

NRCREP Resource

From: REED, Joseph [jsr@nei.org] on behalf of BRADLEY, Biff [reb@nei.org]
Sent: Wednesday, August 20, 2008 11:13 AM
Subject: Industry Comments on Draft Regulatory Guide DG-1200 (Federal Register of June 20, 2008, 73 FR 35171)
Attachments: 08-20-08_NRC_Comments on RG 1.200R2.pdf; 08-20-08_NRC_Comments on RG 1.200R2_Enclosure.pdf

August 20, 2008

Rulemaking, Directives, and Editing Branch
Office of Administration
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

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RULES AND DIRECTIVES
BRANCH
USNRC

Subject: Industry Comments on Draft Regulatory Guide DG-1200 (Federal Register of June 20, 2008, 73 FR 35171)

Project Number: 689

The NRC has issued for public comment draft Regulatory Guide DG-1200, "An Approach for determining the Technical Adequacy of Probabilistic Risk Assessment Results for Risk-Informed Activities." The Nuclear Energy Institute offers the following comments regarding the proposed revision to Regulatory Guide 1.200. We also endorse the comments provided by the reactor owners groups. A public meeting was conducted on July 11, 2008 to discuss the draft Regulatory Guide, and the NRC presentation material is also referenced within these comments.

We believe that significant issues remain to be resolved with PRA standards addressed in the appendices and with the regulatory implications suggested in the body of the draft Regulatory Guide. We believe the Regulatory Guide should not be issued for use until further progress is made in addressing the issues outlined below. The body of this letter provides policy and regulatory high level comments on the draft Regulatory Guide. Specific comments on the Regulatory Guide and its Appendices are provided in the enclosure.

High Level Comments

Need for extended trial use period relative to Fire and External Events PRAs

The regulatory guide should not be made final until both fire and external events PRA methods provided in the combined PRA standard have been fully piloted, and the results have been incorporated back into the combined standard. Pilot applications of the external events and fire methods are now underway, and initial applications of the fire method have led to a significant effort now underway to modify the NUREG CR-6850 fire PRA method, which is codified at a certain level of detail into the fire PRA standard. Past experience has demonstrated that piloting and feedback are essential to the development of usable PRA standards. Thus, we request that a trial implementation period be provided for the fire and external events portions of the combined standard as endorsed by the Regulatory Guide. The scope of PRA addressed by this revision of the

SUNSI Review Complete
Template = ADM-013

L-RIDS = ADM-03
1 Call = J. Ridgely (JNR)
M. Drouin (MAD)

Regulatory Guide is substantially greater than that addressed in Revision 1. As a result, a substantial phase-in period is requested to allow utilities to develop more complete PRA models that meet the expectations provided. A trial use period of 1 year was allowed for Revision 1. In this case, it seems that much longer time period would be appropriate, e.g., 3 to 5 years.

Scope of Applicability of Regulatory Guide

Slide 15 from the July 11 NRC meeting materials states that a “global change” has been made from Revision 1 of the Regulatory Guide to change “application” to “activity,” and “proposed change” to “proposed decision.”

Further, the subject *Federal Register* Notice states the following:

In 1995, the NRC issued a Policy Statement on the use of probabilistic risk analysis (PRA), encouraging its use in all regulatory matters. That Policy Statement states that “...the use of PRA technology should be increased to the extent supported by the state-of-the art in PRA methods and data and in a manner that complements the NRC’s deterministic approach.” Since that time, many uses have been implemented or undertaken, including modification of the NRC’s reactor safety inspection program and initiation of work to modify reactor safety regulations. Consequently, confidence in the information derived from a PRA is an important issue, in that the accuracy of the technical content must be sufficient to justify the specific results and insights that are used to support the decision under consideration.

The above words appear to suggest the Regulatory Guide would apply to the NRC reactor oversight process.

