

March 13, 2014

MEMORANDUM TO: Michael J. Case, Director
Division of Engineering
Office of Nuclear Regulatory Research

FROM: David Rudland, Chief */RA/*
Component Integrity Branch
Division of Engineering
Office of Nuclear Regulatory Research

SUBJECT: RESULTS OF PERIODIC REVIEW OF REGULATORY GUIDE
(RG) 1.161

This memorandum documents the US Nuclear Regulatory Commission (NRC) periodic review of Regulatory Guide (RG) 1.161, "Evaluation of Reactor Pressure Vessels with Charpy Upper-Shelf Energy Less Than 50 ft-lb." The RG describes general procedures acceptable to the NRC staff for establishing upper shelf energy values that maintain margins against ductile fracture of the reactor vessel, in the case where plant-specific upper shelf energy values fall below regulatory limits. 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.

RG 1.161 has been reviewed by the staff. The staff finds the RG acceptable for continued use, with the understanding that some technical issues will be investigated further. The NRC plans to complete a detailed evaluation of J -integral calculations and fracture toughness characterization.

Enclosure: Response to Periodic Review Questions for RG 1.161

CONTACT: Michael Benson, RES/DE/CIB
301-251-7492

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