

NEI 16-16 [Draft 2]

NRC Staff Comments

The staff has reviewed Nuclear Energy Institute (NEI) 16-16 “Guidance for Addressing Digital Common Cause Failure [Draft 2]” [Agencywide Document Access and Management System (ADAMS) Accession Number [ML17135A253](#)] which was submitted on May 12, 2017. The enclosed comments are provided solely on the contents of the as-written document.

Before engaging and moving forward on resolving the attached comments, however, the staff requests resolution of the following:

1. The NRC needs to understand the relationship between NEI 96-07, Appendix D and NEI 16-16. For example
 - NEI 96-07, Appendix D uses terms such as CCF credible but not attributable and CCF credible and attributable, but negligible in the Evaluation Section Guidance. These terms are not considered, nor defined, in NEI 16-16 even though Appendix D states in Section 1.1 that NEI 16-16 can be used as a technical guidance for Appendix D. NEI 16-16 only provides guidance to evaluate the likelihood of a credible CCF based on applying defensive measures, and thus determine if a CCF likelihood is significantly reduced, and whether it is design-basis or beyond design-basis.
 - NEI 96-07, Appendix D provides guidance to use qualitative assessments to reduce the likelihood of the CCF. However, NEI 16-16 does not consider qualitative assessments in its discussion to address credible CCF, reducing its likelihood. Thus, NEI 16-16 does not provide guidance to use qualitative assessment.

2. Will guidance and terminology in RIS 2017-XX, “Clarification of the Staff Endorsement of the Use of EPRI/NEI Joint Task Force Report, ‘Guideline on Licensing Digital Upgrades: EPRI TR-102348, Revision 1, NEI 01-01: A Revision of EPRI TR-102348 to Reflect Changes to the 10 CFR 50.59 Rule’” be incorporated into NEI 16-16? If so, what is the process and timing for incorporation?

The staff recommends a public meeting to better understand the relationship between NEI 96-07, Appendix D and NEI 16-16. After clarity has been reached on the relationship between the two documents, the attached comments also need to be addressed.

Comments from NEI 16-16 [Draft 1] and additional comments identified during the staff’s review of Draft 2 have been merged and are presented in the table below.

These comments are being provided for the purpose of early engagement on identified concerns and to support future meetings on the linkage and similar terminology between NEI 16-16 and 96-07, Appendix D and meetings to resolve NEI 16-16 specific comments.

No.	Text Section	NRC Comments	Proposed Action (i.e., addition, deletion or modification)
1.	General	This guidance proposes using the results from the coping analysis in a comparison to analyses described in the FSAR.	NRC and NEI should continue discussions to determine if results from an FSAR can be compared to results obtained using best estimate methods during upcoming interactions.
2.	General	At what level (at the system level or at the plant level) can results be evaluated and compared to analysis in the FSAR?	NRC and NEI should discuss and resolve this difference during upcoming interactions.
3.	General	Follow-up to comments 3 and 4 from Draft 1. What methodology or deterministic criteria are used for determining the likelihood that a CCF can occur?	Clarify how the qualitative assessments proposed in the document can address deterministic licensing criteria.
4.	General	During NRC-NEI public meetings, NEI representatives have stated that some defensive measures in NEI 16-16 have previously been endorsed by the NRC. No citations to NRC endorsed guidance was found in the document. Citations would facilitate and expedite review of NEI 16-16.	To facilitate this review: <ol style="list-style-type: none"> 1. If any measures have already been endorsed, please cite the endorsed guidance. 2. Please do not rephrase or change endorsed content if it is included in this document.
5.	General	The document claims that preventive measures, when applied as a set, provide reasonable assurance that a CCF from a specific I&C failure source is not credible. What is the technical basis for this claim? Appendix A provides preventive measures for various sources of common cause	Justify why the defensive measures proposed in Appendix A eliminate CCF concerns (i.e., lead to “CCF not credible”) from further consideration.

