NEI Cited Context for Comment	NEI Comment	NRC Comment Resolution[1]
Add documentation sections Add: **DOCUMENT** the sources of model uncertainty and related assumptions resulting from the status of design, site, operational, and maintenance information or data.	It will be difficult to ensure completeness in identifying model uncertainties for a new, passive design with a significantly lower CDF, and in a model that includes differences from typical industry PRAs (e.g., 72 hr. mission time).	The staff agrees with the comment that it may be difficult to ensure that every potential source of uncertainty associated with the limited design, site, operational, and maintenance or data information is identified. Additional documentation is needed due to significantly more assumptions being relied upon in the PRA. Identifying and documenting these assumptions will support the evolution of the PRA as more design, site, and operational information and data are obtained (knowing where assumptions can be either validated or changed to represent the current information and data on the design, site, etc.) This will also enhance the independent or peer reviews of the PRA. No changes to the ISG were incorporated to address this comment.
	What is expected for enhancing the characterization of the sources of model uncertainty? It would likely be difficult to quantify uncertainties related of the status of the design, site, operational, and maintenance information or data with confidence for ALWRs given that the issue is related to a lack of data/information.	The staff agrees with the comment that it would be difficult to quantify uncertainties related to the lack of data and information on the design et al. The staff does not expect applicants to quantify these uncertainties in the PRA model. The added documentation supporting requirement is intended to ensure that the assumptions incorporated into the PRA that are associated with the status of the design site, operational, and maintenance information or data are identified and documented to support the evolution of the PRA as more information and data are obtained (knowing where assumptions can be either validated or changed to represent the current information and data on the design, site, etc.). This will also enhance the independent or peer reviews of the PRA. No changes to the ISG were incorporated to address this comment.
IE-C6 [Initiating event screening criteria] The current version of the PRA standard does not identify unique screening criteria for new reactor designs that can have substantially lower risk profiles (e.g., plants with internal events CDF well below 1×10-6/year). As stated in RG 1.200, the quantitative screening value should	Very confusing replacement text.	The staff agrees that the replacement text is confusing in that it was expanded in the ISG to include the checks on the initiating event frequency screening after quantification to ensure screened initiating events are not significant to the total CDF of internal events. This approach is similar to the existing check in SPR-E3, but was not clear due to the structure of the enhanced supporting requirement and could be mis-interpreted. To provide clarity, the requirements related to validating the appropriateness of

[1] Throughout this document reference is made to "requirements." These references are not to NRC regulatory requirements, but to specific supporting requirements in the ASME/ANS PRA Standard, ASME/ANS-RA-Sa-2009.

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be adjusted according to the relative baseline risk value. Screening values lower than those in ASME/ANS RA-Sa-2009 need to be used commensurately with the lower CDF and LRF estimates expected from ALWRs. As a result, this supporting requirement should be replaced with the following criteria: **USE** the following screening criteria to eliminate initiating events or groups from further evaluation: (a) the mean frequency of the initiating event is less than 1×10^{-6} per reactor year (/ry) and less than 10 percent of the internal events mean CDF and core damage could not occur unless at least two trains of mitigating systems are failed independent of the initiating event, or (b) the mean frequency of the initiating event is less than 1×10^{-7}/ry and less than 1 percent of the internal events mean CDF and the initiating event does not involve or create an ISLOCA [intersystem loss-of-coolant accident], containment bypass, containment failure, or direct core damage (e.g., reactor pressure vessel rupture), or (c) the mean frequency of the initiating event is less than 1×10^{-8}/ry, or (d) the event does not result in a plant trip (manual or automatic) or a controlled manual shutdown. If credit is taken for operator actions to correct the condition to avoid a plant trip or controlled shutdown, then **ENSURE** that the credited operator actions and associated equipment have an exceedingly low probability of failure (i.e., collectively less than or equal to 1×10^{-5}) following the applicable supporting requirements of this part (e.g., Human Reliability Analysis – Subsection 2-2.5).		the screening after quantification have been removed from this supporting requirement and moved to the QU technical element. Specifically, a new supporting requirement, QU-D8 (and enhancement to LE-F2 and other supporting requirements for other Parts that cross-referenced IE-C6 or included similar language), is added in this ISG to ensure any screening based on initiating event frequency is not "significant" in relation to the total quantified risk associated with the hazard group. To meet QU-D8, if a screened initiating event frequency (or sum of the frequency of the screened initiating events for the hazard) is significant in relation to the hazard group's total quantified risk, then there will need to be an iteration to explicitly include one or more of the originally screened initiating events in the quantification of risk until the QU-D8 criterion is achieved. Similar changes are made in the other Tables (to address other hazard groups) for consistency.
	Why were a & b switched?	The staff agrees that criteria (a) and (b) were switched from the ordering in the PRA Standard. This was done strictly as an editorial construct so that the revised supporting requirement criteria have a numerical ordering. With this construct criterion (a) is at 10^{-6}/year, criterion (b) is at 10^{-7}/year, and the new criterion (c) is at 10^{-8}/year. No changes to the ISG were incorporated to address this comment.
	The intent of the added 10% and 1% are unclear.	The staff agrees that the intent of the addition of the "less than 10 percent of the internal events mean CDF" to criterion (a) and "less than 1 percent of the internal events mean CDF" to criterion (b) was not explained. The intent of these enhancements to the existing PRA Standard supporting requirement is to reasonably ensure an individual (or grouped) initiating event is not screened out solely based on the frequency cited in the criterion if it ultimately is greater than the cited percentage value of the total risk for that hazard group. Further, since criterion (b) involves events in which direct releases might occur, it has a smaller percentage value than criterion (a). These enhancements are intended to be similar to the "ENSURE" statements related to the cumulative contribution of all the screened initiating events mentioned

