

## Analysis of Public Comments on Draft ISG DANU-ISG-2022-02 Advanced Reactor Content of Application Project “Site Information”

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.

Comment Number	ADAMS Accession Number	Commenter Affiliation	Commenter Name
NRC-2022-0075 - DRAFT 0002	ML23167A038	Hybrid Power Technologies, LLC	Michael Keller
NRC-2022-0075 – DRAFT 0003	ML23167A039	Hybrid Power Technologies, LLC	Michael Keller
NRC-2022-0075 - DRAFT 0004	ML23234A052	X-energy, LLC	Travis Chapman
NRC-2022-0074 - DRAFT 0006	ML23234A039	Nuclear Energy Institute	Ben Holtzman

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NRC-2022-0075 DRAFT 0002-1/NRC-2022-0075 DRAFT 0003-1	Regulations.gov Site	Not Applicable	Note that the underlying comment in M23167A038 and ML23167A039 are the same.  Include in regulations.gov, as downloadable files, all documents for which public comments are being solicited	The NRC staff responded to the request as documented in ML23174A004. The NRC staff response states in part:  “... the regulations.gov website identifies the documents (the ARCAP [advanced reactor content of application project] ISGs [interim staff guidance] and the TICAP [technology inclusive content of application project] DG [draft guide]) 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 documents referenced in

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				the ARCAP ISGs on regulations.gov as this could imply that the NRC staff is seeking comments on these documents.”
NRC-2022-0075 DRAFT 0002-1/NRC-2022-0075 DRAFT 0003-1	Extension of Comment Period	Not Applicable	Note that the underlying comment in M23167A038 and ML23167A039 are the same.  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-2022-0075 DRAFT 0004-24	Editorial	Pg 2 – 1 <sup>st</sup> line at top of page	Need space between “a” and “non-LWR”.	The NRC staff agrees with the comment.  ISG revised to add space.
NRC-2022-0075 DRAFT 0004-25	Section 2.7.2 – “Screening Approach for Other External Hazards”	Pg 24	Additional guidance (or a more standardized approach) for screening external hazards could help streamline the process and minimize the number of pre-application interactions. Consider developing a standardized approach detailing the elements that are required for an external hazard screening flow chart acceptable to the NRC.	The NRC staff disagrees with the comment.  Although the NRC staff disagrees with the comment, the staff is considering developing additional guidance for an approach detailing the elements that would be acceptable to the staff for an external hazard screening flow chart. However, development of such a flow chart and associated guidance for the broad range of external hazards is dependent on the design and the uncertainties associated with the given hazard. Because the necessary analysis has not been completed, the development of a broad approach has been deferred at this time.

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				<p>In the interim, it is noted that Section 2.7.2, “Screening Approach for Other External Hazards,” of the final interim staff guidance continues to provide an option for an applicant to use a hazard screening flow diagram, such as the one for volcanic hazards found in Regulatory Guide 4.26, Revision 1, “Volcanic Hazards Assessment for Proposed Nuclear Power Reactor Sites,” August 2023 (ML23167A078) As noted in the ISG, applicants choosing to follow such a screening approach for hazards other than volcanic hazard should discuss their approaches with the NRC staff during the preapplication phase of the review.</p> <p>In addition, the NRC staff is considering a revision to RG 1.59 to include an Appendix K, “Considerations for Applying Guidance to Advanced Reactors and Small Modular Reactors.” DG-1290 (ADAMS Accession No. ML19289E561) includes Appendix K, that would take a screening approach for design basis floods.</p> <p>No substantive change made to the ISG because of this comment. Updates were made to reflect a revision to regulatory guide (RG) 4.26 and an addition was made to Appendix A of the ISG to include DG-1290, “Design Basis Floods for Nuclear Power Plants.”</p>
NRC-2022-	Section 2.3.1 – “Nearby	Pg 10	In the second paragraph of this section it is stated “Each hazard that could result in an	The NRC staff agrees with the comment. The NRC staff notes that the last paragraph in the