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		failures but does not provide the technical basis that leads one to conclude that a CCF is “not credible.”	
6.	1.1	<p>Comment 1 from Draft 1. The staff did not locate content in Draft 2 that resolves this comment.</p> <p>This section, as well as elsewhere in the document, considers the occurrence of CCF, which does not fully align with the NRC definition and interpretation of CCF. During the December 2016 meeting NEI and NRC, staff identified the differences on definition of CCF. The meeting summary report summarizes this as: “The NRC staff uses the term to identify an error in software regardless of the consequences of that error. NEI uses the term to identify an error in software that has been triggered to affect multiple instances of the software, and it then focuses attention on the plant effect rather than on the software error itself.”</p>	NRC and NEI should discuss and resolve this difference during upcoming interactions.
7.	1.1	<p>Comment 2 from Draft 1. The staff did not locate content in Draft 2 that resolves this comment.</p> <p>This section states “there are only two design attributes that may be credited to eliminate the need for further consideration of CCF: diversity within the digital I&C</p>	Since 100% testing and diversity remain viable options for eliminating concerns related to further consideration of CCF, consider mentioning them in the document.

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		system, or “testability’ based on device simplicity.” The staff understands that the guidance in this document seeks to expand the use of design attributes and methods beyond diversity and 100% testing.	
8.	1.1	In section 1.1, NEI states: “This guideline is applicable to facility changes done under 10 CFR 50.59 and facility changes that require a license amendment.” However, this guidance does not indicate how to use the results or provide a cross-reference to the guidance being developed in Appendix D of NEI 96-07.	Clarify the relationship between NEI 16-16 and NEI 96-07, Appendix D.
9.	1.1	This section states that one of the primary barriers in the current regulation is software common cause failure. However, the guidance addresses more than software CCF.	Clarify the scope of applicability for this guidance.
10.	1.1	This section states that “This document provides technical guidance for addressing CCF for compliance to deterministic licensing criteria and NRC policies and positions such as SRM-SECY-93-087 and BTP 7-19.” It is not clear how the guidance provided in this draft is consistent with NRC current position, as described in the SRM-SECY 93-087 and BTP 7-19.	NRC and NEI should discuss and resolve this issue during upcoming interactions.

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11.	1.2 (1)	<p>This item states: “Part 1 determines if a CCF in the target digital equipment is a safety analysis or licensing concern.” Not clear what this means. Please provide clarification.</p> <p>Also, how does this statement relate to the scope defined in the previous paragraph, which states “digital I&C systems or components that can affect a design function described in the FSAR.” Please clarify.</p>	Provide clarifications to the statements and question.
12.	1.2 Flowchart	<p>Comment 6 from Draft 1. The staff did not locate content in Draft 2 that resolves this comment.</p> <p>The process and reasoning advocated for determining “Is a CCF Credible?” is not sufficiently articulated.</p> <p>Section 4.2.2.2 states that preventive measures “provide reasonable assurance that a CCF from a specific I&C failure source is not credible” but does not state why they provide that assurance.</p>	<p>NRC and NEI should continue discussions on the question “Is a CCF Credible?” and proposed engineering method to answer the question during upcoming interactions.</p> <p>The staff recommends that the discussion focus on the level of uncertainty remaining in a digital system to a CCF vulnerability and that independent parties can reach the same conclusion after the proposed engineering method is applied.</p>
13.	1.2 Flowchart	<p>Comment 7 from Draft 1. The staff did not locate content in Draft 2 that resolves this comment.</p> <p>During the December 2016 meeting, the staff provided a comment about the</p>	During the February 2017 meeting, NEI clarified that NEI 16-16 considers all type of CCF, not only software, and therefore this question was necessary to address

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		question in Part 2 to determine if CCF is beyond design basis. At the time, the staff understood that this document was intended to only address software CCF due to software errors – which is currently considered beyond design basis in SRM-SECY-93-087.	CCF resulting from single failures or AOOs (design basis). The staff recommends that the document be revised to clarify why the question “Is the CCF Beyond Design Basis” is relevant with examples.
14.	1.2 Flowchart	Comment 8 from Draft 1. The staff did not locate content in Draft 2 that resolves this comment. Expansion of the process diagram or an additional diagram that specifically outlines how technical results of the CCF analysis support specific sections of the Draft Appendix D to NEI 96-07, with respect to CCF issues, would be helpful. The staff needs this information to determine if endorsement or partial endorsement of the guidance as an acceptable methodology to address CCF concerns for use in Appendix D is possible.	NRC and NEI should discuss and resolve this issue during upcoming interactions.
15.	2	Comment 9 from Draft 1. The staff did not locate content in Draft 2 that resolves this comment. The definitions provided in these sections read more like descriptions and approaches rather than formal definitions of the terms. Some definitions are not consistent with how the terms have been used in regulations and regulatory guidance.	Recommend that formal definitions, similar to those recommended by the staff for use with NEI 96-07 Appendix D, be used.

