

June 27, 2006

MEMORANDUM TO: Sher Bahadur
Committee To Review Generic Requirements

FROM: Gary M. Holahan, Associate Director */RA/*
Associate Director for Risk Assessment & New Projects
Office of Nuclear Reactor Regulation

SUBJECT: TRANSMITTAL OF PROPOSED REVISION TO NUREG-0800,
STANDARD REVIEW PLAN SECTIONS 5.2.3, 5.3.1, and 5.3.3.

The purpose of this memorandum is to transmit the following *Standard Review Plan* (SRP) Sections in NUREG-0800: SRP Section 5.2.3, "Reactor Coolant Pressure Boundary Materials," SRP Section 5.3.1, "Reactor Vessel Materials," and SRP Section 5.3.3, "Reactor Vessel Integrity," to the Committee To Review Generic Requirements (CRGR) for information only.

In accordance with implementation of Staff Requirements Memorandum dated May 10, 2005, the Office of Nuclear Reactor Regulation (NRR) has revised SRP Sections 5.2.3, 5.3.1, and 5.3.3 (Enclosures 1, 2, and 3).

These three SRP sections represent updates from the July 1981 revisions of Sections 5.2.3, 5.3.1, and 5.3.3. In addition, they include many of the changes introduced in the April 1996 draft version of the SRP. In general, these revisions include the following:

- Changes in the primary review and interfacing branches resulting from office reorganizations and branch consolidations;
- Changes that resulted from new or revised regulations, technical guidance, and generic issues;
- Other editorial and formatting changes that resulted as part of the SRP update effort;
- Corresponding changes to the references;
- Language was added to the boilerplate on the front pages, acceptance criteria and review procedures to clarify that the SRP represents an acceptable approach for

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meeting the Commission's regulations and that applicants should identify deviations from these criteria and evaluate how the alternative approaches meet the Commission's regulations.

- Technical rationales were added to the acceptance criteria subsection of all three SRP sections as part of the SRP updated format; and
- Additional paragraphs to extend applicability of the updated SRP sections to applications submitted pursuant to Title 10 of the *Code of Federal Regulations* (10 CFR), Part 52, including the applicability of the Combined License Applications for Nuclear Power Plants (LWR Edition) - Regulatory Guide (RG) DG-1145 which will be superseded by the final guide expected December 2006.

Changes to SRP Section 5.2.3 include:

- Citations of the American Society of Mechanical Engineer Boiler and Pressure Vessel Code (ASME Code), Section III were updated to accurately reflect current Editions of the ASME Code;
- Additional review criteria addressing the proposed use of cast austenitic stainless steels in the Reactor Coolant Pressure Boundary (RCPB);
- Additional language addressing controls for abrasive work on austenitic stainless steel surfaces was added based upon RG 1.37, "Quality Assurance Requirements for Cleaning of Fluid Systems and Associated Components of Water Cooled Nuclear Power Plants," and previous staff review of the issue;
- Review procedures addressing the use of Ni-Cr-Fe alloys as RCPB materials were added to reflect updated operating experience as documented in Generic Letter (GL) 97-01, "Degradation of Control Rod Drive Mechanism Nozzle and Other Vessel Closure Head Penetrations;" and NRC Orders EA-03-009 and EA-03-009, Revision 1, "Issuance of First Revised NRC Order (EA-03-009) Establishing Interim Inspection Requirements for Reactor Pressure Vessel Heads at Pressurized-Water Reactors;" and
- GL 88-01, "NRC Position on IGSCC in BWR Austenitic Stainless Steel Piping," and NUREG-0313, Revision 2, "Technical Report on Material Selection and Processing Guidelines for BWR Coolant Pressure Boundary Piping," was cited as the criteria the staff has been using to evaluate the issue of sensitized, stainless steels in BWR environments since issuance of GL 88-01.

Changes to SRP Section 5.3.1 include:

- Similar to SRP Section 5.2.3, language was added addressing controls for abrasive work on austenitic stainless steel surfaces as well as references to GL 88-01 and NUREG-0313, Revision 2;
- Citations of new and/or updated regulations were incorporated throughout, including several citations of 10 CFR 50.60, which provides requirements for compliance with the

provisions of 10 CFR Part 50, Appendices G and H regarding fracture toughness and material surveillance.

- Added review guidance related to the reactor vessel surveillance program.

Changes to SRP Section 5.3.3 include:

- Reference to a new SRP section (SRP Section 3.13). This reference was added to address the resolution of a generic safety issue discussed in GL 91-17, "Bolting Degradation or Failure in Nuclear Power Plants,"
- References to the regulations of 10 CFR Part 50 were updated in the acceptance criteria subsection, along with revisions that reflect requirements contained in 10 CFR 50.66 and changes that reference the latest revision of RG 1.99.

The NRC backfit process, including the CRGR Charter, is defined on the principle that new positions, as well as new requirements, are to be reviewed for backfitting considerations. This included new staff positions contained in the SRP. The staff has determined that none of the proposed changes represent new staff positions; rather, the proposed revisions update the SRP sections to currently accepted criteria. As such, we are providing these to you for information only.

Note, these revised SRP sections were sent to the Advisory Committee on Reactor Safeguards (ACRS) for review. ACRS decided that review of the proposed revisions was not necessary. This decision is documented in a memorandum from John Larkins to Luis Reyes, dated June 9, 2004.

Enclosures:

1. Proposed SRP 5.2.3
2. Proposed SRP 5.3.1
3. Proposed SRP 5.3.3

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2. Proposed SRP 5.3.1
3. Proposed SRP 5.3.3

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