

**Analysis of Public Comments on Draft ISG DANU-ISG-2022-07  
Advanced Reactor Content of Application Project  
“Risk-Informed Inservice Inspection/Inservice Testing Programs for Non-LWRs”**

Comments on the draft interim staff guidance (ISG) are available electronically at <http://www.nrc.gov/reading-rm/adams.html>. From this page, the public can access the Agencywide Documents Access and Management System (ADAMS), which provides text and image files of the U. S. Nuclear Regulatory Commission (NRC) public documents. The following table lists the comments the NRC received on the draft ISG.

<b>Comment Number</b>	<b>ADAMS Accession Number</b>	<b>Commenter Affiliation</b>	<b>Commenter Name</b>
NRC-2022-0080 – DRAFT 0002	ML23167A092	Hybrid Power Technologies LLC	Michael F. Keller
NRC-2022-0080 - DRAFT 0003	ML23194A205	Hybrid Power Technologies LLC	Michael F. Keller
NRC-2022-0080 - DRAFT 0004	ML23205A052	POMO 18 Consult LLC	A. Thomas Roberts III
NRC-2022-0075 – DRAFT 0004	ML23234A052	X-energy, LLC	Travis Chapman
NRC-2022-0074 – DRAFT 0006	ML23234A039	Nuclear Energy Institute	Ben Holtzman

<b>Comment Identifier</b>	<b>Topic</b>	<b>Section of Document</b>	<b>Specific Comments</b>	<b>NRC Staff Response</b>
NRC-2022-0080 – DRAFT 0002-1	Regulations.gov Site	Not Applicable	Include in regulations.gov, as downloadable files, all documents for which public comments are being solicited	<p>The NRC staff responded to the request as documented in ML23174A004. The staff response states in part:</p> <p>“...the regulations.gov website identifies the documents (the Advanced Reactor Content of Application Project (ARCAP) interim staff guidance (ISGs) and the Technology-Inclusive Content of Application Project (TICAP) Draft Guide (DG)) for which the NRC staff is seeking public comment. While the Federal Register notices for the ARCAP ISGs reference NRC-issued, approved, or endorsed documents, the NRC staff is only requesting comment on the ARCAP ISG’s proposed use of the referenced documents, and not the referenced documents themselves. As such, the NRC staff will not be providing</p>

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				documents referenced in the ARCAP ISGs on regulations.gov as this could imply that the NRC staff is seeking comments on these documents.”
NRC-2022-0080 – DRAFT 0002-1	Extension of Comment Period	Not Applicable	Alter the Federal Register notices to establish a reasonable, staggered schedule for document review and comment by the public.	The NRC staff responded to the request as documented in ML23174A004. As a result of this request and request from the Nuclear Energy Institute (ML23171B098) the NRC staff extended the comment period for nine interim staff guidance documents and DG-1404, revision 0, from July 10, 2023, to August 10, 2023.
NRC-2022-0080 DRAFT-0003-1a (Cover letter)	Application of Industry Codes and Standards	General	Staff guidance should identify the applicable industry codes and standards while stating that the staff review shall be limited to the applicant’s conformance with the industry codes and standards. Why does NRC have to endorse industry codes and standards?	<p>The NRC staff disagrees with the comment.</p> <p>NRC guidance does identify applicable NRC endorsed industry codes and standards. For example, see page 8 of the ISG which references ASME BPV Code, Section XI, Division 2. NRC endorsement of codes/standards, which can include specific conditions, is necessary as a way to acknowledge agreement with and, if necessary, modify the code/standard to resolve specific issues not adequately addressed in the code/standard. The NRC review is not limited to conformance with codes and standards because there may be topics outside the scope of the code/standard that are relevant to safety.</p> <p>This comment also relates to comment NRC-2022-0074 DRAFT 0005-CL-1 associated</p>

