

**Response to Public Comments on Draft Regulatory Guide (DG)-1245
 “Design and Inspection Criteria for Water-Control Structure
 Associated with Nuclear Power Plants”
 Proposed Revision 2 of Regulatory Guide (RG) 1.127
 “Inspection of Water-Control Structures Associated With Nuclear Power Plants”**

On January 23, 2015 the NRC published a notice in the *Federal Register* (80 FR 3661) that Draft Regulatory Guide, DG-1245 (Proposed Revision 2 of RG 1.127), was available for public comment. The public comment period ended on March 24, 2015. The NRC received one set of comments from the organization listed below. The NRC has combined the comments and NRC staff responses in the following table.

One set of comments were received from Ms. Susan Reese at V. C. Summer Nuclear Station, Unit 1 (ADAMS Accession No. ML15082A280). Minor editing [in brackets] was made to improve readability on some of the comments in the table below.

Comment From	Section of DG-1245	Specific Comments	NRC Resolution
1. S. Reese	Section A	<p>DG- 1245 includes under A. Introduction a new sub header titled Related Guidance that is not present in the previous Revision 1 of Regulatory Guide 1.127 nor in the previous Draft DG-1245 January 2011. The documents listed under Related Guidance are not listed only under References as previously, but instead are listed up front in the document as the new category called "Related Guidance". There is no information in the DG which defines what is meant by "Related Guidance" and how it is to be used by NRC when reviewing applications or changes to CLB. The Related Guidance includes the following NRC-Inspection Procedures: 71111.01 "Adverse Weather Protection", 71111.06 "Flood Protection Measures", 71111.07 "Heat Sink Performance", and 62002 "Inspection of Structures, Passive Components, and Civil Engineering Features at Nuclear Power Plants."</p> <p>[1] Does the incorporation [of] NRC Inspection Procedures under Related Guidance mean that the</p>	<p>The comment is correct; the format for both draft and final regulatory guides (DGs & RGs) has undergone multiple changes in the past few years. These changes are intended to improve the document’s readability and usability. Specific comments on how to improve the RGs are always welcomed and are incorporated into future revisions if deemed appropriate and useable.</p> <p>The sub header “Related Guidance” under Section A, “Introduction” is one of these intended improvements. The purpose of the RG is to provide implementing guidance for the documents listed as “Applicable Rules and Regulations.” However, applications typically involve complex structures, systems, or components, and therefore the application typically must consider aspects of several different sets of applicable rules and regulations, as well as design for inspections during the lifetime of a facility. The purpose of the “Related Guidance” is to identify other significant guidance</p>

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		<p>NRC expects the design and inspection criteria for water-controlled structures associated with power plants must also consider and comply with the NRC Inspection Procedures to meet what previously was called the C. Regulatory Position of the guide?</p> <p>[2] Why not just incorporate the relevant information from the NRC Inspection Procedures into the new DG-1245 in section C. Staff Regulatory Guidance (previously called C. Regulatory Position) and then just list the Inspection Procedures in the back under references.</p> <p>[3] What is the significance of listing the NRC Inspection Procedures under A. Introduction, Related Guidance, but not under C. Staff Regulatory Guidance?</p>	<p>related to the RG that should be considered by applicants when using the RG. These documents may not be the same as the documents identified in the “Reference” section of the RG. The “Related Guidance” can be other RGs, NUREGs, SRPs, or inspection procedures that the applicant should be knowledgeable of when using the RG.</p> <p>In response to question [1] – the comment is partly correct. NRC guidance documents such as RGs, IPs, and NUREGs are not stand alone documents. The inspection procedures identified in Section A are documents the NRC staff uses when performing inspections at nuclear power plants and, as such, they are documents the licensee and applicant should be aware of. Listing these key documents is intended to improve understanding of significant guidance related to the RG. However, including these documents as Related Guidance does not establish new requirements or guidance that must be met when using this RG. In addition, as stated in the RG, compliance with the RG is not mandatory and alternatives will be accepted if properly justified.</p> <p>In response to question [2] – The inspection procedures are intended for use by NRC inspectors to verify that the facility was built and is operating in accordance with NRC regulations and the license, and do not establish new staff positions or guidance. NRC has not incorporated information from the Inspection Procedures into the RG because the information in the inspection procedures is not specifically applicable to the topic of this RG. In</p>