Changing the applicability from “Risk-informed Application” to “Risk-Informed Activity” is a significant change in the purpose and impact of the Regulatory Guide. “Activities” connotes a much broader scope than the original intention of the Regulatory Guide to provide PRA technical adequacy guidance in support of voluntary risk-informed license applications. Further, the standards being endorsed were written in the context of licensing applications. “Activities” would include risk-informed decision-making in support of the reactor oversight significance determination process, maintenance rule, use of PRA for developing operator training scenarios, use of PRA for procedure change reviews or design change reviews, use of PRA in support of 10 CFR 50.59 reviews, and potentially many other uses. This expansion of applicability is a backfit and should not be undertaken absent a formal regulatory analysis. In addition to the backfit issue, the expansion of applicability into non-voluntary uses of PRA, such as the significance determination process would create many other problems, in that it will be many years before plants PRAs (or NRC’s SPAR models) meet the technical adequacy expectations of the regulatory guide, and in the interim these non-voluntary processes have to remain viable. The regulatory guide should be clearly stated to apply only to voluntary risk-informed initiatives. In the absence of these applications, there remains no regulatory requirement for PRA for plants licensed under Part 50.

Definition of fire as internal event

As discussed in Slide 6 of the July 11 NRC meeting materials, NRC proposes to define internal fires and floods as “internal events” (“area” events as distinguished from “hardware events”). While this change may be desirable from a purely technical standpoint, it will create incompatibility with all the previous regulatory uses of the term “internal events PRA” in NRC regulation, regulatory guides, NUREGs, inspection manuals, regulatory information summaries, RASP handbook and many other regulatory documents. This unintended consequence

could and will lead to confusion and attempted re-interpretations of existing requirements and guidance by NRC field personnel. Unless NRC intends to revise all previous agency and external regulatory uses of the term “internal events,” the existing definition should be retained, or a “hazard group” definition such as used in proposed Addendum A to the combined standard should instead be referenced such that confusion with previous uses of “internal events” terminology is avoided.

Proposed new definition of “Large Release”

The second half of the definition for “Large release frequency” is too subjective. A “statistically significant increase in latent health effects” could be interpreted in many ways. It is recommended that this portion of the definition be deleted.

Combination of results from Hazard Groups

Slide 9 from the July 11 NRC public meeting discussed interpretation of results as described on pages 15 and 16 of the draft Regulatory Guide. The first bullet notes “Combine (sum) results from different hazard groups.” While the discussion in the draft Regulatory Guide provides appropriate considerations for combination of results, we believe stronger caution needs to be added regarding the potential distortion of risk insights due to simply summing results. As more complete scope PRAs are developed and used in regulatory applications, it is important for NRC field personnel to fully understand the issues associated with combining results as there will be a tendency to simply sum results and compare to decision criteria.

Realism is an essential component of a PRA. Conservatism, while sometimes necessary to deal with uncertainties, can compromise the technical adequacy of a PRA. This draft Regulatory Guide is silent on the need for a balanced, realistic assessment of risk, especially in the base PRA addressed by Regulatory Guide 1.200. The NRC’s work on NUREG-1855 provides various statements along these lines that should be considered for the body of the Regulatory Guide, as there has been an increasing propensity to apply conservative assumptions to regulatory applications of PRA methods.

Acceptability of Seismic Margins method

The draft Regulatory Guide notes that the Seismic Margin (SMA) method is not an acceptable approach in the base PRA for seismic contributors. This note to Table 3 contradicts a major premise of Part 4 of the ANS/ASME combined standard, and appears to go beyond regulatory “guidance” in establishing de facto requirements for SPRA. This significant departure from the approved consensus method is not in keeping with the spirit of NRC use of consensus methods. Further, Part 4 of the standard notes that SMA may be appropriate for some risk-informed applications, and this premise is not challenged by the draft Regulatory Guide. Since most regulatory applications use delta rather than baseline risk values, NRC’s statements are at best confusing and at worse are directly contradictory to the intent of the standard. We request that NRC provide their safety rationale for the statements on applicability of the SMA.

Differing levels of detail/complexity across combined standard

Slide 18 from the July 11 NRC meeting materials provide the following statement relative to Part 3 (fire PRA) of the combined standard:

While the requirements are thorough, they are possibly overly complex. However, this complexity should be addressed in the pilot applications of this part of the standard.