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				<p>with DANU-ISG-2022-01, “Review of Risk-Informed, Technology-Inclusive Advanced Reactor Applications-Roadmap,” (see ML23277A148).</p> <p>The response to the comment in DANU-ISG-2022-01, provides the reasons for why the NRC endorses codes and standards and notes among other things that “NRC review is required in both the current process of reviews performed at the request of standards development organizations and the proposed case-by-case reviews to determine if changes or limitations on the use of a standard is needed to ensure compliance with regulations, or to be technically correct.”</p> <p>No change has been made to the ISG.</p>
NRC-2022-0080 DRAFT - 0003-1	Future versions of ASME codes	Pg 3 – Guidance 1 <sup>st</sup> paragraph	Proposed revision of 1 <sup>st</sup> sentence to reference applicable ASME codes, list applicable topic areas and delete reference to future versions of ASME OM-2.	<p>The NRC staff agrees that listing up front the applicable ASME codes would highlight the prominent role of the codes in the ISG.</p> <p>The first paragraph on page 3 of the ISG has been modified as follows to list ASME Code used in the ISG.</p> <p>“Specifically, the following method, as supplemented by this ISG, is acceptable for this purpose:</p> <ul style="list-style-type: none"> <li>• American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code (BPV Code), Section XI, Division 2,</li> </ul>

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				<p style="color: red;">“Requirements for Reliability and Integrity Management (RIM) Programs for Nuclear Power Plants,” for risk-informed ISI programs.</p>
<p>NRC-2022-0080 DRAFT-0003-2</p>	<p>ISI purpose statement</p>	<p>Pg 3 – Guidance 4<sup>th</sup> paragraph</p>	<p>Delete paragraph and replace with “The purpose of ISI program is to maintain the operation of nuclear power plants and return the plants to service following plant outages. The ISI program provides evidence to adequately manage deterioration and aging effects.” This sentence comes from the ASME code.</p>	<p>The NRC staff partially disagrees with the comment.</p> <p>The NRC staff does not agree with deleting the 2<sup>nd</sup> paragraph entirely as it provides context regarding the scope and approach being taken in the ISG. While the NRC staff acknowledges that the first suggested sentence in the comments states the ASME perspective, that is not the purpose of NRC incorporation of the ASME BVP Code into NRC regulations or endorsement of portions of the Code that are not incorporated into NRC regulations. Rather, as stated in the 1971 Federal Register notice announcing promulgation of 10 CFR 50.55a, “[c]ompliance with the provisions of the amendments [i.e., 10 CFR 50.55a] and the referenced codes is intended to insure a basic, sound quality level.” See 36 FR 11423, 11424. In this regard, the ASME Code is acceptable to ensure the structural integrity of structures, systems, and components credited in the FSAR to perform safety functions. Accordingly, the NRC staff declines to add the first sentence suggested in the comment. Nonetheless, the NRC staff agrees with the second sentence suggested</p>

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				by the comment and has added it the text of the ISG with minor edits.
NRC-2022-0080 DRAFT-0003-3	IST purpose statement	Pg 4 – 1 <sup>st</sup> paragraph	Delete paragraph and replace with “The purpose of an IST program is to provide adequate evidence of power plant operational readiness.”	<p>The NRC staff partially agrees with the comment.</p> <p>The NRC staff does not agree with deleting the paragraph in its entirety as it provides context regarding the scope and approach being taken in the ISG. However, the NRC staff agrees with adding an additional sentence to the paragraph for consistency with ASME Section XI, Division 2.</p> <p>Additional sentence added after the 1<sup>st</sup> sentence in the 1<sup>st</sup> paragraph on Page 4 as follows:</p> <p><del>“In addition, the IST Program is intended to verify the operational readiness of pumps, valves, and snubbers within the scope of the program to perform their safety function provides a portion of the evidence utilized to confirm operational readiness.”</del></p>
NRC-2022-0080 DRAFT-0003-4	Passive components	Pg 4-1 <sup>st</sup> section	Delete section “Components that Control Fluid without Mechanically Interacting with the Fluid”. ASME establishes ISI requirements. Introduction of staff versions of ASME Code elements is potentially problematic.	<p>The NRC staff disagrees with the comment.</p> <p>This section addresses a topic that is not specifically addressed by the ASME code but is important for non-LWRs that use passive or novel means to accomplish active safety functions.</p> <p>No change has been made to the ISG.</p>