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			<p>addition, the NRC tries not to duplicate guidance in multiple documents as this can lead to conflicting and contradictory guidance when one document get revised or updated while another does not.</p> <p>In response to question [3] – The inspection procedures were reviewed and used by the NRC staff during the development of this revision of this RG. They were not specifically identified in Section C because, although useful, they do not represent staff positions or guidance that is directly applicable to the topic of this RG.</p>
<p>2. S. Reese</p>	<p>Related Guidance and References</p>	<p>None of the NRC Inspection Procedures listed as References 6,7,8,9 have a date or a revision level associated with the reference. This means that if these are treated as Related Guidance, the content of the DG-1245 will be changed every time one of these Inspection Procedures is revised without a corresponding revision to the DG-1245 (RG 1.127 Rev 2). Significant changes to the Inspection Procedures can be made which can change the DG-1245 without consideration under the Backfit Rule which would apply if the DG itself had to be revised to incorporate revisions to NRC Inspection Procedures.</p>	<p>The comment is correct; the NRC documents listed in the “Reference” section do not identify a specific revision or publication date. This is because the NRC uses “dynamic referencing” for NRC documents referenced in guidance documents such as RGs. Dynamic referencing does not identify specific revisions or publication dates of NRC produced guidance documents. The reason is that the NRC desires new applications to address the most recent staff guidance.</p> <p>The backfit rule does not apply because, as stated in Section D, existing licensees may continue to follow the guidance the NRC found acceptable for complying with the identified regulations as long as their current licensing basis remains unchanged. Additionally, for new applications, the RG is not a requirement and alternate methods will be accepted by the NRC if suitably justified.</p>

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			<p>Dynamic referencing of NRC generated guidance documents is acceptable because the NRC can control internal documents and should make sure they all carry a consistent message, whereas external standards and guidance documents may not always agree with the NRC position and the NRC staff needs to be specific when referencing them.</p>
<p>3. S. Reese</p>	<p>Related Guidance and References</p>	<p>Similar to comment 5, Regulatory Guide 3.11 is listed as Related Guidance. The corresponding Reference 3 for the RG 3.11 does not list an effective Revision level and date for RG 3.11.</p>	<p>That is correct. Please see above responses on related guidance and dynamic referencing. Regulatory guide 3.11 is listed for information only and is not part of the guidance needed to demonstrate compliance with the regulations.</p>
<p>4. S. Reese</p>	<p>Section C</p>	<p>The RG 1.127 Rev. 1 (and also draft DG-1245 dated January 2011) section entitled C. Regulatory Position is replaced by a section called C. Staff Regulatory Guidance. The regulatory guide format has always been C. Regulatory Position as the standard format header since RGs were promulgated many years ago. Would like to see an explanation of the NRC intended significance for making this change in the header for this key section of Regulatory Guides.</p>	<p>As stated above, the format of RGs have undergone many changes in the past few years to improve the document's readability and usability. The title of section C was changed from "Regulatory Position" to "Staff Regulatory Guidance" in response to external and internal comments that the "Regulatory Position" title could be confused with the regulations in 10 CFR Part 50. The name was changed to make it clear to the user that the guidance in section C of the RGs is only guidance and is not a requirement.</p> <p>The name change was intended to clarify that the positions in the RGs are the NRC staff positions and not requirements. Compliance with them is not required.</p> <p>The NRC has considered your suggestion that RGs include a discussion of why the section title was</p>

