

**Response to Public Comments on Draft Regulatory Guide DG-1244,
“Availability of Electric Power Sources”
Proposed Revision 1 of Regulatory Guide 1.93, dated December 1974**

The U.S. Nuclear Regulatory Commission (NRC) published a notice that draft regulatory guide DG-1244, “Availability of Electric Power Sources” (proposed Revision 1 of Regulatory Guide 1.93), was available for public comment in the *Federal Register* on September 24, 2010 (75 FR 58444). The agency received the comments detailed below. The final version of Revision 1 of Regulatory Guide 1.93 incorporates the NRC resolutions as described.

Comments were received from:

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No.	Section of DG-1244	Originator	Specific Comment	NRC Resolution
1.	General	NEI	<p>With regard to Limiting Conditions for Operation (LCOs), this draft Regulatory Guide refers to variants of “offsite power system.” This reference is incorrect and should be “offsite circuit.”</p> <p>The distinction is significant because the term “offsite power system” extends to the grid and OPERABILITY. The grid cannot be OPERABLE or INOPERABLE because it is not within the scope of the Technical Specifications.</p> <p>NEI RESOLUTION: Globally change: “offsite power system” to “offsite circuit.”</p>	<p>The staff disagrees. Use of the term “offsite power system” is consistent with General Design Criteria (GDC) 17, “Electric Power Systems.”</p> <p>The staff agrees that “grid” is not within the scope of the technical specifications.</p>

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2.	Section A, page 1, first bullet	NEI	<p>In the first bullet in the GDC 17 description, recommend adding, “(not necessarily on separate rights of way)” to maintain consistency with GDC 17.</p> <p>NEI RESOLUTION: Re-write first sentence to state: “Two physically independent circuits (not necessarily on separate rights of way) shall supply electric power from the offsite transmission network to the onsite electric distribution system.”</p>	<p>The staff agrees and has inserted the proposed wording in the appropriate paragraph</p>
3.	Section B, page 3, first paragraph	NEI	<p>This draft Regulatory Guide appears to create new criteria with the sentence: “Plant operators should be aware of: (1) the capability of the offsite power system to supply power during operation and (2) situations that can result in a loss of offsite power or inadequate voltage following a trip of the plant or other transmission contingencies (which could potentially degrade the offsite power supplies) identified by the grid operator.</p> <p>If the offsite power system cannot provide the requisite power in either situation, the licensee should declare the system inoperable and follow pertinent plant technical specification provisions.”</p> <p>Except for a station plant trip, the GDC and Standard Review Plan do NOT require that a single contingency not impact either offsite power source, they just require that it not impact both offsite power sources.</p> <p>This draft Regulatory Guide creates a new term: “requisite power” without a definition or reference.</p> <p>NEI RESOLUTION: Re-write to be consistent with the GDC and the Standard Review Plan. From GDC 17: <i>“An onsite electric power system and an offsite electric power system shall be provided to permit functioning of structures, systems, and components important to safety. The safety function for each system (assuming the other system is not functioning) shall be to provide sufficient capacity and capability to assure that (1) specified acceptable fuel design limits and design conditions of the reactor coolant pressure boundary are not exceeded as a result of anticipated operational occurrences and (2) the core is cooled and containment integrity and other vital functions are maintained in the event of postulated accidents.”</i></p> <p><i>Define new term: “requisite power.”</i></p>	<p>The staff added a bullet on page 2 to expand the description and improve consistency with GDC 17 as suggested.</p> <p>There is no need to define the phrase “requisite power.” The word “requisite” is a common word that that means “...required or necessary...”</p> <p>Thus the phrase “requisite power” means required or necessary power.</p>

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4.	Section B, page 3, second paragraph	NEI	<p>The draft Regulatory Guide states: “Accordingly, licensees should perform grid reliability evaluations as part of the maintenance risk assessment required by 10 CFR 50.65....”</p> <p>The expectation of the draft Regulatory Guide is not clear. The guidance could recommend either: (1) Verifying with Operations that both offsite circuits are Operable or (2) Obtaining contingency voltage cases from the grid operator.</p> <p>NEI RESOLUTION: Clarify expectations by adding to the sentence: “Accordingly, licensees should perform grid reliability evaluations by verifying with Operations that both offsite circuits are Operable as part of the maintenance risk assessment required by 10CFR50.65(a)(4)....”</p>	The staff agrees and has inserted the proposed wording in the appropriate paragraph .
5.	Section B, page 3, fifth paragraph	NEI	<p>The first sentence states that, “Grid reliability evaluations should be performed as part of the maintenance risk assessment required by 10 CFR 50.65(a)(4).”</p> <p>In order to ensure that it is clear to the reader that the requirement promulgated in 10 CFR 50.65(a)(4) is to perform the risk assessment and that the grid reliability evaluation is not specifically required by 10 CFR 50.65(a)(4), the sentence should be restructured.</p> <p>NEI RESOLUTION: Change first sentence to read as follows: “As part of the maintenance risk assessment required by 10 CFR 50.65(a)(4), grid reliability evaluations should be performed.”</p>	The staff agrees and has inserted the proposed wording in the appropriate paragraph
6.	Section B, page 4, item 1, first paragraph	NEI	<p>The statement is inappropriate: “The LCOs of NPPs are met when all LCO-required electric power sources are determined to be operable in accordance with the applicable plant-specific technical specifications at the required voltage and capacity for the nuclear station and capable of withstanding a ‘worst case’ transmission system contingency (also known as the N-1 contingency).”</p> <p>This position is problematic for the following reasons:</p> <ul style="list-style-type: none"> • It is inconsistent with the definition of LCOs in 10 CFR 50.36(c)(2), which are “the lowest functional capability or performance levels of equipment required for safe operation of the facility.” 	The staff agrees and has inserted the proposed wording in the appropriate paragraph