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NRC-2022-0080 DRAFT-0003-5	Personnel hazards	Pg 4- 2 <sup>nd</sup> section	Delete section “ISI/IST Personnel Hazards for Some Non-LWR Designs”. The ASME code covers this issue.	<p>The NRC staff disagrees with the comment.</p> <p>The ASME code does not address ISI for non-LWRs in a prescriptive fashion, but rather allows the applicant to develop the program in accordance with Section XI, Division 2. ASME has not issued guidance for non-LWR IST. This section is intended to highlight a safety concern regarding personnel safety for applicants developing ISI/IST programs.</p> <p>No change has been made to the ISG.</p>
NRC-2022-0080 DRAFT-0003-6	Risk information	Pg 5 – 1 <sup>st</sup> section	Delete section “Use of Risk Information”. The ASME Code covers this issue.	<p>The NRC staff disagrees with the comment.</p> <p>This section is intended to highlight the importance of using risk information in the development of the ISI/IST programs.</p> <p>No change has been made to the ISG.</p>
NRC-2022-0080 DRAFT-0003-7	Use of 50.69	Pg 6 – Application Guidance 3 <sup>rd</sup> paragraph	Replace entire paragraph with a simple reference to 10 CFR 50.69 and caution that the applicant must establish safety classes, level of risk and linkage to inservice programs. Appears staff is setting to impose in-service requirements that are well removed from proportionate radiation risk to the public.	<p>The NRC staff partially agrees with the comment.</p> <p>The paragraph highlighted in the comment summarizes and provides an explanation as to how 10 CFR 50.69 can be used in the development of a risk-informed ISI program. The paragraph has been somewhat simplified, as suggested by the comment.</p>

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NRC-2022-0080 DRAFT-0003-8	Limited performance data	Pg 5-2 <sup>nd</sup> para	Replace the paragraph addressing limited performance data with reference to applicable specific section of ASME Code.	The NRC staff disagrees with the comment.  The paragraph highlights the need to address cases where there is limited performance data.  No change has been made to the ISG.
NRC-2022-0080 DRAFT-0003-9	RIS 2012-08	Pg 6-2 <sup>nd</sup> para	Cite the specific section of the ASME Code in lieu of citing RIS 2012-08. RIS 2012-08 cannot be used to impose requirements outside of industry codes and standards.	The NRC staff disagrees with the comment.  The reference to RIS 2012-08 is to assist the NRC reviewer by highlighting previously identified issues, not impose new requirements.  No change has been made to the ISG.
NRC-2022-0080 DRAFT-0003-10 and 11	Paragraphs relating to ISI application content	Pg 7- 2 <sup>nd</sup> thru 5 <sup>th</sup> paragraphs plus Pg 8 - 1 <sup>st</sup> 3 paragraphs and 1 <sup>st</sup> 2 paragraphs under Staff Review Guidance	Delete these paragraphs and cite applicable sections of the ASME Code. Introduction of staff versions of ASME Code elements is potentially problematic.	The NRC staff disagrees with the comment.  Except for the last two paragraphs cited in the comment, the paragraphs in question refer to RG 1.246, in which the NRC staff endorsed the use of ASME BPV Code, Section XI, Division 2, for developing an ISI program for non-LWRs. They also provide guidance on the information that should be included in an application that relies on ASME BPV Code, Section XI, Division 2, particularly with respect to program scope, use of risk information, and treatment of inspection results. This guidance is intended to clarify the information to be included in the SAR. As for “staff versions” of the ASME BPV Code, Section XI, Division 2,

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				<p>RG 1.246 provides conditions that the NRC staff considered necessary for acceptance of the Section XI, Division 2, as endorsed in RG 1.246. This ISG does not state any clarifications and limitations in addition to those stated in RG 1.246. The staff review guidance to which the comment refers describes important safety aspects of risk-informed ISI programs upon which reviewers should focus and does not alter the RG 1.246 endorsement of ASME Code Section XI, Division 2.</p> <p>No change has been made to the ISG.</p>
<p>NRC-2022-0080 DRAFT-0003-12</p>	<p>PRA Standard</p>	<p>Pg 10-Item (1)</p>	<p>Add citation of industry PRA standard</p>	<p>The NRC staff agrees with the comment.</p> <p>If an applicant does not use the industry PRA standard, justification should be provided.</p> <p>Item (1) was updated as seen below,</p> <p>“Is the application based on the use of an NRC-endorsed PRA standard, such as described in RG 1.247 and ASME/ANS RA-S-1.4-2021? Are any deviations from the RG or standard described and justified?”</p>
<p>NRC-2022-0080 DRAFT-0003-13, 14, 15 and 16</p>	<p>ISI Review guidance</p>	<p>Pg 10-Items (2) thru (10)</p>	<p>Delete. For items (2), (3) and (4) there are no such requirements in the applicable portions of the ASME Code. For items (5), (6) and (7) requiring such detail serves no useful purpose and imposes unjustified</p>	<p>The NRC staff disagrees with the comment.</p> <p>These items describe the information an NRC staff reviewer should consider in evaluating a proposed risk-informed ISI</p>



