NRC Responses to Public Comments

Revision to Japan Lessons-Learned Division Interim Staff Guidance JLD-ISG-2012-01: Compliance with Order EA-12-049, Order Modifying Licenses with Regard to Requirements for Mitigation Strategies for Beyond-Design-Basis External Events

(Docket ID NRC-2012-0068)

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NRC Responses to Public Comments
Interim Staff Guidance: Compliance with Order EA-12-049, Order Modifying Licenses with Regard to Requirements for Mitigation Strategies for Beyond-Design-Basis External Events

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I. Introduction

This document presents the U. S. Nuclear Regulatory Commission's (NRC) responses to comments received on the Interim Staff Guidance: Compliance with Order EA-12-049, Order Modifying Licenses with Regard to Requirements for Mitigation Strategies for Beyond-Design-Basis External Events. The Interim Staff Guidance (ISG) was published November 10, 2015 (80 FR 69702). The public comment period closed on December 10, 2015.

Comment submissions on this draft interim staff guidance revision are available electronically at the NRC's Electronic Reading Room at http://www.nrc.gov/reading-rm/adams.html. From this page, the public can gain entry into ADAMS, which provides text and image files of NRC's public documents.

This comment resolution document (CRD) is also available electronically at the NRC's Electronic Reading Room under ADAMS Package Accession No. ML15357A142.

II. Description of Types of Comment Submissions

Unique Comment Submissions

The NRC received four comment submissions. The NRC-designated identifier for each unique comment submission, the name of the submitter, the submitter's affiliation (if any), and the ADAMS accession number is provided in Comment Submission Table included in this document.

Comment Submitter Summary Table		
1. Peter Bamford ML15337A013	2. Brenda Kovarik, American Electric Power ML15343A421 as clarified in ML15350A391 and ML15350A399	3. James Riley, Nuclear Energy Institute ML15348A015
4. David White, Areva ML15350A392		

III. Overview of Public Comments

The NRC received four comment submissions. Commenters included nuclear utility and generation companies; nuclear industry equipment vendors, industry organizations including Nuclear Energy Institute (NEI); and private citizens.

Some comments were considered out-of-scope of this ISG because the issue identified is being handled separately from Order EA-12-049. Nonetheless, the NRC has prepared a response for each comment.

General Comments on ISG		
Commenter	**Comment**	**NRC Response**
Kovarik 1	main body, Page 5, paragraph titled "Implementation." Comment: Add the following sentence: "Licensees that, prior to the issuance date of this ISG, have confirmed compliance with Order EA-12-049 in accordance with JLD-ISG-2012-01, Revision 0, dated August 29, 2012, (ML12229A174), and NEI 12-06 Revision 0, dated August 21, 2012, (ML12242A378), and have received a Safety Evaluation documenting the NRC staff's determination that the licensee's integrated plan will adequately address the requirements of Order EA-12-049, are considered to have provided an acceptable alternative to the requirements of this ISG. Basis for Comment: Licensees that have implemented an integrated plan that has been determined to be acceptable by the NRC staff have already demonstrated compliance with EA-12-049. These licensees have therefore already provided an "acceptable alternative" to the requirements in the revised ISG and revised NEI guide.	The NRC staff disagrees with this comment and has not made changes to JLD-ISG-2012-01, Revision 1 because it imposes no requirements on licensees." The requirements of Order EA-12-049 were not modified as a result of the issuance of JLD-ISG-2012-01, Revision 0 and are not modified with the issuance of this revision. The staff has, however, made the changes suggested in comment Riley 2 on the subject as discussed below, inserting a sentence stating "The methods described in Revision 0 of JLD-ISG-2012-01, combined with plant-specific alternatives that have been previously approved by the NRC staff, remain an acceptable method of establishing compliance with Order EA-12-049."
Riley 1	Rationale ISG Position: 4. The specifications of NEI 12-06, Revision 1A, for the performance of assessments of the mitigating strategies under the reevaluated flooding hazards under the March 12, 2012, 50.54(f) letter, provides an appropriate methodology for licensees to resolve issues being	The NRC staff agrees with this comment and has modified JLD-ISG-2012-01, Revision 1 to reflect it.