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ENSURE that the value specified in the criterion meets the applicable requirements in the Data Analysis (Subsection 2-2.6) and Level 1 Quantification (Subsection 2-2.7). **ENSURE** that the mean cumulative contribution to CDF of the internal initiating events that have been screened out is less than 5 percent of the total mean CDF for internal events. **ENSURE** that the mean cumulative contribution to LRF of the internal initiating events that have been screened out is less than 5 percent of the total mean LRF for internal events. If additional screening criteria are applied, **DEFINE** the applied criteria and **PROVIDE** a basis that demonstrates internal initiating events that are screened out using the criteria are not significant contributors to internal events risk.		above but relate to the individual (or grouped) initiating event frequency. Similar to the above resolution for the "ENSURE" statements, these considerations have been removed from IE-C6. Further, recognizing that the cumulative screening check at 5 percent would capture the most significant individual contributors too, the staff has determined that the checks on individual initiating event contributors are not necessary and have been eliminated from the ISG.
	Screening based on total mean CDF seems to be demonstrated by performing a full Level 1 PRA, compare the contribution of the IE and then remove the IE in question, after the fact. This seems to defeat the spirit of why you would want to screen it out in the first place.	The staff disagrees with this comment, but recognizes that clarification of the intent of the replacement supporting requirement is needed. As stated above, this process is recognized as being iterative. An initiating event may be screened using criteria (a) through (d). However, when the internal event risk is quantified, then a check must be performed on the collective frequency of the screened initiating events to ensure the screened initiating events are clearly not significant contributors (and if greater than the cited 5 percent, then some events need to be unscreened and evaluated until this threshold is achieved). Similar to the above resolution for the "ENSURE" statements, the individual initiating event checks have been removed from IE-C6. Further, recognizing that the cumulative screening check at 5 percent would capture the most significant individual contributors too, the staff has determined that the checks on individual initiating event contributors are not necessary and have been eliminated from the ISG.
	Intersystem vs. interfacing systems in ISLOCA definition.	The staff agrees with the comment. ISLOCA is defined as interfacing systems loss of coolant accident. The ISG has been corrected with the proper term.
<u>SC-B2</u> Clarifications and Comments CC I contains no restriction regarding the use of expert judgment, while restriction is placed on the use of expert judgment to achieve CC II/III. The applicant should use expert judgment only in those situations for which there is a lack of	Should the second sentence end with consistent with CC II/III? As CC II/III is referenced in the first sentence, and in the supporting requirement there is a CC I & a CC II/III.	The staff agrees with the comment. The second sentence has been corrected to end with CC II/III.

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available information or methods, consistent with CC II.		

SY-A4 CONFIRM that the system analysis correctly reflects the as-built, as-operated plant through discussions with knowledgeable plant personnel (e.g., engineering, plant operations, etc).	Should the Clarifications and Comments section reflect the "as-to-be-built" terminology as presented in the SY-A2 Clarifications and Comments section?	The staff agrees with the comment. The discussion section in the ISG table has been revised to generally reflect that the phrase "as-built, as-operated" should be interpreted for the pre-operational phases as "as-to-be-built, as-to-be-operated" similar to the SY-A2 clarification.
HLR-DA-B The rationale for grouping components into a homogeneous population for parameter estimation shall consider the design, environmental, and service conditions of the components in the as-built and as-operated plant (HLR-DA-B).	Should the Clarifications and Comments section reflect the "as-to-be-built" terminology as presented in the SY-A2 Clarifications and Comments section?	The staff agrees that the high level requirements (HLRs) should be clarified in the ISG so they are clearly applicable to ALWRs, though the PRA Standard already includes a note in the definition section for "as-built." However, the intent of including the HLRs was not for evaluation, but for providing context for the supporting requirements. Therefore, instead of providing a clarification each time the term or phrase occurs in a HLR, the staff has provided the appropriate ALWR term or phrase in brackets in the ISG.
HLR-SPR-C The seismic-PRA systems model shall reflect the as-built and as-operated plant being analyzed.	Should the Clarifications and Comments section reflect the "as-to-be-built" terminology as presented in the SY-A2 Clarifications and Comments section?	The staff agrees that the HLRs should be clarified in the ISG so they are clearly applicable to ALWRs, though the PRA Standard already includes a note in the definition section for "as-built." However, the intent of including the HLRs was not for evaluation, but for providing context for the supporting requirements. Therefore, instead of providing a clarification each time the term or phrase occurs in a HLR, the staff has provided the appropriate ALWR term or phrase in brackets in the ISG.
SPR-C1 To ensure that the systems-analysis model reflects the as-built, as-operated plant, JUSTIFY any conservatisms or other distortions introduced by demonstrating that	Should the Clarifications and Comments section reflect the "as-to-be-built" terminology as presented in the SY-A2 Clarifications and Comments section?	The staff agrees with the comment. The discussion section has been revised to generally reflect that the phrase "as-built, as-operated" should be interpreted for the pre-operational phases as "as-to-be-built, as-to-be-operated" similar to the SY-A2 clarification.