The issue of excessive detail in the fire portion of the standard is not trivial, nor is it likely to be successfully resolved through applications. Issues with complexity of requirements are rightly dealt with in Regulatory Guide 1.200. Fire PRA development is being predominantly driven by industry implementation of 10 CFR 50.48(c), and the use of a particular fire PRA method (NUREG CR-6850) for this application establishes expectations for PRA. This particular method for fire PRA has been essentially codified in Part 3 of the Standard. This is fundamentally different from the internal events portion of the standard. A decision was made to combine the standards, thus exacerbating this discrepancy. This provides further credence for a lengthy trial use period until all issues with the fire portion of the standard are addressed.

Lack of thorough NRC review of External Events standard

Slide 19 from the July 11 NRC meeting materials provide the following statement relative to Part 4 (external events) of the combined standard:

This part of the standard is difficult to use because it is not formulated in a parallel manner to the other parts of the standard (i.e., Parts 2 and 3). This difficulty should be addressed in future revisions of the combined standard. Because of this difficulty, a thorough review was not performed by NRC staff on this revision"

NRC states they have not performed a thorough review; however, NRC intends to move ahead and endorse the standard now for regulatory use. It appears that schedule rather than quality is driving the issuance of the Regulatory Guide. Regulatory endorsement absent thorough review is premature and provides further importance to the need for a trial use period for the external events portion of the standard. The final version of the Regulatory Guide should not be issued until this issue is resolved.

Need to re-perform PRA self assessments

NRC provides a "global qualification" that the industry self assessment needs to be re-performed to the latest version of the standard. This is inconsistent with our understanding that the self-assessments were a one-time undertaking to address the differences in the original internal event peer review method and the internal events PRA standard endorsed in Revision 1 of Regulatory Guide 1.200. NEI does not plan to develop additional self-assessment guidance for distribution to industry because it is unlikely any new requirements in later versions of the standards would have a corollary in the original peer review process (NEI-00-02). Our understanding of the intent is that for additional requirements in later versions of the standards, individual assessments should be made by the plants if these requirements are not otherwise addressed in a focused scope peer review. This is limited to internal events, and does not address the expanded scope of Revision 2 of the Regulatory Guide to include external events and fire, which would obviously be subject to new peer reviews. We request NRC clarify this position accordingly.

Additional technical comments of a general nature

1. It is important that Regulatory Guide 1.200 and the ASME/ANS Combined PRA Standard work together in a consistent manner. Given that ASME has a significant effort underway to enhance the technical coherency and usability of the Combined Standard in an Addendum to be approved later this year, it would

be prudent to delay the release of Revision 2 of the Regulatory Guide until it can endorse the improved version of the Combined Standard.

2. Similarly, because the Combined Standard and Regulatory Guide 1.200 work together in defining the technical adequacy of a PRA, it is important that the nomenclature and concepts of the two documents be as consistent as possible. While a number of specific comments are provided in the attachment, it is recommended that the NRC perform a specific review of the use of terms like “hazard group” and “initiating event” to be sure that these terms are defined and used in a manner that is consistent with the Addendum A of the Combined Standard.
3. The term “quality” continues to be used by the NRC staff as a surrogate for technical adequacy. These two terms have very different meanings and should not be used interchangeably. The title of the draft Regulatory Guide uses the term “technical adequacy.” The text in the second and third paragraphs talks in terms of “quality.” It is entirely possible to perform analysis that is of high “quality” and yet be technically inadequate. It is recognized that some of this ties back to the use of “quality” in Regulatory Guide 1.174. It is recommended that Regulatory Guide 1.200 use more appropriate terms, and Regulatory Guide 1.174 be similarly corrected in its upcoming revision.
4. This Regulatory Guide needs to be better aligned with NUREG-1855 and the Combined PRA Standard with respect to what constitutes a “screening analysis,” a “bounding analysis,” and a “conservative analysis,” and the role of each in the context of risk-informed decision-making. Right now, this document blurs together screening, bounding and conservative approaches. It is important that licensees understand when each type of analysis is sufficient. That is, when a full PRA is required vs. when a conservative analysis can suffice vs. when a bounding analysis is sufficient vs. when a risk contributor can be screened. These distinctions are not yet clear in any regulatory or non-regulatory document.

