

RESOLUTIONS OF NRC COMMENTS ON APPENDIX D, SECTION 3

COMMENT NUMBER	SECTION NUMBER		COMMENT SUMMARY	RESOLUTION
	CURRENT	NEW (to align with NEI 96-07)		
1	General	N/A	Appendix D section numbers should align with NEI 96-07 section numbers.	Incorporated.
2	3.1	4.2	Do not include guidance in the Introduction.	Incorporated. Guidance was removed from the Introduction section and moved to the Screen section.
3	3.1	4.2.1	Guidance conflicts with other NRC positions.	Incorporated. The phrase "or technical" was removed.
4	3.1	N/A	Remove or provide supporting guidance for "fundamental change."	Incorporated. All references to a "fundamental change" have been removed.
5	Examples 3-1 & 3-2	N/A	Remove or provide supporting guidance for "fundamental change."	Incorporated. Examples 3-1 and 3-2 have been removed (effectively removing the references to a "fundamental change").
6	3.2.1.2	4.2.1.1	Within the "SSC Characteristics" aspect, the discussion is limited to one characteristic. More characteristics apply (e.g., redundancy, etc).	Incorporated. Aspect title changed to "Use of Software and Digital Devices." Suggested NRC wording included (with grammatical changes).
7	3.2.1.2	4.2.1.1	Within the "SSC Characteristics" aspect, the discussion is limited to one characteristic. More characteristics apply (e.g., environmental, seismic, etc).	<p><u>Portions Incorporated</u></p> <ol style="list-style-type: none"> "Diversity" is currently included in the list of <i>characteristics</i> (now <i>features</i>). "Defense-in-depth" has been added to the list of SSC features to be examined. In the Proposed Correction, the NRC's suggestion to identify adverse as also including the items listed in NEI 96-07, Section 4.3.2, Example 6 has been added (with grammatical changes). <p><u>Portions NOT Incorporated</u></p> <ol style="list-style-type: none"> In the Comment, the NRC's recommendation to add more

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				<p>characteristics (e.g., Equipment Qualification), although a valid consideration, is not unique to digital. The purpose of Appendix D is to address/apply ONLY those generic items from NEI 96-07 that are unique to digital modifications.</p> <p>2. In the Proposed Correction, the NRC's suggestion to address effects "by" and "on" the environment, although valid, are not unique to digital modifications. The purpose of Appendix D is to address/apply ONLY those generic items from NEI 96-07 that are unique to digital modifications.</p>
8	3.1	N/A	Unsupported HSI guidance.	Incorporated. The discussion has been removed.
9	3.2.1.1	4.2.1.1	"Indirect effects" excluded; change "facility as described in the FSAR (as updated)" to "facility" to ensure consideration of "indirect effects."	<p><u>Portion Incorporated</u></p> <p>1. The first paragraph (consisting of only one sentence) containing the word "facility" has been removed.</p> <p>2. Use of the word "facility" has been replaced with "SSC" in Examples 4-2b and 4-2c.</p> <p><u>Portion NOT Incorporated</u></p> <p>1. The phrase "facility as described in the FSAR (as updated)" is a definition in NEI 96-07, Section 3.6 and cannot be abbreviated to only "facility."</p> <p>2. The excerpt identified by the NRC is taken out of context. Additional related discussion and guidance in NEI 96-07 also applies, as follows: (i) NEI 96-07, Section 4.2.1.1, 2nd paragraph contains the following additional discussion related to SSCs and/or SSC functions not described in the UFSAR: "...a facility also contains many SSCs not described in the UFSAR. These can be components, subcomponents of larger components or even entire systems. Changes affecting SSCs that are not explicitly described in the UFSAR can have the potential to adversely affect SSC design functions that are described and thus may require a 10 CFR 50.59 evaluation.</p>