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			changed and has determined not to include such a paragraph at this time.
5. S. Reese	Section B	<p><u>B. Discussion, p. 4</u> includes a section titled Harmonization with International Standards. This is a new section not previously included in RG 1.127 Rev. 1 (nor in draft DG-1245 dated January 2011). This section identifies the International Standards, characterizing them as having effective guidance to achieve high levels of safety. NRC has apparently compared this RG to the IAEA guides and states that this RG incorporates similar and consistent guidance as the IAEA guides. Not clear what safety value/guidance is intended by including this information and comparison statement, which was not present previously. International Standards are not applicable to domestic nuclear power plants licensed by the NRC. Request insert an explanation in the RG for why this new information which has no bearing on regulatory guidance for the subject is being incorporated for the first time.</p>	<p>The comment is correct, the section titled “Harmonization with International Standards” is a new section added to RGs a few years ago. It describes how NRC guidance is similar to guidance developed by the International Atomic Energy Agency (IAEA) and other international organizations. The comment is also correct in that IAEA and other international standards are not applicable to domestic nuclear power plants. However, international standards do contain valuable information and the NRC staff considers international standards in developing its regulatory guidance.</p> <p>Additionally, the use of NRC RGs is not limited to US nuclear power plants. NRC guidance documents are also used by international agencies and foreign nuclear power plants. The NRC is cooperating with the IAEA and other international organizations to improve reactor safety, regulatory compliance, and enhance the effectiveness and efficiency of regulatory design reviews. The “Harmonization” paragraph allows international users to link RGs to related international safety standards.</p> <p>The NRC staff is has reviewed your suggestion to add an explanatory paragraph to the “Harmonization” section and has decided it is not necessary at this time.</p>

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6. S. Reese	Section C.5.f(3)	*C.5.f(3) The last sentence "Survey methods should also be inspected to evaluate the magnitude and rate of horizontal and vertical deformations of the surface monuments on and at the toes of embankment structures." This position statement was not previously present in RG 1.127 Rev. 1. The statement was much clearer in the draft DG-1245 dated January 2011 which read: "Survey methods are also used to monitor the magnitude and rate of horizontal and vertical deformations of the surface monuments on and at the toes of embankment dams." Recommend use the wording in the draft DG- 1245 dated January 2011. In addition recommend the word "deformations" be changed to "movements".	Agreed. The NRC staff changed the sentence to read: "Survey methods should also be used to monitor the magnitude and rate of horizontal and vertical movements of the surface monuments on at the toes of embankment dams."
7. S. Reese	Section C.5.f(7)	C.5.f (7) This is a new position which states: " <u>Remote-Monitoring Instrumentation</u> : <i>The use of remote-monitoring instrumentation should be considered to provide remote access and alert for a wide variety of instruments.</i> " This statement adds little guidance to the user and has potential to add a large cost to applicant both in terms of initial cost and cost over the life of a plant especially if it is instrumentation which may not be accessible after installation. If this guidance statement is to be added, additional guidance is requested as to what is intended or acceptable. In keeping with other requirements in the proposed draft, this instrumentation would likely have to be Safety Related and Seismic Category 1.	The NRC staff agrees that the comment is vague. The specific statement has been deleted. However, remote monitoring instrumentation does provide a viable method of monitoring the condition and operability of various water control structures. Consequently, a discussion on remote monitored instruments has been added to the initial paragraph of Section C.5.f. and a new Section C.5.f.(7) has been added. The NRC staff believes that remotely monitored instruments, if used, should be beneficial to the water control structure inspection program and verification of their functionality and accuracy should be included in the inspection program.
8. S. Reese	Section C.6	6. Technical Evaluation. The existing RG 1.127 wording for when to perform a Technical Evaluation	Agreed – The first sentence of C.6. has been revised to read..."When findings of the engineering