Additional specific comments are provided in the attachments. We appreciate the opportunity to comment. Please contact me or Victoria Anderson (vka@nei.org, 202 739-8101) if you have any questions.

Sincerely,

Biff Bradley
Director, Risk Assessment
Nuclear Generation Division

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Biff Bradley
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RISK ASSESSMENT
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August 20, 2008

Rulemaking, Directives, and Editing Branch
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¹ NEI is the organization responsible for establishing unified nuclear industry policy on matters affecting the nuclear energy industry, including regulatory aspects of generic operational and technical issues. NEI members include all utilities licensed to operate commercial nuclear power plants in the United States, nuclear plant designers, major architect/engineering firms, fuel fabrication facilities, materials licensees, and other organizations and individuals involved in the nuclear energy industry.

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Additional technical comments of a general nature

1. It is important that Regulatory Guide 1.200 and the ASME/ANS Combined PRA Standard work together in a consistent manner. Given that ASME has a significant effort underway to enhance the technical coherency and usability of the Combined Standard in an Addendum to be approved

later this year, it would be prudent to delay the release of Revision 2 of the Regulatory Guide until it can endorse the improved version of the Combined Standard.

2. Similarly, because the Combined Standard and Regulatory Guide 1.200 work together in defining the technical adequacy of a PRA, it is important that the nomenclature and concepts of the two documents be as consistent as possible. While a number of specific comments are provided in the attachment, it is recommended that the NRC perform a specific review of the use of terms like "hazard group" and "initiating event" to be sure that these terms are defined and used in a manner that is consistent with the Addendum A of the Combined Standard.
3. The term "quality" continues to be used by the NRC staff as a surrogate for technical adequacy. These two terms have very different meanings and should not be used interchangeably. The title of the draft Regulatory Guide uses the term "technical adequacy." The text in the second and third paragraphs talks in terms of "quality." It is entirely possible to perform analysis that is of high "quality" and yet be technically inadequate. It is recognized that some of this ties back to the use of "quality" in Regulatory Guide 1.174. It is recommended that Regulatory Guide 1.200 use more appropriate terms, and Regulatory Guide 1.174 be similarly corrected in its upcoming revision.
4. This Regulatory Guide needs to be better aligned with NUREG-1855 and the Combined PRA Standard with respect to what constitutes a "screening analysis," a "bounding analysis," and a "conservative analysis," and the role of each in the context of risk-informed decision-making. Right now, this document blurs together screening, bounding and conservative approaches. It is important that licensees understand when each type of analysis is sufficient. That is, when a full PRA is required vs. when a conservative analysis can suffice vs. when a bounding analysis is sufficient vs. when a risk contributor can be screened. These distinctions are not yet clear in any regulatory or non-regulatory document.

Additional specific comments are provided in the attachments. We appreciate the opportunity to comment. Please contact me or Victoria Anderson (vka@nei.org, 202 739-8101) if you have any questions.

Sincerely,



Biff Bradley

Enclosure

c: Dr. Gareth W. Parry, U.S. Nuclear Regulatory Commission
Ms. Mary Drouin, U.S. Nuclear Regulatory Commission

