

Response to Public Comments on Proposed Revision 6 to Regulatory Guide (RG) 1.26 - Draft Regulatory Guide (DG)-1371

Regulatory Guide Title

“Quality Group Classifications and Standards for Water-, Steam-, and Radioactive-Waste-Containing Components of Nuclear Power Plants”

Commenters

On May 7, 2021 the U.S. Nuclear Regulatory Commission (NRC) published a notice in the *Federal Register* (85 FRN 24672-24673) that Draft Regulatory Guide DG-1371, a proposed regulatory guide revision, was available for public comment. The Public Comment Period ended on July 6, 2021; the NRC received comments from the following:

Norbert Carte ¹ U.S. Nuclear Regulatory Commission Washington, DC 20852-0001	ADAMS Accession No. ML21141A186
Victoria K. Anderson for Nuclear Energy Institute 1201 F St NW, Suite 1100 Washington, DC 20004	ADAMS Accession No. ML21182A118
Mark W. Shaver for NuScale Power, LLC 1100 NE Circle Blvd., Suite 200 Corvallis, Oregon 97330	ADAMS Accession No. ML21201A055

Comments are in ADAMS at their accession numbers, or Docket Number PROJ0689, and their proposed resolutions are in the following Public Comment Resolution table:

Public Comments and Their NRC Resolutions to Proposed Revision 6 of Regulatory Guide 1.26: Draft Regulatory Guide DG-1371

Table of Comments and Their Resolution

Commenter	Section of DG-1371	Specific Comments	NRC Resolution
Carte	A, C	<p>CARTE_1 There were two regulatory requirements not list[ed] in the DG. Please add the following two regulatory requirements or explain why they are not applicable.</p> <p>10 CFR 50.54 Conditions of licenses. “(jj) Structures, systems, and components subject to the codes and standards in 10 CFR 50.55a must be designed, fabricated, erected, constructed, tested, and inspected to quality standards commensurate with the importance of the safety function to be performed.”</p>	<p>The NRC staff agrees with the comment . These two references to NRC’s regulations, as reproduced below, are added to the “Applicable Regulations” list in RG 1.26, Revision 6.</p> <p>10 CFR 50.54, “Conditions of licenses,” paragraph (jj), states “Structures, systems, and components subject to the codes and standards in 10 CFR 50.55a must be designed, fabricated, erected, constructed, tested, and inspected to quality standards commensurate with the importance of the</p>

¹ Mr. Carte indicated in his comment submission that the comments were submitted by the NRC. The comments were submitted in his personal capacity only.

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		<p>10 CFR 50.55 Conditions of construction permits, early site permits, combined licenses, and manufacturing licenses. "(i) Structures, systems, and components subject to the codes and standards in 10 CFR 50.55a must be designed, fabricated, erected, constructed, tested, and inspected to quality standards commensurate with the importance of the safety function to be performed."</p>	<p>safety function to be performed."</p> <p>10 CFR 50.55, "Conditions of construction permits, early site permits, combined licenses, and manufacturing licenses," paragraph (i), states "Structures, systems, and components subject to the codes and standards in 10 CFR 50.55a must be designed, fabricated, erected, constructed, tested, and inspected to quality standards commensurate with the importance of the safety function to be performed."</p>
NEI	A, C	<p>NEI_1 In our review, we noted that the draft regulatory guide revision could be enhanced by better clarifying the separation between the applicability of the ANSI standard and the implementation of 50.69, particularly in the introduction and conclusion. Additionally, in Table 1 of Appendix A, Q Group B requires ASME Section III Class 2; this would not be the case for plants with 50.69 implemented. If a component is categorized as LSS, it is out of scope of the O&M codes and alternative treatments can be applied. We recommend clarifying that Table 1 of Appendix A is not applicable to plants with 50.69.</p>	<p>The NRC staff agrees with the comment that additional discussion of 10 CFR 50.69 would be helpful in RG 1.26. Therefore, the following footnote to Table 1 will be included in RG 1.26:</p> <p>"For nuclear power plant licensees that have implemented 10 CFR 50.69, "Risk-informed categorization and treatment of structures, systems and components for nuclear power reactors," the classification of structures, systems, and components (SSCs) may not correspond to the classification in Table 1. For additional guidance on the categorization of SSCs under 10 CFR 50.69, please refer to Regulatory Guide 1.201, "Guidelines for Categorizing Structures, Systems, and Components in Nuclear Power Plants According to Their Safety Significance." In the <i>Federal Register</i> notice (69 FR 68008) for the 10 CFR 50.69 rule, the Commission stated that RISC-3 (safety-related low safety significant) and RISC-4 (nonsafety-related low safety significant) structures, systems, and components (SSCs) will be exempt from the special treatment requirements (STRs) for qualification methods for environmental conditions and effects and seismic conditions. The</p>

