

March 28, 2017

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

FROM: John W. Lubinski, Director */RA/*  
Division of Engineering  
Office of Nuclear Reactor Regulation

SUBJECT: RESULTS OF PERIODIC REVIEW OF REGULATORY  
GUIDE 1.115

This memorandum documents the U.S. Nuclear Regulatory Commission (NRC) periodic review of Regulatory Guide (RG) 1.115, "Protection Against Turbine Missiles." The RG describes an approach acceptable to the NRC staff for protecting important to safety Structures, Systems, and Components against large high-energy missiles resulting from turbine failure, published in January, 2012. 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 1.115 Revision 2 are warranted. The staff did not identify any technical or regulatory issues in the review.

Enclosure:  
Regulatory Guide Periodic Review

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## REGULATORY GUIDE PERIODIC REVIEW

**Regulatory Guide Number:** 1.115, Revision 2  
**Title:** Protection Against Turbine Missiles  
**Office/division/branch:** NRR/DE/EVIB  
**Technical Lead:** Simon C. F. Sheng  
**Staff Action Decided:** Reviewed with no issues identified

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

Regulatory Guide (RG) 1.115, "Protection Against Turbine Missiles," was published in January 2012 and provides an approach acceptable to the U.S. Nuclear Regulatory Commission staff for protecting safety Structures, Systems, and Components (SSCs) against large high-energy missiles resulting from turbine failure. This guide provides guidance and acceptance criteria on (1) appropriate orientation and placement of the turbine-generator set, (2) the management of the probability of turbine missile generation, (3) the probability of SSC failure, and (4) the use of missile barriers to meet General Design Criterion 4, "Environmental and Dynamic Effects Design Bases."

No technical or regulatory issues were identified for licensees who have adopted or plan to adopt one of the approaches mentioned above.

**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?**

As no technical or regulatory issues were identified, there is no impact to internal or external stakeholders resulting from these activities.

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

As no technical or regulatory issues were identified, no resources are required.

**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)?**

Reviewed with no issues identified.

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

No issues were identified during the review.

**NOTE: This review was conducted in February 2017 and reflects the staff's plans as of that date. These plans are tentative and are subject to change.**