

January 29, 2020

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U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555-0001

Subject: Brunswick Steam Electric Plant, Unit No. 1
Renewed Facility Operating License No. DPR-71
Docket No. 50-325
Notification of Deviation from BWRVIP Guidelines

Reference:

1. BWRVIP-41, Revision 3, *BWR Jet Pump Assembly Inspection and Flaw Evaluation Guidelines*, EPRI Report 1021000, September 2010.
2. BWRVIP-18, Revision 2-A, *BWR Core Spray Internals Inspection and Flaw Evaluation Guidelines*, EPRI Report 3002008089, August 2016.
3. BWRVIP-38, Revision 0, *BWR Shroud Support Inspection and Flaw Evaluation Guidelines*, EPRI Report 108823, September 1997.
4. BWRVIP-76, Revision 1-A, *BWR Core Shroud Inspection and Flaw Evaluation Guidelines*, EPRI Report 3002005566, April 2015.
5. BWRVIP-94NP, Revision 3, *Program Implementation Guide*, EPRI Report 3002013101, September 2018.

Ladies and Gentlemen:

The purpose of this letter is to notify the Nuclear Regulatory Commission (NRC) of a deviation from the inspection schedule outlined in Boiling Water Reactor Vessel and Internals Project (BWRVIP) guidelines (i.e., References 1, 2, 3, and 4) for the Duke Energy Progress, LLC (Duke Energy), Brunswick Steam Electric Plant (BSEP), Unit No. 1. The inspection schedule for BSEP, Unit No. 1, was modified such that examinations on jet pump assembly welds, core spray welds, and core shroud horizontal welds, which were originally planned for the 2020 Refuel Outage (RFO), were deferred to the 2022 RFO. The year 2020 marked the end of an inspection interval for the deferred inspections; therefore, inspection deferral to 2022 resulted in a deviation from the inspection schedule guidance contained in References 1, 2, 3, and 4. In accordance with Reference 5, the acceptability of these exam deferrals was documented and approved in a deviation disposition.

The deferral of the jet pump assembly weld inspections is a deviation from the inspection guidance provided by Reference 1. Jet pump assembly weld inspections selected for deferral have had no relevant indications discovered on these specific welds or in similar type welds of their weld type within the BSEP, Unit No. 1 examination history. In addition, these deferrals are

further justified by BSEP's effective Intergranular Stress Corrosion Cracking (IGSCC) mitigation practice of moderate Hydrogen Water Chemistry (HWC-M) since 1990 followed by On-Line Noble Chemistry (OLNC) with platinum injections performed since 2014.

The deferral of the core spray weld inspections is a deviation from the inspection guidance provided by Reference 2. These deferrals are justified by the component inspection history. Core spray weld inspections selected for deferral have previously been examined and have no discoveries of relevant indications with the exception of P8b-010 (Shroud Penetration Weld, Collar to Shroud), which has had three consecutive follow-up inspections after the initial discovery with no change.

Two core shroud horizontal weld inspections will be deferred (i.e., H8 (Shroud Support Ledge to Support Cylinder) and H1 (Shroud Head Flange Weld)). The deferral of the H8 weld inspection is a deviation from the inspection guidance provided by Reference 3. This deferral is justified by component inspection history. The H8 weld has been previously examined and there have been no relevant indications on this specific weld or in the weld of similar type and service (i.e., H9, Shroud Support Ledge to RPV). The H1 horizontal weld deferral deviates from the inspection guidance provided by Reference 4. Previous examination of the H1 weld revealed relevant indications. Calculational analyses have been performed to justify the deferral of this weld inspection. This vendor calculation was performed with conservatism necessary for the application. The calculational results demonstrated that structural margin is maintained with the deferral of this examination to the 2022 RFO.

The deviation disposition concluded that the inspection deferrals for one operating cycle (i.e., deferral from the 2020 RFO to 2022 RFO) will not result in a reduction of nuclear safety for BSEP, Unit No. 1. Based on BSEP's effective IGSCC mitigation practices, inspection history, and calculational results, for the population of deferred examinations, no new relevant indications are expected as a result of deferral.

This letter is being submitted for information only (i.e., no action is requested from the NRC staff) in accordance with Reference 5. This letter contains no regulatory commitments.

Please refer any questions regarding this submittal to Mr. Stephen Yodersmith, Brunswick Regulatory Affairs, at (910) 832-2568.

Sincerely,

A handwritten signature in black ink, appearing to be 'Sabrina Salazar', with a long horizontal line extending to the right.

Sabrina Salazar
Manager – Nuclear Support Services
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cc:

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