

March 1, 2006

Bill Eaton, BWRVIP Chairman  
Entergy Operations, Inc.  
Echelon One  
1340 Echelon Parkway  
Jackson, MS 39213-8202

SUBJECT: NRC APPROVAL LETTER FOR BWRVIP-52-A, "BWR VESSEL AND  
INTERNALS PROJECT, SHROUD SUPPORT AND VESSEL BRACKET  
REPAIR DESIGN CRITERIA"

Dear Mr. Eaton:

By letter dated September 21, 2005, the Boiling Water Reactor Vessel and Internals Project (BWRVIP) submitted Proprietary Report BWRVIP-52-A, "BWR Vessel and Internals Project, Shroud Support and Vessel Bracket Repair Design Criteria," for Nuclear Regulatory Commission (NRC) staff review.

The BWRVIP-52-A report provides general design acceptance criteria for the permanent and temporary repair of the shroud support structure and reactor vessel (RV) internal attachments. These guidelines are intended to maintain the structural integrity and system functionality of the shroud support structure and RV internal attachments during normal operation, postulated transient, and design basis accident conditions. The BWRVIP provided the BWRVIP-52 report to support generic regulatory efforts related to the repair of the BWR shroud support structure and RV internal attachments.

The BWRVIP-52-A report presents a compilation of information from the BWRVIP-52 report and the NRC staff final safety evaluation (SE) dated August 20, 2004, which includes the BWRVIP's associated responses to NRC staff open items.

The NRC staff has reviewed the information in the BWRVIP-52-A report and has found that the report accurately incorporates all of the relevant information which was submitted by the BWRVIP in the documents noted above to support NRC staff approval of the report. The staff found that minimal revisions were made to the BWRVIP-52 report in the production of the BWRVIP-52-A report. These revisions are discussed in detail below.

The first revision was with respect to the deletion of text from Section 9.1, "Materials, Fabrication, and Welding," and Section 9.3, "Pre-Installation As-Built Inspection," of the BWRVIP-52 report. In addition, the BWRVIP removed References 8-18 of the BWRVIP-52 report and replaced these references with a reference (Reference 9) to the BWRVIP-84 report, "Guidelines for Selection and Use of Materials and Repairs." The BWRVIP determined that the material and fabrication requirements would be removed from the BWRVIP-52 report since they are already contained in the BWRVIP-84 report. The staff found this acceptable because the material and fabrication requirements are adequately included in the BWRVIP-84 report.

The second revision was that the BWRVIP revised Section 10.3 of the BWRVIP-52 report to address the staff's recommendation (as provided in the staff's SE dated November 2, 2000), that, "inspections of the repaired components should be in accordance with the BWRVIP-38 guidance, as approved by the staff." The staff found that the BWRVIP adequately revised Section 10.3 of the BWRVIP-52 report to indicate that the inservice inspections for vessel internal attachment or shroud support structure repairs shall be consistent with the intent of the inspections defined in the BWRVIP-38 report, "BWR Shroud Support Inspection and Flaw Evaluation Guidelines," and the BWRVIP-48 report, "Vessel ID Attachment Weld Inspection and Flaw Evaluation Guidelines."

The third revision was that the BWRVIP revised Section 7.12 of the BWRVIP-52 report to apply the minimum corrosion allowance for exposed austenitic stainless steel surfaces of 0.003 inch for a 60-year design life. This corrosion allowance had originally been approved for a 40-year design life. This extension was based on the information that the BWRVIP provided in its response to RAI Item 2, with respect to the BWRVIP-50 report, in its letter dated December 6, 1999. By SE dated January 29, 2001, the staff found that the BWRVIP had adequately responded to RAI Item 2. Therefore, the staff determined that the BWRVIP adequately revised Section 7.12 of the BWRVIP-52 report to extend the minimum corrosion allowance for exposed austenitic stainless steel surfaces of 0.003 inch from a 40-year design life to a 60-year design life.

The next revision was with respect to the deletion of the second paragraph in Section 7.9 of the BWRVIP-52 report. The BWRVIP determined that the welding requirements would be removed from the BWRVIP-52 report since they are already contained in the BWRVIP-84 report. The staff found this acceptable because the welding requirements are adequately included in the BWRVIP-84 report.

The next revision was that the BWRVIP revised Section 9.2 of the BWRVIP-52 report regarding crevices. The revisions were made for consistency with the other repair design criteria reports. A statement, "the design shall minimize crevices between new components, and between new components and original components, to minimize the potential for crevice-induced stress corrosion cracking," was included in Section 9.2 of the report. The staff determined that the BWRVIP adequately revised Section 9.2 of the BWRVIP-52 report to be consistent with the other repair design criteria regarding crevices.

The next revision was that the BWRVIP added Section 9.4, "Post Installation As-Built Inspection," to the BWRVIP-52 report for consistency with the other repair design criteria reports to ensure that the repair hardware is correctly installed. The staff determined that the BWRVIP adequately revised Section 9.4 of the BWRVIP-52 report to be consistent with the other repair design criteria regarding post installation as-built inspections.

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For the last revision, the BWRVIP added Item (f) to Section 9.5, "Installation Cleanliness," of the BWRVIP-52 report which requires the evaluation to include the specific requirements of the utility's loose parts or foreign material exclusion program. The staff determined that the BWRVIP adequately revised Section 9.5 of the BWRVIP-52 report to enhance the evaluations for minimizing the in-vessel debris generation with respect to the shroud support and vessel bracket repair.

Based on the discussion above, the staff has determined that the BWRVIP-52-A report is acceptable. Please contact Meena Khanna of my staff at (301) 415-2150 if you have any further questions regarding this subject.

Sincerely,

**/RA/**

William H. Bateman, Deputy Director  
Division of Component Integrity  
Office of Nuclear Reactor Regulation

cc: BWRVIP Service List

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For the last revision, the BWRVIP added Item (f) to Section 9.5, "Installation Cleanliness," of the BWRVIP-52 report which requires the evaluation to include the specific requirements of the utility's loose parts or foreign material exclusion program. The staff determined that the BWRVIP adequately revised Section 9.5 of the BWRVIP-52 report to enhance the evaluations for minimizing the in-vessel debris generation with respect to the shroud support and vessel bracket repair.

Based on the discussion above, the staff has determined that the BWRVIP-52-A report is acceptable. Please contact Meena Khanna of my staff at (301) 415-2150 if you have any further questions regarding this subject.

Sincerely,

*/RA/*

William H. Bateman, Deputy Director  
Division of Component Integrity  
Office of Nuclear Reactor Regulation

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