Specific Comments on Main Body of DG-1200

#	Section/Reference	Comment
1	B. Discussion 2 nd Bullet on page 3	The second bullet and associated footnote define a "part of a PRA" to be a "piece of the analysis for which an applicable PRA standard identifies a supporting level requirement." However, in some cases, a "part" can be an entire hazard group which need not be addressed. In fact, in the next sentence, the bullet contrasts the reference to "part of a PRA" to a "full-scope PRA". This could be read to imply that decisions on applicability are only made at the supporting requirement (SR) level, when in fact a "part" could be an entire hazard group or simply a portion of a the model where a particular SR applies (i.e., certain events, HFEs, data, etc.).
2	3 rd bullet on page 3	It would be beneficial to clarify that the reference to "this document" in this bullet refers to RG 1.174 and not RG 1.200 so as to avoid a misunderstanding of the applicability of RG 1.200.
3	Paragraphs after bullets on page 3	It is not clear what the purpose is of these paragraphs. Are these the extent of applicability of RG 1.200, beyond RG 1.174? If so, an introductory paragraph that explains this would be helpful.
4	Bullets on top of Page 4	It is not clear what the purpose is for the chronology of PRA Standards, since RG 1.200 will be endorsing the Combined Standard. This extraneous information should be deleted.
5	Bullets on industry guidance & the PRA quality plan on pages 4 & 5	Again, it is not clear why this chronology is provided. It seems better to just identify the applicable guidance and its relationship to RG 1.200.
6	Last paragraph of page 5	NUREG-1855 also provides guidance on limiting the scope of application. Maybe a reference to it would be useful.
7	First paragraph on page 6	The reference to this regulatory guide as being "new" can be deleted.
8	Figure 1	In some cases, industry guidance is essential to the specific application (e.g., NEI 00-04) and those are not shown. Since this Reg Guide is for licensees, it might be helpful to show how those industry documents relate.
9	1. "A Technically Acceptable PRA"	Is there a difference between a "Technically Acceptable PRA" and a "technically adequate PRA". If so, this should be explained. If not, "technically adequate" should be used everywhere, since that is the title of the RG.
10	1.1 Scope of PRA	The bullets on the bottom of Page 6 talk about the scope being defined by the "types of initiating events". This should really be hazard groups and initiating events in order to be consistent with the definition of "initiating event."
11	Large early release definition, Page 8	The second half of the definition for "Large release frequency" is too subjective. A "statistically significant increase in latent health effects" could be interpreted in many ways. It is recommended that this portion of the definition be deleted.

Specific Comments on Main Body of DG-1200

#	Section/Reference	Comment
12	Initiating events, Page 8	<p>This definition should be updated to be consistent with Addendum A of the Combined Standard. As written, this definition implies that equipment failures are caused by operator actions and that operator actions alone do not cause initiating events. Here is the current Addendum A definition:</p> <p>initiating event: an event that perturbs the steady state operation of the plant by challenging plant control and safety systems whose failure could potentially lead to core damage and or radioactivity release. These events include human-caused perturbations and failure of equipment from either internal plant causes (such as hardware faults, floods, or fires) or external plant causes (such as earthquakes or high winds).</p>
13	Table 1, Page 9 and first paragraph after the table	<p>Table 1 includes a note that says "Interpretation of results and documentation are elements of both Level 1 and Level 2 PRAs." While results interpretation and documentation are an important part of PRA, they are not really technical elements. Maybe it should say</p> <p>"Interpretation of results and documentation are important <u>parts of technically adequate</u> Level 1 and Level 2 PRAs."</p> <p>This comment also applies to the last several sentences of the following paragraph.</p>
14	First paragraph after Table 1 on Page 9	<p>The first sentence of this paragraph is loose in its use of terminology. First, "contributors to risk" are not only characterized as the cause of the initiating event. Second, the parenthetical refers to "internal and external initiating events". A better terminology might be "hazard groups", or depending on what the real intention is for this sentence "internally and externally-caused initiating events". Furthermore, it is potentially misleading to say that these are "equally" applicable to all hazards. In fact, some technical elements may be more important than others, depending on the hazard. Suggest that you delete the word "equally".</p>
15	1.2.1 Level 1 Technical Elements	<p>This section attempts to be written to be both generic to all hazards and POSs and yet it is the only place that internal events gets "addressed". Consequently, there is little on the actual analysis of internal events.</p>
16	1.2.1. First paragraph.	<p>The terminology "event classes" is not used in the PRA Standards. Typically, the Standards use "initiating event groups" or "initiating event categories".</p>
17	Quantification, Page 9	<p>The term "initiator class" is also a new one.</p>