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			cost. Items (8) and (9) are included in the ASME Code and item (10) imposes requirements via a RG.	<p>program. These items describe important safety aspects of risk-informed ISI programs that reviewers should pay attention to and do not alter ASME Code Section XI, Division 2.</p> <p>No change has been made to the ISG.</p>
NRC-2022-0080 DRAFT-0003-17	ISI Review guidance	Pg 10-1 <sup>st</sup> 3 para	Delete and cite specific ASME Code sections. Introduces staff versions of the ASME Code.	<p>The NRC staff disagrees with the comment.</p> <p>This guidance is intended to clarify the information to be included in the SAR. As for “staff versions” of the ASME BPV Code, Section XI, Division 2, RG 1.246 provides conditions that the NRC staff considered necessary for acceptance of the Section XI, Division 2, as endorsed in RG 1.246. This ISG does not state any clarifications and limitations in addition to those stated in RG 1.246. The staff review guidance to which the comment refers describes important safety aspects of risk-informed ISI programs upon which reviewers should focus and does not alter the RG 1.246 endorsement of ASME Code Section XI, Division 2.</p> <p>No change has been made to the ISG.</p>
NRC-2022-0080 DRAFT-0003-18 and 19	IST Application content	Pg 11	Add new paragraph after 2 <sup>nd</sup> paragraph citing applicable sections from ASME OM-2. Replace 3 <sup>rd</sup> , 4 <sup>th</sup> and 5 <sup>th</sup> paragraphs with citations to ASME Code. Introduces staff versions of ASME Code.	<p>The NRC staff disagrees with the comment.</p> <p>The referenced text provides background, since currently, ASME OM-2 has not been formally issued.</p>

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				No change has been made to the ISG.
NRC-2022-0080 DRAFT-0003-20	IST Application content	Pg 12-1 <sup>st</sup> thru 4 <sup>th</sup> para	Replace paragraphs with citation to specific sections of ASME OM-2. The level of detail being requested is inappropriate for general licensing information. Documentation details are governed by the programmatic provisions of the ASME Code.	The NRC staff disagrees with the comment.  ASME OM-2 has not been formally issued. Therefore, the paragraphs in question are necessary to describe a set of information that would be acceptable in the SAR.  No change has been made to the ISG.
NRC-2022-0080 DRAFT-0003-21 and 22	IST scope statement	Pg 13-1 <sup>st</sup> and 2 <sup>nd</sup> para	Replace 1 <sup>st</sup> paragraph with “The scope of the IST program should include those items defined by the applicant as needed to protect the public from hazardous radiation – these items are safety-related but may also include items of a lower safety functional level, as deemed appropriate and justified by the applicant. The applicant’s program should identify the major systems and components subject to IST.” Alternatively, cite the applicable industry codes/standards. Use of the term “Safety-Significant” is open ended and only loosely connected to “risk-informed”. Delete 2 <sup>nd</sup> paragraph – cite applicable sections of the ASME Code.	The NRC staff disagrees with the comment.  The purpose of the TICAP/ARCAP guidance is to state methods acceptable to the NRC staff for non-LWR applicants to design their plants using the LMP process and describe the design in a SAR for an application for a license under 10 CFR Parts 50 or 52. Application of the LMP process will identify the safety-related SSCs and other items to be included in the IST program. The term “safety-significant” is defined in NEI 18-04. In addition, there is no applicable ASME Code to reference. The ASME has not yet issued a final version of OM-2, thus, the ISG needs to provide a description of the scope of the IST program.  No change has been made to the ISG.
NRC-2022-0080	IST review guidance	Pg 13 - 4 <sup>th</sup> paragraph	Delete items (2) thru (9) and replace with citations to applicable provisions of the	The NRC staff disagrees with the comment.