the seismic-PRA's validity for applications is maintained.		
EXT-B1 *Criterion 1*: The event is of equal or lesser damage potential than the events for which the plant has been designed. This requires an evaluation of plant design bases in order to estimate the resistance of plant structures and systems to a particular external hazard. *Criterion 5*: The event is slow in developing, and it can be demonstrated that there is sufficient time to eliminate the source of the threat or to provide an adequate response.	Removal of the use of design capability in the use of screening leads to the inability to judge the consequences of an external event. For example: If the design load rating of the roof for a snow load cannot be used, then how can the frequency of exceeding the load for consequence analysis be determined?	The staff disagrees with this comment. Criterion 1 involves reliance on the plant design bases to screen out hazards without consideration of the frequency of exceeding that design bases and the commentary refers to checking that the design bases conform to the 1975 Standard Review Plan (SRP) criteria, which infers frequencies of 10^{-6}/year to 10^{7}/year for some hazards, but can be higher for other external hazards, such as external floods. Further, meeting the design bases and conformance to the 1975 SRP does not mean that external hazards cannot have a significant contribution to the risk for a design, especially in light of the potentially very low overall risk values calculated for ALWR designs. The staff believes that the actual design capability can be considered in screening and evaluating external hazards, but would need to include the design of all structures and equipment; not just the safety-related structures and equipment (e.g., can a loss of offsite power be created by the hazard, can non-safety structures cause or contributor to failures) and would need to consider the frequency of the full spectrum of events and their impacts (e.g., straight winds at 125 miles/hour have a higher frequency than the tornado design basis, but can create many of the same effects onsite and beyond design basis events may create cliff-edge effects just below the design basis). The staff does not believe it is appropriate to screen a hazard simply because the design bases meet the 1975 SRP criteria. Further, the staff believes that the replacement supporting requirement for EXT-C1 provides the appropriate type of screening for external hazards that is also consistent with the replacement supporting requirement IE-C6. Clarification was added to the supporting requirement to make it clear that the

		design capability can be considered, but simply meeting design criteria for safety-related structures is not an adequate basis for screening since the full spectrum of events, including those less than and greater than the design basis would still need to be evaluated and the impact of non-safety SSCs with lower design capability would need to be considered.
	Inability to use this criterion [Criterion 5] may include items such as air pollution in the analysis. The inability to base capabilities on design criteria would affect this too.	The staff disagrees with this comment that the removal of Criterion 5 results in the need to consider items such as air pollution, though it is recognized that the staff did not clearly articulate that the replacement Criterion 2, which is related to the hazard not causing a plant trip or impacting SSCs and the potential to credit operator actions if demonstrated as extremely reliable, is expected to adequately address the scope of this criterion. The discussions in the ISG table have been revised to address this concern.

Pg.12, 27: SY-A19; Expectation on use of generic information.	SY-A19 item is classified as "Cannot Meet," but suggests that applicants use generic information. Pg. 12 states, "The applicants should address these supporting requirements using generic data and general industry operating practices and documenting the assumptions used in developing their PRAs." Other requirements (e.g., IE-C1, IE-C7) are classified as "Can Meet" based on the use of generic information.	The staff agrees with the specific comment related to SY-A19 and SY-A20; recognizing that these supporting requirements are related to modeling and not data. Supporting requirement SY-A19 calls on considering actual practices and plant-specific history for removing equipment from service. The discussions in the ISG table have been revised to address this concern. In addition, the staff position has been revised to reflect this as a clarification to be consistent with the terminology in RG 1.200, Appendix A (i.e., no objection, clarification, or qualification).
	It would seem that the use of generic information when plant-specific information is unavailable should be consistently stated, e.g., as "Can Meet" with an explanation in the "Clarifications and Comments" column, if that is the staff position. Conversely, the use of "Cannot	The staff disagrees with the comment. The ISG detailed tables involve the evaluation of the supporting requirements of the ASME/ANS PRA Standard, Addendum A. In some cases, a supporting requirement allows the use of generic data and information and these supporting requirements can be met as written. However, in

