

December 30, 2014

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

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

SUBJECT: Y020140258 - PERIODIC REVIEW OF REGULATORY GUIDE  
1.162, "FORMAT AND CONTENT OF REPORT FOR THERMAL  
ANNEALING OF REACTOR PRESSURE VESSELS"

The Office of Nuclear Reactor Regulation (NRR)/Division of Engineering (DE) staff has reviewed Regulatory Guide (RG) 1.162, "FORMAT AND CONTENT OF REPORT FOR THERMAL ANNEALING OF REACTOR PRESSURE VESSELS." The RG describes a format and content acceptable to the U. S. Nuclear Regulatory Commission (NRC) staff for the Thermal Annealing Report and Thermal Annealing Results Report, as described in *Title 10 of the Code of Federal Regulations* (10 CFR) Part 50.66, "Requirements for Thermal Annealing of the Reactor Pressure Vessel." 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 1.162 are warranted. The staff did not identify any technical or regulatory issues in the review.

Enclosure:  
Periodic Review of Regulatory Guide 1.162

CONTACT: Carolyn Fairbanks, NRR/DE/EVIB  
(301) 415-6719

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DATE	12/29/2014	12/29/2014	12/30/2014

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## Regulatory Guide Periodic Review Questions

**Office:** NRR

**Regulatory Guide Number:** 1.162

**Title:** Format and Content of Report for Thermal Annealing of Reactor Pressure Vessels

Recommended Staff Action: Reviewed with no issues identified

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

  - None. RG 1.162, "Format and Content of Report for Thermal Annealing of Reactor Pressure Vessels," was issued in February 1996, and establishes a format and content acceptable to the U. S. Regulatory Commission (NRC) staff for the Thermal Annealing Report, which describes the licensee's plans for the thermal annealing of a reactor pressure vessel, and the Thermal Annealing Results Report, which must be submitted after thermal annealing is completed. This RG also describes alternative methods that are acceptable to the NRC for determining the recovery of fracture toughness after the thermal annealing and for estimating the degree of post-annealing reembrittlement expected during subsequent plant operations. The requirements of the thermal annealing rule are provided in 10 CFR 50.66, "Requirements for Thermal Annealing of the Reactor Pressure Vessel." The regulatory requirements for the fracture toughness of vessels cited in RG 1.162 are still current.
  
- (2) What is the impact on internal and external stakeholders of not updating the RG for the known issues, in terms of numbers of licensing and inspection activities?**

  - Not applicable. No licensing actions involving the thermal annealing of a reactor pressure vessel are anticipated.
  
- (3) What is an estimate of the level of effort needed to address identified issues in terms of Full-Time Estimate (FTE) and contract dollars?**

  - Not applicable – no identified issues.
  
- (4) Based on the answers to the questions above, what is the recommended staff action for this RG (Revise, Acceptable As-Is, Administrative Change, or Withdraw)?**

  - Acceptable as-is.
  
- (5) If a RG should be revised, provide a conceptual plan and timeframe to accomplish this.**

  - Not applicable – revision not recommended.