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0075 DRAFT 0004-26	Industrial, Transportation, and Military Facilities”		event sequence with an estimated frequency of occurrence greater than 5 in 10 million per year should be evaluated for its potential to cause a radiological release exceeding the dose guidelines of 10 CFR 50.34(a) or 10 CFR 52.79(a)(1)(iv).” Please remove the quoted text. This sentence implies requirements that exceed current requirements for evaluating external hazards.	<p>section provides guidance that the evaluation should be performed in accordance with RG 1.233 and NEI 18-04. Based on this, the following sentence in the second paragraph of Section 2.3.1 has been deleted:</p> <p>“Each hazard that could result in an event sequence with an estimated frequency of occurrence greater than 5 in 10 million per year should be evaluated for its potential to cause a radiological release exceeding the dose guidelines of 10 CFR 50.34(a) or 10 CFR 52.79(a)(1)(iv).”</p> <p>As a result of the review of this comment the NRC staff also reviewed the acceptance criteria in Section 2.3.2 and noted that additional clarification related to aircraft impacts is warranted. Specifically, the NRC staff added the following to 2.3.2.e “<b>see appendix A for guidance that the staff is considering developing in this area.</b>” The following item was added to Appendix A:</p> <p>“<b>The NRC staff is considering updating the guidance found in NUREG-0800, “Standard Review Plan for the Review of Safety Analysis Reports for Nuclear Power Plants: LWR Edition,” Section 3.5.1.6, “Aircraft Hazards.” The data referenced in this Standard Review Plan section is old and does not reflect that accidental aircraft impact frequency has been reduced over the years. The American Nuclear Society (ANS) is considering developing a new</b></p>

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				<p>standard - ANS 2.36-202x, “Accident Analysis for Aircraft Crash into Reactor and Nonreactor Nuclear Facilities.” The NRC staff is monitoring the development of this proposed standard and will update this ISG, as appropriate, based on the NRC staff’s review and possible endorsement of this standard.”</p>
<p>NRC-2022-0074 DRAFT 0006-1</p>	<p>General</p>		<p>The ARCAP documents are stated to be applicable to non-LWRs. However, all the guidance is technology-inclusive and is equally applicable to LWRs. Please indicate that the guidance is applicable to LWRs.</p>	<p>The NRC staff disagrees with the comment. The NRC staff is considering expanding the applicability of ARCAP guidance documents beyond non-light water reactors (non-LWRs). However, expansion of the guidance beyond non-LWRs at this time is considered premature.</p> <p>The final ISG continues to note that the NRC is developing an optional performance-based, technology-inclusive regulatory framework for licensing nuclear power plants designated as 10 CFR Part 53, “Licensing and Regulation of Advanced Nuclear Reactors,” (RIN 3150-AK31). Should the 10 CFR Part 53 rulemaking include requirements for both LWR and non-LWRs, the NRC staff envisions that the guidance documents supporting that rulemaking would provide a basis to expand the concepts found in the ARCAP ISGs guidance beyond non-LWRs. In the interim, the NRC staff notes that the applicability section of the ISG notes that applicants desiring to use the ISG for a light water reactor application should contact the NRC staff to hold pre-application discussions on their proposed approach.</p>