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		<p>is when "significant" changes have occurred. The new wording deletes the word "significant" and establishes the new threshold as any changes. However, the words "based on the changes" is added which implies that the extent of the evaluation will be based on the extent of the changes. With that understanding, the new wording is assumed to be basically equivalent to the existing wording. Confirmation of intent with NRC is recommended.</p>	<p>data review or the inspection and monitoring program indicate that changes outside normal/expected variations occur, an evaluation of the existing conditions....." The staff clarified deletion of "significant" since it is vague and undefined by adding the new language above. The wording "based on the changes" is the wording in the March 1978, Revision 1 document.</p>
<p>9. S. Reese</p>	<p>Section C.6.c</p>	<p>6.c [b] Sustainability Assessments; Changed title from Stability Assessments to Sustainability Assessments. Content of position is similar. Added requirement for post-earthquake stability assessments using residual strength of soils composing the embankments. This position as stated is linked to an "earthquake" of undefined magnitude. As a minimum recommend this post-earthquake stability assessment be linked to exceedance of the some minimum earthquake magnitude level and/or some other observation criteria. The assessments using residual strength of soils composing the embankments could involve taking and testing soil samples as well as redoing complex analyses. This level of assessment effort should not be triggered by a seismic event which is barely detectable on site when the structures had to be designed to OBE and SSE.</p>	<p>Agreed. The language in the second paragraph of Section C.6.b has been revised to suggest that post-earthquake stability assessments should be performed following a seismic event considered important to be significant for the water control structure (e.g., an earthquake that meets or exceeds the design basis for the structure or component).</p>
<p>10. S.Reese</p>	<p>Section C.6.c</p>	<p>*6.c. [6.b paragraph 2] RGs 1.208 and 3.11 are not listed in either the References or Bibliography. Recommend adding them to References.</p>	<p>Agree. The RG has been revised to identify RGs 1.208 and 3.11 and they have been added to the reference section.</p>

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11. S. Reese	Section C.7	*C.7 Operating Experience. This a completely new section which offers vague, undefined, boiler plate language guidance which is inconsistent with the normal NRC format and usage of section C. Regulatory Position. Proposed C.7 states "Inspection and monitoring programs of water-control structures should be established commensurate with safety, and should also take into account industry wide operating experience." Boiler plate type guidance like this should be placed under A. Introduction or better under B. Discussion, or not included.	Although we agree with the commenter that this is vague, the NRC staff believes that evaluation of operating experience is necessary and is commonplace in the design and assessment of structures, systems and components. Consequently, the NRC staff has not modified the regulatory guide to address this comment.
12. S. Reese	Section C.8	*C.8 Special Provisions for Dams. This is a completely new section which refers to the Federal Guidelines for Dam Safety for the definitions of instrumentation, monitoring, and inspection of dams as used in this document. There is no reference number inserted for the Federal Guidelines for Dam Safety. If this is meant to be Reference 5 all of the FEMA guidelines, then 5 needs to be inserted.	Agreed. The RG has been revised to include a reference to the FEMA guidelines (Ref. 5) in this section.
13. S. Reese	Section C.8	*C.8 Special Provisions for Dams. This is a significant change. This change states that "In addition to the guidance contained herein, instrumentation, monitoring, and inspection of dams (as defined in the federal Guidelines for Dam Safety) should meet the guidance in the Federal Guidelines for Dam Safety." This guidance section on Special Provisions for Dams was not in the draft DG-1245 dated January 2011. Previously, the RG 1.127 Rev. 1 and the draft DG-1245 January 2011 provided the information as to what was required by NRC guidance for monitoring and inspection of the	The NRC staff does not agree. The Federal Guidelines for Dam Safety were developed in the 1980s by federal agencies responsible for dam safety including the NRC. As discussed in NRC SECY-91-193, "Dam Safety Program Plan," the NRC staff implements the Federal Guidelines for Dam Safety on those qualifying dams that are radiologically safety-related and are integral to the operation of a facility, or possession and use of materials licensed by the NRC. Although the Federal Guidelines for Dam Safety were published by another federal organization, they were

