



**UNITED STATES  
NUCLEAR REGULATORY COMMISSION**  
WASHINGTON, D.C. 20555-0001  
August 16, 2019

MEMORANDUM TO: Louise Lund, Director  
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Office of Nuclear Regulatory Research

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SUBJECT: RESULTS OF PERIODIC REVIEW OF REGULATORY GUIDE  
1.87

This memorandum documents the US Nuclear Regulatory Commission (NRC) periodic review of regulatory guide (RG) 1.87, Revision 1, "Guidance for Construction of Class 1 Components in Elevated-Temperature Reactors." The RG, published in June 1975, approves, with conditions, the initial revisions of five American Society of Mechanical Engineers (ASME) Code Cases (1592-0, 1593-0, 1594-0, 1595-0, and 1596-0). These Code Cases are the precursors to the other iterations of ASME's high temperature construction rules – Code Cases N-47 through N-51; ASME Section III, Subsection NH; and currently ASME Section III, Division 5. As discussed in Management Directive 6.6, "Regulatory Guides," the NRC staff reviews RGs approximately every 10 years to ensure that the RGs continue to provide useful guidance. Documentation of the NRC staff review is enclosed.

In a memorandum (Agencywide Documents Access & Management System (ADAMS) Accession No. ML16229A104) dated August 15, 2016, NRC staff thought that a decision to update or withdraw RG 1.87 would be made following the issuance of RG 1.232, "Developing Principal Design Criteria for Non-Light Water Reactors," Revision 0, dated April 2018. However, RG 1.232 does not address RG 1.87, Revision 1, or ASME Section III, Division 5. The guidance in RG 1.87, Revision 1 is obsolete and nonconservative as evidenced by the development of the 2017 Edition of ASME Section III, Division 5.

Based on the comparison of RG 1.87, Rev. 1 with the 2017 Edition of ASME Section III, Division 5, the staff recommend that RG 1.87, Rev. 1, be withdrawn. If the NRC finds ASME Section III,

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Division 5 acceptable (with conditions, if necessary), the NRC will endorse it in a new RG. The staff plans to develop a new draft guide by the end of the third quarter of CY 2020 and issue it for public comment by the end of the first quarter of CY 2021.

Enclosure:

Regulatory Guide Periodic Review:

Guidance for Construction of Class 1

Components in Elevated-Temperature

Reactors

SUBJECT: RESULTS OF PERIODIC REVIEW OF REGULATORY GUIDE 1.87

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