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		Endorsement or partial endorsement would be facilitated if the terms are defined consistently with other regulatory guidance documents or that the terms are consistently used in this document and in any documents that may later refer to it.	
16.	2.1	<p>Comment 10 from Draft 1. The staff did not locate content in Draft 2 that resolves this comment.</p> <p>The definition for best estimate method in this section implies that relaxed criteria can be used for this method. Rather, best estimate methods use the same acceptance criteria, but apply realistic plant conditions and parameters.</p>	The staff recommends clarification of the definition.
17.	2.4	<p>Comment 11 from Draft 1. The staff did not locate content in Draft 2 that resolves this comment.</p> <p>The definition for “CCF Beyond Design Basis” is not clear.</p> <p>The text provided comes across as a description, not a definition and is not consistent with SRM-SECY-93-087.</p>	Clarify that the method proposed in NEI 16-16 refers to all types of CCFs, not only to the CCFs covered in SRM-SECY-93-087.
18.	2.5	The relationship of the terminology used in NEI 16-16 to terminology used in NEI 96-07 is not clear. For example, the use of the terms credible and not credible in NEI 16-16 are not consistent with NEI 96-07, Appendix D. The word “bounding” also seems to be inconsistent. Staff reviewing NEI 96-07, Appendix D have also asked about how the	Clarify relationship between the terminology used in NEI 96-07, Appendix D to the terminology in NEI 16-16. Where appropriate, ensure alignment of the terms used in both documents.

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		words “negligible” and “attributable” (which are used in Appendix D) relate to content in NEI 16-16 (which does not use these words).	
19.	2.5	The definition provided for “CCF Not Credible” is based on the likelihood of a CCF. This is confusing because the guidance provided requires determination of a credible CCF and how likely the CCF is.	<p>The staff recommends defining what a “Credible CCF” is instead of defining what “CCF not credible” means.</p> <p>NRC and NEI should continue discussions to address CCF credibility and its likelihood.</p> <p>Discussions should include “the proposed graded approach to eliminating the need for further consideration of CCF in safety support systems (such as chillers as have been presented by NEI)” as mentioned in comment 12 on Draft 1.</p>
20.	2.8	<p>Comment 13 from Draft 1. The staff did not locate content in Draft 2 that resolves this comment.</p> <p>It is not clear why this guidance needs to define the role of the Digital Engineer.</p>	Consider eliminating the definition of “Digital Engineer.”
21.	2.12	Since Section 2.12 defines “mitigating system,” consider defining “event initiator.”	Include a definition for event initiator.
22.	3.1	Comment 15 from Draft 1. The staff did not locate content in Draft 2 that resolves this comment.	The staff recommends that NEI use the exact text from SRM-SECY-93-087 where applicable.

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		This section paraphrases the information in SRM-SECY-93-087 which may lead to confusion.	
23.	3.3, 4.2.2.3	Comment 20 from Draft 1 (originally in section 4.1.2.2.2). The staff did not locate content in Draft 2 that resolves this comment. What is a “preferred malfunction state?”	Suggest define “preferred malfunction state” or rewording the sentences using this term. Perhaps something like “preferred state when a malfunction occurs.
24.	3.4	Comment 18 from Draft 1. The staff did not locate content in Draft 2 that resolves this comment. It appears that this draft guidance is treating 3 possible conditions: (1) “CCF is not credible;” (2) CCF is credible but beyond design basis; or (3) CCF is credible and is within design basis. Review of the document would be aided by specific examples of digital modifications that could fall with the three categories proposed in the document. The staff’s review will be aided by a practical understanding on the implications and use of this methodology.	NRC and NEI should continue discussing the appropriate characterization of CCF in terms of credibility, design basis, and beyond design basis during upcoming interactions
25.	3.4	The description provided in this section does not explain how a credible CCF affects the plant’s licensing basis and design basis. It describes the use of preventive measures	Clarify this statement: “a credible CCF is within the plant licensing basis.”

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		to determine if a CCF is credible, and then the method to perform a coping analysis.	
26.	3.4	The description from the second paragraph to the end seems to belong to Part 2 in Figure 1. This section, however, does not describe how a CCF can affect the plant's licensing basis and design basis.	Add content that describes how a CCF can affect the plant's licensing basis and design basis.
27.	4.0	This statement: "The design engineer should document the completed CCF technical evaluation, and preserve the document as a quality record," tells the design engineer what to do with the results of the evaluation. However, this document does not describe how to use the result of this evaluation when performing changes under 10 CFR 50.59 or license amendments.	Clarify how the results of the evaluation will be used.
28.	4.1	This section lists three criteria. However, it is not clear what that criteria is referring to. It seems that this is to determine if the digital system is an event initiator or credited for event mitigation.	Please clarify what the three criteria in this section are referring to.
29.	4.1	Comment 17 from Draft 1 (content was in Section 3.3 of Draft 1). The staff did not locate content in Draft 2 that resolves this comment. Examples of support systems that result in a "YES" to the question "is the digital equipment an initiator, or credited for	Consider adding examples that result in a NO answer. Examples would clarify what types of systems result in a "NO" answer.

