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-02-A, "BWR VESSEL AND INTERNALS PROJECT, BOILING WATER REACTOR CORE SHROUD REPAIR DESIGN CRITERIA, REVISION 2"

Dear Mr. Eaton:

By letter dated October 31, 2005, the Boiling Water Reactor Vessel and Internals Project (BWRVIP) submitted Proprietary Report BWRVIP-02-A, "BWR Vessel and Internals Project, Boiling Water Reactor Core Shroud Repair Design Criteria, Revision 2," for Nuclear Regulatory Commission (NRC) staff review.

The BWRVIP-02-A report provides the general design acceptance criteria for a permanent mechanical repair that ensures that the shroud will meet its design basis safety functions in the event of cracking in circumferential or vertical shroud welds. Furthermore, the report also provides assistance to BWR owners in designing a permanent mechanical repair which maintains the structural integrity of the core shroud during normal operation, postulated transient, and design basis accident conditions for the remaining plant life.

The BWRVIP-02-A report presents a compilation of information from the BWRVIP-02, Revision 2 report and the NRC staff final safety evaluation (SE) dated February 28, 2005. The NRC staff has reviewed the information in the BWRVIP-02-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-02, Revision 2 report in the production of the BWRVIP-02-A report. These revisions are discussed in more detail below.

The first revision was that the BWRVIP replaced references to superseded reports BWRVIP-01, "BWR Core Shroud Inspection and Flaw Evaluation Guidelines," BWRVIP-07, "Guidelines for Reinspection of BWR Core Shrouds," and BWRVIP-63, "Shroud Vertical Weld Inspection and Evaluation Guidelines," with the BWRVIP-76 report, "BWR Core Shroud Inspection and Flaw Evaluation Guidelines," as recommended by the staff in its SE dated February 28, 2005. The staff found that the BWRVIP adequately addressed the staff's recommendation by revising the text in Section 5.14 and Section 10 of the BWRVIP-02, Revision 2 report to reflect that the circumferential welds, vertical welds, and the ring segment welds that are not structurally replaced by the repair will be inspected in accordance with the requirements of the BWRVIP-76 report, in lieu of the superseded reports.

The second revision was with respect to the deletions of Sections 5.10 and 5.11 of the BWRVIP-02, Revision 2 report. The BWRVIP determined that all reporting requirements would be removed from the BWRVIP-02, Revision 2 report since they are already contained in the BWRVIP-94 report, "Program Implementation Guide." The staff found this acceptable because all reporting requirements for inspection and evaluation guidelines are adequately included in the BWRVIP-94 report.

The next revision was that the BWRVIP revised Section 5.9 of the BWRVIP-02, Revision 2 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 the report. The staff determined that the BWRVIP adequately revised Section 5.9 of the BWRVIP-02, Revision 2 report to be consistent with the other repair design criteria regarding crevices.

With respect to the fourth revision, the BWRVIP added Section 5.12, "Post Installation As-Built Inspection," to the BWRVIP-02, Revision 2 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 5.12 of the BWRVIP-02, Revision 2 report to be consistent with the other repair design criteria regarding post installation as-built inspections.

For the last revision, the BWRVIP added a bullet to Section 5.13, "Installation Cleanliness," of the BWRVIP-02, Revision 2 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 5.13 of the BWRVIP-02, Revision 2 report to enhance the evaluations for minimizing the in-vessel debris generation with respect to the core shroud repair.

Based on the discussion above, the staff has determined that the BWRVIP-02-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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William H. Bateman, Deputy Director
Division of Component Integrity
Office of Nuclear Reactor Regulation

cc: BWRVIP Service List

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OFFICE	CVIB:DCI	E	CVIB:DCI	E	DCI:ADES	
NAME	MKhanna		MAMitchell		WHBateman	
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cc:

Tom Mulford, EPRI BWRVIP
Integration Manager
Raj Pathania, EPRI BWRVIP
Mitigation Manager
Ken Wolfe, EPRI BWRVIP
Repair Manager
Larry Steinert, EPRI BWRVIP
Electric Power Research Institute
P.O. Box 10412
3412 Hillview Ave.
Palo Alto, CA 94303

George Inch, Technical Chairman
BWRVIP Assessment Committee
Constellation Nuclear
Nine Mile Point Nuclear Station (M/S ESB-1)
348 Lake Road
Lycoming, NY 13093

Jeff Goldstein, Technical Chairman
BWRVIP Mitigation Committee
Entergy Nuclear NE
440 Hamilton Ave. (M/S K-WPO-11c)
White Plains, NY 10601

Amir Shahkarami, BWRVIP Executive Oversight Committee
Exelon Corp.
Cornerstone II at Cantera
4300 Winfield Rd.
Warrenville, IL 60555-4012

Al Wrape, Executive Chairman
BWRVIP Assessment Committee
PPL Susquehanna, LLC
2 N. 9th St.
Allentown, PA 18101-1139

Rick Libra, BWRVIP Executive Oversight Committee
DTE Energy
Fermi Nuclear Plant (M/S 280 OBA)
6400 N. Dixie Highway
Newport, MI 48166-9726

Robin Dyle, Technical Chairman
BWRVIP Integration Committee
Southern Nuclear Operating Co.
42 Inverness Center Parkway (M/S B234)
Birmingham, AL 35242-4809

Denver Atwood, Technical Chairman
BWRVIP Repair Focus Group
Southern Nuclear Operating Co.
Post Office Box 1295
40 Inverness Center Parkway (M/S B031)
Birmingham, AL 35242-4809

Charles J. Wirtz, Chairman
BWRVIP Inspection Focus Group
FirstEnergy Corp.
Perry Nuclear Power Plant (M/S A250)
10 Center Road
Perry, OH 44081

Robert Carter, EPRI BWRVIP
Assessment Manager
Jeff Landrum, EPRI BWRVIP
Inspection Manager
EPRI NDE Center
P.O. Box 217097
1300 W. T. Harris Blvd.
Charlotte, NC 28221

H. Lewis Sumner, Executive Chairman
BWRVIP Mitigation Committee
Vice President, Hatch Project
Southern Nuclear Operating Co.
M/S BIN B051, P.O. BOX 1295
40 Inverness Center Parkway
Birmingham, AL 35242-4809