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				<p>In such cases, the approach for determining whether a change involves a change to the facility as described in the UFSAR <u>is to consider the larger, UFSAR-described SSC of which the SSC being modified is a part.</u> {emphasis added}</p> <p>(ii) NEI 96-07, Section 4.2.1.1, 3rd paragraph contains the following additional discussion related to SSCs and/or SSC functions not described in the UFSAR: "... a change to nonsafety-related [sic] SSCs not described in the UFSAR can indirectly affect the capability of SSCs to perform their UFSAR-described design function(s)."</p> <p>Using both of these excerpts regarding the need to consider "indirect effects" and the excerpt identified by the NRC, the guidance is clear and does not need to be addressed specifically for digital modifications.</p>
10	3.2.1.1	N/A	Remove "graded approach" wording.	Incorporated.
11	3.2.1.2	4.2.1.1	<p>(a) Text regarding "redundant" systems incomplete.</p> <p>(b) Add guidance for systems that do not have single failure and/or independence requirements.</p>	<p>(a) Incorporated. The discussion referenced by the NRC has been replaced with the text recommended in Comment #6.</p> <p>(b) NOT Incorporated. All of the guidance currently contained in the Screen section is applicable to systems that do not have single failure and/or independence requirements.</p>
12	3.2.1.3	N/A	Remove "variety and/or layers of design" text.	Incorporated. Text removed.
13	Example 3-4	Example 4-2a	"Indirect effects" excluded.	Incorporated. The example has been modified to remove the referenced text and the response has been focused on the impact on design functions.
14	3.2.1.1	N/A	Incomplete list of aspects to be considered.	NOT Incorporated. In the Proposed Correction, the NRC's suggestion to add "Other digital issues..." includes considerations that, although valid, are not unique to digital modifications.

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15	Example 3-5	Example 4-2b	Frequency and likelihood not addressed.	<p><u>Guidance Added</u></p> <p>In the Introduction section, the following guidance has been added: "Initially, all aspects need to be considered, with the knowledge that some of them may be able to be excluded based on the actual scope of the digital modification being reviewed."</p> <p><u>NOT Incorporated</u></p> <p>1. "Frequency" and "likelihood" are not Screen phase criteria for determining the impact of a proposed activity. (The criterion for determining the impact of a proposed activity is the impact on UFSAR-described design functions.)</p> <p>2. The example illustrates the application of the "combination" consideration only. Namely, for the "combination" consideration ONLY, there is no adverse impact. As stated at the beginning of the Screen section, "...a given example only addresses the aspect or topic within the section/sub-section in which it is included, sometimes at the deliberate exclusion of other aspects or topics that, if considered, could potentially change the Screen conclusion." Example 4-1b [which addresses the <i>Use of Software and Digital Devices</i> consideration (formerly titled the <i>SSC Characteristics</i> consideration)] illustrates how this proposed activity would result in an adverse conclusion.</p>
16	Example 3-8	Example 4-3	Change "malfunction" to "accident."	Incorporated. The example was revised to remove the identification of a "malfunction" (or "accident") and to focus on the impact on UFSAR-described design functions.

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17	3.2.1.4	4.2.1.1	The word "design" was inserted into the quote without explanation.	Incorporated. The (inserted) word "design" was removed.
18	3.2.2	4.2.1.2	Replace "involve or include" with "include or affect."	Incorporated. Also, the example was modified to be more specific to eliminate other possible forms of interactions that could affect an operator or other device.
19	3.2.2.1	4.2.1.2	(a) Guidance for bulleted items not included. (b) Bulleted list should be augmented and supplemented with additional considerations and guidance.	(a) Incorporated. The considerations summarized in the bulleted items were relocated to the appropriate sub-section(s). (b) NOT Incorporated. In the Proposed Correction, the NRC's suggestion to add "HFE concerns..." includes considerations that, although valid, are not unique to digital modifications. The purpose of Appendix D is to address/apply ONLY those generic items from NEI 96-07 that are unique to digital modifications.
20	3.2.2.1	4.2.1.2	Clarify text to remove inconsistency.	Incorporated. The suggested phrase "such as those listed above" has been added as appropriate.
21	3.2.2.2	4.2.1.2	Section title is misleading.	Incorporated. Section title changed to "Physical Interface with the Human-System Interface. " { emphasis added } Also, all sub-sections have been modified to add reference to "the Human-System Interface,"
22	3.2.2.2	N/A	"Indirect effects" excluded.	<u>NOT Incorporated</u> The excerpt identified by the NRC is taken out of context. Additional related discussion and guidance in NEI 96-07 also applies, as follows: (i) NEI 96-07, Section 4.2.1.1, 2nd paragraph contains the following additional discussion related to SSCs and/or SSC functions not described in the UFSAR: "...a facility also contains many SSCs not described in the UFSAR. These can be components, subcomponents of larger components or even entire systems. Changes affecting SSCs that are not explicitly