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		event mitigation?" in the flowchart, Part 1 are provided in this section. The staff finds that these examples are useful for clarifying which types of systems result in a "YES" answer.	
30.	4.2	This section mostly focuses on using preventive measures, but it does not clearly articulate how the susceptibility analysis is performed. Before using preventive measures, the design engineer should assess the hazards, vulnerabilities or susceptibilities.	Provide more information in this section on how to perform and implement the susceptibility analysis.
31.	4.2	Comment 23 from Draft 1. The staff did not locate content in Draft 2 that resolves this comment. This section does not describe how to perform an analysis of the CCF malfunction.	The staff recommends adding a description on what constitutes an analysis of the CCF malfunction, methods, and acceptance criteria.
32.	4.2	This section states: "Note that the CCF susceptibility analysis can make use of a wide range of potentially applicable preventive or limiting measures provided in Appendix A" but does not elaborate on how preventive or limiting measures can be used nor what they can accomplish.	Explain/describe how the use of preventive or limiting measures can be used and what they can accomplish (in terms of eliminating CCF from further consideration).
33.	4.2.1	This section is labeled as an overview but is fairly detailed. This section provides a detailed description of the CCF	Consider moving specific details to the subsections in which these details are addressed? For example, any description related to the use of preventive

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		susceptibility analysis, including steps that are performed later in the process.	measures should be part of Section 4.2.2.2
34.	4.2.1	<p>Comment 19 from Draft 1 (content was in Section 4.1.1 of Draft 1). The staff did not locate content in Draft 2 that resolves this comment</p> <p>This section states that the digital engineer confirms the applicability of <u>at least one</u> P measure, L measure, or LR measure from Appendix A. If an alternate P, L, or LR measure is credited, the digital engineer is responsible for providing documented justification for each alternate measure. The section, in part, later states that a CCF that is not credible requires no further assessment.</p>	The technical basis provided should be strengthened by additional information that includes design rationale, analyses, data, or operational experience to justify a “credibility” determination.
35.	4.2.1	This section should require that any preventive, limiting or likelihood reduction measure, described or not in the Appendices, used should be documented in the CCF susceptibility analysis.	Require that any preventive, limiting or likelihood reduction measure, described or not in the Appendices, used should be documented in the CCF susceptibility analysis.
36.	4.2.1	This section does not provide guidance to determine if a CCF is credible or not.	NRC and NEI should discuss the use of these terms.
37.	4.2.1	This section does not describe what the design operator should do if the result of that malfunction is similar to the system level or component level malfunction results included in a previous deterministic	Describe what one should do if the malfunction result is similar to the one described.

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		analysis. The guidance only addresses what to do if they are different.	
38.	4.2.1	This section states: "If the FSAR identifies a malfunction result at the plant system level, with or without a description of component level malfunctions that can lead to this plant system level malfunction result, only the plant system level malfunction result is pertinent to the CCF malfunction assessment."	NRC and NEI should discuss at what level the malfunction result can be evaluated and compared with existing results (at the plant or system level).
39.	4.2.1	This section states: "the design engineer assesses the likelihood of the CCF based on available likelihood reduction measures to determine the appropriate method and acceptance criteria for the analysis of the plant-level CCF malfunction result." This guidance does not describe how to assess the CCF likelihood using the likelihood reduction measures.	Provide guidance to describe how to assess the CCF likelihood using the likelihood reduction measures.
40.	4.2.1	This section states: "The plant-level analysis uses analytical methods and related acceptance criteria commensurate with the CCF likelihood." However, it is not clear how the CCF likelihood can be used to perform plant-level analysis.	Explain how to use CCF likelihood to perform a plant-level analysis and the acceptance criteria.
41.	4.2.2	For consistency, use the same text in Figure 1 for this section title.	This section title should be consistent with the terminology used in Figure 1.
42.	4.2.2	Are the CCF sources listed in Appendix A the only potential CCF sources?	Clarify that Appendix A describes potential CCF sources, but that there