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			<p>Commission stated that RISC-3 SSCs continue to be required to be capable of performing their safety-related functions under applicable environmental conditions and effects and seismic conditions, albeit at a lower level of confidence as compared to RISC-1 (safety-related safety significant) SSCs. The Commission direction in the <i>Federal Register</i> notice for 10 CFR 50.69 regarding the capability of RISC-3 SSCs to be able to perform their safety functions under applicable environmental and seismic conditions is clear for licensees who have received a license amendment to implement a 10 CFR 50.69 program. See 69 FR 68008 for more information.”</p>
NuScale	General	<p>NuSc_1 The technical basis for elevating all important to safety (ITS) items to Quality Group C is unclear.</p> <p>Proposed Resolution: Add technical basis for the reason why ITS items need to be Quality Group C, or remove requirement.</p>	<p>Appendix A, “Alternative Classification for Components in Light-Water-Cooled Nuclear Power Plants,” to RG 1.26 accepts the guidance provided in American Nuclear Society (ANS)/American National Standards Institute (ANSI) 58.14-2011, “Safety and Pressure Integrity Classification Criteria for Light Water Reactors,” as an alternative to the method described in RG 1.26 for classification of components in light-water-cooled nuclear power plants. The NRC has the responsibility to evaluate consensus standards for reference in performing nuclear power plant activities. Appendix A to RG 1.26 states that among the Class 3 components, a user of ANSI/ANS-58.14-2011 should include those components that are important to safety but do not necessarily accomplish safety-related functions, such as primary and secondary residual heat removal systems for spent fuel storage pools. Applicants and licensees can propose a different classification method if the</p>

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			methods described in RG 1.26 and its Appendix A are not considered appropriate for their specific nuclear power plant. No change has been made to RG 1.26 and its Appendix A in response to this comment.
NuScale	General	<p>NuSc_2 The term “important to safety” is ambiguous.</p> <p>Proposed Resolution: Consider defining this term for clarity to ensure proper scoping and implementation.</p>	The NRC staff has evaluated the need to specify a prescriptive set of criteria for “important to safety” in 10 CFR 50.2, “Definitions.” The NRC staff has determined that there is not a safety need to include the term “important to safety” in 10 CFR 50.2 at this time. No change has been made to RG 1.26 in response to this comment.
NuScale	Section A, Introduction	<p>NuSc_3 There is an extra bullet under Applicable Regulations and at the top of page 2, between “...Section III, ‘Rules for Construction of Nuclear Facility...’ and “...Components,’ of...”</p> <p>Proposed Resolution: Remove bullet.</p>	Change made to RG 1.26. Thank you for identifying the typographical error.
NuScale	Section B, Discussion, Key Safety Principles	<p>NuSc_4 This section contains the statements,</p> <p><i>A user of RG 1.26 should be aware of the differences in the safety classification process in RG 1.201 when 10 CFR 50.69 will be implemented.</i></p> <p><i>An applicant or licensee may request the application of 10 CFR 50.69 as part of an alternative classification system for components in its nuclear power plant, as described in Appendix A to this RG.</i></p> <p>RG 1.26, Appendix A, seemingly now includes information that should be contained in RG 1.201.</p> <p>Proposed Resolution: Rewrite to state,</p> <p><i>An applicant or licensee may request the application of 10</i></p>	The proposed change is acceptable and will be made in RG 1.26. The NRC staff will consider improvements to RG 1.201 when that RG is updated.

