

September 12, 2006

MEMORANDUM TO: Jennifer Uhle, Deputy Director
Materials Engineering
Division of Fuel, Engineering and Radiological Research
Office of Nuclear Regulatory Research

THRU: Robert Hardies, Branch Chief /RA/ Jennifer Uhle for
Component Integrity Branch
Division of Fuel, Engineering and Radiological Research
Office of Nuclear Regulatory Research

FROM: Mark Kirk, Senior Materials Engineer
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Office of Nuclear Regulatory Research

SUBJECT: MEETING SUMMARY

On September 7-8, 2006 the NRC held a public meeting to review a series of reports that were recently released to the public. These reports describe in detail the results of a project that was undertaken to develop a technical basis to support a risk-informed revision of Title 10, Section 50.61 of the *Code of Federal Regulations* (10 CFR 50.61), "Fracture Toughness Requirements for Protection Against Pressurized Thermal Shock Events," or the Pressurized Thermal Shock (PTS) rule. For information on obtaining these reports and the purpose of the workshop, see the related Federal Register Notice, 71 FR 46522, dated August 14, 2006. The information in these reports demonstrates that for material and operating conditions of the current reactor fleet, the likelihood of vessel failure attributable to PTS is extremely low, even through the period of license extension. These results provide evidence that the statutory embrittlement limit established in 10 CFR 50.61 can be modified significantly to reduce unnecessary conservatism without affecting safety. This is possible because assuming the continuance of current operating conditions, the operating reactor fleet has little probability of exceeding the limits on the frequency of reactor vessel failure, as they relate to NRC guidelines on core damage frequency and large early release frequency during either the currently licensed lifetime or the period of license extension.

These reports have been reviewed and discussed with the NRC's Advisory Committee on Reactor Safeguards (ACRS) during a series of public meetings. Following these meetings, the ACRS sent letters to the NRC expressing the view that the reports had developed a sound technical basis for a risk-informed revision of 10 CFR 50.61. Staff from the NRC's Office of Nuclear Reactor Regulation (NRR) have reviewed these reports and found them acceptable to begin the rulemaking process contingent upon successful resolution of certain outstanding

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In advance of the public comment phase on the revised PTS rule, the NRC conducted the two-day workshop to familiarize interested members of the public with this information. A total of 16 members of the public attended, these including 13 representatives of the US commercial nuclear power industry, one representative from the Nuclear Information and Resource Service, and two representatives from the Japanese Nuclear Engineering Society. The attendees engaged in two days of discussion with the staff concerning the technical approach used in the PTS basis study. No major issues were raised.

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