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DRAFT-0003-23, 24, 25, 26 and 27			ASME Code. ASME Code already covers these items.	The OM-2 code has not been issued yet. Nevertheless, the NRC staff understands that the current approach of the OM-2 code would allow the use of risk insights but would not prescribe the use of these insights. For this reason, the NRC staff concludes that the items requested to be deleted should be retained to aid the NRC staff in reviewing applications in this area.  No change has been made to the ISG.
NRC-2022-0080 DRAFT-0003-28	IST review guidance	Pg 14-1 <sup>st</sup> thru 5 <sup>th</sup> para	Add citations to ASME Code in each paragraph. Introduction of staff versions of ASME Code elements is problematic.	The NRC staff disagrees with the comment.  The ASME has not yet issued a final version of OM-2, thus, the ISG needs to provide review guidance for the IST program.  No change has been made to the ISG.
NRC-2022-0080 DRAFT-0003-29	Organization responsibility	Pg 15	Organizational Responsibilities – Add citations to applicable specific provisions of the ASME Code. Unclear why the provisions of the ASME Code that govern these activities are omitted.	The NRC staff disagrees with the comment.  The ASME has not yet issued a final version of OM-2, thus, the ISG needs to provide a description of the organization responsibility for the IST program.  No change has been made to the ISG.
NRC-2022-0080 DRAFT-0003-30	Backfitting	Pg 16	Backfitting and Issue Finality – appears NRC is attempting to use the ISG for backfitting considering the large number of new requirements outside the existing ASME Code requirements.	The NRC staff disagrees with the comment.  This ISG is applicable to future applications – therefore it does not constitute backfitting. In addition, as an ISG, it cannot add new

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				<p>requirements, but provides flexibility for an applicant for non-LWR designs to do what is appropriate for its design and technology.</p> <p>No change has been made to the ISG.</p>
NRC-2022-0080 DRAFT-0004-1	Exclusion of LWRs	Pg 2 – Footnote 2	ASME BPV Code, Section XI, Division 2, and ASME OM-2 are applicable to LWRs and non-LWRs. Why does Footnote 2 exclude LWRs? It adds confusion.	<p>The NRC staff disagrees with the comment.</p> <p>The purpose of Footnote 2 is to allow LWR applicants to propose using the current ISI/IST ISG now, without waiting for a future revision.</p> <p>No change has been made to the ISG.</p>
NRC-2022-0080 DRAFT-0004-2	Submittal of operational material	Pg 6 – Application Guidance 2 <sup>nd</sup> paragraph	This sentence seems to imply that operational criteria (e.g., maintenance programs, aging management criteria) are to be submitted as well as the ISI/IST program material.	<p>The NRC staff agrees with the comment.</p> <p>There is an inconsistency in the wording of the sentence. The application should describe the interface between the ISI/IST programs and other programs that are relevant to the same SSCs. However, an applicant need not submit descriptions of the interfacing programs.</p> <p>Page 6 of the ISG is revised to clarify that the SAR only needs to describe the interface, if any, between the ISI/IST programs and other programs by adding the following sentence at the end of the partial paragraph at the top of the page:</p> <p><b>“The application should identify the relationships among the ISI/IST programs</b></p>