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			could be others not described in the Appendix.
43.	4.2.2	If this section is describing the sources, why does it include determination of CCF credibility and likelihood? These determinations seem to belong in other sections to be consistent with Figure 1.	Edit Figure 1 or the content in this section to ensure consistency within the document.
44.	4.2.2.1	This section states that fire, smoke, and operations or maintenance human errors are also sources of CCF but that they are addressed in other industry guidance and that the defensive measures on fire, smoke, and human error are included for interested users. No note to reflect this is placed in Appendix A (Sections A.2.5 and A.4).	Remove the defensive measures in sections A.2.5 and A.4 and reference the appropriate guidance.
45.	4.2.2.1	This section states: "If a proposed I&C system or component design has a failure source that is not on the list provided above, it should be identified and addressed using this guide." It is unclear how this guide should be used for a failure source not on the list in this section.	Please provide a reference to a section in the guidance that explains how it should be addressed.
46.	4.2.2.4	This section seems to cover two different subjects: likelihood reduction and determination of analysis.	Recommend dividing this section in two: (1) likelihood reduction and (2) determination of analysis.
47.	4.2.2.4	What is the justification or basis for this text: "A likelihood reduction measure	Provide justification or technical basis for the statement. Why does a likelihood reduction method allow this?

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		allows a credible CCF to be considered beyond design basis.”	
48.	4.2.2.4	This section should refer to other sections in the guidance if likelihood reductions cannot be used.	Provide appropriate references to other sections.
49.	4.2.2.4	<p>Comment 21 from Draft 1 (content was in Section 4.1.2.2.3 of Draft 1). The staff did not locate content in Draft 2 that resolves this comment</p> <p>The document partially describes the use of “Conservative Methods” and “Best Estimate Methods.” The staff’s review would be facilitated by incorporating and referencing NRC guidance on acceptable implementation of these methods.</p>	<p>The staff recommends that NEI incorporate or reference NRC guidance on acceptable implementation of conservative and best estimate methods. Otherwise, provide justification for using alternate methods.</p>
50.	4.2.2.5 and 4.2.2.6	<p>This comment is a follow up to comment 22 from Draft 1 (content was in Section 4.1.2.2.4 of Draft 1) which stated that the staff is willing to consider the use of risk insights in this document or future revisions.</p> <p>The purpose and key takeaways of sections 4.2.2.5 and 4.2.2.6 are not clear. Do some defensive measures apply only to non-safety equipment?</p>	<p>NRC and NEI should discuss this comment during upcoming interactions to increase understanding on the purpose and key takeaways of these two sections.</p>
51.	A.1.8 Table A-21, L1	<p>The description of L1 needs to be modified for clarity. The controller should place an SSC into an “acceptable state” when</p>	<p>Change the terms “acceptable state” and “unacceptable state” to something else. Clarify that the 2 out of 2 logic is used to</p>

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		conditions require it. It should not place an SSC into an “unacceptable state.”	ensure certain outputs are really desired and not erroneous commands.
52.	A.2	Safety systems are required to be qualified.	Change the “may” in the following sentence: “Safety systems trains are designed with physical separation and <u>may</u> use qualified equipment for...”
53.	A.2	This sentence is not clear: “Non-safety systems are physically separated or tested to comparable levels if the measures described below are applied.”	Clarify the meaning of the sentence.
54.	A.2	<p>“In that regard, the likelihood of the digital I&C failure begins with determining the likelihood of failure of the systems and equipment that result in the environmental challenge.”</p> <p>This sentence states that the cause of the failure starts in another system/component. Why does this section not refer to the sections in which defensive measures for the cause can be applied?</p>	Refer to other sections that address CCF in source components, such as hardware failures.
55.	A.2	This sentence is not clear: “...challenges listed above, consideration is given to the likelihood of the challenge itself.”	What type of considerations are being referenced here? Please clarify.
56.	A.2.1	This section only considers the effect of high temperature. Equipment must be qualified for both high and low temperature since either one can impede correct operation of the system.	Include the effect and design attributes to address low temperature.