	Meet" implies no staff expectation at the DC/COL stage.	other cases, a supporting requirement does not have an allowance for the use of generic data and information (i.e., explicitly identifies that plant-specific information or data is to be used with no discussion of generic). In these cases, the supporting requirement cannot be met as written. In some of these latter cases, the staff has provided a qualification in the ISG that generic information should be used in the PRA. In other words, just because a supporting requirement cannot be met as written does not mean that the PRA does not need to do something in that same context nor does it mean that the staff does not have a position on what should be performed instead. This is clearly articulated on page 9 of the ISG. No changes to the ISG were incorporated to address this comment, however, the staff positions were revised to be consistent with RG 1.200, Appendix A terminology (i.e., no objection, clarification, or qualification).
Pg. 25: SC-B4	SC-B4 in the PRA standard states, "USE computer codes and models only within known limits of applicability." For a new plant application, the application may not be within the limits as "known" in existing literature. Suggest adding "Clarifications and Comments" to interpret "known" as "known **or demonstrated**" limits of applicability.	The staff disagrees with this comment. Computer codes and models should be used within their known limits of applicability. The applicability of a code or model can be extended via a number of means, including specific testing. If such tests "demonstrate" the applicability of the code or model beyond their current limits, then those results should be documented to support the extension of the "known" limits of applicability. No changes to the ISG were incorporated to address this comment.
Pg. 39: LRF vs. LERF	There is a note on pg. 39 regarding the applicability of LRF to the DC/COL is identified is on pg. 39. However, LERF is discussed earlier (e.g., pg 25, 37). Suggest using the note wherever LERF is mentioned.	The staff agrees that the HLRs need to be clarified so they are applicable to ALWRs. However, the intent of including the HLRs was not for evaluation, but for providing context for the supporting requirements. Therefore, instead of noting each time the term or phrase occurs in a HLR, the staff has provided the appropriate ALWR term or phrase in brackets in the ISG.

General: Expectation for R-COLA vs. S-COLA	Some line items suggest that additional information would be available for a subsequent COL application that may not be available for a reference COL application. It is not clear that this concept has been consistently addressed for all PRA requirements. Further, it may take some time to get useful information from a lead plant. Suggest either addressing the concept generally early in the ISG (rather than on a line item basis) or dividing the "COL Application" column into "R-COLA" and "S-COLA" to assure consistent treatment of each PRA requirement.	The staff agrees with the comment that reference and subsequent COL considerations were not consistently addressed for all supporting requirements and that it may take some time to get useful information from a lead (reference) plant for use by subsequent plants. Therefore, due to the variety of conditions a subsequent COL may experience, the staff has removed the language in the ISG associated with the reference and subsequent COL.
Pg. 3: Inclusion of information in SRP 19.0, Rev 3.	The ISG states "The staff review guidance for the DC and COL application PRA will be contained in Revision 3 of SRP Section 19.0." Draft Revision 3 was just issued for comment (December 2014). This ISG (028) provides much more detail on the application of the PRA standard than is in the draft Revision 3. Is it envisioned that RG 1.200 will include interpretations provided in ISG-028?	The staff agrees with the comment that this ISG contains more detail than the current draft Revision 3 of SRP Section 19.0. At the end of the referenced background section, the text in the ISG sates that this guidance has been developed to convey the staff position on the use of the PRA Standard for an ALWR DC or COL application until these positions are reflected in the next revisions of RG 1.200, RG 1.206, and SRP Section 19.0, as appropriate. Therefore, there are no changes to the text needed to convey the intent of the ISG.
General: Multiple module issues	The ISG does not address multiple module issues. This is apparently in keeping with the PRA standard (ASME/ANS) RA-Sa 2009. However, draft SRP 19.0, Revision 3 does require "appropriate treatment of important insights related to multi-module design and operation." If ISG-028 will not address multiple module PRA issues, suggest clearly stating so and pointing to draft SRP 19.0 Revision 3 for the staff position.	The staff agrees with this comment and has revised the text in the ISG to clearly state that one of the changes to SRP Section 19.0 in Revision 3 was to include multiple module design considerations related to risk insights. A footnote has also been added to the ISG along with this text to state that this ISG does not address any additional considerations for multiple module designs.
	Edit: the term "module" is used in ISG-028 as a synonym for "super component."	The staff agrees with the comment and has removed the use of the term "module" in the context