General Comments on ISG		
Commenter	**Comment**	**NRC Response**
	tracked related to the mitigating strategies and the reevaluated flooding hazards in a manner that aligns with the proposed MBDBE rulemaking. Industry suggests this paragraph be worded as follows: 4. The specifications of NEI 12-06, Revision 1A, for the performance of assessments of the mitigating strategies for the reevaluated flooding and seismic hazards developed in response to the March 12, 2012, 50.54(f) letter, provide an appropriate methodology for licensees to address the reevaluated hazards in a manner that aligns with the proposed MBDBE rulemaking.	
Riley 2	Implementation ISG Position Except in those cases in which a licensee or construction permit (CP) holder proposes an alternative method for complying with Order EA-12-049, the NRC staff will use the methods described in this ISG to evaluate licensee and CP holder compliance as presented in submittals required in Order EA-12-049. Industry suggests this paragraph be worded as follows: Except in those cases in which a licensee or construction permit (CP) holder proposes an alternative method for complying with Order EA-12-049, the NRC staff will use the methods described in this ISG to	The NRC staff agrees with this comment and has modified JLD-ISG-2012-01, Revision 1 to reflect it.

General Comments on ISG		
Commenter	**Comment**	**NRC Response**
	evaluate licensee and CP holder compliance as presented in submittals required in Order EA-12-049. The methods described in Revision 0 of JLD-ISG-2012-01, combined with plant-specific alternatives that have been previously approved by the NRC staff, remain an acceptable method of establishing compliance with Order EA-12-049.	
White 3	The capability to accommodate loss of ac power from batteries in limited areas of plants is addressed in NEI 06-12, *B.5.b Phase 2 & 3 Submittal Guideline.* We do not agree that the B.5.b guidance should be expanded to address concurrent losses of DC power over the entire site. Further, we note that while individual contingency actions would likely be taken that are the same or similar to the actions for B.5.b., no guidance is provided in the ISG that would endorse such a strategy.	The NRC staff disagrees with this comment and has not modified JLD-ISG-2012-01, Revision 1 to reflect it because the regulatory requirement underlying the guidance for loss of ac power from batteries through inverters is expressed in Order EA-12-049, attachment 2, item 2 in the statement that "These strategies must be capable of mitigating a simultaneous loss of all alternating current (ac) power and loss of normal access to the ultimate heat sink and have adequate capacity to address challenges to core cooling, containment, and SFP cooling capabilities at all units on a site subject to this Order." This is an area of difference with the requirements of 10 CFR 50.63, "Loss of all alternating current power," for which the condition of a station blackout is defined in 10 CFR 50.2, "Definitions," as allowing the availability of power to ac buses from station batteries through inverters or by alternate ac sources as also defined in 10 CFR 50.2. Because there is no regulatory definition of the condition of "a loss of all alternating current (ac) power" that is

General Comments on ISG		
Commenter	**Comment**	**NRC Response**
		applicable to Order EA-12-049, the phrase must be given its plain language meaning, which would include the non-availability of ac power from batteries through inverters and the non-availability of ac power from alternate ac sources.

1.0 Development and Implementation Process		
Commenter	**Comment**	**NRC Response**
Riley 3	Industry suggests this paragraph be worded as follows: 1. U. S. Nuclear Regulatory Commission (NRC) Order EA-12-049, “Order Modifying Licenses with Regard to Requirements for Mitigation Strategies for Beyond-Design-Basis External Events” [Reference 1] requires that applicants or licensees develop, implement, and maintain guidance and strategies to maintain or restore core cooling, containment and spent fuel pool (SFP) capabilities ….	The NRC staff agrees with this comment and has modified JLD-ISG-2012-01, Revision 1 to reflect it.

1.1 Establishment of Baseline Coping Capability		
Commenter	**Comment**	**NRC Response**
Riley 4a.	Staff Position a) Initial and boundary conditions do not accurately reflect a loss of all ac power condition. The industry does not agree with this clarification and concludes that it is a substantial change to the definition of an extended loss of ac power (ELAP) that was used to develop the mitigating strategies. This clarification was not included in JLD-ISG-2012-01, Rev. 0 and no changes have been made to the definition of an ELAP condition that warrants this clarification being included now. The mitigating strategies were developed assuming the initial and boundary conditions as described in NEI 12-06 Sections 3.2.1.3.1 and 3.2.1.3.2 existed at time zero in the sequence of events. The proposed clarification would add a requirement that loss of ac power at time zero would also include the loss of station batteries and associated dc buses along with ac power from buses fed by station batteries through inverters. This condition was not considered at the onset of the event in the development of the mitigating strategies and is clearly not intended as noted in Sections 1.3 and 3.2.1.3.2.	The NRC staff disagrees with this comment because it does not recognize the distinction between the loss of all ac power condition in Order EA-12-049, attachments 2 and 3, item (2) and the ELAP condition defined in the parenthetical note in NEI 12-06, Revisions 0 through 2, section 1.3. The NRC staff, however, recognizes that this paragraph does not adequately describe the distinction and has removed it from JLD-ISG-2012-01, Revision 1, and added clarification to section 1.2 of the document. In contrast to 10 CFR 50.63, “Loss of all alternating current power,” the requirements imposed by Order EA-12-049, Attachment 2, item (2) that the “strategies must be capable of mitigating a … loss of all alternating current (ac) power” are not limited by a definition of the condition described in the requirement. For § 50.63, the corresponding requirement is that nuclear power plants (NPPs) licensed under 10 CFR Part 50 or 52 “must be able to withstand for a specified