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57.	A.2.1	This section should reference to defensive measures that can be used to address possible failures of the HVAC.	Add reference to other sections.
58.	A.2.1	It is not clear to what this sentence is referring to. "Single point vulnerabilities would preclude the conclusion..."	Clarify to what the single point vulnerabilities are referring to.
59.	A.2.1	This sentence is not clear: "If multiple trains of HVAC are not independent or separated, then it may not be appropriate to consider loss of HVAC at likelihood Level 2, <u>but only for events</u> which could result in loss of all trains caused by the lack of independence or separation."	Clarify why for certain events the loss of HVAC can be considered.
60.	A.2.1.1	Should the measures from Table A-23 be applied to the SSC (e.g., controller), not the source (e.g., HVAC)?	Clarify that the measures from Table A-23 should be applied to the SSC (e.g., controller), not the source (e.g., HVAC).
61.	Table A-23, P2	This P2 should reference to design attributes that could address the CCF affecting the HVAC.	Add references to other sections.
62.	A.2.2	This section does not include RFI.	Include RI and design attributes that can be used to address CC due to RFI effects.
63.	A.2.2	This section does not describe the possible sources of EMI. Section A.2.1 describes the possible sources of temperature/humidity changes.	Include examples of possible sources of EMI/RFI.
64.	Table A-25, P2	If this measure proposes a barrier, the applicant should demonstrate that the barrier actually works.	Add requirement to confirm that the barrier works.
65.	Table A-25, P2	This measure can work for Type 1 design if a barrier is used to separate the controller from the source.	Consider proposing this measure for Type 1 design.

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66.	Table A-26, L1	This measure requires a coping analysis to determine acceptability. However, this Appendix does not explain how and what type of analysis should be performed (e.g., best estimate method). Also, it does not identify the acceptance criteria for the coping analysis.	Provide more information about the coping analysis.
67.	A.2.3.1	The first paragraph recommends consulting with safety analysis and PRA personnel, but it is not clear what to do after their input is provided, and also how this could be used for addressing CCF.	Provide additional guidance on how the input requested can be used to address CCF.
68.	A.2.3.1	This section makes a distinction on the evaluation of OBE and SSE for safety and non-safety systems. It is not clear why this distinction is made.	Provide clarification regarding why this distinction is made.
69.	Table A-27	An additional preventive measure is to install or use brackets or reinforced support.	Consider the proposed measure.
70.	A.2.2.3	<p>The text in this section changed from other similar sections. Specifically this section now includes "...or if one is only partially implemented..."</p> <p>This comment applies to all sections in which limiting measures are introduced.</p>	Explain why this modification was made to this section, and all subsequent sections in which limiting measures are described.
71.	Table A-29	P1 and P3 seem similar.	Clarify if P3 meant to say that equipment should be separated (in Type 2 design).
72.	Table A-29, P3	The following sentence is not clear: "Therefore, control a single SSC from each controller."	Clarify this sentence.

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73.	Table A-30, L1	Not clear what is the difference between P1 and L1. If P1 could not be used, then L1 can't be used either.	Explain the difference between P1 and L1.
74.	Table A-30	An additional limiting measure: installing a radiation monitor to force controllers to a safe shutdown.	Consider proposed L measure.
75.	Table A-31, P1	This P measure could include demonstration of equipment operation when smoke is present in the area.	Consider suggestion proposed.
76.	Table A-32	The difference between P2 and L1 is not clear.	Explain the difference between P2 and L1.
77.	Table A-32, L1	This measure requires a coping analysis to determine acceptability. However, this Appendix does not explain how and what type of analysis should be performed (e.g., best estimate method). Also, it does not identify the acceptance criteria for the coping analysis.	Provide more information about the coping analysis.
78.	Table A-32, L2	Could this L measure include monitoring smoke to shutdown the controller to a predetermined state?	Include monitoring smoke to shutdown the controller to a predetermined state in this L measure.
79.	A.2.6	This section talks about the use of PRA to determine I&C systems that could be affected by environmental challenges. During the March 2017's meeting, the staff NEI to provide more information regarding the use of PRA.	Provide more information about PRA.
80.	A.2.6.1	This section requires the use of coping analysis to assess the resulting states of the affected SSCs. However, this Appendix does not explain how and what type of analysis	Provide more information about the coping analysis.

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		should be performed (e.g., best estimate method). Also, it does not identify the acceptance criteria for the coping analysis.	
81.	A.2.6.2	Most of the text in this section is related to the use of PRA.	Consider combining this information with the information included in A.2.6.
82.	Table A-28	What does CPE stand for? CPE was not defined anywhere in the document. Is a CPE intended to have a different meaning than an SSC?	Define CPE.
83.	Appendix D	When will Appendix D be provided for review?	Provide estimate of when Appendix D will be provided to NRC for review.