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		<p><i>CFR 50.69 as part of an alternative classification system for components in its nuclear power plant, as described in Appendix A to RG 1.201.</i></p> <p>RG 1.201 describes a method that the NRC staff considers acceptable for use in complying with the Commission's requirements in §50.69 with respect to the categorization of SSCs that are considered in risk-informing special treatment requirements.</p>	
NuScale	Section C, Paragraphs 2.d and 3.c	<p>NuSc_5 Both Item C.2.d and Item C.3.c make use of the word "and" indicating that all conditions need to be met to meet the classification requirements of the respective quality group.</p> <p><i>(C.2.d) those portions of the steam and feedwater systems of pressurized-water reactors extending from and including the secondary side of steam generators up to and including the outermost containment isolation valves, and connected piping up to and including the first valve (including a safety or relief valve) that is either normally closed or capable of automatic closure during all modes of normal reactor operation; <u>and</u></i></p> <p><i>(C.3.c) systems or portions of systems that are connected to the reactor coolant pressure boundary and are capable of being isolated from that boundary</i></p>	<p>RG 1.26 up to Revision 5 did not include "and" or "or" in Item C.2 or C.3 for the scope of Quality Group B and C components. Revision 5 to RG 1.26 added "and" to Items C.2 and C.3. It is agreed that the recent addition of "and" might cause confusion by RG 1.26 users. The term "or" also might cause confusion regarding the scope of Quality Group B and C components. In response to this comment, the term "and" will be removed to match the early versions of RG 1.26.</p>

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		<p><i>during all modes of normal reactor operation by two valves, each of which is either normally closed or capable of automatic closure; and</i></p> <p>Proposed Resolution: Change these instances of “and” to “or.”</p>	
NuScale	Section C, Paragraph 3d, Quality Group C	<p>NuSc_6 The draft guidance revises the threshold for classification of systems containing radioactive material as Quality Group C from “0.5 rem to the whole body or its equivalent to any part of the body” to “0.1 rem total effective dose equivalent”. The basis is unclear for changing the dose criteria.</p> <p>Proposed Resolution: Revise requirement to 0.5 rem total effective dose equivalent, or provide brief explanation for the change in Sec B “Reason for Revision.”</p>	<p>The staff agrees with the comment and will update Section B, “Reason for Revision” to include the reason for the changes to the dose criteria.</p> <p>The criteria of “0.5 rem to the whole body or its equivalent to any part of the body” was consistent with the annual public radiation dose limit prior to 1994, which was revised to 0.1 rem total effective dose equivalent (TEDE) in 1994. Subsequent to the rule change, several other guidance documents that had originally used the 0.5 rem whole body dose criteria for a design criteria and for evaluating radiological design basis accidents, have been revised to the 0.1 rem TEDE criteria. This includes guidance on the postulated radioactive releases due to a gaseous radwaste system leak or failure and the failure of liquid containing tanks (currently contained in NUREG-0800, Chapter 11, Branch Technical Positions 11-5 and 11-6) and the standard review plan guidance for meeting the radiological criteria for the design of radwaste systems using RG 1.143, Revision 2 (see Chapter 11 for additional information). Therefore, the revision is to provide a dose criteria that is consistent with the current public dose limit and to provide consistent radiological guidance for the design of components containing radioactive material (that</p>

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			<p>are within the scope of RG 1.26) whose failure could result in a significant radiological release but are not otherwise assigned to Quality Groups A, B, or C.</p> <p>Therefore, Section B, "Reason for Revision" will be revised, as follows:</p> <p style="padding-left: 40px;">"This revision of the RG (Revision 6) includes an appendix that provides guidance for alternative quality classification systems for components in LWR nuclear power plants. In addition, this revision updates the staff position on the classification of Quality Group C components to incorporate current public radiation dose criteria and reflect the latest guidance on systems that contain radioactive material."</p>
NuScale	Appendix Section A-12, Risk-Informed Categorization and Treatment of Structures, Systems, and Components for Nuclear Power Reactors	<p>NuSc_7 RG 1.26, Appendix A, seemingly now includes information that should be contained in RG 1.201.</p> <p>Proposed Resolution: Keep the special treatment and classification of information contained in RG 1.201 rather than scattering it across multiple RGs.</p> <p>RG 1.201 describes a method that the NRC staff considers acceptable for use in complying with the Commission's requirements in §50.69 with respect to the categorization of SSCs that are considered in risk-informing special treatment requirements.</p>	Appendix A to RG 1.26 accepts the classification approach in ANS/ANSI 58.14-2011 with specific discussion of its use. It is considered best to maintain the discussion regarding ANS/ANSI 58.14-2011 in Appendix A to RG 1.26 without including discussion of ANS/ANSI 58.14-2011 in RG 1.201. No change has been made to RG 1.26 in response to this comment.