



Dave A. Swank
General Engineering Manager
P.O. Box 968, PE23
Richland, WA 99352-0968
Ph. 509-377-2309 | F. 509-377-4099
daswank@energy-northwest.com

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United States Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, D.C. 20555

Subject: **COLUMBIA GENERATING STATION, DOCKET NO. 50-397
DEVIATION FROM BWRVIP-41 AND BWRVIP-14-A FLAW
EVALUATION REQUIREMENTS**

Reference: 1) BWRVIP-41, Revision 3: BWR Vessel and Internals Project, BWR Jet Pump Assembly Inspection and Flaw Evaluation Guidelines" EPRI, Palo Alto, CA: 2010.1021000.

2) BWRVIP-14-A: "BWR Vessel and Internals Project, Evaluation of Crack Growth in BWR Stainless Steel RPV Internals" EPRI Report 1016569, September 2008.

Dear Sir or Madam:

During Columbia Generating Station's (Columbia) R-20 refueling outage In-Vessel Visual Inspection campaign, an indication was noted on the jet pump (JP) riser for JP pair 17 & 18 at the riser brace weld. In performance of the flaw evaluation for the indication (crack), Columbia deviated from BWRVIP-41 and BWRVIP-14-A (Reference 1&2) flaw evaluation guidelines in the determination of the overall flaw length at the end of one cycle. BWRVIP-41 guidelines require consideration of stress corrosion cracking (SCC) growth at both crack tips. In Columbia's evaluation, SCC growth is discussed at both crack tips but is only added to the lower crack tip. BWRVIP-14 implies an SCC extension rate of 5×10^{-5} in/hr. In Columbia's evaluation, a lower growth rate is used based on mitigation.

Crack growth due to SCC was factored into the evaluation for only one crack tip based on the following evidence: 1) the indication has shown no growth on the upper crack tip when compared to video footage captured ten years ago in 2001, 2) the upper crack tip has extended to a region outside where the expected residual stresses are and hence are in a region of bulk material where tensile stresses required for SCC are not prevalent, and 3) the appearance, location, orientation and structure of the crack is consistent with fatigue cracking and shows none of the characteristics associated with SCC.

The SCC growth extension rate used in the analysis deviates from the BWRVIP-14-A guidance of 5×10^{-5} in/hr. The flaw evaluation and deviation report credit effective hydrogen water chemistry and noble metal chemical application (NMCA) for the use of a lower crack growth rate of 2.5×10^{-5} in/hr. This value is reasonable based on results published in BWRVIP-174 and BWRVIP-224.

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Pursuant to BWRVIP-94 Revision 2 requirements, this letter is being sent to notify the NRC of the deviation from BWRVIP flaw evaluation guidelines and to provide a copy of the flaw evaluation report (General Electric Hitachi (GEH) Report # 0000-0134-3404-R0). GEH considers the information contained in Attachment 1 to be proprietary and, therefore, requests that it be withheld from public disclosure in accordance with 10 CFR 2.390. An affidavit justifying the proprietary information is provided in Attachment 2.

This letter is being transmitted for information only and Energy Northwest is not requesting any action from the NRC staff.

There are no new commitments contained in this letter.

Should you have any questions concerning this letter, please contact Zach Dunham, Licensing Supervisor, at (509)-377-4735.

Respectfully,

 (Dajit S. Mand)

DA Swank
Engineering General Manager
Columbia Generating Station

Attachments: 1) GEH Report # 00000134-3404-R0, "Energy Northwest Columbia
Generating Station, Justification for Continued Operation with Jet
Pump 17/18 Riser Pipe Flow" (proprietary)
2) Affidavit

CC: NRC Region IV Administrator
NRC NRR Project Manager
NRC Senior Resident Inspector/988C
RN Sherman – BPA/1399
WA Horin – Winston & Strawn
Jonathan Rowley, NRC
Matt Mitchell, NRC