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				<p>described in the UFSAR can have the potential to adversely affect SSC design functions that are described and thus may require a 10 CFR 50.59 evaluation. In such cases, the approach for determining whether a change involves a change to the facility as described in the UFSAR <u>is to consider the larger, UFSAR-described SSC of which the SSC being modified is a part.</u> {emphasis added}</p> <p>(ii) NEI 96-07, Section 4.2.1.1, 3rd paragraph contains the following additional discussion related to SSCs and/or SSC functions not described in the UFSAR: "... a change to nonsafety-related [sic] SSCs not described in the UFSAR can indirectly affect the capability of SSCs to perform their UFSAR-described design function(s)."</p> <p>Using both of these excerpts regarding the need to consider "indirect effects" and the excerpt identified by the NRC, the guidance is clear and does not need to be addressed specifically for digital modifications.</p>
23	Example 3-9	Example 4-5	<p>(a) Change "i.e." to "e.g." to ensure all aspects are considered.</p> <p>(b) The example should further clarify that the additional considerations should also be considered.</p>	<p>(a) Incorporated.</p> <p>(b1) <u>Guidance Added</u> In the Introduction section, the following guidance has been added: "Initially, all aspects need to be considered, with the knowledge that some of them may be able to be excluded based on the actual scope of the digital modification being reviewed."</p> <p>(b2) <u>NOT Incorporated</u> As stated at the beginning of the Screen section, "...a given example only addresses the aspect or topic within the section/sub-section in which it is included, sometimes at the deliberate</p>

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				exclusion of other aspects or topics that, if considered, could potentially change the Screen conclusion."
24	3.2.2.2	N/A	List of items to consider is incomplete in the Information Presentation section.	NOT Incorporated. The NRC suggestion to include the "operator response time" consideration to the list of possible considerations in the "Information Presentation" section is inappropriate due to the subject. However, the consideration is directly discussed in the "Operator Response Time" section.
25	3.2.2.3	4.2.1.2 [(a) only]	<p>(a) Remove "Overall Response Time..." discussion</p> <p>(b) "Indirect effects" excluded.</p>	<p><u>(a) Portion Incorporated</u> The word "overall" has been replaced with the word "operator." The response to the Overall (now <i>Operator</i>) Response Time consideration has been changed to "NOT ADVERSE because no response time requirements are applicable to the design function." {emphasis added} NOTE: This modified justification was agreed to by the NRC as discussed during the meeting on January 11, 2017.</p> <p><u>Portions NOT Incorporated</u> (b) The excerpt identified by the NRC is taken out of context. Additional related discussion and guidance in NEI 96-07 also applies, as follows: (i) NEI 96-07, Section 4.2.1.1, 2nd paragraph contains the following additional discussion related to SSCs and/or SSC functions not described in the UFSAR: "...a facility also contains many SSCs not described in the UFSAR. These can be components, subcomponents of larger components or even entire systems. Changes affecting SSCs that are not explicitly described in the UFSAR can have the potential to adversely affect SSC design functions that are described and thus may require a 10 CFR 50.59 evaluation. In such cases, the approach for determining whether a change involves a change to the facility as described in</p>

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			<p>(c) Add "indirect" considerations (e.g., situational awareness and workload).</p>	<p>the UFSAR <u>is to consider the larger, UFSAR-described SSC of which the SSC being modified is a part.</u> {emphasis added}</p> <p>(ii) NEI 96-07, Section 4.2.1.1, 3rd paragraph contains the following additional discussion related to SSCs and/or SSC functions not described in the UFSAR: "... a change to nonsafety-related [sic] SSCs not described in the UFSAR can indirectly affect the capability of SSCs to perform their UFSAR-described design function(s)."</p> <p>Using both of these excerpts regarding the need to consider "indirect effects" and the excerpt identified by the NRC, the guidance is clear and does not need to be addressed specifically for digital modifications.</p> <p>Finally, the NRC's statement "The absence of a specific statement in the UFSAR regarding response time does not mean a change in response time could not have an adverse impact on a design function," is not correct from a <i>licensing</i> viewpoint (even if the response time increases). If the UFSAR does not describe a response time requirement applicable to a design function, then no adverse impact on that design function is possible from a response time perspective.</p> <p>(c) In the Proposed Correction, the NRC's suggestion to add indirect effects, although valid, are not unique to digital modifications. The purpose of Appendix D is to address/apply ONLY those generic items from NEI 96-07 that are unique to digital modifications.</p>
26	3.2.2	N/A	Categories of items to consider are incomplete.	NOT Incorporated. In the Proposed Correction, the NRC's suggestion to add additional categories (e.g., Situational Awareness and Operator work load) includes considerations that, although valid, are not unique to digital

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