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		<p>dam structures related to the Ultimate Heat Sink for the Nuclear Power Plant. Previously there has been no link invoking as guidance the requirements of a separate Federal Agency (FEMA) with different jurisdiction than NRC. This could involve a time consuming comparison. It does not appear consistent with previous practice that the NRC Staff would review applications to the requirements of a separate Federal Agency having no jurisdiction over the structures addressed in this RG.</p>	<p>developed by the federal community to enhance national dam safety. In a Presidential memorandum (October 4, 1979), the heads of federal agencies responsible for any aspect of dam safety were directed to adopt the Federal Guidelines for Dam Safety and to report their progress to FEMA. The NRC staff continues to provide FEMA with updates on its dam safety program every 2 years. No changes to the RG are proposed in response to this comment since it is the NRC staff's expectation that the Federal Guidelines be implemented. The NRC staff contributed to the development of the Federal Guidelines even though they were published by another organization.</p>
<p>14. S. Reese</p>	<p>Section C.8 [9.c]</p>	<p>*C. 8 [9.c] Special Inspections. RG 1.127 Rev. 1 and the first Draft of DG- 1245 dated January 2011 incorporated the word "significant" before "earthquakes, hurricanes, tornadoes, intense local rainfalls, or other unusual events". The proposed Draft of DG- 1245 dated January 2015 deletes the word "significant" and uses the wording "after the occurrence of unusual events such as earthquakes, hurricanes, tornadoes, intense local rainfalls, etc. " Why this change in wording to delete the descriptor "significant"? Any earthquake that is detected on site regardless of magnitude can be considered "unusual" because the occurrence of any earthquake felt on site is not a usual event. Does the new wording mean that "as soon as practical" inspections are required by the guidance for any detected earthquake without respect to magnitude? That does not appear to be justified by safety</p>	<p>Agreed – The NRC staff has replaced the words “to be significant” with “important” in Sections C.6.b and C.9.c.</p> <p>The NRC staff deleted the word “significant” since it is unclear and undefined. The NRC staff added new language to Sections C.6.b and C.9.c to describe that an inspection should be made following a seismic event considered important for the water control structure (e.g., an earthquake that meets or exceeds the design basis for the structure or component).</p>

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		considerations and would be unnecessarily burdensome.	
15. S. Reese	Section C.10	*C. 10 Inspection Report. Wording of when reporting is required to NRC of abnormal hazardous conditions observed during an inspection. Wording in the RG 1.127 Rev. 1 and the Draft DG-1245 January 2011 were consistent and required "reported immediately to the NRC staff in accordance with the Commission's regulations, as summarized in Regulatory Guide 1.16, "Reporting of Operating Information - Appendix A Technical Specifications" The DG- 1245 January 2105 [2015] proposed wording is: "Any abnormal hazardous conditions observed during the inspection should be reported to the NRC in accordance with the Commission's regulations, and as required by the plant technical specifications." This is a vague compared to previous wording and could be significant additional reporting burden. What is meant by "Commission's regulations"? The existing wording tied "abnormal hazardous condition" with the Technical Specification requirements and reporting as required for Technical Specifications. Is proposed wording intended to lower the bar significantly for reporting to NRC even when it is readily determined there is no safety concern to the plant that impacts Technical Specifications.	There is no change to existing reporting requirements. Regulatory Guide 1.16 did not establish any new reporting requirements; it was only a summary listing of existing NRC reporting requirements for a wide range of topics. It has been withdrawn; therefore, it would not be appropriate to reference it. This sentence is merely a reminder that there may be inspection results that must be reported to the NRC (e.g., under 10 CFR 50.72 and 50.73). The new wording still ties "abnormal hazardous condition" with plant Technical Specifications. Although the sentence could be deleted (because they are requirements), the NRC staff is retaining the sentence as a reminder that inspection results may need to be reported.