

2018-012 _____ BWR Vessel & Internals Project (BWRVIP)

January 24, 2018

PROJ 704

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

Attention: Joseph Holonich

Subject: Project No. 704 – Status of BWRVIP-62 Revision and Inspection Relief for
BWR Piping Welds and Internal Components with Hydrogen Injection

This letter is in response to the NRC's letter of August 24, 2017, "U.S. Nuclear Regulatory Commission Staff Response to April 18, 2017, Letter on 'Project No. 704 – Status of BWRVIP-62 Revision and Inspection Relief for BWR Piping Welds and Internal Components with Hydrogen Injection [1].'"

The April 18th BWRVIP letter [2] provided the NRC with a brief history of the review and utilization of BWRVIP-62-A, and the status of BWRVIP-62, Rev. 1. The BWRVIP's letter was generated to address concerns that the NRC raised when the BWRVIP withdrew BWRVIP-62, Rev. 1 from NRC review [3]. The BWRVIP understood the basic concern to be the use of HWC inspection credit by plants on hydrogen water chemistry (HWC) that were utilizing online noble metal chemistry (OLNC) as the application method for their noble metal chemical addition (NMCA) in light OLNC not being specifically addressed in the NRC approved version of BWRVIP-62 (i.e., BWRVIP-62-A). The BWRVIP explained in the letter that, notwithstanding the withdrawal of BWRVIP-62, Rev. 1, plants currently using OLNC and using the acceptance criterion of BWRVIP-62, Rev. 1, would continue to claim inspection relief as defined in BWRVIP-75-A [4], BWRVIP-138, Rev. 1-A [5], and BWRVIP-180 [6]. However, the BWRVIP also informed the NRC that they had provided guidance to the plants that until BWRVIP-62, Revision 1 was approved, plants utilizing OLNC should do so consistent with the SE for BWRVIP-62-A (i.e., apply the conditions and limitations stated therein).

Within the NRC's August 24th letter, the NRC quotes BWRVIP-94, "BWR Vessel and Internals Project, Program Implementation Guide [7]," where it states, "*Note, however, that if new guidance approved by the Executive Committee includes changes to NRC approved BWRVIP guidance that are less conservative than those approved by the NRC, this less conservative guidance shall be implemented only after NRC approves the changes. 'NRC approved' generally means publication of a '-A' document or equivalent.*" The NRC goes on to state, "*Based on the above, it is the NRC staff position*

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that BWRVIP-62, Rev 1 is a change to 'NRC accepted-for-use BWRVIP guidance,' (i.e., BWRVIP-62-A), and that the guidance in BWRVIP-62, Rev 1 appears less conservative than that contained in BWRVIP-62-A (i.e., the acceptance criteria regarding platinum loading is not contained in BWRVIP-62, Rev 1). In the absence of NRC accepting BWRVIP-62, Rev 1 for use, it is unclear to the NRC staff how the continued use of the guidance contained in BWRVIP-62, Rev 1 is consistent with either BWRVIP-94 or, more importantly, how plants utilizing this guidance remain in compliance with their licensing basis (e.g., the inspection commitments associated with generic letter 88-01, 'NRC Position on IGSCC [Intergranular Stress Corrosion Cracking] in BWR Austenitic Stainless Steel Piping,' as modified by BWRVIP-75-A)." Finally, the NRC's letter solicited input from the BWRVIP concerning the observations they had made and any potential resolution the BWRVIP may offer.

Prior to receipt of the NRC's letter, the BWRVIP requested a meeting with the NRC staff to present the results of a significant amount of research that had been completed that supports the effectiveness of HWC in general and specifically the adequacy of OLNLC. The proprietary research results were presented to the NRC in a closed meeting on September 21, 2017. As a part of the meeting, the BWRVIP put forth the position that the method of application of noble metals chemical addition is not critical as long as it can be shown that primary and secondary parameters of BWRVIP-62-A are met. An action item out of the meeting was for the BWRVIP to provide a written response to the NRC's August 24th letter.

Consistent with guidance the BWRVIP provided to its members when BWRVIP-62, Rev. 1 was first issued (i.e., plants utilizing OLNLC should do so consistent with the SE for BWRVIP-62-A) and the position put forth at the September 21st meeting with the staff, the BWRVIP has issued the following interim guidance to its members:

"U.S. plants utilizing all forms of HWC and crediting HWC for determining BWRVIP-138, Rev. 1-A (which was incorporated into BWRVIP-41, Rev. 2 and later revisions), BWRVIP-75-A, and BWRVIP-180 inspection sample sizes and frequencies (i.e., inspection relief), or using HWC crack growth rates in flaw evaluations, shall meet the conditions and limitations of BWRVIP-62-A. In the case of plants utilizing OLNLC, this means they shall meet the Category 3a NMCA parameters and implementation steps (including platinum loading) of Tables 3-5 and 3-8. This guidance is issued as NEI 03-08 'Needed' guidance."

The BWRVIP believes this formalized commitment to meet BWRVIP-62-A addresses the NRC's concerns. The BWRVIP is presently working on a revision to BWRVIP-62 in order to clarify some inconsistencies in wording regarding "NMCA", "OLNLC" and other nomenclature issues. The BWRVIP is working thru our document revision process and commits to keeping the NRC informed of any future revisions to BWRVIP-62 and their submittal status.

If you have any questions on this subject please call Drew Odell, Exelon, BWRVIP Integration Committee Technical Chairman, at 610.765.5483.

Sincerely,



Andrew McGehee, EPRI, BWRVIP Program Manager
Tim Hanley, Exelon Corp., BWRVIP Chairman

References:

1. U.S. Nuclear Regulatory Commission Staff Response to April 18, 2017, Letter on "Project No. 704 – Status of BWRVIP-62 Revision and Inspection Relief for BWR Piping Welds and Internal Components with Hydrogen Injection", dated August 24, 2017 (ML17123A068)
2. BWRVIP Letter from Andy McGehee (BWRVIP Program Manager) and Tim Hanley (BWRVIP Chairman) to Joseph Holonich (NRC), Project No. 704 - Status of BWRVIP-62 Revision and Inspection Relief for BWR Piping Welds and Internal Components with Hydrogen Injection, dated April 18, 2017 (ML17111A869)
3. BWRVIP Letter No. 2017-027 from Andy McGehee (EPRI BWRVIP Program Manager) and Tim Hanley (BWRVIP Chairman) to Joseph Holonich (NRC), Project No. 704 – Withdrawal of "BWRVIP-62, Revision 1: BWR Vessel and Internals Project, Technical Basis for Inspection Relief for BWR Internal Components with Hydrogen Injection, dated February 16, 2017 (ML17048A396)
4. BWRVIP-75-A: BWR Vessel and Internals Project, Technical Basis for Revisions to Generic Letter 88-01 Inspection Schedules, EPRI Technical Report 1012621, October 2005
5. BWRVIP-138, Revision 1-A: BWR Vessel and Internals Project, Updated Jet Pump Beam Inspection and Flaw Evaluation Guidelines, EPRI Technical Report 1025139, November 2012
6. BWRVIP-180: BWRVIP Vessel and Internals Project, Access Hole Cover Inspection and Flaw Evaluation Guidelines, EPRI Technical Report 1013402, November 2007
7. BWRVIP-94NP, Revision 2: BWR Vessel and Internals Project, Program Implementation Guide, EPRI Technical Report 1024452, September 2011