

April 23, 2015

MEMORANDUM TO: Brian E. Thomas, Director  
Division of Engineering  
Office of Nuclear Regulatory Research

FROM: Joseph G. Giitter, Director */RA/*  
Division of Risk Assessment  
Office of Nuclear Reactor Regulation

SUBJECT: RESULTS OF PERIODIC REVIEW OF REGULATORY GUIDE  
(RG) 1.201

This memorandum documents the US Nuclear Regulatory Commission (NRC) periodic review of regulatory guide (RG) 1.201, Revision 1, "Guidelines for Categorizing Structures, Systems, And Components in Nuclear Power Plants according To Their Safety Significance, For Trial Use." The RG describes a method that the NRC staff considers acceptable for use in complying with the Commission's requirements in 10 CFR 50.69 with respect to the categorization of SSCs that are considered in risk-informing special treatment requirements and was published in May 2006. As discussed in Management Directive 6.6, "Regulatory Guides," the NRC staff reviews RGs approximately every 5 years to ensure that the RGs continue to provide useful guidance. Documentation of the NRC staff review is enclosed.

Based on the results of the periodic review, the staff concludes that no changes to RG 1.201 Revision 1 are warranted at this time. However, the staff identified some technical or regulatory issues in the review that could warrant addressing in a future revision, if industry expresses an interest in using this guidance. Otherwise, consideration will be again given to updating the RG during the routine next 5 year cycle depending on conditions at that time.

Enclosure:  
As stated

CONTACT: Mihaela Biro, NRR/DRA  
(301) 415-1243

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DATE	04/2/15	04/02/15	04/23/15	04/23/15

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## Regulatory Guide Periodic Review

Regulatory Guide Number: **1.201**

Revision number: **1**

Title: **Guidelines for Categorizing Structures, Systems, And Components in Nuclear Power Plants according To Their Safety Significance, For Trial Use**

Office/division/branch: **NRR/DRA/APLA**

Technical Lead: **Steve Dinsmore**

Staff Action Decided: **Reviewed, issues identified for future consideration**

### **1. What are the known technical or regulatory issues with the current version of the Regulatory Guide (RG)?**

Regulatory Guide 1.201, Revision 1, "Guidelines for Categorizing Structures, Systems, And Components in Nuclear Power Plants according To Their Safety Significance, For Trial Use," describes a method that the NRC staff considers acceptable for use in complying with the Commission's requirements in 10 CFR 50.69 with respect to the categorization of Structures, Systems and Components (SSCs) that are considered in risk-informing special treatment requirements. RG 1.201 endorses a categorization method, with conditions, described in NEI 00-04, Revision 0, "10 CFR 50.69 SSC Categorization Guideline," dated July 2005.

On December 17, 2014, the NRC completed review and issued license amendments for the pilot application by Southern Nuclear Operating Company, Inc., (SNC) to revise the facility operating license for Vogtle Electric Generating Plant (VEGP), Units 1 and 2, to voluntarily implement the provisions of Title 10 of the Code of Federal Regulations, Section 50.69, "Risk-informed categorization and treatment of structures, systems, and components for nuclear power reactors." (ADAMS Accession Number ML14237A034).

Based on the lessons learned from the review of the pilot VEGP application, the staff has identified the following enhancements related to RG 1.201:

- The categorization process described in NEI 00-04 contains a number of steps to the categorization process, such as component categorization based on risk, function categorization, assessment of defense in depth and safety margin, final assessment by the Integrated Decision-making Panel (IDP), which are to be executed in a specified order. Additional guidance is desirable to specify that executing the categorization process in a different order than specified in NEI 00-04 may be acceptable if certain conditions are met.
- Additional guidance may be included on acceptable categorization methods for passive components and on mapping passive components to active/passive functions.
- NEI 00-04 guidance, Section 9.2.2, provides a set of seven questions to be used by the IDP to review the candidate low safety significant (LSS) SSCs to determine whether they are

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not dependent upon for safety. Two of the questions (questions 4 and 5) regard the determination as to whether a function provides the “sole means” of accomplishing a specific mitigation function. Additional guidance on when to take credit for alternate means may be warranted in the next revision of RG 1.201.

- Since the publication of RG 1.201, Revision 1 significant progress has been made in fire PRA methods. New guidance on the use of the fire PRA in the 50.69 categorization process may be desirable. The current NEI 00-04 guidance allows components categorized as high safety significant (HSS) based solely on the fire PRA to be categorized as LSS based on the use of integrated risk importance measures, which are weighted averages of the importance measures from the internal events and the fire PRAs.
- RG 1.201 needs additional clarifications to provide clear distinction that during licensing reviews of license applications for voluntary implementation of 50.69, technical adequacy of the PRA is measured, and not the adequacy of the special treatment.
- Revise guidance on PRA quality to reflect the latest revisions of RG 1.200 and the ASME/ANS PRA Standard.

RG 1.201 endorses a categorization method, with conditions, described in NEI 00-04, Revision 0, “10 CFR 50.69 SSC Categorization Guideline,” dated July 2005. RG 1.201, Revision 1, has been issued “For Trial Use” and as such it provides interim guidance and does not establish any final staff positions for purposes of the Backfit Rule, 10 CFR 50.109, which could be considered an impediment for future applications. A revision of NEI 00-04 guidance would be advantageous prior to revising RG 1.201 but such a revision has not been proposed by NEI. Therefore removing the current “For Trial Use” provision does not appear to be a high priority for industry.

**2. What is the impact on internal and external stakeholders of not updating the RG for the known issues, in terms of anticipated numbers of licensing and inspection activities over the next several years?**

There are no identified safety concerns if the regulatory guide is not updated. There are no license amendment applications anticipated in the near future. The rule was promulgated in 2004 and only one licensee has chosen to implement the rule. Additional interest in the rule has not been investigated by the staff but appears to be minimal.

**3. What is an estimate of the level of effort needed to address identified issues in terms of full-time equivalent (FTE) and contractor resources?**

NRC staff requires approximately 1.0 FTE to complete revision of the regulatory guide. The staff will require further effort and coordination with NRC Office of New Reactors. No contractor support is anticipated.

- 4. Based on the answers to the questions above, what is the staff action for this guide (Reviewed with no issues identified, Reviewed with issues identified for future consideration, Revise, or Withdraw)?**

Review and update with issues identified for future consideration if industry expresses an interest to revise NEI 00-04 or additional license amendment applications are submitted. Otherwise, consideration will be again given to updating the RG during the routine next 5 year cycle depending on conditions at that time.

- 5. Provide a conceptual plan and timeframe to address the issues identified during the review.**

Not applicable.

**NOTE: This review was conducted in April 2015 and reflects the staff's plans as of that date. These plans are tentative and are subject to change.**