1.1 Establishment of Baseline Coping Capability		
Commenter	**Comment**	**NRC Response**
		duration and recover from a station blackout as defined in § 50.2." In § 50.2, a station blackout is defined in a manner similar to the definition of ELAP as it appears in the parenthetical note in NEI 12-06, section 1.3, on page 4. Order EA-12-049 does not make use of the term "extended loss of ac power" or the acronym "ELAP" which are used in the industry guidance document NEI 12-06 and in portions of JLD-ISG-2012-01. This staff position was added for clarity to JLD-ISG-2012-01 based upon lessons learned through the reviews of licensee implementation of the guidance and strategies under Order EA-12-049. In the course of the review process, NRC staff observed that some licensees misunderstood the statement in section 3.2 of NEI 12-06, Revision 0, that "installed equipment that is designed to be robust with respect to design basis external events is assumed to be fully available" as making unnecessary the reference source described in section 5.3.3.1 for obtaining necessary instrument readings or controlling critical

1.1 Establishment of Baseline Coping Capability		
Commenter	**Comment**	**NRC Response**
		equipment without associated control power in the event of failure of seismically-qualified electrical equipment in a BDB seismic event. Such reasoning could be extended to argue that there is no need for strategies for the manual initiation of RCIC/IC or ac-independent AFW/EFW, which are included in NEI 12-06, appendices C and D as well as described in the guidelines for the development of the FLEX support guidelines in NEI 12-06, section 3.2.2(2). The NRC staff continues to consider the development, implementation and maintenance of guidance and strategies to mitigate an ELAP as defined in NEI 12-06, in conjunction with the remainder of the contingency actions described in NEI 12-06, sections 3.2.2(2) and 5.3.3.1, and Appendices C and D as constituting an acceptable method of complying with Order EA-12-049 to mitigate the loss of all ac power.

1.1 Establishment of Baseline Coping Capability		
Commenter	**Comment**	**NRC Response**
White 1	The Staff Position on Sections 1, 2 and 3 and Appendix E to NEI 12-06, Revision 1A takes exception to the assumption that "Station batteries and associated dc buses along with ac power from buses fed by station batteries through inverters remain available." This appears to go beyond the intent of Order EA 12-049: (a) The proposed revision is inconsistent with the current issued version of JLD-ISG-2012-01 (ML12229A174) which states "Licensees should establish and maintain current estimates of their capabilities to maintain core and SFP cooling and containment functions *assuming a loss of alternate current (ac) electric power to the essential and nonessential switchgear buses except for those fed by station batteries through inverters*." (emphasis added) (b) The availability of station batteries along with ac power from inverters is assumed in NEI 12-06 and is consistent with the definition of a long term station black out (LTSBO) in SOARCA and other NRC-sponsored analyses. (See SECY-12-0157, NUREG 1935, NTTF Recommendation 4.1, Draft Commission Paper Entitled "Consideration Of Additional Requirements For Containment Venting System For Boiling Water Reactors With Mark I And Mark II Containments".(11/8/2012), and NUREG/BR-0359 "Modeling Potential Reactor Accident Consequences" for examples). (c) The availability of station batteries along with ac power from inverters was discussed in ACRS reviews of the original guidance without additional ACRS recommendations being made that required this assumption.	The NRC staff disagrees with this comment and has not modified JLD-ISG-2012-01, Revision 1 to reflect it because there is no limitation within Order EA-12-049 on the loss of **all** ac power for the condition the strategies must be capable of mitigating. As discussed in the NRC Response to comment Riley 4a, this is a distinguishing characterstic between Order EA-12-049 and 10 CFR 50.63. The defense-in-depth contingency elements of NEI 12-06, sections 3.2.2(2) and 5.3.3.1, and appendices C and D were not specifically discussed in JLD-ISG-2012-01, Revision 0, and are discussed in Revision 1 in order to provide clarity of the distinctions between a station blackout as defined in § 50.63 and a loss of all ac power. With regard to paragraph (a), in JLD-ISG-2012-01, Revision 0, the NRC endorsed the whole of NEI 12-06, Revision 0, as providing an acceptable means of complying with Order EA-12-049. The quoted item from section 2.1 of JLD-ISG-2012-01, Revision 0,