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			<p>GDC 17 defines the safety function of the electric power sources to be “...assure that (1) specified acceptable fuel design limits and design conditions of the reactor coolant pressure boundary are not exceeded as a result of anticipated operational occurrences and (2) the core is cooled and containment integrity and other vital functions are maintained in the event of postulated accidents.”</p> <p>The offsite power sources are fully capable of meeting these safety functions even during periods when a postulated transmission system disturbance could cause loss of one or both offsite power supplies.</p> <p>This is because (1) the disturbance is only postulated and has not actually occurred, (2) 10 CFR 50, Appendix A, already acknowledges that a loss of offsite power event is an “anticipated operational occurrence,” and (3) postulated accidents would not affect the ability of the electric power sources to perform their safety functions, since the only identified vulnerability is to a disturbance on the transmission network that is unassociated with any postulated accidents at the nuclear plant.</p> <ul style="list-style-type: none"> • It reflects a de facto new requirement that the licensee certify that the transmission network be single failure proof. Although GDC 17 mentions the “transmission network,” it does not impose any specific design or operating requirements on it. As such, this would be a backfit if this certification requirement were to be implemented. • It is contrary to the staff interpretation in NUREG 0800 (“NRC Staff Interpretation of the Requirements of GDC 17”) that there is no “requirement for meeting single failure and in the absolute sense single failure cannot be met because there is only one power source, the grid.” • It involves no risk-informed rationale, such as the probability that the particular transmission network contingency could occur. <p>NEI RESOLUTION: Delete the sentence or re-write the sentence as: “By meeting the LCO limits governing the safety function of the electric power sources, NPPs can be confident that the capability and performance levels of equipment required for safe operation of the facility are sufficient to withstand a ‘worst case’ transmission system contingency (also known as the N-1 contingency). The safety function of the electric power sources assure that</p>	

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			(1) specified acceptable fuel design limits and design conditions of the reactor coolant pressure boundary are not exceeded as a result of anticipated operational occurrences and (2) the core is cooled and containment integrity and other vital functions are maintained in the event of postulated accidents.”	
7.	Section B, page 4, item 2, first paragraph	NEI	<p>The text seems to imply that immediate shutdown rather than Operation, if an LCO Condition is more appropriate.</p> <p>This draft Regulatory Guide essentially directs immediate unit shutdown if it is a “safer course of action.” Absent any grid disturbance, a shutdown unit could be considered safer than an operating unit so this direction would compel immediate unit shutdown upon the loss of an offsite circuit.</p> <p>NEI RESOLUTION: Clarify expectation by rewording the lead-in sentence to: “Upon loss of some required electric power circuits, it may be prudent to complete any actions required by technical specifications for continued operation at power.”</p>	The staff agrees and has inserted the proposed wording in the appropriate paragraph
8.	Section B, pages 5–8	NEI	<p>This draft Regulatory Guide discusses seven levels of degradation in order of increasing severity but does not closely tie these seven levels to the seven Regulatory Positions later in the draft Regulatory Guide.</p> <p>NEI RESOLUTION: Clarify expectation by re-wording the lead-in statement: “To better define the seven levels of power system degradation, this Regulatory Guide describes the scenario of each set of circumstances.”</p>	The staff agrees and has inserted the proposed wording in the appropriate paragraph

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9.	Section B, page 6, item 2, first paragraph	NEI	<p>Using the word “train” in the context of onsite ac power source degradation could be incorrectly inferred to apply to the other components that make up a distribution system “train” (e.g., switchgear). The components that makeup the distribution system train typically have different required action times than that of the power source. Changing “train” to “source” maintains consistency with the subsection heading.</p> <p>NEI RESOLUTION: Change the first sentence in the first paragraph under the heading sentence to: “This degradation level means that one required source of the onsite ac power system is not available for safe shutdown or to mitigate the effects of an event.”</p>	The staff agrees and has inserted the proposed wording in the appropriate paragraph
10.	Section B, page 6, item 2, second paragraph	NEI	<p>The first sentence is inconsistent with the condition represented by the level of degradation. In this condition (one less than the LCO), essentially one EDG is inoperable. A trip of the [main] generator should not result in a total loss of ac power. This is confirmed by verification of the remaining ac sources as one of the required actions in standard Technical Specifications.</p> <p>This statement is incorrect because the N-1 analysis says that the loss of the unit WILL NOT result in the loss of the offsite transmission network. If the analysis showed the possibility of a total loss of ac power, the offsite circuits would be declared inoperable, which is situation 3 on page 6 of the draft Regulatory Guide.</p> <p>The statement also assumes a single failure. This is not consistent with current standard Technical Specification wording that indicates the completion time, “takes into account the capacity and capability of the remaining AC sources, a reasonable time for repairs, and the low probability of a DBA occurring during this period.”</p> <p>NEI RESOLUTION: Change the first sentence of this paragraph to: “Since this degradation level can represent a loss of redundancy of the onsite ac power source to mitigate the effects of an event, the licensee should restrict the time allowed for continued operation.”</p>	The staff agrees and has inserted the proposed wording in the appropriate paragraph

