



NRC NEWS

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NRC SEEKS PUBLIC COMMENT ON FATIGUE ANALYSIS OF NUCLEAR POWER PLANT COMPONENTS

The Nuclear Regulatory Commission is seeking public comment on a proposed regulatory issue summary (RIS) to notify power plant licensees that a methodology used by some license renewal applicants to demonstrate the ability of plant components to withstand the stress of an additional 20 years of operation may not be sufficiently conservative if not correctly applied.

The methodology in question calculates the fatigue usage of certain components during plant startups and shutdowns. The full calculation requires consideration of six stress components, as detailed by the American Society of Mechanical Engineers Boiler and Pressure Vessel Code. However, some licensees have performed a simplified version of this calculation using only one stress value for the evaluation of actual plant conditions.

The simplified calculation may provide acceptable results for some applications; however, it also requires a great deal of judgment by the analyst to ensure that the simplification still provides a conservative result.

The NRC requested recent license renewal applicants who used the simplified calculation to perform confirmatory analyses using all six stress components. To date, the confirmatory analysis of one component – a boiling-water reactor feedwater nozzle – indicated that the simplified calculation did not produce conservative results in the nozzle bore area when compared to the detailed analysis. However, the confirmatory analysis still demonstrated that the nozzle had acceptable fatigue usage.

Comments on the proposed RIS, which was published today in the *Federal Register*, will be accepted through June 16. Comments should be submitted to the Chief, Rulemaking, Directives and Editing Branch, Division of Administrative Services, Office of Administration, U.S. Nuclear Regulatory Commission, Mail Stop T6-D59, Washington, D.C. 20555-0001.

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