1.1 Establishment of Baseline Coping Capability		
Commenter	**Comment**	**NRC Response**
		follows section 2.0 of the ISG, which includes the statement that "The NRC staff recognizes that for certain beyond-design-basis external events, the damage state could prevent maintenance of key safety functions using the equipment intended for particular phases. Under such circumstances, prompt initiation of the follow-on phases to restore core and SFP cooling and containment functions is appropriate." This concept is further discussed in the publicly available memorandum "Supplemental Staff Guidance for Addressing Order EA-12-049 on Mitigation Strategies for Beyond-Design-Basis External Events," dated August 28, 2013, ADAMS Accession No. ML13238A263. With regard to paragraph (b), the difference between the examples cited and the requirements of Order EA-12-049 is due to the focus of those examples on a station blackout condition rather than a loss of all ac power condition.

1.1 Establishment of Baseline Coping Capability		
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		With regard to paragraph (c), the ACRS reviews were performed on the guidance of JLD-ISG-2012-01, Revision 0 and NEI 12-06, Revision 0 as a whole rather than on individual portions. The availability of station batteries and ac power from the batteries through inverters continues to be a portion of the guidance in JLD-ISG-2012-01, Revision 1 and the underlying industry guidance in NEI 12-06, Revision 1A (as supplemented to Revision 2).
Riley 5	Staff Position b) ….However, maintenance of the guidance and strategies requires that the estimate of capability be kept current to reflect plant conditions following facility changes such as modification or equipment outages. Industry Response: It is not clear what is being clarified that is not already addressed by Section 11.8 Configuration Control. This section addresses assessing the impact of facility changes to ensure FLEX strategies are not adversely impacted. Additionally, the guidance addresses the unavailability of equipment. The industry does not believe this clarification is necessary, but rather, that it creates a lack of clarity in that it implies something in addition to Section 11.8 is needed.	The NRC staff agrees with this comment and has deleted the quoted sentence from the staff position because configuration control under NEI 12-06, section 11.8, and the contingency planning for outages under NEI 12-06, section 3.2.3 address the need for maintenance of the strategies to reflect current plant conditions.
Riley 6	Staff Position c) It is not clear what this staff position clarifies. It seems to be simply endorsing what the guidance says rather than providing any clarification of the guidance	The NRC staff disagrees with this comment and has not modified JLD-ISG-2012-01, Revision 1 to reflect it for the following reasons:

1.1 Establishment of Baseline Coping Capability		
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	and yet is included in a list of clarifcations.	1. The first sentence of this staff position clarifies that the use of best-estimate analyses for establishing the baseline coping capabilities is appropriate. This clarifies the statement in NEI 12-06, section 3.2.1.13 that best-estimate analyses are generally appropriate, implying that there are instances for which best-estimate analyses are not appropriate. 2. The second sentence of this staff position discusses the use of normal fluid levels for tanks when they are maintained by procedure or administrative controls rather than at the minimum levels allowed by Technical Specifications. This clarifies the statement in NEI 12-06, section 3.2.1.2.2, which allows use of a greater level or volume than the minimum Technical Specification value for Operability if a tank is normally maintained at a greater level or volume by specifying that the method of maintaining the higher level is by procedure or administrative controls.

