



Nuclear Group
P.O. Box 4
Shippingport, PA 15077-0004

Telephone (412) 393-6000

February 21, 1995
ND3MNO:3646

United States Nuclear Regulatory Commission
Document Control Desk
Washington, DC 20555

Gentlemen:

Beaver Valley Power Station, Unit No. 1
Docket No. 50-334, License No. DPF-66
Special Report

In accordance with Appendix A, Beaver Valley Technical Specifications 4.4.5.5.a, 4.4.5.5.c, and 4.4.5.5.d, "Steam Generators", the following Special Report is submitted. This report is required to document the results of the Inservice Inspection of the steam generator tubes, performed during the Tenth Refueling Outage.

Technical Specification 4.4.5.5.a:

On February 6, 1995, the inservice inspection of the tubing in steam generators RC-E-1A, RC-E-1B, and RC-E-1C was completed. The number of tubes inspected and a breakdown of tubes removed from service for each generator is documented in Table 1.

One hundred percent (100%) of all inservice tubes in the Westinghouse Explosive Tube Expansion (WEXTEX) Region Zone 4 were examined with rotating pancake coil (RPC) in each steam generator. This examination was performed in accordance with the Westinghouse Owners Group (WOG) recommended inspection plan for WEXTEX sampling. The increased sample size from the normal 50% of Zone 4 was based on the discovery of a single circumferential indication in RC-E-1B. No other circumferential indications were observed during this examination. All bobbin coil distorted signals observed in this area were administratively removed from service.

9502270302 950221
PDR ADDCK 05000334
Q PDR

ADH/1

During the RPC examination of Babcock & Wilcox Nuclear Technologies (BWNT) plugs, several plugs of heat #W592 exhibited circumferential indications. Fifty-nine (59) plugs were removed. All tubes were then re-plugged.

Technical Specification 4.4.5.5.c:

The RC-E-1C steam generator was pre-designated as the generator required to be sampled during this inspection interval. Examination of the RC-E-1C steam generator resulted in a total of twenty-eight (28) tubes being removed from service. This steam generator was conservatively categorized as C-3 (C-3 categorization is required for 30 tubes being removed from service). These tubes were removed from service for the following:

Exceeded 40% through wall:	2 tubes (Cold Leg Thinning, not covered under Interim Plugging Criteria (IPC))
Exceeded 1.00 volt IPC:	8 tubes (confirmed with RPC)
Top-of-Tubesheet Indications:	18 tubes (16 of 18 were plugged administratively)

The primary degradation mechanism affecting the steam generators is Outside Diameter Stress Corrosion Cracking (ODSCC) at tube support plate intersections (TSP) and at the top-of-tubesheet (TTS) in the sludge pile regions.

Boric acid addition to the secondary water is continuing in an effort to reduce the propensity for TSP ODSCC. Additionally, secondary water chemistry molar ratio control has been implemented to further mitigate the growth and propagation of TSP ODSCC. Sludge lancing the secondary side top-of-tubesheets has been performed to remove accumulated sludge that contributes to the formation of the aggressive environment that can result in the initiation of TTS ODSCC. Furthermore, secondary water chemistry control is optimized to keep corrosion product transport to the steam generators as low as possible to minimize the accumulation of new sludge during the operating cycle.

Technical Specification 4.4.5.5.d:

One hundred percent (100%) of all inservice tubes in all three steam generators were examined full length with bobbin coil probes. In accordance with Interim Plugging Criteria (IPC), all TSP distorted signals >1.00 volt resulting

February 21, 1995
ND3MNO:3646
Page 3

from the bobbin coil examination were further diagnosed with the rotating pancake coil (RPC). Those signals, >1.00 volt, that confirmed with RPC were removed from service. Distorted signals ≤ 1.00 volt were not examined with RPC unless they were selected as part of the 100 tube random sample which is required for IPC implementation.

In support of IPC, eight (8) tube support plate intersections were removed from RC-E-1A for metallurgical analysis.

Attachment 1 lists the applicable tubes for each generator and the location and extent of degradation (voltage) in accordance with Technical Specification 4.4.5.5.d. The number of tubes saved by IPC is as follows: RC-E-1A (453 tubes), RC-E-1B (394 tubes), and RC-E-1C (170 tubes).

Sincerely,



L. R. Freeland
General Manager,
Nuclear Operations Unit

JGT/cp

Attachments

February 21, 1995
ND3MNO:3646
Page 4

cc: Mr. T. T. Martin, Regional Administrator
United States Nuclear Regulatory Commission
Region 1
475 Allendale Road
King of Prussia, PA 19406

Mr. G. E. Edison
BVPS Licensing Project Manager
United States Nuclear Regulatory Commission
Washington, DC 20555

Larry Roszbach
BVPS Senior Resident Inspector
United States Nuclear Regulatory Commission,

J. A. Hultz
Ohio Edison Company
76 S. Main Street
Akron, OH 44308

Mr. Mark Burns
Centerior Energy Corporation
6200 Oak Tree Boulevard
Independence, OH 44101-4661

INPO Records Center
700 Galleria Parkway
Atlanta, GA 30339-5957

Mr. Robert Maiers
Department of Environmental Resources
P.O. Box 8469
State Office Building, 13th Floor
Harrisburg, PA 17105-8469

Director, Safety Evaluation & Control
Virginia Electric & Power Company
P.O. Box 26666
One James River Plaza
Richmond, VA 23261