	Suggest deleting this use as it is unnecessary or add clarifying note.	of "super components" so as not to confuse the phrase with the use of the term in the context of some reactor designs. However, the staff notes that this term is currently used in the PRA Standard in SY-A9, SY-C2, QU-B10, and Section 2-3.3.7 in the context similar to "super components."
Pg. 6, 7, 16: Reference to tables	Edit: Instead of referring to "summary," "detailed" and "following" tables, suggest referring to table numbers. The summary table is apparently Table 1 and detailed tables are Tables 2 through 9.	The staff agrees with the comment and has revised the references to tables in the ISG to use their numeric value, as appropriate.
Pg. 6 Scope and Capability of PRA for DC Application and COL Application In other cases, not taking the action is not necessarily conservative or appropriate for an ALWR DC application or COL application (e.g., not limiting the use of expert judgment) and the supporting requirement should be addressed in a way consistent with the capability Category II level (or capability Category III if no actions are required in capability Category II either). These specific situations are identified in the detailed tables that address the individual supporting requirements.	There is no basis provided for requiring that the supporting requirement be addressed in a way consistent with capability Category II for essentially every application.	The staff agrees with the comment that this ISG does not establish a generic applicability to all types of applications. In the context of the ISG, the only "applications" being addressed are for a design certification or combined license. The statement is not intended to apply to any other type of application that might be sought separate from these two applications. The staff believes this general text, as written, is clear that it is only being applied to these two applications, especially in light of the fact that there is discussion in the Purpose and Background sections on pages 1 and 2 that make it clear that other types of applications should not use this ISG. The specific supporting requirements affected are addressed in the individual detailed tables (Tables 2 through 9). Therefore, no changes have been made to the text in the ISG.
Pg. 8 Peer Reviews or Self Assessments In addition, the review documentation should identify any limitations associated with the review that would impact risk-informed applications due to the status of the design, site, operational, ad maintenance information or data.	As described it is very difficult to perform this on an application specific basis.	The staff agrees that the identification of limitations associated with the review for each risk-informed application would be very difficult. However, that is not the intent of the text. The overall intent of the text is to capture the limitations in the peer review due to the limited information and data available or fully developed due to the status of the design et al. These limitations in the peer review should be identified and documented in a manner so that their impact on risk-informed applications or future PRA

		changes is recognized (e.g., potential need for focus-scope peer reviews of areas not fully developed or involving significant assumptions for the DC or COL application stages). This is similar to the need for the peer review to document areas that were not reviewed or limitation in the scope of the peer review. Since the scope is greater than just the impact on risk-informed applications, but includes PRA changes and uses in general, the text in the ISG has been revised to be more general.
Pg. 18 Table 2 Supporting Requirement IE-A8 The DC application and COL application PRAs should include interviews of the design/plant staff appropriate for that stage to ensure no potential initiating events have been overlooked; recognizing that the interviews will not reflect plant specific experiences, but design and general experiences.	As written this exceeds the PRA Standard requirement without having a basis provided.	The staff disagrees with the comment. Capability Category I for this supporting requirement does not contain a required action. Consistent with the staff general discussion in the ISG regarding these situations, the staff evaluated capability Category II to determine if it was appropriate to be performed. The supporting requirement is striving to ensure that potential initiating events have not been overlooked by interviewing plant personnel, which is a good practice when developing a PRA. As such, the capability Category II aspect of the supporting requirement is appropriate to be performed at the DC and COL application stages; recognizing that instead of "plant personnel" these applications will use interviews of the design/plant staff appropriate for that stage and will not reflect plant-specific operating experiences. Therefore, no changes are needed to the supporting requirement staff determination and clarification in the ISG.
Pg. 18, Table 2 Supporting Requirement IE-A10 For multi-unit designs, a DC may include assumptions regarding shared support system arrangements, while a COL can address the designs for the alignment of site-specific shared support systems.	Assumptions may still be needed for a COL.	The staff agrees with the comment that assumptions may still be needed for a COL applicant. The staff comment on this supporting requirement in the ISG is simply identifying that the COL applicant will have some site information that would not have been available to a DC applicant, which should enable the COL applicant to better address the site-specific shared support system designs. For added clarity,