1.1 Establishment of Baseline Coping Capability		
Commenter	**Comment**	**NRC Response**
Riley 7	Staff Position d).1 The use of Level C validation methods should be limited to those tasks, manual actions and decisions that do not have a time constraint for the strategy to be successful. Industry Response: It does not appear that a clarification is needed as Level C validation is limited in the guidance to those tasks, manual actions and decisions that do not have a time constraint for the strategy to be successful. Clarification has been added to the description of Level C validation in Section E.5.1.2 of Appendix E.	The NRC staff agrees that the limitation on the use of Level C validation methods is no longer necessary and has modified JLD-ISG-2012-01, Revision 1, staff position d)1 to read: Tasks, manual actions, or decisions performed greater than 24 hours after the event that have time constraints may be validated using a Level A or Level B method that results in an estimate of the time required to complete the task or manual action or to make and communicate the decision in order to confirm that the time constraint can reasonably be met as specified in NEI 12-06, Revision 2, Section 3.2.1.7, principle 6, which states that "[s]trategies that have a time constraint to be successful should be identified and a basis provided that the time can reasonably be met." The intent of the remaining portion of this staff position is to clarify the availability of Level A and B validation methods for licensees to

1.1 Establishment of Baseline Coping Capability		
Commenter	**Comment**	**NRC Response**
		use in order to satisfy the need for a basis that time constraints beyond 24 hours can reasonably be met under NEI 12-06, Revision 2, section 3.2.1.7, principle 6. This clarification is needed in light of the statement in the note to section E.5.1.2 that tasks performed greater than 24 hours after the event will not be time validated.
Riley 8	Staff Position d).2 Level B vs Level A validation Industry Response: Footnote 17 on page 97 of NEI 12-06, Revision 1A erroneously establishes the basis of using a Level B validation for time-sensitive actions started between 6 and 24 hours solely on the availability of additional personnel. This is not the case and, as such, the footnote has been deleted. Validation is performed based on the nature of the task to determine if it can be performed within the time constraint with reasonable confidence. If the validation did not provide reasonable confidence, then applying additional resources to the task is one option that can be considered to establish reasonable confidence if additional personnel would effectively improve task performance. With this change, the industry does not believe the clarification is needed.	The NRC staff agrees with comments Riley 8 and Riley 9. The removal of the footnote referenced in Riley 8 has resolved the issue addressed by staff position 1.1.d)2. Therefore, the staff and has deleted staff position 1.1.d)2.
Riley 9	Staff Position d).2 Integrated Reviews Industry Response: The last sentence of the staff position provides a clarification that would imply the guidance in Appendix E for performing the integrated review is not sufficient. The guidance as written does address adjusting procedures and revalidating tasks if there is not reasonable	

1.1 Establishment of Baseline Coping Capability		
Commenter	**Comment**	**NRC Response**
	confidence that the task, manual action or decision can be completed within the time constraint. The industry does not see the need for clarification and the clarification only creates a lack of clarity as it implies that something in addition to the guidance is needed but does not provide clarifying guidance.	
1.1.1 Phased Approach		
Riley 10	Background and 1.1.1 Phased Approach Industry Response: In Revision 1A of NEI 12-06 the description of Phase 2 was changed to “Augment or transition from plant equipment to on-site FLEX equipment and consumables to maintain or restore key functions.” The description of Phase 2 in the Background and Section 1.1.1 of the ISG retain the previous language for Phase 2 and should be changed.	The NRC staff disagrees with this comment and has not changed JLD-ISG-2012-01 because the cited text from the ISG is a description of the requirements of Order EA-12-049 and uses the wording from the order.
Riley 11	Sections 1.1.1.1, 1.1.1.2 and 1.1.1.3 Industry Response: The language in these sections should refer to “plant equipment” and “FLEX equipment” vs installed equipment and portable equipment, respectively.	The NRC staff disagrees with this comment and has not changed JLD-ISG-2012-01 because the cited text from the ISG is a description of the requirements of Order EA-12-049 and uses the wording from the order.

1.2 Contingencies for Loss of All Alternating Current Power		
Commenter	**Comment**	**NRC Response**
Riley 4b.	Staff Position 1.2 Contingencies for Loss of All Alternating Current Power This staff position is not necessary if the definition of ELAP is not changed as noted [in comment Riley 4a]. The guidance does provide additional defense-in-depth as noted to address the potential for local manual initiation of core cooling as well as to address the potential loss of ac power from buses fed by station batteries through inverters but this loss is not assumed to occur at time zero. Eliminating Staff Position a) as recommended would obviate the need for Staff Position 1.2.	The NRC staff disagrees with this comment as discussed in the NRC Response to comment Riley 4a because it does not distinguish between an ELAP and a loss of all ac power condition. The NRC staff has clarified this position by adding the following initial paragraph to section 1.2 of the ISG: NEI 12-06, Revision 2, Section 1.3, defines an ELAP as a "loss of off-site power, emergency diesel generators and any alternate ac source but not the loss of ac power from buses fed by station batteries through inverters." (Footnote omitted.) Section 1.1 of this ISG discusses an acceptable approach to mitigate the effects of an ELAP. Order EA-12-049, attachments 2 and 3, item (2) require that the strategies developed and implemented in response to the order "be capable of mitigating a … loss of all ac power …" rather than an ELAP. The difference between an ELAP and a loss of all ac power condition is addressed as follows.