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11.	Section B, page 6, item 2, second paragraph and second bullet	NEI	<p>Use of the word “severely” is inconsistent with previous use of the word to describe the importance of limiting continued operation and is inconsistent with the actual allowed completion time. For example, in Regulatory Guide 1.93 Revision 0, the word “severely” was used to describe the urgency for loss of two ac sources and loss of a dc source.</p> <p>Both these conditions have serious safety implications in mitigating design basis events and satisfying plant required safety functions; however, here it is used to describe the urgency for a loss of a single ac source, which does not have nearly the same impact on the electrical distribution system supporting required safety functions.</p> <p>Also, allowing 72 hours of continued operation does not give the appearance of “severely” restricting the time allowed for continued operation, when this description is also used for allowing continued operation for two hours (loss of two onsite ac sources).</p> <p>NEI RESOLUTION: Change the second bullet to: “Minimize the risk associated with this level of degradation by limiting its exposure time.”</p>	The staff agrees and has inserted the proposed wording in the appropriate bullet
12.	Section B, page 6, item 3, first paragraph	NEI	<p>This sentence incorrectly implies that two conditions are the same: “...this level generally corresponds to the total loss (inadequate capacity, voltage, or frequency) of the offsite power sources.”</p> <p>“Total loss” occurs when the circuits have become de-energized.</p> <p>“Inadequate capacity” is most often the result of insufficient transmission system voltage support during periods when the immediately accessible offsite power sources have not been lost, but are not operating within their normal voltage and frequency ranges.</p> <p>NEI RESOLUTION: Re-write the sentence without the parentheses information: “...this level generally corresponds to the total loss of the offsite power sources.”</p>	The staff agrees and has inserted the proposed wording in the appropriate paragraph

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13.	Section B, page 7, item 3	NEI	<p>This draft Regulatory Guide states: "...a brief interval of continued operation is allowed..."</p> <p>Current plant LCO Condition C addresses this level of degradation and allows seven days to restore.</p> <p>NEI RESOLUTION: Re-write "brief interval" to be consistent with LCO Condition C (3.8.1).</p>	The staff agrees and has inserted the proposed wording in the appropriate paragraph
14.	Section B, page 7, item 3	NEI	<p>The intent of the sentence is unclear: "No further discussion is necessary for units designed to undergo an automatic shutdown at this level of degradation; however, those units that initiate load rejection are considered to remain operating within the context of this regulatory guide."</p> <p>NEI RESOLUTION: Remove sentence.</p>	The staff agrees and has inserted the proposed wording in the appropriate paragraph
15.	Section C, page 8, second line of section	NEI	<p>First sentence is inconsistent with the sentence in Part B that states, "For evolutionary plant designs that have three or four safety trains and have excess redundancy in their onsite power systems, the restrictions imposed on such plants on the loss of required onsite power sources may differ from those recommended in this guide and should be evaluated on a case-by-case basis."</p> <p>While the sentence in Part B (Discussion) indicates that plants having additional redundancy in safety trains can expect the additional redundancy to be factored into the allowed outage time, the sentence in Part C (Regulatory Position) does not convey that message. The explicit statement that, "The completion times provided in this section of the regulatory guide reflect an acceptable regulatory practice for designs with two or more onsite ac sources, two or more dc power sources, inverters, and two offsite power sources" (emphasis added) eliminates the guidance within the regulatory position that would account for evaluating a plant on a case-by-case basis, despite the functional capability of the individual plant.</p> <p>The fact that this limitation is not in Revision 0 of RG 1.93 and that it was also not included in DG 1153 and DG 1195 (proposed revision 1 to RG 1.93) could indicate that credit for additional safety system redundancy would not be considered.</p> <p>Essentially, the regulatory position continues to apply a two division concept and now specifically states that the completion times for this two division</p>	The staff agrees and has deleted the first two sentences in the section and revised the wording in the rest of the section to improve understanding.

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			<p>concept will be applied to plants with two or more sources. The required actions and completion times should be commensurate with the level of functional degradation, and not merely a tabulation of unavailable sources, starting with the first one lost. For example, if the plant still has complete safety system functionality to mitigate the effects of a design basis event concurrent with a loss of offsite power and single failure when one or more onsite power sources are inoperable, there should be no reason to shut down the plant if the offsite source is verified reliable and there is no common cause failure.</p> <p>NEI RESOLUTION: First two sentences in the first paragraph should be replaced as follows: “The completion times provided in this section take into account the capacity and capability of the remaining ac sources and the low probability of a postulated accident occurring during this period. These completion items also appear in the iSTS (Refs. 1–5). The completion times reflect an acceptable regulatory practice for designs with two onsite ac sources, two dc power sources, inverters, and two offsite power sources. The functional capability of remaining sources should be considered when determining appropriate completion times for evolutionary plants that have excess redundancy in their onsite power systems. For example, if the plant has the capability to mitigate a postulated event with the remaining onsite ac sources following one or more sources becoming inoperable, a 72 hour completion time to restore a redundant source is justified.”</p>	
16.	Section C, pages 9–11	NEI	<p>The seven numbered sections starting on page 9 seem to reiterate the Standard Technical Specifications (STS). As such, they are redundant to the STS for plants that comply and contradictory to plants that may have variations or subtle differences to the STS.</p> <p>The recommended “Completion Times” are inconsistent with the current Technical Specifications:</p> <ol style="list-style-type: none"> 1. Draft RG 72 hours Plant Tech Spec 7 days 2. Draft RG 72 hours Plant Tech Spec 14 days 3. Draft RG 24 hours Plant Tech Spec 7 days 6. Draft RG 2 hours Plant Tech Spec 8 hours <p>NEI RESOLUTION: Remove the recommended “Completion Times.” Or add the words in each “Completion Times” case: “...or for the time period</p>	<p>The times listed in the regulatory guide are consistent with the standard technical specifications (NUREG-1430 through NUREG-1434).</p> <p>As stated in Section C of this regulatory guide - If there is any conflict between this regulatory guide and the plant-specific technical specifications, licensees</p>

