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Ms. Cindy Bladey
Office of Administration
Mail Stop: OWFN-12H-08
U.S. Nuclear Regulatory Commission,
Washington, DC 20555-0001

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81 FR 83288

11/21/2016

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Subject: Comments on DG-1327, "Pressurized Water Reactor Control Rod Ejection and Boiling Water Reactor Control Rod Drop Accidents" (Docket ID NRC-2016-0233) (*Federal Register* Notice 81 FR 83288)

The Nuclear Regulatory Commission (NRC), through the Federal Register Notice (81FR83288) and Docket ID: NRC-2016-0233, issued for public comment draft regulatory guide (DG) DG-1327, "Pressurized Water Reactor Control Rod Ejection and Boiling Water Reactor Control Rod Drop Accidents." Dominion Resources Services, Inc. (Dominion) appreciates the opportunity to comment on DG-1327, as described in the subject *Federal Register* notice.

The Nuclear Energy Institute (NEI) submitted comments to the NRC regarding this subject DG. Dominion endorses NEI's comments and would appreciate the NRC's consideration of these comments.

In addition, Dominion would like to emphasize the following concerns associated with DG-1327:

- DG-1327 should be provided to the Committee to Review Generic Requirements (CRGR). DG-1327 establishes new limits for Pressurized Water Reactor (PWR) Control Rod Ejection (CRE) and Boiling Water Reactor (BWR) Control Rod Drop (CRD) accidents. Section D, Implementation, of DG-1327 allows the NRC staff to broadly interpret when a licensee may be required to comply with the guidance of DG-1327 or an equivalent alternative process without the need for a back fit analysis. As such, DG-1327 should be reviewed by the CRGR for consistency with regulatory policy.
- The guidance under Item 1, Limits of Applicability, and Item 3, Fuel Rod Cladding Failure Thresholds, of Section C, Staff Regulatory Guidance, of DG-1327 should be changed to remove the use of the 5% power criterion for distinguishing between the use of pellet-clad mechanical interaction (PCMI) and local heat flux failure mechanisms. The 5% power criterion to distinguish between PCMI and local heat flux (i.e., departure from nucleate boiling for PWRs or critical power ratios for BWRs) failure mechanisms appears to be a surrogate to distinguish

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between prompt critical and non-prompt critical power excursions during the performance of CRE/CRD analyses. Dominion recommends that DG-1327 use prompt and non-prompt reactivity excursions as the criteria to distinguish between PCMI and local heat flux failure mechanisms versus the arbitrary 5% power criteria.

- A footnote should be added to the guidance provided in Item 2, Analytical Methods and Assumptions, of Section C, Staff Regulatory Guidance, to indicate that the analytical inputs, assumptions, and methods described herein are specific and sufficient for analyzing postulated reactivity-initiated accidents and that RG 1.203 need not be applied when this regulatory guidance is employed.
- The guidance provided under Item 2, Analytical Methods and Assumptions, of Section C, Staff Regulatory Guidance, is subject to misinterpretation due to significant differences between PWR CRE and BWR CRD accidents. The application of the guidance under Item 2 should be delineated with respect to its application to a PWR CRE accident, a BWR CRD accident, or both. The guidance should be sufficiently clear such that the public is able to understand how it may apply differently to PWRs and BWRs.
- The guidance provided under Item 4, Fission Product Release Fractions, of Section C, Staff Regulatory Guidance, should be removed and replaced with references to other applicable regulatory guidance documents such as RG 1.183 and RG 1.195. The draft guidance provided under Item 4 could be added to RG 1.183 and RG 1.195 through a revision to those regulatory guidance documents. Updating the guidance of RG 1.183 and RG 1.195 versus including the Fission Product Release Fractions in DG-1327 ensures clear, transparent and consistent regulatory guidance is presented to the public, staff and licensees.
- The guidance provided by the staff in Section D, Implementation, contains the following text: "Current licensees may continue to use guidance the NRC found acceptable for complying with the identified regulations as long as their current licensing basis remains unchanged." It is understood that plant changes such as stretch or extended power uprates, fuel burnup extensions, or use of transient, three-dimensional, core simulation codes within the safety analysis would naturally lead to the imposition of the requirements in DG-1327. However, the text in DG-1327 is overly restrictive with regards to the use of the conservative zero- (point) or one-dimensional spatial kinetics for the analysis of reactivity-initiated accidents. These conservative methods should continue to be acceptable when applying the guidelines of RG 1.77. This is supported by the NRC staff reports since 2004. Specifically, the NRC staff performed an assessment of postulated reactivity-initiated accidents for operating reactors in the US in Research Information Letter 0401, dated March 31, 2004, that concluded there was no concern related to protecting the health and safety of the public for the operating reactors. The NRC has issued two memorandums

(dated January 17, 2007 and March 16, 2015) on the proposed technical and regulatory basis for reactivity-initiated accident acceptance criteria since the 2004 assessment. The two memorandums reference the 2004 safety assessment. As such, Dominion recommends that DG-1327 should not be applied to licensees that continue to employ FSAR Chapter 14/15 Safety Analysis methodologies that make use of the conservative zero- (point) or one-dimensional spatial kinetics for the analysis of reactivity-initiated accidents.

If you have any questions, please contact Wanda Craft at (804)273-4687 or Wanda.d.Craft@dom.com.

Respectfully,



Tom Huber, Director
Nuclear Regulatory Affairs
Dominion Resources Services, Inc. for
Virginia Electric and Power Company, and
Dominion Nuclear Connecticut, Inc.