1.2 Contingencies for Loss of All Alternating Current Power		
Commenter	**Comment**	**NRC Response**
White 2	NEI 12-06 has provided contingencies for measurement of key instrument readings using a portable instrument. The ISG has incorrectly suggested that these contingencies are mandatory (to address a loss of ac from inverters): a. These contingencies are for additional failures beyond the scope of NEI 12-06, Section 3.2.1.3 “Initial Conditions.” Licensees may elect to allow for additional failures beyond the scope of the Order; however, these provisions should not be made mandatory. b. NEI has recommended portable equipment readings be taken with as little involvement of ‘intervening electrical equipment’, as possible. The Staff position would result in including intervening equipment that is completely ac independent. An assumption of failure of ac independent equipment that is adequately protected is not required by the Order.	The NRC disagrees with this comment and has not modified JLD-ISG-2012-01 to reflect it because the loss of ac power from inverters is included in the scope of the Order EA-12-049 requirement in attachment 2, item (2) that the “strategies must be capable of mitigating a … loss of all alternating current (ac) power…,” in the absence of a definition of that phrase to exclude ac power from inverters similar to the § 50.2 definition for station blackout. Further, NEI 12-06 does not include any indication that the contingency actions cited in this section of JLD-ISG-2012-01, Revision 1 are optional portions of the guidance and strategies under Order EA-12-049.

2.0 Equipment Capacity		
Commenter	**Comment**	**NRC Response**
	No comments received.	

3.0 Reasonable Protection		
Commenter	**Comment**	**NRC Response**
3.4 Programmatic Controls for Unavailability		
Kovarik 2	Comment: Change referenced section from 11.5.3 to 11.5.4 Basis for Comment: NEI 12-06 Section 11.5.3 describes maintenance and testing. NEI 12-06 Section 11.5.4 describes unavailability of equipment and applicable connections.	NRC staff agrees with this comment and has modified JLD-ISG-2012-01, Revision 1 to reflect the correct section of NEI 12-06.
Riley 12	Staff Position: Section 11.5.3 of NEI 12-06, Revision 1A….. Industry Response: Unavailability is addressed in Section 11.5.4	NRC staff agrees with this comment and has modified JLD-ISG-2012-01, Revision 1 to reflect the correct section of NEI 12-06.

4.0 Equipment Maintenance		
Commenter	**Comment**	**NRC Response**
	No comments received	

5.0 Configuration Control		
Commenter	**Comment**	**NRC Response**
Bamford	Section 5, "Configuration Control", of Draft Revision 1 Revision to JLD-ISG-2012-01 states the following: Staff Position: Section 11.8 of NEI 12-06, Revision 1A provides an acceptable method for maintaining the guidance and strategies required under Order EA-12-049. One of the new caveats in section 11.8.3 of NEI 12-06, Revision 1A that has been added in this revision (paragraph 11 .8.3.a.iii) is that a licensee can make a determination, without prior NRC review, that a change to their strategy, not in conformance with NEI 12-06 or a previously approved alternative, is acceptable as long as (in the licensee's judgement) it meets the provisions of the new MDBEE rule, 10 CFR 50.155. This seems to conflict with the provisions of the PURPOSE section, last sentence, as well as the IMPLEMENTATION section in the body of the ISG. Both of these state or imply that the NRC would evaluate alternatives to the NEI 12-06. This change in oversight policy has the potential to allow the elimination of many of the basic [tenets] of the FLEX strategy that has been extensively vetted by both NRC staff and licensees throughout the mitigating strategies audit process. As was proposed by the nuclear industry in NEI 12-06 revision 0, the FLEX strategy relies on multiple and diverse methods to compensate for the uncertainty of a beyond-design basis event. Allowing licensees the latitude to interpret the rule without NRC prior approval could weaken many of the defense-in-depth provisions that make FLEX such an advance .in safety for US nuclear power plants. Simply put, licensees could exploit the vagaries of the rule language to eliminate many of the diverse and flexible provisions contained in NEI 12-06 (e.g. alternate connections, backup equipment, out-of-service controls) from the strategy. Further, giving licensees the ability to determine how to meet the regulation, outside of the endorsed method, could lead to much future uncertainty, conflict, and unnecessary expense in the inspection process. Once the regulation goes into effect, licensees are obligated to follow it unless	The NRC staff recognizes the importance of ensuring that appropriate change control measures for mitigating strategies are established. However, the comment proposes guidance that is not supported by a regulatory requirement of Order EA-12-049. Compliance with the requirements of a future rule which would supersede the requirements of Order EA-12-049 is outside the scope of this ISG. The type of change control methodology proposed by the commenter will be considered in the Mitigation of Beyond-Design-Basis Events rulemaking, RIN 3150-AJ49/Docket No. NRC-2014-0240 in response to the parallel comment submitted there. To reflect this, the following language was added to Section 5, "Configuration Control," of JLD-ISG-2012-01, Revision 1: Section 11.8.3.a.iii of NEI 12-06, Revision 2, includes a wording that corresponds to that of proposed 10 CFR 50.155(f), “Change control,” as published in the Federal Register (80 FR