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				and other programs that have incorporated some aspects of ISI/IST, but the other programs need not be submitted as part of the ISI/IST submittal.”
NRC-2022-0080 DRAFT-0004-3	Use of 50.69	Pg 5-First full para	The last sentence in this paragraph states “For non-LWR applicants that propose to use 10 CFR 50.69 to risk-inform their ISI/IST programs, justification must be provided showing how the resulting RISC-3 and 4 SSCs were derived from the PRA.” It is not obvious how the criteria of 50.69 would be applied to a risk-informed ISI program developed using ASME BPV Code, Section XI, Division 2. Also, the paragraph includes reference to 10 CFR 50.55a requirements, which are for LWRs. Additional guidance is needed to explain how to implement this paragraph.	The NRC staff disagrees with the comment.  As indicated in 10 CFR 50.69(b), the NRC regulations in 10 CFR 50.69 are focused on water-cooled reactors with references to several special treatment requirements in various parts and sections of Title 10 of the <i>Code of Federal Regulations</i> . The paragraph in the ISG is intended to alert non-LWR applicants to the 10 CFR 50.69 approach for applying risk insights for the treatment of SSCs in nuclear power plants. A non-LWR applicant may consider whether an approach similar to that described in 10 CFR 50.69 might be justifiable for application to its specific non-LWR design.  No change has been made to the ISG.
NRC-2022-0080 DRAFT-0004-4	RIS 2012-08	Pg 7 – Staff Review Guidance - last paragraph	<p>a) RIS 2012-08 is referred to in the paragraph. RIS 2012-08 applies to applications submitted under Part 52. Is it intended that RIS 2012-08 also be applied to applications under Part 50?</p> <p>b) The paragraph includes “snubbers” in the components to be considered when reviewing RIS</p>	<p>a) The NRC staff agrees with the comment. ISG modified to state that the guidance in RIS 2012-08 applies to both Part 50 and Part 52 applicants.</p> <p>b) The NRC staff agrees with the comment. The Note in the ISG is a reminder that RIS 2012-08 can be</p>

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			2012-08. Why are snubbers the only components mentioned? What about other load carrying devices such as, flexible pipe supports, and sliding shoe supports that might be critical for safe operation?	applied to various components beyond pumps and valves. The note has been reworded to read as follows: <b>“Note: the reviewer should consider all the components described in RIS 2012-08.”</b>
NRC-2022-0080 DRAFT 0004-5(A) and 5(B)	Use of term “Safety-Significant”	Pg 8	These paragraphs use the term “safety-significant”. The use of this term should either be withdrawn or clarified by defining it.	The NRC staff agrees with the comment.  In terms of an LMP approach, the term “safety-significant” is defined in NEI 18-04.  The first use of “safety-significant” in the ISG has been revised to reference NEI 18-04 for the LMP definition.
NRC-2022-0080 DRAFT 0004-5(C)	Actions if degradation detected	Pg 7 – last paragraph	This paragraph contains guidance on the process to be followed when the ISI program identifies degradation has occurred. ASME BPV Code, Section XI, Division 2, already provides guidance in this area. Is the ISG attempting to augment the ASME standard?	The NRC staff disagrees with the comment.  The paragraph is to provide the general discussion for the process when the degradation is identified. Following this general discussion, the next paragraph points out that ASME, Section XI, Division 2, provides guidance in this area.  No change has been made to the ISG.
NRC-2022-0080 DRAFT 0004-6(A) (Is misnumbered as 4(A) in	Clarification needed in 2 <sup>nd</sup> para	Pg 9 – 3 <sup>rd</sup> paragraph	When discussing the use of ASME BPV Code, Section XI, Division 2, this paragraph contains the statement “Section XI, Division 2, does not call for a specific risk-informed ISI program to be implemented.” The purpose of this statement is not clear and is confusing.	The NRC staff agrees with the comment.  Sentence has been modified to read:  “Section XI, Division 2, <del>does not call for a specific risk-informed ISI program to be implemented but rather</del> allows the applicant

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the comment letter)				to propose a program specific to the planned design and technology of the non-LWR, based on input from expert panels and in consideration of the degradation mechanisms relevant to the materials and operating conditions of the design.”
NRC-2022-0080 DRAFT 0004-6(B) (Is misnumbered as 4(B) in the comment letter)	Temperature range for flaw evaluation	Pg 9 – 4 <sup>th</sup> paragraph	This paragraph notes that the acceptance criteria specified in ASME BPV Code, Section XI, Division 2, for flaw evaluation only applies to the temperature range allowed in ASME BPV Code, Section III. ASME will soon issue a flaw evaluation Code Case extending the acceptance criteria into the elevated temperature range. This should be acknowledged in the ISG.	The NRC staff agrees with the comment.  The third paragraph on page 8 has been modified to acknowledge the future Code Case. Unless the NRC approves (endorses) the final Code Case, however, an applicant will need to justify use of the acceptance criteria for SSCs in elevated temperatures.
NRC-2022-0080 DRAFT 0004-6(C) (Is misnumbered as 4(C) in the comment letter)	ISI scope statement	Pg 8 – 4 <sup>th</sup> paragraph	The ISI scope statement provided in this paragraph does not provide insight for “anticipated critical SSCs which are not pressure retaining nor are classic supports”.	The NRC staff disagrees with the comment.  The critical SSCs which are not pressure retaining nor are classic supports are covered by the “ <i>pipng or other components whose failure could prevent SSCs from performing their safety functions</i> ” and “ <i>all safety-related and safety-significant piping and components.</i> ” Critical SSCs vary with different designs. The ISG is not intended to provide specific information about these components.  No change has been made to the ISG.

