
Begin staff evaluation of the partial draft of NEI 16-16 received 12/22/2016 and develop staff comments/gap analysis	December 2016
Meet with NEI and industry 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
NEI to deliver the remaining portions of NEI 16-16, including technical basis, examples, and Appendices	<b>Assumed March 31, 2017</b>
Meet with NEI and industry to discuss methodology and technical basis. Identify potential impacts to NRC Commission policy or staff positions	As-needed March – July 2017
Complete staff review of NEI 16-16, and make determination as to its scope of endorsement	August 2017
Periodically update I&C staff members of observations and conclusions	April - July 2017
Develop a draft staff evaluation of NEI 16-16	September 2017
Engage with NEI, Industry, I&C Steering Committee	As-needed
Issue NRC Management’s letter of intent to endorse acceptable portions of NEI 16-16 pending resolution of open items	September 2017
Present to ACRS	October – November 2017
Initiate development document to communicate staff decision on endorsement, partial endorsement, or rejection of NEI 16-16	January 2018



# Proposed Schedule

## MP #1C

C. Evaluate the need to modify NRC's current position on defense against CCF in DI&C systems and components	
Begin staff review to identify specific aspects of NRC's position on CCF and communicate any issues that need to be modified; Meet with DI&C Steering Committee and other stakeholders as needed	March-July 2017
Finalize list of specific aspects of NRC's position on CCF that are impacted by the industry's approach as proposed in NEI 16-16	August 2017
Engage NEI, industry stakeholders, DI&C Steering Committee	September 2017
Decide on need to affirm or modify NRC's position on defense against CCF in DI&C systems and components	October 2017
Produce technical basis document to support affirmation or modification of NRC's position	TBD
Engage outside peer reviewer to assess staff's findings	TBD
Solicit and disposition public comments	TBD
Present to ACRS	TBD
Submit SECY paper (with technical basis document) identifying proposed action to modify or affirm existing position to the Commission	TBD
Implement resolution as determined by the Commission	TBD
Revise BTP 7-19 as needed for consistency with Commission decision	TBD



Questions?