5.0 Configuration Control		
Commenter	**Comment**	**NRC Response**
	they have a duly authorized exemption. Therefore adding a provision to evaluate 10 CFR 50.155 conformance in NEI 12-06 is meaningless. I recommend that when evaluating changes to the FLEX strategy under NEI 12-06 Revision IA, paragraph 11.8.3.a.iii, licensees also demonstrate that the proposed change does not reduce the overall effectiveness of the strategy. Changes that could reduce the effectiveness of the strategy should continue to require prior NRC approval. This caveat, if adopted, should also provide clear direction to licensees that the requested approval from NRR is a letter approval, not a license amendment.	70610, 70645, November 13, 2015, as modified by 80 FR 74717, November 30, 2015). Because that proposed change control provision has not been decided upon by the Commission, the NRC staff does not take a position on the acceptability of Section 11.8.3.a.iii. The Staff Position for this section was also revised to add the following sentence: As discussed above, the NRC staff does not take a position on the provisions of Section 11.8.3.a.iii.

6.0 Treatment of Reevaluated Hazards under the Requests for Information of March 12, 2012		
Commenter	**Comment**	**NRC Response**
	No comments received	

6.1 Treatment of Reevaluated Seismic Hazards		
Commenter	**Comment**	**NRC Response**
Kovarik 3	Comment: Add the following sentence [to staff position e]: The structure housing the equipment should be evaluated to confirm that, while deformation of the structure is possible, it will protect the equipment at the reevaluated seismic hazard so as to allow deployment of the equipment. Basis for Comment: Addition of the sentence is a clarification for consistency with other paragraphs of Section including c., d., and f. Additionally, provides clarification of the phrase "adequate seismic margin to protect the equipment"	The NRC staff agrees with the comment in principle, but has not modified the ISG to reflect it due to the addition of industry guidance on the subject in the edition of NEI 12-06, Appendix H, endorsed by this ISG, which includes section H.5 to provide seismic evaluation criteria.
Riley 13	Section 6.1- The ISG provides the guidance for performing the mitigating strategy assessment for the reevaluated seismic hazard. Industry Response: Attached to this submittal is proposed Revision 2 to NEI 12-06. It includes Appendix H which provides guidance for performing the mitigating strategies assessments for the reevaluated seismic hazard. The guidance in Appendix H should be endorsed and replace the guidance provided in Section 6.1 of the ISG.	The NRC staff agrees with this comment and has modified JLD-ISG-2012-01, Revision 1 to reflect the endorsement of NEI 12-06, Revision 2, Appendix H with clarifications and exceptions as noted in the ISG.