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			specified in the plant specific Technical Specifications.”	should follow the guidance in their plant-specific technical specifications.
17.	Section C, page 9, third paragraph	NEI	<p>This draft regulatory guide inappropriately assigns a validation task in the sentence: “The NPP operator should validate the accuracy and conservatism of the post-trip voltages predicted by the online grid analysis tool.”</p> <p>NPP operators generally do not have the knowledge or tools to do this validation. Frequently, the grid analysis tool is owned and operated by a third party due to legal issues, i.e., allowing a generator intimate access to the grid analysis tool has the potential to provide a competitive advantage over other generators. System Control (Transmission) evaluates the accuracy of their prediction of post trip voltage after each actual trip.</p> <p>NEI RESOLUTION: Re-write the sentence: “The accuracy and conservatism of the post-trip voltages predicted by the online grid analysis tool should be determined after each actual trip.”</p>	The staff agrees and has inserted the proposed wording in the appropriate paragraph
18.	Section C, page 9, item 1, first paragraph	NEI	<p>The criterion in Regulatory Position 1 is inconsistent with the criterion given in Regulatory Position 4, for similar circumstances. The description also contains multiple and contradictory qualifying statements, rendering it confusing.</p> <p>NEI RESOLUTION: Reword sentence to: “If the available offsite ac power sources are one less than the LCO, power operation may continue for a period that should not exceed 72 hours if the electric grid system capacity and voltage are such that a subsequent single failure would not cause a total loss of offsite power. Subsequent single failure to be considered is a trip of the unit’s generator and related offsite power failures (e.g., ice storm, forest fire, etc.).”</p>	The staff agrees and has revised the wording to enhance its clarity.
19.	Section C, page 10, item 4	NEI	<p>The criterion for offsite power in this Regulatory Position is inconsistent with the previous description for similar condition. Item 4 indicates: “capacity and voltage,” while Item 1 indicates: “capability and reserves.”</p> <p>Also, the term “highly” provides an additional subjective qualification for the required action. Since the completion time is defined as the time allowed for completing a required action, if there is a reasonable expectation that the</p>	The staff agrees and has inserted the proposed wording in the appropriate paragraph

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			<p>required action cannot be completed within the allowed completion time, then the next condition should be entered, for this as well as any other required action. The additional subjective emphasis is not required and should be deleted.</p> <p>NEI RESOLUTION: Reword the sentence to: “If the available offsite and onsite ac power sources are each one less than the LCO, power operation may continue for 12 hours if it appears likely that at least one of the affected sources can be restored within 12 hours and if the electric grid system capacity and voltage are such that a subsequent single failure would not cause a total loss of offsite power. Subsequent single failure to be considered is trip of the unit’s generator and related offsite power failures (e.g., ice storm, forest fire, etc.)”</p>	
20.	Section D, page 11, second and third paragraphs	NEI	<p>Use of this draft Regulatory Guide is clearly a Backfit as shown in the sentences: “may be used when evaluating compliance” and “Licensees may use the information in this Regulatory Guide or applicable parts to resolve regulatory or inspection issues (e.g., by committing to comply with provisions in the regulatory guide).”</p> <p>In certain circumstances, operating experience could provide a basis for a change in regulatory position; however, when changing position, the staff must appropriately address the agency’s obligations under 10 CFR 50.109 (i.e., Backfit Rule).</p> <p>Section D indicates that imposing new or amended positions in the revised guidance by conditioning approval of voluntary license amendments would not be considered a backfit.</p> <p>To the contrary, in the 1985 Final Backfit Rule the Commission stated that backfit analyses would be available in such situations at the licensee’s request. In addition, Section D incorrectly states that, in certain situations, the staff may require licensees to comply with the revised guidance provided in the draft guide. NEI believes that this statement is incorrect, as guidance merely articulates one acceptable approach to compliance. Thus, licensees always retain the option of proposing acceptable alternative methods of compliance.</p> <p>NEI RESOLUTION: Reword the sentence to: “the staff believes that this</p>	<p>As stated in this regulatory guide and other communication with NEI, regulatory guides are not substitutes for regulations and compliance with them is not required. The NRC issues regulatory guides: to describe methods that the staff considers acceptable for use in implementing specific parts of the agency’s regulations; to explain techniques that the staff uses in evaluating specific problems or postulated accidents; and to provide guidance to applicants.</p> <p>Compliance with the methods described in this regulatory guide is not mandatory, licensees, certificate holders,</p>

