

October 5, 2015

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

FROM: Lawrence E. Kokajko, Director **/RA/**  
Division of Policy and Rulemaking  
Office of Nuclear Reactor Regulation

SUBJECT: RESULTS OF PERIODIC REVIEW OF REGULATORY GUIDE 1.141

This memorandum documents the U.S. Nuclear Regulatory Commission (NRC) periodic review of Regulatory Guide (RG) 1.141, "Containment Isolation Provisions for Fluid Systems," published in July 2010. This RG describes methods the NRC staff finds acceptable for complying with Title 10 of the *Code of Federal Regulations* Part 50, Appendix A, "General Design Criteria for Nuclear Power Plants." 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. The documentation of the Office of Nuclear Reactor Regulation (NRR) staff review is enclosed.

Based on the results of the periodic review, the NRR staff concludes that no changes to RG 1.141 are warranted at this time. However, some non-technical issues were identified for future consideration. The NRR staff determined that any future revision of RG 1.141 should adopt the American National Standards Institute (ANSI)/American Nuclear Society (ANS) standard ANSI/ANS-56.2-1984, or a newer revision if available, with associated exceptions and clarifications.

Enclosure:  
Regulatory Guide Periodic Review

CONTACT: Leslie Perkins, NRR/DPR  
(301) 415-2375

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## Regulatory Guide Periodic Review

**Regulatory Guide Number:** 1.141, Revision 1

**Title:** Containment Isolation Provisions for Fluid Systems

**Office/division/branch:** NRR/DSS/SCVB

**Technical Lead:** Jerome Bettle

**Staff Action Decided:** Reviewed with Issues identified for Future Consideration

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

RG 1.141, Revision 1, was issued in July 2010. This RG describes methods the Nuclear Regulatory Commission (NRC) staff finds acceptable for complying with Title 10 of the *Code of Federal Regulations* Part 50, Appendix A, "General Design Criteria for Nuclear Power Plants."

Revision 1 of this RG endorses the American Nuclear Society (ANS)/American National Standards Institute (ANSI) standard ANS 56.2/ANSI N271-1976 as did the initial issuance of the RG in April 1978. The ANS 56.2 working group revised N271 and issued ANSI/ANS-56.2-1984. The ANSI/ANS-56.2-1984 revision was determined to be adequate by the working group and found to contain additional guidance for containment isolation provisions, including diversity of actuation parameters and the concept of phased isolation. ANSI/ANS-56.2-1984 was reaffirmed in 1989, but with the subsequent disbanding of the ANS 56.2 working group, ANSI identifies the status of this guidance document as "withdrawn." In preparing the RG 1.141, Revision 1, in 2009/2010, the NRC staff noted that the additional guidance provided was limited, covered elsewhere in industry standards and guidance, and that the staff's Regulatory Positions contained in the original issue of the RG were for the most part not included. Therefore, for Revision 1 of RG 1.141, the staff decided that the RG revision would continue to endorse N271-1976 and include the same Regulatory Positions in order to keep the revision effort as simple as possible while adopting the updated RG format and "boilerplate" content. For the above reasons, any future revision of the RG 1.141 should adopt ANSI/ANS-56.2-1984, or a newer revision if available, with associated exceptions and clarifications. This change should appropriately reference the other industry standards and guidance which contain the staffs' regulatory positions associated with the adoption of ANS 56.2/ANSI N271-1976 in Revision 1 to RG 1.141.

A review of the references with RG 1.141 and of NUREG-0800, "Standard Review Plan," was performed to ascertain if any changes in the references warranted a revision to RG 1.141. The review found no changes that would require a revision of RG 1.141.

ENCLOSURE

There are no known current technical or regulatory issues with Revision 1 of the RG.

- 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?**

For operating reactors, their primary containment fluid system penetration and isolation barrier design has been long established and configurations other than described in the RG have been reviewed and approved by the staff.

There are no known issues with those nuclear units currently in construction or have had designs approved that would suggest a near term need to revise this RG.

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

The staff identified no technical issues during its review and a revision is not planned at this time, therefore no estimate of resources was made.

- 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)?**

The staff reviewed RG 1.141 and identified no technical issues. However, some non-technical issues were identified for future consideration.

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

The staff identified no issues warranting a revision during its review.

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