Specific Comments on Main Body of DG-1200

#	Section/Reference	Comment
18	1.2.3 Level 2 Technical Elements	These technical elements do not entirely align with the PRA Standard elements (i.e., HLRs). It might be useful to make that alignment more clear.
19	1.2.3 Internal floods elements	<p>These elements are not the same as the Internal Flooding PRA technical elements identified in Addendum A:</p> <ul style="list-style-type: none"> • Internal Flooding Plant Partitioning • Internal Flood Source Identification and Characterization • Internal Flooding Scenarios • Internal Flood-induced Initiating Events • Internal Flooding Accident Sequences and Quantification <p>It might be useful to align the technical elements in a similar manner the way that section 1.2.4 does for fire PRA.</p>
20	1.2.5 External Hazards, first paragraph	Screening and bounding analyses have a more important role than simply demonstrating that the hazard has an insignificant impact on risk. As discussed in NUREG-1855, such analyses may be used to show that the risk is not significant to the decision being made, regardless of the absolute value of the overall risk. Since this is the first place where such analyses are mentioned for external hazards, it is recommended that this attribute of screening and bounding analyses be identified so that the reader is not misled.
21	1.2.5 External Hazard, second paragraph	This paragraph seems to only discuss screening. "Bounding" analyses can take many forms and can be very effective in dispositioning hazards that may not be screenable, but can be shown to have a negligible risk impact relative to the decision being made. In effect, bounding analyses are any analysis that is more conservative, but less rigorous than a PRA that is considered Capability Category I (as defined in the Standard). This can involve an entire hazard group, or a portion of the hazard group. Additional discuss of the role of bounding analyses would be helpful in defining the valuable role that bounding analyses can play in risk-informed applications.

Specific Comments on Main Body of DG-1200

#	Section/Reference	Comment
22	First full paragraph on page 15	<p>Some suggested changes to the description of Fragility Analysis:</p> <p>Fragility analysis characterizes conditional probability of failure of SSCs whose failure may lead to unacceptable damage to the plant (e.g., core damage) given occurrence as the result of an external event. For significant contributors (i.e., SSCs), the fragility analysis is realistic and plant-specific. The fragility analysis is based on extensive plant walkdowns reflecting as-built, as-operated conditions. It is recognized that at the design and initial licensing stage, plant walkdowns are not possible; however, the fragility analysis should reflect the as-designed plant.</p> <p>The fragility analysis is focused on the failure that are a direct result of the external event. The term "extensive" is unnecessary.</p>
23	Second full paragraph on page 15	The term "transient and LOCA" can be removed from the paragraph on Plant Response Analysis and Quantification.
24	1.2.6 Interpretation of Results, first paragraph.	<p>The first sentence should include hazard groups and specific hazard (i.e., fire in MCC-XXX, or F3 tornadoes, etc.) as a contributor.</p> <p>"... sorted by <i>hazard group, initiating event or specific hazard category, accident sequences, ...</i>"</p> <p>The second sentence is pretty complex. At a minimum it should be changed to clarify that "internal and external events" are not "initiators", as implied in the parenthetical. In addition, it is not clear that "plant operating modes" is the right level of distinction. "POS" may be better, as full-power, low-power, and shutdown are not "operating modes" to a licensee since that term has a specific meaning in the plant license.</p>
25	1.2.6 Interpretation of Results, second paragraph.	It is not clear what is meant by the term "events" in the statement "...identify the contributions of various events to the model estimation of LERF or LRF for both individual sequences and the model as a whole,..."
26	1.2.7, first paragraph	<p>The first sentence doesn't really make sense, as written. In particular, it is not clear what is meant by the term "defensibility". The sentence might better read:</p> <p>"Traceability and defensibility <i>The documentation of a PRA model and its application needs to provide the necessary information such that the results can easily be reproduced and justified."</i></p>