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			<p>regulatory guide reflects the majority of current regulatory practices and applies to operating nuclear power plants with a Safety Evaluation Report issued after July 1, 1974.”</p> <p>“Licensees may use the information in this Regulatory Guide or applicable parts to resolve regulatory or inspection issues (e.g., by using the provisions in the regulatory guide or using an alternative—which may include their current Licensing Basis).”</p> <p>See also Attachment 2 to NEI letter dated November 24.</p>	<p>and applicants may propose alternate approaches which will be reviewed by the NRC staff on a case-by-case basis.</p> <p>The staff has revised Section D – Implementation to further clarify the use of the methods described in this regulatory guide.</p>
21.	Section D, page 12, third paragraph	NEI	<p>This draft Regulatory Guide says: “If an existing licensee seeks a license amendment or change to an existing regulatory approval, and the staff’s consideration of the request involves a regulatory issue which is directly relevant to this Regulatory Guide and the specific subject matter of the new or revised guidance is an essential consideration in the NRC staff’s determination of the acceptability of the licensee’s request, the staff may require the licensee to use this Regulatory Guide as a prerequisite for NRC approval.”</p> <p>NEI RESOLUTION: Rewrite the sentence to: “If an existing licensee seeks a license amendment or change to an existing regulatory approval, and the staff’s consideration of the request involves a regulatory issue which is directly relevant to this Regulatory Guide and the specific subject matter of the new or revised guidance is an essential consideration in the NRC staff’s determination of the acceptability of the licensee’s request, the staff may request the licensee to use this Regulatory Guide as a prerequisite for NRC approval or ask the Licensee to propose an alternative—which may include their current Licensing Basis.”</p> <p>See also Attachment 2 to NEI letter dated November 24.</p>	<p>The staff has revised Section D – Implementation to further clarify the use of the methods described in this regulatory guide.</p>
22.	Section D (Implementation)	NEI	<p>NRC’s Position on “Forward Fits”</p> <p>The Implementation Section explicitly details how DG-1244 may be used by licensees and applicants, as well as the NRC staff. While the description in the Implementation Section clearly limits imposition of the revised guidance prior to performance of a backfit analysis in most situations, the penultimate</p>	<p>The staff believes that, in this regulatory guide, the next to the last paragraph is consistent with the current policy and the legal interpretation of the Backfit</p>

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			<p>paragraph states:</p> <p>If an existing licensee seeks a license amendment or change to an existing regulatory approval, and the staff's consideration of the request involves a regulatory issue which is directly relevant to this Regulatory Guide and the specific subject matter of the new or revised guidance is an essential consideration in the NRC staff's determination of the acceptability of the licensee's request, the staff may require the licensee to use this Regulatory Guide as a prerequisite for NRC approval. This is not considered back-fitting as defined in 10 CFR 50.109(a)(1) or a violation of any of the issue finality provisions in 10 CFR Part 52.¹</p> <p>The genesis of this paragraph is an interpretation in the Burns Letter, which clarified the applicability of the NRC's backfitting program to interpretive guidance, such as Regulatory Guides. Specifically, after acknowledging that a backfitting analysis is required for certain types of guidance, the Burns Letter stated:</p> <p>By contrast, there are guidance documents which the NRC staff intends only to be "forward fit," that is, the guidance will be applied only to: (i) future applicants; and (ii) <i>applications from existing licensees for license amendments, requests for exemptions, and other requests for dispensation from compliance with otherwise-applicable legally binding requirements (an example of such a request would be an application to use an alternative under 10 CFR 50.55a)</i>. In these circumstances, the NRC does not consider the issuance of "forward fit" interpretive guidance to constitute "backfitting." As the NRC has stated in several different contexts, the Backfit Rule does not protect the expectations of future applicants (including licensees seeking NRC permission to conduct licensed activities in a manner different than what the NRC previously approved) regarding the regulatory requirements that they must meet to obtain NRC approval.²</p> <p>Other than the brief reference to NRC's statements in "several different contexts," the Burns Letter does not point to specific statements in either the</p>	<p>Rule. Therefore, no further modification is needed.</p>

¹ DG-1244, at 12

² Burns Letter, at 2 (emphasis added)

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			regulatory history or NRC guidance that support the “forward fit” concept. To the contrary, as explained below, the relevant regulatory history indicates that the Commission intended the backfitting program to apply to the license amendment process in situations where licensees request performance of a backfit analysis.	
23.	Section D (Implementation)	NEI	<p>As explained in NEI’s June 2010 letter to the NRC’s General Counsel (which prompted the Burns Letter), the 1985 Final Backfit Rule and the NRC’s long-standing backfit guidance reveals that the Commission has long-recognized the importance of applying the agency’s backfit program to changing agency positions presented in interpretive guidance documents.³ An examination of the Supplementary Information published with the 1985 Final Backfit Rule reveals that the Commission also addressed the applicability of the backfitting process to the issuance of license amendments. Describing responses to the NRC’s invitation to comment on this very issue, the Commission stated:</p> <p>The Commission also expressed a concern over whether preparation of a backfitting analysis should be required <i>as a condition precedent</i> to the issuance of a license amendment. NUBARG stated that “unless requested by a licensee, the staff should not be requested to prepare a backfitting analysis <i>as a condition precedent</i> to issuance of a license amendment if the licensee requests an amendment pursuant to 10 CFR § 50.90.” NUBARG points out that application for significant amendments requires a description of the proposed modification and the preparation of a safety analysis report by the licensee. Since the licensee presumably will have subjected the amendment to an internal cost effectiveness review, a backfitting analysis by the NRC would appear to be neither necessary nor appropriate. AIF was in general agreement with this position and stated further that the option to allow a licensee to request a backfitting analysis should be retained. AIF suggested that there are instances when licensees are under informal but intense regulatory pressure to submit an amendment request. In this circumstance, backfitting analysis should precede the issuance of a license amendment according to AIF. General comments from</p>	The last paragraph of the “Use by Applicants and Licensees” portion of the implementation section addresses this issue by stating that licensees have the right to file a “backfit” appeal. The staff feels that it is unnecessary to repeat this language in this section.