6.2 Treatment of Reevaluated Flooding Hazards		
Commenter	**Comment**	**NRC Response**
6.2.1 (Modified) Mitigating Strategies		
Riley 14	Section 6.2.1- Sections G.4.1 and G.4.2 of Appendix G to NEI 12-06, Revision 1A discuss a method to assess or modify the mitigating strategies to show they provide reasonable protection from the new flooding hazard information, referred to as mitigating strategies flood hazard information. Industry Response: Industry suggests this paragraph be worded as follows: Sections G.4.1 and G.4.2 of Appendix G to NEI 12-06, Revision 1A discuss a method to assess or modify the mitigating strategies to show they remain capable of mitigating the new flooding hazard information, referred to as mitigating strategies flood hazard information.	The NRC staff agrees with this comment and has modified JLD-ISG-2012-01 Revision 1 to reflect it.
6.2.2 Alternate Mitigating Strategies		
Riley 15	Section 6.2.2- Section G.4.3 of Appendix G to NEI 12-06, Revision 1A discusses a method to develop AMS to provide reasonable protection for the reevaluated flood hazards. Industry Response: Industry suggests this paragraph be worded as follows: Section G.4.3 of Appendix G to NEI 12-06, Revision 1A discusses a method to develop an AMS to mitigate the mitigating strategies flood hazard information.	The NRC staff agrees with this comment and has modified JLD-ISG-2012-01 Revision 1 to reflect it.
6.2.3 Targeted Hazard Mitigating Strategies		
Riley 16	Section 6.2.3- Section G.4.4 of Appendix G to NEI 12-06, Revision 1A discusses a method to develop targeted hazard mitigating strategies (THMS) to address the reevaluated flooding hazards. Industry Response: Industry suggests this paragraph be worded as follows: Section G.4.4 of Appendix G to NEI 12-06, Revision 1A discusses a method	The NRC staff agrees with this comment and has modified JLD-ISG-2012-01 Revision 1 to reflect it.

6.2 Treatment of Reevaluated Flooding Hazards		
Commenter	**Comment**	**NRC Response**
	to develop targeted hazard mitigating strategies (THMS) to mitigate the mitigating strategies flooding hazard information.	
Riley 17	Staff Position: Development of a THMS that provides a capability to mitigate the BDBEE by mitigating or preventing an ELAP that would occur as a result of the BDBEE through exhaustion of fuel for operating emergency power sources is an acceptable method of providing reasonable protection for the reevaluated flooding hazard when the hazard level for the THMS is identified. Section G.4.4 of Appendix G of NEI 12-06, Revision 1A provides an acceptable method to develop THMS to resolve issues identified with the reevaluated flooding hazards. Industry Response: The first sentence is not clear and seems to limit the use of a THMS to situations where an ELAP would occur due to the exhaustion of fuel sources to operating emergency power sources. A THMS would be used when the reevaluated flood hazard information results in the existing mitigating strategies not being implementable and other strategies being necessary, that include opening the containment, to maintain or restore core cooling. The staff position needs to clearly express acceptance for the opening of containment since Order EA-12-049 stipulates maintaining containment capability. Clarification has been added to Section G.1 Introduction, of Appendix G that the THMS will not maintain or restore the containment capability.	The NRC staff agrees that the initial sentence of the staff position is unclear and has modified it to read: The method described in Section G.4.4 of NEI 12-06, Revision 2, for development of a THMS that provides a capability to mitigate the BDBEE is an acceptable method of providing reasonable protection for the reevaluated flooding hazard when the hazard level for the THMS is identified. The protection of onsite power sources and normal access to the ultimate heat sink (normal heat sink for an AP1000 or ESBWR licensee) from the flood hazard is an acceptable method of mitigating a simultaneous loss of all alternating current (ac) power and loss of normal access to the ultimate (normal) heat sink.

7.0 Guidance for AP1000 Design		
Commenter	**Comment**	**NRC Response**
	No comments received	

Specific Request for Comment on SFP Spray Strategy		
Commenter	**Comment**	**NRC Response**
Riley 18	The NRC seeks comment on whether continuing to require the SFP spray strategy under Order EA–12–049 is warranted in light of the analyses performed for NUREG–2161, or whether the need for this strategy should be limited or removed. Industry Response: The industry position is that the SFP spray strategy is not warranted in light of both the cited NRC study as well as an industry study being performed under *Seismic Evaluation Guidance Spent Fuel Pool Integrity Evaluation* EPRI 3002007148. As such, it is proposed that the SFP spray strategy be removed from NEI 12-06. To this end, in the proposed Revision 2 of NEI 12-06 attached, the SFP spray strategy has been removed.	The NRC staff agrees with this comment in general, but notes that EPRI report 3002007148 is currently in draft form and does not evaluate SFPs subject to a peak ground acceleration greater than 0.8g. The NRC staff has modified JLD-ISG-2012-01, Revision 1, to restore the SFP spray strategy that was removed in NEI 12-06, Revision 2 with the allowance for removal of the SFP spray strategy upon performance of an evaluation of SFP integrity using an NRC-endorsed process.