

Indian Point 2

Steam Generator Tube Inspection

This is John Tsao's writeup from the 5/27 & 6/2 conference calls. He did not give his handwritten notes after completing this summary.

On April 24, 1997, the licensee presented its 1997 steam generator tube inspection plan in a meeting held in the NRC headquarters. In addition to discussing its inspection plan, the licensee, with the assistance from Westinghouse, presented data showing the capability of its Cecco probes with respect to plus point probes. The licensee plans to use the Cecco probes in its 1997 inspection. The staff requested that the licensee perform additional blind tests to assure the performance of the Cecco probes.

On May 6, 1997, the licensee submitted a plan to test the Cecco probes.

On May 27, 1997, the staff held a teleconference with the licensee to discuss its ongoing steam generator tube inspection. The licensee found a total of 35 ODSCC indications at tube support plate intersections using Cecco. The plus point probes confirmed some of the 35 indications.

The licensee detected an axial indication above roll transition that was about 10 inch long with a max depth of 89%.

Several ODSCC indications were found in the sludge pile in the hot leg and cold leg sides.

The licensee found 855 PWSCC indications at roll transition joints, but not in the rerolled transition regions.

The licensee found that the end of an explosive plug on the cold leg side of SG 23 was missing. The licensee has replaced all explosive plugs in the hot leg side but not the explosive plugs in the cold leg side.

On the secondary side, the licensee found the hourglassing of a flow slot in the second tube support plate of SG 23.

Four wear indications were found in the AVBs. No indications were found in the row 2 and 3 U-bends (row 1 tubes were preventively plugged before commercial operation)

The sample for the Cecco probe test consists of 121 tube support intersections in which 6 intersections contain indications. The staff recommended that more indications be included in the test sample in order to support a valid test.

On June 2, 1997, the staff held second teleconference with the licensee. The licensee discussed the latest inspection results, candidate tubes in its in-situ pressure test, and additional Cecco capability tests.

The licensee has found 110 defective tubes which will be plugged. Two indications were found in the sludge piles which were detected for the first time.

On the basis of the EPRI guideline, four tubes having indications located in the crevice area will be pressure tested. The staff questioned why the degraded tubes in the sludge pile and other areas were not included in the in-situ pressure test. The staff is concerned whether the licensee has properly demonstrated the leakage integrity of the affected tubes.

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As for the Cecco test, the licensee added additional 60 support plate intersections in the test sample having 36 known indications. Out of the 60 samples, Cecco was able to detect all 36 indications but plus point could detect only 20 indications. The staff was concerned about the large discrepancy in the performance of the Cecco and plus point probes and questioned about the calibration of plus point probe.

The staff requested a teleconference for June 3, 1997 to pursue some of the above concerns.

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