³ Letter from Ellen C. Ginsberg (NEI) to Stephen G. Burns (NRC), June 4, 2010 (“Ginsberg Letter”) Comments on DG-1244 (Rev. 1 to RG 1.93), Page 14

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			<p>other members of the industry tend to support the NUBARG and AIF positions.⁴</p> <p>In response to the comments described above, the Commission stated:</p> <p>The Commission agrees with those who suggest that the Staff should not be required to prepare a backfitting analysis as a condition precedent to issuance of a license amendment if the licensee requested the amendment pursuant to 10 CFR 50.90. <i>If a licensee believes that the amendment process is being used by the staff to impose a backfit, the licensee may invoke the rule under § 50.109. It is unnecessary to amend the rule in this regard since mention of the point here provides adequate direction to the Staff and licensees.</i>⁵</p> <p>These passages in the 1985 Final Backfit Rule indicate that—while at the time Industry groups did not feel that requiring a backfit analysis <i>as a condition precedent</i> to issuance of a license amendment was necessary—the Commission recognized that such an analysis would be performed at the request of the licensee. Contrary to the “forward fit” interpretation described in the Burns Letter, there is no indication that the Commission contemplated that issuance of license amendments—voluntary or not—would be <i>categorically excluded</i> from backfit consideration. In fact, the Commission expressly dismissed the suggestion that the rule be modified to explicitly allow licensees to request backfitting analyses of license amendments because—according to the Commission—its “mention of the point” in the Supplementary Information “provid[ed] adequate direction to the Staff and licensees.”</p> <p>The NRC has now taken the contrary position that the staff may condition the grant of license amendments on a licensee’s adoption of new or amended positions contained in revisions to Regulatory Guides without performing a backfit analysis—even in situations where the licensee requests such an analysis. That is, according to the NRC’s “forward fit” interpretation, which manifests itself in the Implementation Section of DG-1244 and other recent Regulatory Guides, imposition of new or amended NRC positions by</p>	

⁴ Revision of the Backfitting Process for Power Reactors, 50 Fed. Reg. 38,097, 38,101 (Sept. 20, 1985) (emphasis added)

⁵ 50 Fed. Reg. 38,101 (emphasis added)

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			<p>conditioning approval of voluntary license amendment requests are not backfits. Thus, licensees are effectively precluded from requesting a backfit analysis in such situations, despite the Commission's affirmative statements to the contrary in the 1985 Final Backfit Rule.</p> <p>Aside from the backfitting concerns described above, the Implementation Section of DG-1244 states that the NRC staff may require a licensee to use this revision of Regulatory Guide 1.93 as a prerequisite to NRC approval of a license amendment request, or other requests to modify existing regulatory approvals. This statement is incorrect. NRC guidance merely articulates one acceptable method of complying with the Commission's regulatory requirements. Thus, the methods of compliance described in guidance documents are not exclusive and licensees may suggest acceptable alternatives in order to achieve compliance. If the NRC intends to require licensees to use this revision of Regulatory Guide 1.93 exclusively, then the proper administrative tool would be a rulemaking or issuance of an order, not guidance.</p>	
24.	Section D (Implementation)	NEI	<p>The purpose of this section is to provide information on how applicants and licensees may use this guide and information regarding the NRC's plans for using this Regulatory Guide. In addition, it describes how the NRC staff has complied with the Backfit Rule, 10 CFR 50.109 and any applicable finality provisions in 10 CFR Part 52.</p> <p>NRC Staff Use</p> <p>If an existing licensee seeks a license amendment or change to an existing regulatory approval, the staff may, in certain circumstances, request that the licensee adopt practices consistent with this revision of Regulatory Guide 1.93 as a prerequisite to NRC approval. The staff may make such a request only if: (1) the licensee's request is voluntary and is not compelled by a new or amended regulation; (2) this revision of Regulatory Guide 1.93 relates directly to the licensee's voluntary request; and (3) the specific subject matter of this revision to Regulatory Guide 1.93 is an essential consideration in the NRC staff's decision on the acceptability of the licensee's voluntary request. In any event, while the staff may make such requests in situations where these three criteria are met, this revision to Regulatory Guide 1.93 does not represent the sole</p>	<p>The staff has modified the language in this section to be consistent with its response to Comment 20 and believes that its response to Comment 23 adequately describes the licensees' right to a backfit appeal.</p>

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			<p>method of complying with the relevant regulatory requirements and the licensee may propose alternatives methods of compliance. Further, in such situations a licensee seeking a license amendment or a change to an existing regulatory approval may request that the staff perform a backfit analysis prior to conditioning approval upon conformance to this revision of Regulatory Guide 1.93.</p>	
25.	General	Jacques Vandebroek	<p>With regard to Limiting Conditions for Operation (LCOs), the Reg Guide refers to variants of “offsite power system.” This reference is incorrect and should be “offsite circuit.” The distinction is significant because the term “offsite power system” extends to the grid and OPERABILITY and the grid cannot be OPERABLE or INOPERABLE because it is not within the scope of the Technical Specifications.</p>	<p>The staff disagrees. Use of the term “offsite power system” is consistent with General Design Criteria (GDC) 17, “Electric Power Systems.”</p> <p>The staff agrees that “grid” is not within the scope of the technical specifications.</p>
26.	Page 4	Jacques Vandebroek	<p>Under “Period of Continued Operation” the Reg Guide essentially directs immediate unit shutdown if it is a “safer course of action.” Absent any grid disturbance, a shutdown unit is safer than an operating unit so this direction would compel immediate unit shutdown upon the loss of an offsite circuit.</p>	<p>The staff agrees and has revised the wording in the appropriate paragraph. See Comment 7 and the staff’s response for more information.</p>
27.	Page 6	Jacques Vandebroek	<p>Under “2. The available onsite ac power sources are one less than the LCO.” incorrectly states:</p> <p>“Because any inadvertent generator trip could potentially result in a total loss of ac power...” This statement is incorrect because the N-1 analysis says that the loss of the unit WILL NOT result in the loss of the offsite transmission network. If the analysis showed the possibility of a total loss of ac power, the offsite circuits would be declared inoperable, which is situation 3 on page 6 of the Reg Guide.</p>	<p>The staff agrees and has revised the wording in the appropriate paragraph. See Comment 10 and the staff’s response for additional information.</p>
28.	Page 9	Jacques Vandebroek	<p>“The NPP operator should validate the accuracy and conservatism of the post-trip voltages predicted by the online grid analysis tool.”</p>	<p>The staff agrees and has revised the wording in the appropriate paragraph. See</p>