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				No change made to the ISG.
NRC-2022-0074 DRAFT 0006-2	General		<p>The review should eliminate review of external hazards that are not possible for ML applicants, but remain applicable to CP, OL and COL applicants (e.g., stability of slopes). Please add text similar to the following:</p> <p>“For an ML application the site description should describe the site characteristics as they affect the design (e.g., a site parameter envelope). Other site characteristics are left to the COL applicant to provide as well as the site-specific information necessary to demonstrate that site characteristics fit within the plant parameter envelope.”</p>	<p>The NRC staff disagrees with the comment. The NRC staff notes that the guidance includes the following paragraph that provides guidance for design certification (DC), standard design approval (SDA) and manufacturing license (ML) applicants that address the applicability of the guidance to these applications:</p> <p>“Under 10 CFR 52.47(a)(1), DC applications must describe the site parameters postulated for the design. Similarly, under 10 CFR 52.137(a)(1) and 10 CFR 52.157(f)(19), respectively, SDA and ML applications must describe the site parameters postulated for their designs. Applicants for these types of licenses should include in Chapter 2 of their SARs the complete set of postulated site parameters considered in the design. Because evaluations of the safety of the design use the postulated site parameters, the actual characteristics of the site at which the facility is to be located must fall within the postulated site parameters specified in the design and safety analysis.”</p> <p>There is additional guidance in the ISG that states how a COL applicant referencing an SDA, DC, or ML must provide additional information to demonstrate that the site characteristics fall within the postulated site parameters specified for the SDA, DC, or ML.</p> <p>No change made to the ISG.</p>

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NRC-2022-0074 DRAFT 0006-3	Typo	Pg 2	This is the same comment as NRC-2022-0075 DRAFT 0004-24 above.	See response to comment NRC-2022-DRAFT 0004-24 above.
NRC-2022-0074 DRAFT 0006-4	Guidance	Pg 5	The last sentence in the third full paragraph indicates that external hazards not supported by PRA will be covered deterministically. The guidance should not preclude a potential combination of PRA and deterministic techniques.	<p>The NRC staff agrees with the comment.</p> <p>As a result of the comment the following change has been made to the last sentence:</p> <p>External hazards not supported by a probabilistic external hazard analysis will be <b>addressed</b> by DBHLs identified using traditional deterministic methods <b>or a combination of probabilistic and deterministic methods.</b></p>
NRC-2022-0074 DRAFT 0006-5	Section 2.4 – “Regional Climatology, Local Meteorology, and Atmospheric Dispersion”	Pg 13	In the first paragraph on page 13 reference is made to RG 1.111 for estimating atmospheric transport and dispersion of gaseous effluents. The title of RG 1.111 states it is for LWRs. Has NRC made a determination of its applicability to non-LWRs?	No change to the ISG is being made as a result of this comment. The answer to the question is yes, the NRC staff has made a determination that guidance found in RG 1.111, “Methods for Estimating Atmospheric Transport and Dispersion of Gaseous Effluents in Routine Releases from Light-Water-Cooled Reactors,” is relevant to non-light water reactors. The manner in which RG 1.111 is referenced in the ISG reflects the NRC staff determination that despite the title of the RG the NRC staff considers the guidance to be generally applicable to non-LWRs because the type of reactor is irrelevant to figuring out the dispersion parameters (chi/Q's), which depend on wind speed, topography, and release point, among other things.

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NRC-2022-0074 DRAFT 0006-6	Section 2.6.5 – “Stability of Slopes”	Pg 22	The last sentences of paragraph 2.6.5.1 and item “c” in paragraph 2.6.5.2 denote the need for analysis and operating experience. This is excessive and conflicts with other text in this section denoting “current practice” and “state-of-the-art”. Revise the text to remove this excessive conservatism.	<p>The NRC staff agrees with the comment.</p> <p>The NRC staff notes that paragraph 2.6.5.1, with the exception of the last sentence, provides sufficient guidance for information to be provided in the SAR related to stability of slopes. The NRC staff agrees that the last sentence “The application should also discuss comparative field performance of similar slopes whenever possible,” would not be a significant part of the slope stability analysis and, therefore, this last sentence was removed from the final version of this ISG.</p> <p>Consistent with the change to Section 2.6.5.1, the NRC staff has removed the associated acceptance criteria in Section 2.6.5.2. That is, the following acceptance criteria was removed from the final version of this ISG:</p> <p>“The application describes the performance of similar slope designs and confirms their stability”</p>
NRC-2022-0074 DRAFT 0006-7	Section 2.7.2 – “Screening Approach for Other External Hazards”	Pg 24	This is the same as comment NRC-2022-0075 0004-25 above.	See response to comment NRC-2022-0075 0004-25 above.