ELECTRIC POWER RESEARCH INSTITUTE

2011-165 BWR Vessel & Internals Project (BWRVIP)

September 20, 2011

Document Control Desk
U. S. Nuclear Regulatory Commission
11555 Rockville Pike
Rockville, MD 20852

Attention: Andrew Hon

Subject: Project No. 704 – BWRVIP Response to NRC Request for Additional Information on BWRVIP-97-A

Reference: Letter from Andrew Hon (NRC) to David Czufin (BWRVIP Chairman), "Request for Additional Information, For BWRVIP-97-A: "BWR Vessel and Internals Project, Guidelines for Performing Weld Repairs to Irradiated BWR Internals," dated June 16, 2011.

Enclosed are five (5) copies of the BWRVIP response to the NRC Request for Additional Information (RAI) on the BWRVIP report entitled "BWRVIP-97-A: BWR Vessel and Internals Project, Guidelines for Performing Weld repairs to Irradiated BWR Internals." The RAI was transmitted to the BWRVIP by the NRC letter referenced above.

Please note that the enclosed response is non-proprietary.

If you have any questions on this subject please call Randy Schmidt (PSEG Nuclear, BWRVIP Assessment Committee Technical Chairman) at 856.339.3740.

Sincerely,

Dave Czufin
Exelon
Chairman, BWR Vessel and Internals Project

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NRR

Additional copies sent to PM

BWRVIP Response to NRC RAI on BWRVIP-97-A

NRC Request for Additional Information:
In its review of BWRVIP-97A, "BWR Vessel and Internals Project: Guidelines for Performing Weld Repairs to Irradiated BWR Internals," the staff has noted the following discrepancy between its safety evaluation of BWRVIP-97 dated June 30, 2008 and the inclusion of data in BWRVIP-97A requested in that safety evaluation.

In the conclusion to the staff's "Safety Evaluation by the Office of Nuclear Reactor Regulation, Boiling Water Reactor Vessel and Internals Project (BWRVIP) Report 1003020 (BWRVIP-97): BWR Vessel and Internals Project, Guidelines for Performing Weld Repairs to Irradiated BWR Internals" dated June 30, 2008, it states, in part:

> As a condition of NRC staff acceptance of BWRVIP-97, the BWRVIP should revise BWRVIP-97 to include following items...
>
> (3) Emerging information (when available) regarding the effect of dry or underwater welding on the mechanical properties of the irradiated stainless steel materials.

The BWRVIP's response stated in paragraph 4.3 of BWRVIP-97A is:

> Note that the welding tests that form the basis for Figure 4-1 were performed in air. Since underwater welding diminishes the time at which materials are subject to temperatures where helium bubble growth occurs, it is expected that the threshold in Figure 4-1 would be conservative for welds performed underwater. However, test data to confirm this qualitative assessment is not available.

This response does not reply to the NRC request to revise BWRVIP-97. Recognizing from your response that information is not currently available on the aforementioned topic, please indicate whether you will revise BWRVIP-97A to include a statement equivalent to:

> Emerging information will be included in BWRVIP-97A regarding the effect of underwater welding on the mechanical properties of the irradiated stainless steel materials when it becomes available.

BWRVIP Response:

The BWRVIP agrees that this issue was not properly captured in the BWRVIP-97-A report. However, this discrepancy will in no way interfere with the proper application of the BWRVIP-97-A welding guideline by utilities. Rather than revising the current version of the report, the BWRVIP proposes to address this issue in the next revision of the report, possibly as early as 2012. It is likely that, by that time, the additional information regarding the comparison of in-air to underwater welding will be available

and, if so, it will be included in the report. If the information is not available at the time of the next revision, the following sentence will be added to the end of the second to last paragraph in Section 4.2.1:

> As it becomes available, additional information on the comparison of the welding threshold for in-air versus underwater welding will be included in a future revision of BWRVIP-97-A.