

August 24, 2006

MEMORANDUM TO: John T. Larkins, Executive Director
Advisory Committee on Reactor Safeguards
Advisory Committee on Nuclear Waste

FROM: John A. Grobe, Director */RA/*
Division of Component Integrity
Office of Nuclear Reactor Regulation

SUBJECT: TRANSMITTAL OF PROPOSED REVISION TO STANDARD
REVIEW PLAN NUREG-0800, SECTION 10.3.6, "STEAM AND
FEEDWATER SYSTEM MATERIALS"

The purpose of this memorandum is to transmit the proposed revision to NUREG-0800, *Standard Review Plan (SRP)*, Section 10.3.6, "Steam and Feedwater System Materials," to the Advisory Committee on Reactor Safeguards (ACRS) for their consideration.

In accordance with the staff requirements memorandum (SRM) dated May 10, 2005, on the April 6, 2005, Commission meeting, the Office of Nuclear Reactor Regulation (NRR) has revised SRP Section 10.3.6. To aid in identifying the areas of revision, a highlighted version of the document with description of the changes is included (Enclosure).

The proposed revision to this SRP section updates Revision 2, dated April 1981, and includes most of the changes introduced in the draft Revision 3 of April 1996. In general, changes consist mostly of assigning the review responsibilities by function, with the responsible organizations maintained separately from the SRP itself to minimize impacts of office reorganizations; editorial and formatting changes as part of the SRP update effort; and updating some references. All changes are consistent with the published staff positions or the current requirements and acceptance criteria of Section III of the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code, which has been incorporated by reference in 10 CFR 50.55a. This revision incorporates review criteria for the selection of new materials, welding preheat temperatures, welding procedure controls, and flow-accelerated corrosion monitoring; however, no new staff positions are presented, as the additional review criteria were previously addressed in generic communications or the ASME Code. The revision also adds standard paragraphs or subsections to extend application of the updated SRP sections to the advanced reactor design certification reviews as well as to extend implementation of these sections to submittals by applicants pursuant to 10 CFR Part 50 or 10 CFR Part 52.

In general, these revisions include the following:

1. Editorial and formatting changes to conform with guidance provided in LIC-200, Revision 1, "Standard Review Plan (SRP) Process."

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2. Formatting changes to conform, to the extent practicable, with the format of the corresponding sections of DG-1145, "Combined License Applications for Nuclear Power Plants (LWR Edition)."
3. Re-organized SRP subsections to provide, to the extent practicable, a logical and consistent flow of information between the five major subsections.
4. Added Inspection, Testing, Analyses, and Acceptance Criteria (ITAAC) paragraphs to Subsection I to identify that ITAAC requirements for design certification and combined license (COL) reviews are applicable to this SRP section.
5. Added "Review Interfaces" in Subsection I to capture related reviews that are performed under other SRP sections.
6. Added "Technical Rationale" in Subsection II to provide the bases for citing specific General Design Criteria and 10 CFR paragraphs.
7. Added reference to 10 CFR 52.47(a)(1)(vi) and 10 CFR 52.97(b)(1) for acceptance criteria applicable to ITAAC requirements for design certification reviews and COL reviews, respectively.
8. Added subsection III.5, "10 CFR Part 52 Review," to clarify the relationship of review procedures and acceptance criteria applicable to design certification and COL applications.
9. Added "Evaluation Findings" in Subsection IV addressing the performance of design certification reviews and COL reviews pursuant to 10 CFR Part 52.
10. Added "Implementation" text to Subsection V capturing applicability to 10 CFR Part 52 and time frame in which SRP update becomes effective.

Specific changes to SRP 10.3.6 worth noting are:

1. In Subsection I, "Areas of Review," deleted outdated reference to RG 1.26, "Quality Group Classifications and Standards for Water-, Steam-, and Radioactive-Waste-Containing Components of Nuclear Power Plants."
2. In subparagraph I.1, extended the review of welding procedures to include preheat temperatures (I.1.b(2)) and procedure controls for cast austenitic stainless steel components (I.1.c).
3. In subparagraph I.2, extended the review of fracture toughness to include cast austenitic stainless steel components.
4. Added paragraph 3, "Flow-Assisted Corrosion," to Subsection II to include the review of flow-assisted corrosion within the scope of this SRP section. This review will address operating experience insights presented in GL 88-05, "Erosion-Corrosion-Induced Pipe Wall Thinning."
5. Updated paragraph II.B to include the review of standards for applicability, adequacy, and sufficiency.

6. Updated functional summaries of RGs 1.37, 1.84, and 1.71 in subsections II.a, II.c, and II.1.(3), respectively, to accurately reflect information provided in the guides.
7. In subparagraph II.1.(2), added reference to ASME Code, Section III, Appendix IV for approval of new materials.
8. Added subparagraph II.1.(4), which provides reference to the acceptance criteria for welding preheat temperatures.
9. Deleted subparagraph II.1.(3)(c), to emphasize the criteria for assuring the integrity of welds.
10. In subparagraph II.1.(5), deleted statements on vented tanks and control of oxygen content to emphasize the need for controls to prevent damage and deterioration.
11. In subparagraph II.1.(6), deleted reference to specific paragraphs in ASME Section III, Subsections NC and ND, as the referenced paragraphs are subject to change.
12. Deleted paragraph 4, "General," because this paragraph simply described the process for requesting additional information if the safety analysis report and plant Technical Specifications do not comply with the appropriate acceptance criteria or if the information provided is inadequate.
13. In Subsection IV, "Evaluation Findings," added a paragraph to address the evaluation findings associated with the review of flow-accelerated corrosion.

Based on the nature of the changes, we recommend that ACRS would elect not to review the proposed revision to the SRP. If the ACRS determines that there is a need to review the proposed revision to the SRP, then please inform the NRR technical contact and the staff will support a subsequent ACRS briefing. Also, the staff has determined that the changes do not involve any new staff positions, therefore we will not be requesting a review by the Committee to Review Generic Requirements. Note that most SRP sections will be issued as final versions without publishing them as draft and requesting comment. The staff is revising the SRP in this manner to provide a more up-to-date SRP in light of the requirement in 10 CFR 50.34(h) for an applicant to evaluate its facility against the SRP revision in effect 6 months before the docket date of the application. The staff will nonetheless request comment on these final SRP sections, and will address comments received in a subsequent SRP revision. Prior to revision to individual sections, comment resolution may establish a basis for how alternatives to the NUREG-0800 acceptance criteria provide an acceptable method of complying with the NRC's regulations.

Enclosure:

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