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NRC-2022-0080 DRAFT 0004-6(E) (Is misnumbered as 4(E) in the comment letter)	Too much LWR orientation	Pg 10 – 1 <sup>st</sup> paragraph	Some aspects of the ISG were drafted in consideration of the historic LWR ISI framework. For example, there is emphasis on examining welds, which is relevant for LWRs. Non-LWR degradation mechanisms may affect other aspects of the design due to the higher temperatures and use of corrosive coolants. It is suggested that the language used in the ISG be restructured so as not to limit the technical basis to LWR experience.	The NRC staff agrees with the comment.  The fifth paragraph on page 8 has been revised to eliminate the LWR emphasis. It now states:  “The reviewer should confirm that the PRA models all of the SSCs that are part of the ISI program and <b>consider the degradation mechanisms associated with the materials, temperature, and coolant used in the design. models the piping in segments to identify the most risk significant piping sections and welds.</b> ”
NRC-2022-0080 DRAFT 0004-6(D) (Is misnumbered as 4(D) in the comment letter)	Addition of other materials to the ISI prog.	General	ASME BPV Code, Section III, Division 5, permits the use of graphite and ceramic composite materials for structural application during construction. Non-LWRs may use some of these materials and they should be an integral part of the ISI program.	The NRC staff disagrees with the comment.  The ISG does not exclude the inspection of graphite and ceramic composite materials, which is an integral part of the ISI program. To be sure, an applicant whose design includes such materials will need to propose ISI for them to assure their continued integrity in service.  No change has been made to the ISG.
NRC-2022-0080 DRAFT 0004-7 (Is misnumbered as 4 in the	Use of NQA-1	Pg 11 – Item (9)	This item implies the use of 10 CFR Part 50, Appendix B, for QA. ASME BPV Code, Section XI, Division 2, requires the use of NQA-1. Does the ISG intend that Appendix B should be used in lieu of NQA-1? If so, would an exemption to Section XI, Division 2, be required?	The NRC staff partially agrees with the comment.  The NRC regulations in 10 CFR 50.55a(b)(1)(iv), (b)(2)(x), and (b)(3)(i) for ASME BPV Code, Sections III and XI, and the ASME OM Code, respectively, indicate



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comment letter)				<p>that where NQA-1 does not address the commitments contained in the licensee's Appendix B quality assurance program description, the commitments must be applied to the ASME Code activities. In accepting the use of ASME BPV Code, Section XI, Division 2, NRC RG 1.246 states in Regulatory Position 6 that licensees should use an edition of ASME NQA-1 endorsed by the NRC in RG 1.28. The ISG is intended to be consistent with the above regulatory requirements and guidance.</p> <p>The staff notes that an exemption from Section XI, Division 2 is not necessary because Division 2 is not incorporated by reference into sec. 50.55a.</p> <p>Item # 9 on page 9 of the ISG has been changed to read "Is the QA to be applied to the program <b>consistent with RG 1.246?</b>"</p>
NRC-2022-0080 DRAFT 0004-8 (Is misnumbered as 5 in the comment letter)	Timely ISG updates	General	ASME is working to issue OM-2 this year and to issue other relevant guidance to address gaps in the existing Section XI, Division 2. How does NRC intend to provide timely reviews of new ASME code documents and issue timely revisions of the ISG?	The NRC staff is currently working to review the ASME OM-2 Code for acceptance in a new regulatory guide as soon as the new Code is available. The staff will update the ISG as needed with the issuance and acceptance of new ASME code documents as noted in Appendix A of this ISG.
NRC-2022-0075 DRAFT 0004-33	Use of future codes	Pg 3-Guidance	The ISG acknowledges that ASME is developing code OM-2 for IST in non-LWRs. In addition, on page 11, it is stated that a CP application should identify the	The NRC staff partially agrees with the comment.