		the staff discussion in the ISG table has been revised.
Pg.19, Table 2 Supporting Requirement IE-B5 For multi-unit designs, a DC may make assumptions regarding shared support system arrangements, while a COL can address the designs for the alignment of site-specific shared support systems.	Assumptions may still be needed for a COL.	The staff agrees with the comment that assumptions may still be needed for a COL applicant. The staff comment on this supporting requirement in the ISG is simply identifying that the COL applicant will have some site information that would not have been available to a DC applicant, which should enable the COL applicant to better address the site-specific shared support system designs. For added clarity, the staff discussion in the ISG table has been revised.
Pg. 22, 23, Table 2 Supporting Requirements IE-C8, IE-C9,IE-C10 and IE-C11 The COL applicant will be able to use fault tree modeling approaches for addressing these site-specific support systems.	COL support systems might not be amenable to developing fault tree models because of the lack of specific support system design information.	The staff agrees with the comment that COL applicants may not be able to model site-specific support systems due to a lack of design information. The staff comment on this supporting requirement in the ISG is simply identifying that the COL applicant will have some site information that would not have been available to a DC applicant, which should enable the COL applicant to better address the site-specific shared support system designs. For added clarity, the staff discussion in the ISG table has been revised.
Pg. 23, Table 2 Supporting Requirement IE-C13 For DCs, plant-specific features related to support systems may be assumed (e.g., service water ultimate heat sink), while COLs can directly include these features in determining the most applicable generic data to use for rare events.	COL support systems might not be amenable to developing fault tree models because of the lack of specific support system design information.	Though this supporting requirement is not related to fault tree modelling (it is related to identifying the most applicable generic data for rare initiating events), the staff agrees with the implied intent of the comment that assumptions may still be needed for a COL applicant. The supporting requirement calls on the use of plant-specific features in making this determination and the staff comment on this supporting requirement in the ISG is simply indicating that site-specific information may be available to support this determination for a COL applicant. Recognizing other comments related to the potential for COL applicants to need to make assumptions, the discussion in the ISG table has been revised to reflect that COL applicants may be

		able to consider these features if the additional design information is available.
Pg. 25, Table 2 Supporting Requirement SC-A4 For multi-unit designs, a DC may make assumptions regarding shared support system arrangements, while a COL can address the designs for the alignment of site-specific shared support systems.	COL support systems might not be amenable to developing fault tree models because of the lack of specific support system design information.	Though this supporting requirement is not related to fault tree modelling (it is related to multi-unit designs), the staff agrees with the implied intent of the comment that assumptions may still be needed for a COL applicant. The staff discussion on this supporting requirement in the ISG table is simply identifying that the COL applicant will have some site information that would not have been available to a DC applicant. This additional site-specific information should enable the COL applicant to better address the site-specific shared support system designs. For added clarity, the staff discussion in the ISG table has been revised.
Pg. 26, Table 2 Supporting Requirement SY-A4 This confirmatory supporting requirement will be enhanced at the COL application stage as additional system design information becomes available.	Suggest revising this to state, "This confirmatory supporting requirement will be enhanced if additional system design information is available at the COL application stage."	The staff agrees with the comment and has revised the staff discussion in the ISG table on this supporting requirement.
Pg. 27, Table 2 Supporting Requirement SY-A6 DC applicants may make assumptions regarding some of the support systems. The COL applicant can directly address the site-specific support system design.	Assumptions may still be needed for a COL.	The staff agrees with the comment that COL applicants may still need to make assumptions regarding some support systems due to a lack of design information. The staff comment on this supporting requirement in the ISG is simply identifying that the COL applicant will have some site information that would not have been available to a DC applicant, which should enable the COL applicant to better address the site-specific shared support system designs. For added clarity, the staff discussion in the ISG table has been revised.
Pg. 27, Table 2 Supporting Requirements SY-A19 and SY-A20 For these application stages actual practices and plant history will not be available to	These supporting requirements do not invoke plant-specific data. They are modeling supporting requirements which can be met.	The staff agrees with the comment and has changed the entries to a clarification regarding the use of "actual practices and history of the plant," "procedures," and "planned activities."

develop component and train unavailabilities, especially those related to corrective maintenance. For these application stages there is insufficient information to identify planned activities that would result in the unavailability of redundant equipment, especially as this supporting requirement cross-references DAC14, which is related to reviewing plant experience.		
Pg. 28 Table 2 Supporting Requirement SY-B2 The DC or COL applicant should address inter-system common cause failure (either modeling it or showing that it has no impact on the results) if it is supported by generic data.	This is redefining what is in the PRA Standard.	Though the staff disagrees with the comment that the ISG is redefining what is in the PRA Standard (i.e., the introductory discussion of the ISG states that when a supporting requirement did not have a specific requirement in capability Category I that the staff reviewed the next capability category with a required action to determine if it was appropriate to consider for a design certification and combined license application), it is recognized that it is highly unlikely that inter-system common cause failure will need to be addressed in these application stages. For this specific supporting requirement, the staff revised the discussion in the ISG table to make it clear that inter-system common cause failures would only need to be considered when supported by generic data and for which inter-system common cause failures have traditionally been considered (e.g., BWR HPCI and RCIC).
Pgs. 28, 29 and 35, Table 2 Supporting Requirements SY-B5, SY-B6, SY-B7, SY-B9, SY-B12 ad DA-C12 DC applicants may make assumptions regarding some of the support systems. The COL applicant can directly address the site-specific support system design.	Assumptions may still be needed for a COL.	The staff agrees with the comment that assumptions may still be needed for an application for a combined license and has clarified the discussion in the ISG tables to include this observation.