Specific Comments on Main Body of DG-1200

#	Section/Reference	Comment
27	1.2.7, first paragraph	<p>The last sentence might be better placed right after the third sentence, where source of uncertainty is identified.</p> <p>Also, the last sentence refers to a "source of uncertainty". This should be changed to "source of <i>model</i> uncertainty", since the definition provided is the corresponding ASME PRA Standard definition.</p>
28	Table 2	Table 2 describes Level 1 PRA (internal events — transients and LOCAs). The PRA Standard does not use these terms as defining the scope of internal events. The PRA Standard includes transients and LOCAs, but also adds the following initiating event types: SGTR, ISLOCAs and special initiators.
29	Table 2, page 17	The note under initiating event analysis uses the term "relative baseline risk value". The term "baseline" is not defined. Additionally, this note seems to put disproportionate emphasis on the screening of internal initiating events. The same concept could apply to other hazard groups and other aspects of PRAs for new reactor designs that is best dealt with in a more complete manner in other documents (e.g., the PRA Standards).
30	Table 5, page 25	The term "defensibility" seems confrontational and awkward. Maybe a better term would be "justification".
31	1.4 PRA Development, Maintenance and Upgrade	Addendum A provides a definition of as-built, as-operated that may be applicable here. At a minimum, the use of these terms needs to be consistent.
32	Footnote 6, Page 28	In the second sentence, it seems that the term "work" should be "word"
33	Bullet 4 of Table 8	In general, the PRA Standards do not "identify one or more acceptable method" for meeting each technical requirement.
34	Third sub-bullet of Bullet 5 of Table 8	This bullet doesn't make sense as written.
35	First paragraph on Page 30.	The last sentence says "...the examples of noncompliance..." This might more appropriately be "...the instances of noncompliance..."
36	First full paragraph on Page 31	The first sentence on "Documentation" says that the peer review process and findings must be traceable and "defensible". It is not clear what is meant by the term "defensible" in this context.
37	Section 3.1, Bullets at bottom of Page 32 and top of 33	The last bullet on Page 32 could be deleted and the two sub-bullets on page 33 could be made major bullets. The scope of risk contributors is not part of defining acceptance criteria (guidelines).

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#	Section/Reference	Comment
38	First paragraph of Page 33	Item 1 of the second sentence might better read: "... (1) the logic model events <i>elements</i> onto which..."
39	First paragraph of Page 33	In Item 2 of the second sentence it is not clear what is meant by "...all the events...". This might better read: "... (2) all the events that appear in the accident sequences in which these <i>logic model elements</i> first group of elements appear..."
40	First paragraph of Page 33	It is not clear what Item 3 is getting at. It might better read: "... (3) the parts <i>scope</i> of the <i>PRA</i> analysis required to evaluate the necessary results." Also, this might be best put first in the list.
41	3.2 Scope of Risk Contributors, first paragraph	In the first sentence, the parenthetical should read: " (internal and external hazards events and modes of plant operating states operation) "
42	3.2 Scope of Risk Contributors, first paragraph	In the second sentence, the word "initiating" should be deleted or it should be rewritten as "externally initiated events".
43	3.2 Scope of Risk Contributors, first paragraph	In the fifth sentence, the term "to the decision" should be added after "...all risk contributors that cannot be shown as insignificant". So that this sentence reads: "...all risk contributors that cannot be shown as insignificant <i>to the decision</i> ,..."
44	3.2 Scope of Risk Contributors, second paragraph	In the fourth sentence, the word "initiating" should be deleted.
45	3.2 Scope of Risk Contributors	It seems like this section should reference Section 1.3 of the ANS/ASME Standard.

Specific Comments on Main Body of DG-1200

#	Section/Reference	Comment
46	Footnote 8, Page 34	The word "model" needs to be added in the first sentence of each paragraph in this footnote: "...key source of <i>model</i> uncertainty..."
47	Third bullet at top of Page 36	The term scope should be defined in terms of "hazard groups and specific accident scenarios", not "initiating events"
48	Third Bullet under 4.2, Page 36	The second paragraph of this bullet says, "This justification should be in the form of a sensitivity study...". While it may be desirable to have a sensitivity study in some cases, in many cases, such a sensitivity study is not necessary (e.g., treatment is already conservative) or even feasible to treat in a sensitivity study (e.g., failure to interview plant personnel). Furthermore, this assessment should be made in the context of the decision, not the results. Suggest changing to the following: "This justification should be in the form of a <i>technical rationale</i> or sensitivity study that demonstrates the accident sequences or contributors significant to the application <i>decision</i> were <i>adversely</i> not impacted (remained the same)"
49	Sixth Bullet under 4.2, Page 36	The second sub-bullet should be changed as recommended above.