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			<p>regulations, RGs, NUREGs, standards and other guidance the applicant intends to follow at the OL stage.</p> <p>Add guidance that CP applicants may follow the ISG and, at their own risk, identify codes not yet issued to be followed at the OL stage.</p>	<p>The second paragraph under “Guidance” has been revised to acknowledge that ASME is developing OM-2. The following sentences have been added.</p> <p>“Appendix A of this ISG notes that ASME is also considering development of a new Code for Operations and Maintenance of Nuclear Power Plants (OM) Code (referred to as OM-2) that would provide IST provisions for fluid flow and control devices in non-LWR reactors. As noted in Appendix A, the NRC staff will adjust this ISG as appropriate if the Code is issued and endorsed by the NRC staff.”</p> <p>In addition, Appendix A includes the following sentences.</p> <p>“If a CP applicant seeks to use codes and standards the NRC staff has not endorsed, applicants are encouraged to engage the staff during pre-application phase.”</p>
NRC-2022-0074 DRAFT 0006-1	Applicability to LWRs	General	This comment is identical to comment NRC-2022-0074 – DRAFT 0006-1 on the Roadmap ISG.	See response to comment NRC-2022-0074 – DRAFT 0006-1 on the Roadmap ISG.
NRC-2022-0074 DRAFT 0006-2	Design Considerations	General	There are a few references to design considerations of the facility to allow ISI/IST activities to be performed when operating. Recommend that design specifics be placed in the applicable GDCs	<p>The NRC staff disagrees with the comment.</p> <p>Applicants are to propose PDCs applicable to their designs and the PDCs are to consider operation. If an applicant needs the design to incorporate provisions for ISI/IST during</p>

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			and not an inservice testing/inspection document.	<p>operation, the PDCs should reflect that. NRC cannot pre-determine the PDC content.</p> <p>No change has been made to the ISG.</p>
NRC-2022-0074 DRAFT 0006-3	Guidance for ISI/IST for ML applicants	General	ISI/IST are operating reactor programs and, therefore, not directly applicable to MLs which do not address operation. However, the ISG could provide guidance on using the PRA to identify the SSCs that would be part of the ISI program which would then be used in the design to ensure adequate accessibility for inspection.	<p>The NRC staff agrees with the comment.</p> <p>The following sentence has been added to the paragraph titled “Use of Risk Information” on page 4 of the ISG:</p> <p>“For ML applicants, the application can be limited to describing how the risk information will be used to identify the SSCs to be included in the ISI/IST programs, identify the most risk-significant locations for ISI, and ensure the design incorporates sufficient access for ISI/IST equipment and personnel.”</p> <p>For clarity, the NRC staff has also added the following footnote to the new sentence:</p> <p>“Nonetheless, in the context of design certification, the staff’s historical practice has been to consider portions of the ISI and IST programs that are deemed essential in making a safety determination regarding the design. Because the NRC findings on the design proposed in an ML application will resolve design issues in subsequent proceedings on applications referencing the manufactured reactor, the NRC staff anticipates that it will need to consider such ISI and IST information in reviewing the ML application.”</p>

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NRC-2022-0074 DRAFT 0006-4	Use of Future Codes	Pg 3	This is the same as comment NRC-2022-0080 DRAFT-0004-1 above.	See response to comment NRC-2022-0080 DRAFT-0004-1 above.
NRC-2022-0074 DRAFT 0006-5	Multi-Module Plants	Pgs 4+5	For plants that are factory built and scalable, it would be beneficial to only have a single IST program that is also scalable, assuming the PRA is generic to the design.	The NRC staff agrees with the comment.  No specific change was proposed. However, to address the comment, the following sentence has been added to the “Use of Risk Information” paragraph on page 5:  “For multi-module plants, where the PRA and design are identical for each module, the ISI/IST programs developed need only be submitted once and can be applied to each module.”
NRC-2022-0074 DRAFT 0006-6	Use of ASME Codes	Pg 7	This is the same as comment NRC-2022-0080 DRAFT 0004-5(C) above.	See response to comment NRC-2022-0080 DRAFT 0004-5(C) above.