Pgs. 43, 44 and 45, Table 3 Supporting Requirements IFPP-A3, IFSO-A2 and IFSN-A11 For multi-unit designs, a DC may make assumptions regarding shared support system arrangements, while a COL can address the designs for the alignment of site specific shared support systems.	Assumptions may still be needed for a COL.	The staff agrees with the comment that assumptions may still be needed for an application for a combined license. The intent of the staff comment on this supporting requirement in the ISG was that there would be additional information regarding shared systems for which a combined license at a multi-unit site could have that would not be available to a design certification. This discussion in the ISG table was not intended to suggest that there would be no assumptions in the combined license PRA. The staff has clarified the discussion in the ISG tables to include this observation.
Pg. 47, Table 3 Supporting Requirement IFSN-A13 Given that drains can be plugged or covered and sump pumps can fail, qualitative screening should not credit this capability, but rather address the flood events quantitatively considering mitigation system performance and potential failures.	This is contrary to the PRA standard with no basis provided.	The staff disagrees with the comment that the staff position is contrary to the PRA Standard. Rather, the staff notes that this ISG is intended to explain the use of the PRA Standard for the specific applications for a design certification or combine license. The staff discussion in the ISG table provide the rationale for why credit should not be assumed to always be successful a priori for having drains and sump pumps. No changes to the ISG were incorporated to address this comment.
Pg. 47, Table 3 Supporting Requirement IFSN-A14 For this supporting requirement, criterion (a) is redundant with IFSN-A12 (without the condition that it cause an initiating event/shutdown), criterion (b) has the same condition as provided above for supporting requirement IFSN-A13 related to drains and sump pumps, and criterion (c) is a qualitative version of the quantitative criteria below in supporting requirement IFEV-A8, for which it is more appropriate to use the quantitative criterion for screening. That being the case, this supporting requirement is not necessary and should not be used.	This is contrary to the PRA standard with no basis provided.	The staff notes that the cited context is to IFSN-A15, which is discussed below. Regarding IFSN-A14, the staff disagrees with the comment, but recognizes that the crediting for human mitigative actions is different than the credit addressed in the replaced IFSN-A12 and the draft ISG position was incorrect. As a result, this supporting requirement has been changed to a qualification to provide the quantitative criteria that should be demonstrated in crediting such actions for screening purposes.

Pg. 47, Table 3 Supporting Requirement IFSN-A15 For this supporting requirement, criterion (a) is redundant with IFSN-A12 (without the condition that it cause an initiating event/shutdown), criterion (b) has the same condition as provided above for supporting requirement IFSN-A13 related to drains and sump pumps, and criterion (c) is a qualitative version of the quantitative criteria below in supporting requirement IFEV-A8, for which it is more appropriate to use the quantitative criterion for screening. That being the case, this supporting requirement is not necessary and should not be used.	This is contrary to the PRA standard with no basis provided.	The staff disagrees with the comment, but recognizes that this supporting requirement, which is related to screening flood sources, is different than the screening in IFSN-A12 through IFSN-A14, which is related to flood areas, and the draft ISG position was incorrect. Therefore, the staff position for this supporting requirement has been changed to a qualification to reflect the similar staff position of IFSN-A13 (i.e., should not a priori take credit for always successful drainage or pump capability) and to reflect the similar enhanced wording in IFSN-A12 for not crediting barrier failure and the use of other criteria.
Pg. 47, Table 3 Supporting Requirement IFSN-A16 This supporting requirement is redundant with IFSN-A14 and, like IFSN-A14, should not be used.	This is contrary to the PRA standard with no basis provided.	The staff disagrees with the comment, but recognizes that the draft ISG position was incorrect. Therefore, the staff position for this supporting requirement has been changed to a qualification to reflect the similar position of IFSN-A14.
Pg. 48, Table 3 Supporting Requirement IFEV-A4 For multi-unit designs, a DC may make assumptions regarding shared support system arrangements, while a COL can address the designs for the alignment of site specific shared support systems.	Assumptions may still be needed for a COL.	The staff agrees with the comment that assumptions may still be needed for an application for a combined license. The intent of the staff comment on this supporting requirement in the ISG was that there would be additional information regarding shared systems for which a combined license at a multi-unit site could have that would not be available to a design certification. This discussion in the ISG table was not intended to suggest that there would be no assumptions in the combined license PRA. The staff has clarified the discussion in the ISG table to include this observation.
Pgs. 51 and 52, Table 4 Supporting Requirements ES-A2 and ES-B4	Assumptions may still be needed for a COL.	The staff agrees with the comment that assumptions may still be needed for an application for a combined license and has clarified the discussion in the ISG to include this observation.