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			<p>This may not be feasible if the grid analysis tool is owned and operated by a third party due to legal issues, i.e., allowing a generator intimate access to the grid analysis tool has the potential to provide a competitive advantage over other generators. Additionally, the NPP may not have the technical familiarity with the analysis tool to validate the accuracy and conservatism of the tool.</p>	<p>Comment 17 and the staff's response for additional information.</p>
29.	Section 7, page 9	Jacques Vandebroek	<p>Reiterates the Standard Technical Specifications (STS). As such, they are redundant to the STS for plants that comply, and contradictory to plants that may have variations or subtle differences to the STS. Please remove this section because it provides the opportunity for conflict with the plant specific Technical Specifications with no apparent benefit.</p>	<p>The staff agrees and has revised the wording in the appropriate paragraph. See Comment 16 and the staff's response for additional information.</p>
30.	Page 11	Jacques Vandebroek	<p>"...the staff believes that this regulatory guide reflects the majority of current regulatory practices and may be used when evaluating compliance for operating nuclear power plants with a Safety Evaluation Report issued after July 1, 1974."</p> <p>Contrary to the section "NRC Staff Use" the statement "may be used when evaluating compliance" clearly makes this Regulatory Guide a Backfit.</p> <p>The Backfit intent is further supported by the statement "Licensees may use the information in this Regulatory Guide or applicable parts to resolve regulatory or inspection issues (e.g., by committing to comply with provisions in the regulatory guide)."</p> <p>In other words, this Regulatory Guide "may be used when evaluating compliance" and "Licensees may...resolve regulatory or inspection issues...by committing to comply with provisions in this regulatory guide."</p>	<p>The staff does not agree that this regulatory guide is a backfit. However, the staff has revised Section D – Implementation – to further clarify the use of the methods described in this regulatory guide.</p> <p>The staff believes that the implementation section, as written, provides a reasonably complete description of the potential use of this regulatory guide.</p> <p>The statement identified in this comment provides background information on how the staff developed its position.</p>

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31.	Section B, item 1	Jacques Vandenbroek	<p>This item is inappropriate and should be deleted: “The LCOs of NPPs are met when all LCO-required electric power sources are...capable of withstanding a ‘worst case’ transmission system contingency (also known as the N-1 contingency).” This position is problematic for the following reasons:</p> <p>* The LCO would always be exceeded, since loss of a transmission line that transmits power from the transmission network to the onsite electric distribution system, for example, would always result in loss of that particular offsite power supply.</p> <p>It is inconsistent with the definition of LCOs in 10 CFR 50.36(c)(2), which are “the lowest functional capability or performance levels of equipment required for safe operation of the facility.” GDC 17 defines the safety function of the electric power sources to be “...to assure that (1) specified acceptable fuel design limits and design conditions of the reactor coolant pressure boundary are not exceeded as a result of anticipated operational occurrences and (2) the core is cooled and containment integrity and other vital functions are maintained in the event of postulated accidents.” The offsite power sources are fully capable of meeting these safety functions even during periods when a postulated transmission system disturbance could cause loss of one or both offsite power supplies. This is because:</p> <p>(1) the disturbance is only postulated and has not actually occurred,</p> <p>(2) 10 CFR 50, Appendix A, already acknowledges that a loss of offsite power event is an “anticipated operational occurrence,” and</p> <p>(3) postulated accidents would not affect the ability of the electric power sources to perform their safety functions, since the only identified vulnerability is to a disturbance on the transmission network that is unassociated with any postulated accidents at the nuclear plant.</p> <p>* It reflects a de facto new requirement that the licensee certify that the transmission network be single failure proof. Although GDC 17 mentions the</p>	<p>The staff agrees and has revised the wording in the appropriate paragraph. See Comment 6 and the staff’s response for additional information.</p>

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			<p>“transmission network,” it does not impose any specific design or operating requirements on it. As such, this would be a backfit if it were to be implemented.</p> <p>* It is contrary to the staff interpretation that there is no “requirement for meeting single failure, and in the absolute sense single failure cannot be met because there is only one power source, the grid” (NUREG 0800, “NRC Staff Interpretation of the Requirements of GDC 17”).</p> <p>* It involves no risk-informed rationale, such as the probability that the particular transmission network contingency could occur.</p>	
32.	Section entitled, “The Available Offsite AC Power Sources Are Two Less Than the LCO”	Jacques Vandebroek	<p>The statement is confusing that “...this level generally corresponds to the total loss (inadequate capacity, voltage, or frequency) of the offsite power sources. “Total loss” occurs when the circuits have become de-energized. “Inadequate capacity” is most often the result of insufficient transmission system voltage support during periods when the immediately accessible offsite power sources have not been lost, but are operating within their normal voltage and frequency ranges. Due to the inadequate voltage support, an event involving tripping of the nuclear unit’s main generator could cause loss of the offsite power sources due to loss of switchyard voltage support when the generator trips. This would result in actuation of the degraded voltage relays, tripping of the offsite power circuits, and transfer of the safety buses to the diesel generators. Therefore, “inadequate capacity” would correlate only to a postulated, rather than actual, “total loss.”</p>	<p>The staff agrees and has revised the wording in the appropriate paragraph. See Comment 12 and the staff’s response for more information.</p>
33.	Page 3, second paragraph	VC Summer	<p>States: Plant operators should be aware of (1) the capability of the offsite power system to supply power during operation and (2) situations that can result in a loss of offsite power or inadequate voltage following a trip of the plant or other transmission contingencies (which could potentially degrade the offsite power supplies) identified by the grid operator. If the offsite power system cannot provide the requisite power in either situation, the licensee should declare the system inoperable and follow pertinent plant technical specification provisions.</p>	<p>The staff added a bullet on page 2 to expand the description and improve consistency with GDC 17.</p> <p>GDC 17 states, in part, “<i>Electric power from the transmission network to the onsite electric distribution system shall be supplied by</i></p>

