



NUCLEAR ENERGY INSTITUTE

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April 19, 2005

Mr. William H. Bateman
Chief, Materials and Chemical Engineering Branch
U. S. Nuclear Regulatory Commission
Washington, DC 20555-0001

SUBJECT: Materials Reliability Program Draft Thermal Fatigue
Management Guidelines

PROJECT NUMBER: 689

The following EPRI Materials Reliability Program (MRP) reports are enclosed for your information:

1. *Management of Thermal Fatigue in Normally Stagnant Non-Isolable Reactor Coolant System Branch Lines (Draft)*
2. *MRP-132, Thermal Cycling Screening and Evaluation Model for Normally Stagnant Non-Isolable Reactor Coolant Branch Line Piping with a Generic Application Assessment.*

The objective of these reports is to provide a method for screening, evaluating, and managing non-isolable primary system branch lines in PWRs for the possibility of thermal fatigue. Specifically:

1. The first report (the thermal fatigue management guideline) presents guidance to be followed by MRP utilities to manage thermal fatigue of non-isolable RCS branch lines in PWRs. The report includes guidelines for assessing the potential for thermal fatigue as well as guidance on inspecting and monitoring piping that is determined to be susceptible.
2. The second report provides details of the thermal fatigue assessment methodology required by the thermal fatigue management guideline. It describes a screening process for eliminating certain lines from consideration. For lines that are not eliminated, the report provides a detailed approach for calculating the location of thermal cycling, the frequency of the temperature excursions, and the thermal boundary conditions for use in a stress analysis.

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The thermal fatigue management guideline is still a draft document as it has not yet been approved by the MRP executives, but its content can be considered final. The thermal cycling screening and evaluation model is a published report. These documents are being sent to you as a basis for our meeting on the thermal fatigue management guideline scheduled for May 24, 2005. Your review of the enclosed reports is not requested.

The proprietary information in the enclosed reports is supported by the signed affidavits in Enclosure 1. The affidavits set forth the basis on which the information may be withheld from public disclosure by the Commission and addresses with specificity, the consideration listed in paragraph (b)(4) of Section 2.390 of the Commission's regulations. Accordingly, we respectfully request that the information, which is proprietary to EPRI, be withheld from public disclosure in accordance with 10 CFR 2.390. Non-proprietary versions of this information are also enclosed.

We look forward to meeting with the Staff to present this information. If you have any questions on this matter, please contact me at 202-739-8080; am@nei.org or Jim Riley at 202-739-8137; jhr@nei.org.

Sincerely,



Alexander Marion

Enclosures

1. Proprietary affidavit
2. Materials Reliability Program, Management of Thermal Fatigue in Normally Stagnant Non-Isolable Reactor Coolant System Branch Lines (MRP-XX) E217858 (Draft), Industry Guidance Document, February 2005
3. Materials Reliability Program, Thermal Cycling Screening and Evaluation Model for Normally Stagnant Non-Isolable Reactor Coolant Branch Line Piping with a Generic Application Assessment (MRP-132), EPRI Report 1009552, November 2004

c: Mr. Michael E. Mayfield, U. S. Nuclear Regulatory Commission
Mr. Kamal Manoly, U. S. Nuclear Regulatory Commission
Mr. William Cullen, U. S. Nuclear Regulatory Commission
Mr. Joseph L. Birmingham, U. S. Nuclear Regulatory Commission
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Bc: Mr. Les Spain, Dominion
Mr. John Carey, EPRI

Proprietary Affidavit