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August 21, 2014

No. GL14-006

Secretary
U. S. Nuclear Regulatory Commission
Washington, DC 20555-0001
ATTN: Rulemakings and Adjudications Staff

Subject: Comments on "Performance-Based Emergency Core Cooling Systems Cladding Acceptance Criteria" (Docket ID NRC-2008-0332) (*Federal Register* Notice 79FR16106)

The Nuclear Regulatory Commission (NRC), through the Federal Register Notice (79FR16106) and Docket ID: NRC-2008-0332, issued for public comment the rulemaking package for "Performance-Based Emergency Core Cooling Systems Cladding Acceptance Criteria". Dominion Resources Services, Inc. (Dominion) appreciates the opportunity to comment on 10 CFR Part 50.46c, Performance-Based Emergency Core Cooling Systems Cladding Acceptance Criteria Proposed Rule, as described in the subject *Federal Register* notice.

The Nuclear Energy Institute (NEI) submitted comments regarding this subject to the NRC on August 21, 2014. As stated in the Executive Summary, the industry has significant concerns with the current NRC proposal, and changes are needed to avoid initial and long-term compliance issues that involve technical concerns and would impose an economic burden on the industry without a commensurate safety benefit. 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 the proposed rulemaking:

- The Pressurized Water Reactor (PWR) Owners Group (PWROG) and the Boiling Water Reactor (BWR) Owners Group (BWROG) performed safety margin assessments relative to the proposed embrittlement criterion. The NRC staff utilized this information to complete a detailed safety assessment that confirmed current plant safety for every operating plant. This safety assessment supports the finalization and implementation of the new Emergency Core Cooling System (ECCS) requirements over several years. Therefore, NEI proposes that the implementation plan be revised to only require each licensee to submit a plan for compliance within 180 days of the effective date of the rule. We agree that a plan for compliance is an improvement, as it allows each licensee to interact with the NRC staff and vendor(s) to establish a reasonable schedule that appropriately considers the plant-specific conditions and required actions for achieving compliance.

- NEI proposes that the NRC “grandfather” the use of existing inventories of fuel assemblies. This would prevent operational difficulties should unforeseen issues occur that require the reuse of a fuel assembly from the spent fuel pool. Further, fuel assemblies in use at the time of rule publication may not meet the rule’s requirements for breakaway oxidation testing. Testing to meet this requirement entirely depends on the future development and implementation of an approved test method by the nuclear fuel vendors.
- The proposed rule language inappropriately includes plant names and times to achieve compliance.
- The proposed rule is inadequate for determining the impacts to long term cooling. Regulatory guidance has not been developed and research findings have not been provided; consequently, specifics for evaluations, acceptance criteria, and test methods to establish these criteria are not presently available. In addition, the proposed rule requires any associated evaluation model (EM) specifically be NRC-approved, rather than acceptable, as currently required by 10 CFR 50.46. This change is presented without providing a supporting regulatory analysis for the change. As a result, proceeding with rulemaking on long-term cooling without the further development and specificity of the technical bases for such rulemaking, will likely lead to arbitrary and capricious regulatory applications of the requirements by individual reviewers. Hence, Dominion recommends maintaining the current rule language for long term cooling, which will allow the technical issues to be fully characterized and addressed separate from the rule. In addition, NRC should issue a Regulatory Guide (RG) to reduce regulatory uncertainty regarding implementation of the rule.
- Dominion has reviewed the NRC proposed language that provides an alternative risk-informed approach for determining the effect of debris on long-term core cooling. Dominion agrees with NEI and the PWROG that the NRC should include an option for a comprehensive risk-informed approach for long-term cooling. The proposed rule language restricts the use of a risk-informed approach to the consideration of debris. This approach was meant for resolution of Generic Safety Issue (GSI) -191. Although perhaps adequate for its intended purpose, the proposal is not flexible enough to support risk-informed approaches for debris, chemical effects and boric acid precipitation (BAP), either together or separately, with one being evaluated deterministically and one being evaluated using a risk-informed approach. A more general, risk-informed approach would provide the PWROG with a tool for the evaluation of BAP or other issues. This approach would likely build on the previously documented break-size probabilities as documented in NUREG-1829. As an example of previous rulemaking using a risk-informed approach, the NRC staff considered the information included in NUREG-1829 during the selection of the BWR and PWR transition break sizes for the proposed 10 CFR 50.46a rulemaking. The use of a risk-informed approach for long-term cooling is expected to provide reasonable assurance of adequate protection to the health and safety of the public. Therefore, the NRC staff is requested to consider inclusion of a comprehensive risk informed approach for long-term cooling.

- The estimated costs in the regulatory analysis to implement the required changes for the proposed rule are significantly under predicted, especially considering the proposed licensing changes associated with long term cooling. In addition, multiple licensing submittals may be required to incorporate the NRC-approved methodologies into the Technical Specifications list of approved methodologies in the Core Operating Limits Report (COLR), to provide the application analysis of new EMs, and to develop responses to requests for additional information (RAIs). The regulatory analysis also does not consider other on-going interactions between the industry and the NRC staff with regards to loss of coolant accidents. This results in uncertainty in the licensee's expectation of requirements to be met for compliance. To provide for more efficient and cost effective implementation, additional schedule flexibility for rule compliance should be considered for separate analyses.
- Finally, the NRC should consider the use of a Regulatory Issue Summary (RIS) and Review Standard (RS) to promote standardized licensee submittals and associated NRC reviews. The RIS concept was extremely useful in streamlining the Margin Uncertainty Recapture power uprate submittals. The RS has been used more recently for extended power uprate submittals. These processes can be used together to effectively and efficiently standardize submittals that can be reviewed within a short period of time by the NRC staff and reduce the number of RAIs with such a complicated issue.

If you have any questions, please contact Mr. Gary D. Miller at gary.d.miller@dom.com or (804) 273-2771.

Respectfully,



for Tom Huber, Director
Nuclear Licensing & Operations Support
Dominion Resources Services, Inc. for
Virginia Electric and Power Company,
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