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			<p>VC Summer Comment 1</p> <p>This item on page 3 seems to add new criteria. Except for a station plant trip, the GDC and Standard Review Plan do NOT require that a single contingency not impact either offsite power source, they just require that it not impact BOTH offsite power sources.</p>	<p><i>two physically independent circuits [...] designed and located so as to minimize to the extent practical the likelihood of their simultaneous failure under operating and postulated accident and environmental conditions.”</i></p> <p>See Comment 3 and the staff’s response for additional information.</p>
34.	Page 9, third paragraph	VC Summer	<p>“The NPP operator should validate the accuracy and conservatism of the post-trip voltages predicted by the online grid analysis tool.”</p> <p>VC Summer Comment 2:</p> <p>How can the NPP operator possibly do this? We do not have the knowledge or tools to do this. We do have System Control (Transmission) evaluate the accuracy of their prediction of post trip voltage after each actual trip. But VCSNS cannot do this beforehand.</p>	<p>The staff agrees and has revised the wording in the appropriate paragraph.</p> <p>See Comment 17 and the staff’s response for additional information.</p>
35.	Page 3, first paragraph	Progress Energy	<p>The draft Regulatory Guide states:</p> <p>“If the offsite power system cannot provide the requisite power in either situation, the licensee should declare the system inoperable and follow pertinent plant technical specification provisions.”</p> <p>Resolution: Revise the paragraph to read as follows:</p> <p>If the offsite power system cannot provide the requisite power during normal operation or in the event of a trip of the unit, the licensee should declare the system inoperable and follow pertinent plant technical specification provisions.</p>	<p>The staff agrees and has inserted the proposed wording in the appropriate paragraph.</p>
36.	Page 5, third bullet	Progress Energy	<p>States: The consequential trip probability of a number of units would be higher because of the potential loss of loads.</p>	<p>The staff agrees and has inserted the proposed wording in the appropriate</p>

No.	Section of DG-1244	Originator	Specific Comment	NRC Resolution
			<p>Resolution: Revise bullet to read as follows:</p> <p>The consequential trip probability of a number of units would be higher because of the potential loss of loads and/or faults on the transmission system.</p>	paragraph.
37.	Page 6, item 3, first paragraph	Progress Energy	<p>States: This degradation level means that the offsite power system is not available or does not have the capability to achieve a safe shutdown and mitigate the effects of an event; however, the onsite ac system is not degraded. Thus, this level generally corresponds to the total loss (inadequate capacity, voltage, or frequency) of the offsite power sources.</p> <p>Resolution: Revise paragraph to read as follows:</p> <p>This degradation level means that the offsite power system is not available or does not have the capability to achieve a safe shutdown and mitigate the effects of an event when coupled with the predicted loss of generation that occurs along with the unit trip or shutdown; however, the onsite ac system is not degraded. Thus, this level generally corresponds to the total loss (inadequate capacity, voltage, or frequency) of the offsite power sources.</p>	The staff agrees and has inserted the proposed wording in the appropriate paragraph.
38.	Page 7, item 3, last paragraph	Progress Energy	<p>This level of degradation can be caused by a variety of events, including the loss of two offsite circuits, the loss of the electric grid, or any other condition that renders offsite power unavailable for safe shutdown and emergency purposes. Because the onsite power system has not been degraded and because a simultaneous loss of offsite power and a loss-of-coolant accident were postulated as a design basis, a brief interval of continued operation is allowed if the onsite sources of ac power, independent of grid condition, are operable and can act as a substitute train of ac power in accordance with the plant-specific technical specifications. Note that some nuclear power units are designed to cause an automatic shutdown or initiate load rejection at this level of degradation. No further discussion is necessary for units designed to undergo an automatic shutdown at this level of degradation; however, those units that initiate load rejection are considered to remain operating within the context of this regulatory guide.</p> <p>Resolution: Revise paragraph to read as follows:</p> <p>This level of degradation can be caused by a variety of events, including the loss of two offsite circuits, the loss of the electric grid, the predicted loss of</p>	The staff agrees and has inserted most of the proposed wording in the appropriate paragraph.

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			<p>local electric grid voltage support due to a loss of generation associated with a unit trip or shutdown (post trip inadequate voltage predicted by the TSO real time contingency analysis tool), or any other condition that renders offsite power unavailable for safe shutdown and emergency purposes. Because the onsite power system has not been degraded and because a simultaneous loss of offsite power and a loss-of-coolant accident were postulated as a design basis, a brief interval of continued operation is allowed if the onsite sources of ac power, independent of grid condition, are operable and can act as a substitute train of ac power in accordance with the plant-specific technical specifications. Note that some nuclear power units are designed to cause an automatic shutdown or initiate load rejection at this level of degradation when an actual loss of offsite power occurs. No further discussion is necessary for units designed to undergo an automatic shutdown at this level of degradation; however, those units that continue to operate under conditions where it is predicted that loss of generation from the unit will result in a loss of offsite power voltage support or those that initiate load rejection are considered to remain operating within the context of this regulatory guide.</p>	