Further, DC applicants may make assumptions regarding the design of some of the support systems, while a COL applicant can directly address the site-specific support system design.		
Pg. 68, Table 5 Supporting Requirement SHA-A1 For COL applications, site-specific hazard information will be available to address the supporting requirement directly and/or confirm that the DC hazard bounds the actual site and regional characteristics. These applications will follow ISG DC/COL-ISG-020.	This is confusing since at DCD and COL stages a PRA margin approach is utilized, so it is unclear why this is addressed Table 5. The 4th column in Table 5 repeatedly refers to ISG DC/COL-ISG-020.	The staff agrees with the comment that the discussion could be confusing. The staff notes that at the COL application stage there would be site information that could be used to characterize the site-specific hazard consistent with the supporting requirement, thus an applicant could upgrade the design certification PRA-based seismic margins analysis into a site-specific seismic PRA As such, a COL applicant could meet these supporting requirements with a seismic PRA. The DC/COL-ISG-020 (and SRP 19.0) does not require this upgrading and it is not expected for COL applications. Therefore, to be consistent with the approach of addressing the typical, or expected application conditions, the staff position for these supporting requirements has been changed to a qualification with a discussion that if the COL applicant does upgrade to a seismic PRA, then the supporting requirements can be met directly. In addition, the reference has been changed to the recently issued SRP 19.0, Revision 3, which incorporates and references the ISG DC/COL-ISG-020.
Pgs. 69, 70 and 72, Table 5 Supporting Requirements SHA-C2, SHA-D2, SHA-F1 and SHA-F3 These applications will follow ISG DC/COL-ISG-020.	Inconsistent with other characterizations for Supporting Requirements in Table 5. Not clear why these are different.	The staff agrees with the comment that these supporting requirements do not contain as extensive a commentary as other supporting requirements in the seismic hazards analysis technical element. In some cases this shortened discussion in the ISG is due to the specifics of the requirement (e.g., not directly connected to the seismic hazard itself, but rather the analysis process or use of expert elicitation). The staff reevaluated these discussions

		in the ISG and, as appropriate, revised the discussions within Table 5 to be consistent.
Pg. 75, Table 5 Supporting Requirement SFR-C1 DC Application "CANNOT MEET"	Suggest that "NOT APPLICABLE" is a more accurate characterization than "CANNOT MEET."	The staff disagrees with the comment. This supporting requirement, at capability Category I, includes the action to "ENSURE that the spectral shape used reflects or bounds the site-specific conditions." The staff notes in its discussion column in the ISG table for this supporting requirement that at the design certification stage, the applicant cannot ensure the spectral shape bounds the site-specific conditions since a site is not designated at this stage. No changes to the ISG were incorporated to address this comment, however, the staff positions were revised to be consistent with RG 1.200, Appendix A terminology (i.e., use the terms no objection, clarification, or qualification).
Pg. 77, Table 5 Supporting Requirement SFR-E2 If components are not screened out then the supporting requirement is Not Applicable, which will likely be the case for DC and COL applications. If components are screened out, than a justification for the screening needs to be provided.	Should be Not Applicable because walkdowns will not have been performed.	The staff notes that the context cited for the comment is for SFR-E3 (not SFR-E2), which is related to screening out components during or following walkdowns. In the context of SFR-E3, the staff agrees that this supporting requirement is not applicable. The discussion section in the ISG for this supporting requirement has been enhanced to make it clear that DC and COL applicants cannot screen out components based on walkdowns since walkdowns cannot be performed at these stages. The staff position was also revised to be consistent with RG 1.200, Appendix A terminology (i.e., no objection, clarification, or qualification).
Pg. 77, Table 5 Supporting Requirement SFR-F2 For DC and COL application, this supporting requirement will used the exception clause in the supporting requirement and justify the use of generic fragility information for the analysis.	Editorial: this supporting requirement will used the exception	The staff agrees with the editorial comment and has fixed the typographical error in the ISG.

Pg. 86, Table 7 Supporting Requirement WHA-A1, and P93, Table 8 Supporting Requirement XFHA-A1 DC Applicant "Can Meet", COL Applicant "Can Meet"	These are inconsistent with the approach for the seismic hazard and the reasoning for the difference is not clear.	The staff agrees that the differences in the approach to hazards for external flooding and high winds is different than the approach for seismic without an explanation. It is noted, however, that the exception is with the seismic hazard analysis approach. Though there is specific guidance in DC/COL-ISG-020 for performance of a "PRA-based seismic margins" approach, which would make the Part 5 supporting requirements on seismic hazards not applicable, the approach for high winds and external flooding is to perform an analysis consistent with the Part 7 and Part 8 hazard supporting requirements, albeit likely in a general bounding manner. In the context of the ISG, the staff does not believe any further clarification is needed. No changes to the ISG were incorporated to address this comment.