



[7590-01-P]

**NUCLEAR REGULATORY COMMISSION**

**[NRC-2014-0244]**

**Guidelines for Evaluating the Effects of Light-Water Reactor Water Environments  
in Fatigue Analyses of Metal Components**

**AGENCY:** Nuclear Regulatory Commission.

**ACTION:** Regulatory guide; issuance.

**SUMMARY:** The U.S. Nuclear Regulatory Commission (NRC) is issuing Revision 1 to Regulatory Guide (RG) 1.207, "Guidelines for Evaluating the Effects of Light-Water Reactor Water Environments in Fatigue Analyses of Metal Components." This RG describes methods and procedures that the staff of the NRC considers acceptable for use in determining the acceptable fatigue lives of components evaluated by a cumulative usage factor calculation in accordance with the fatigue design provisions in Section III, "Rules for Construction of Nuclear Power Plant Components," of the American Society of Mechanical Engineers Boiler and Pressure Vessel Code to account for the effects of light-water reactor water environments.

**DATES:** Revision 1 to RG 1.207 is available on **[INSERT DATE OF PUBLICATION IN THE FEDERAL REGISTER]**.

**ADDRESSES:** Please refer to Docket ID **NRC-2014-0244** when contacting the NRC about the availability of information regarding this document. You may obtain publicly-available information related to this document using any of the following methods:

- **Federal Rulemaking Web Site:** Go to <http://www.regulations.gov> and search for Docket ID **NRC-2014-0244**. Address questions about NRC dockets to Jennifer Borges; telephone: 301-287-9127; e-mail: Jennifer.Borges@nrc.gov. For technical questions, contact the individuals listed in the **FOR FURTHER INFORMATION CONTACT** section of this document.

- **NRC's Agencywide Documents Access and Management System (ADAMS):** You may obtain publicly available documents online in the ADAMS Public Documents collection at <http://www.nrc.gov/reading-rm/adams.html>. To begin the search, select "[ADAMS Public Documents](#)" and then select "Begin Web-based ADAMS Search." For problems with ADAMS, please contact the NRC's Public Document Room (PDR) reference staff at 1-800-397-4209, 301-415-4737, or by e-mail to [pdr.resource@nrc.gov](mailto:pdr.resource@nrc.gov). RG 1.207, "Guidelines for Evaluating the Effects of Light-Water Reactor Water Environments in Fatigue Analyses of Metal Components," is available in ADAMS under Accession No. ML16315A130.

- **NRC's PDR:** You may examine and purchase copies of public documents at the NRC's PDR, Room O1-F21, One White Flint North, 11555 Rockville Pike, Rockville, Maryland 20852.

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**FOR FURTHER INFORMATION CONTACT:** Robert Tregoning, Office of Nuclear Regulatory Research, telephone: 301-415-2324, e-mail: Robert.Tregoning@nrc.gov and Stephen Burton, Office of Nuclear Regulatory Research, telephone: 301-415-7000, Stephen.Burton@nrc.gov. Both are staff of the U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001.

**SUPPLEMENTARY INFORMATION:**

**I. Discussion**

The NRC is issuing a revision to an existing guide in the NRC's "Regulatory Guide" series. This series was developed to describe and make available to the public information regarding methods that are acceptable to the NRC staff for implementing specific parts of the agency's regulations, techniques that the NRC staff uses in evaluating specific issues or postulated events, and data that the NRC staff needs in its review of applications for permits and licenses.

Revision 1 of RG 1.207 was issued with a temporary identification of Draft Regulatory Guide, DG-1309. This RG describes methods and procedures that the NRC staff considers acceptable for use in determining the acceptable fatigue lives of components evaluated by a cumulative usage factor calculation in accordance with the fatigue design provisions in Section III, "Rules for Construction of Nuclear Power Plant Components," of the American Society of Mechanical Engineers' Boiler and Pressure Vessel Code to account for the effects of light-water reactor water environments.

## **II. Additional Information**

The NRC published a notice of the availability of DG-1309 in the *Federal Register* on November 24, 2014 (79 FR 69884), for a 60-day public comment period. The public comment period closed on January 24, 2015. Public comments on DG-1309 and the NRC staff's responses to the public comments are available in ADAMS under Accession No. ML16315A127.

## **III. Congressional Review Act**

This RG is a rule as defined in the Congressional Review Act (5 U.S.C. 801-808). However, the Office of Management and Budget has not found it to be a major rule as defined in the Congressional Review Act.

## **IV. Backfitting and Issue Finality**

This RG describes methods and procedures that the NRC staff considers acceptable for use in applications for license renewal and subsequent license renewal in determining the acceptable fatigue lives of components evaluated by a cumulative usage factor calculation in accordance with the fatigue design provisions in Section III, "Rules for Construction of Nuclear Power Plant Components," of the ASME Code. This RG also supports reviews of applications for new nuclear reactor construction permits or operating licenses under part 50 of title 10 of the *Code of Federal Regulations* (10 CFR), design certifications under 10 CFR part 52, and combined licenses under 10 CFR part 52, which do not cite a standard design, in addition to renewed operating licenses under

10 CFR part 54. This RG may also be used by existing holders of combined licenses and operating licenses in accordance with their existing licensing basis and applicable regulatory requirements.

This RG does not constitute backfitting as defined in 10 CFR 50.109 (the Backfit Rule) and is not otherwise inconsistent with the issue finality provisions in 10 CFR part 52. Applicants and potential applicants are not, with certain exceptions, protected by either the Backfit Rule or any issue finality provisions under 10 CFR part 52. Neither the Backfit Rule nor the issue finality provisions under 10 CFR part 52, with certain exclusions discussed below, were intended to apply to every NRC action that substantially changes the expectations of current and future applicants.

The exceptions to the general principle are applicable whenever a combined license applicant references a part 52 license (i.e., an early site permit or a manufacturing license) and/or part 52 regulatory approval (i.e., a design certification rule or design approval). The NRC staff does not, at this time, intend to impose the positions represented in the RG in a manner that is inconsistent with any issue finality provisions in these part 52 licenses and regulatory approvals. If, in the future, the NRC staff seeks to impose a position in this RG in a manner that does not provide issue finality as described in the applicable issue finality provision, then the NRC staff must address the criteria for avoiding issue finality as described in the applicable issue finality provision.

Existing licensees and applicants of final design certification rules will not be required to comply with the positions set forth in this RG unless the licensee or design certification rule applicant seeks a voluntary change to its licensing basis with respect to the effects of light-water reactor coolant environments on the fatigue lives of nuclear power plant components by means of a cumulative usage factor, and where the NRC determines that the safety review of the licensee's request must include consideration of

the effects of light-water reactor coolant environments on the fatigue lives of nuclear power plant components. Further information on the staff's use of the RG is contained in the RG under Section D, "Implementation."

Dated at Rockville, Maryland, this 30<sup>th</sup> day of May, 2018.

For the Nuclear Regulatory Commission.

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[FR Doc. 2018-11995 Filed: 6/4/2018 8:45 am; Publication Date: 6/5/2018]