Specific Comments on Appendix A of DG-1200

#	Section/Reference	Comment
50	Definition of "as-built, as-operated plant", page A-6	Addendum A of the Combined Standard has an alternative definition. The problem with this definition is that it could be interpreted to have a real-time connotation for operating plants, i.e., "...at the time of the application...". There have already been examples of NRC inspectors expecting failure data to be updated in near-real time. While it is recognized that this is not the intent of this definition, it is nonetheless too encompassing.
51	Definition of "initiating event", page A-8	See comment above on "initiating event" in the main RG. Addendum A has an alternative definition.
52	Definition of "internal event", page A-8	While it is true that internal fires are an internal hazard. They are not traditionally considered an "internal event". By convention, internal fires have been considered "external event" and the definitions should reflect this. This proposed definitional change could have substantial regulatory impacts that should be understood and itemized.
53	Clarification of IE-A4a, Page A-17	As written, this change is too broad. It is not feasible for a licensee to assess every possible system alignment that could occur as a result of any conceivable routine and corrective maintenance. The purpose of including "routine" in the original SR was to provide some bounds on system alignments to be considered. Please add "routine" back to the definition. The other changes are OK.
54	Clarification of SY-B15, Page A-21	Suggest the following change to this clarification: "(h) harsh environments induced by failure of containment venting ducts or failure of the containment boundary that may occur prior to the onset of core damage"
55	Clarification of SY-B15, Page A-22	There should be an "e.g.," in the beginning of the first new parenthetical and the word "including" should be deleted. Otherwise, by being explicit, this SR has just set a standard for HRA that cannot be met by all methods.
56	Clarification of QU-A2a, QU-A2b, QU-B6, QU-E3 and associated HLRs	We should decide if LERF is going to be included in other HLRs and SRs. For example, many AS and SC requirements apply to LERF, yet DG-1.200 has deleted those references. In Addendum B of the ASME Standard, a conscious decision was made to leave LERF out of the QU requirements, since the LE-E4 and LE-F3 requirements state how these should be interpreted. Suggest dropping all the changes to QU for the purpose of adding LERF.

Specific Comments on Appendix A of DG-1200

#	Section/Reference	Comment
57	NOTE HA-G1 Page A-49	<ul style="list-style-type: none"><li data-bbox="646 327 1877 624">• The NRC is requiring that the spectral shape of the specific site seismic response be at least as high as the design spectra. So if the design had artificially high site amplification in the lower frequencies and lower amplification in the higher frequency areas, they would require you to update those amplifications to increase in the high frequency areas, but this statement can also be interpreted that one would not be allowed to decrease the amplifications in the low frequency areas, even if the state of the art new assessment demonstrated those amplifications to be overly conservative. We believe we should not agree to introduce unnecessary conservatism into the process based on this desire to keep everything in the original seismic design into the SPRA.<li data-bbox="646 657 1877 1020">• The very vague statements within several parts of this standard now read that the use of the uniform hazard response spectra "is acceptable if it reflects the site-specific shape". This is a very broad statement without defining what the criteria are for reflecting the site specific shape. A concern is that once the seismic hazard has been determined, the utilities want to make sure that there is an end game on re-deriving the seismic hazard. We don't want to have to redo the hazard every couple of years every time someone comes up with a new idea on a fault or a new model for calculating the hazard. The wording of the standard does not really prevent that from happening. As a part of the new plant studies, industry has created a white paper on how to establish when a new study should be conducted. The NRC is reviewing this approach and the results should be considered for incorporation into the Regulatory Guide.