

5.6 Procedures, Programs and Manuals

5.6.2.10 OTSG Tube Surveillance Program (continued)

C-3 More than 10% of the total tubes inspected are degraded tubes or more than 1% of the inspected tubes are defective.

3. The above-required inservice inspections of OTSG tubes shall be performed at the following frequencies:
 - a. Inservice inspections shall be performed at intervals of not less than 12 nor more than 24 calendar months after the previous inspection. If two consecutive inspections following service under all volatile treatment (AVT) conditions, not including the preservice inspection, result in all inspection results falling into the C-1 category, or if two consecutive inspections demonstrate that previously observed degradation has not continued and no additional degradation has occurred, the inspection interval may be extended to a maximum of once per 40 months.
 - b. If the inservice inspection of an OTSG, conducted in accordance with Table 5.6.2-2 or Table 5.6.2-3 requires a third sample inspection whose results fall in Category C-3, the inspection frequency shall be reduced to at least once per 20 months. The reduction in inspection frequency shall apply until a subsequent inspection demonstrates that a third sample inspection is not required. If the C-3 inspection results classification is due to including new tubes with TEC indications that meet the criteria to remain in-service, no reduction in inspection frequency is required.
 - c. Additional unscheduled inservice inspections shall be performed on each OTSG in accordance with the first sample inspection specified in Table 5.6.2-2 or Table 5.6.2-3 during the shutdown subsequent to any of the following conditions:
 1. Primary-to-secondary tube leaks (not including leaks originating from tube-to-tube sheet welds) in excess of the limits of Specification 3.4.12,
 2. A seismic occurrence greater than the Operating Basis Earthquake,
 3. A loss-of-coolant accident requiring actuation of the engineered safeguards, or
 4. A main steam line or feedwater line break.

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5.6.2.10 OTSG Tube Surveillance Program (continued)

8. Plugging/Repair Limit means the extent of pressure boundary degradation beyond which the tube shall either be removed from service by installation of plugs or the area of degradation shall be removed from service (a new pressure boundary established) using an Approved Repair Technique. The plugging/repair limit is 40% through-wall for all pressure boundary degradation.
9. Unserviceable describes the condition of a tube if it leaks or contains a defect large enough to affect its structural integrity in the event of an Operating Basis Earthquake, a loss-of-coolant accident, or a main steam line or feedwater line break, as specified in 5.6.2.10.3.c, above.
10. Tube Inspection means an inspection of the OTSG tube pressure boundary.
11. Approved Repair Technique means a technique, other than plugging, that has been accepted by the NRC as a methodology to remove or repair degraded or defective portions of the pressure boundary and to establish a new pressure boundary. Following are Approved Repair Techniques:
 - a) Sleeve installation in accordance with the B&W process (or method) described in report BAW-2120P. No more than five thousand sleeves may be installed in each OTSG.
 - b) Installation of repair rolls in the upper and lower tubesheets in accordance with BAW-2303P, Revision 4. The repair process (single, overlapping, or multiple roll) may be performed in each tube. The repair roll area will be examined using eddy-current methods following installation. The repair roll must be free of imperfections and degradation for the repair to be considered acceptable.

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5.6.1.1 OTSG Tube Surveillance Program (continued)

The repair roll in each tube will be inspected during each subsequent inservice inspection while the tube with a repair roll is in service. The repair roll will be considered a specific limited area and will be excluded from the random sampling. No credit will be taken for meeting the minimum sample size.

If primary-to-secondary leakage results in a shutdown of the plant and the cause is determined to be degradation in a repair roll, 100% of the repair rolls in that OTSG shall be examined. If that inspection results in entering Category C-2 or C-3 for specific limited area inspection, as detailed in Table 5.6.2-3, 100% of the repair rolls shall be examined in the other OTSG.

12. Tube End Cracks (TEC) are those crack-like eddy current indications, circumferentially and/or axially oriented, that are within the Inconel clad region of the primary face of the upper and lower tubesheets, but do not extend into the carbon steel-to Inconel clad interface.
 - b. The OTSG shall be determined OPERABLE after completing the corresponding actions (plug or repair all tubes exceeding the plugging/repair limit) required by Table 5.6.2-2 (and Table 5.6.2-3 if the provisions of Specification 5.6.2.10.2.d are utilized).
 - c. Inservice tubes with pit-like IGA indications in the "B" OTSG first span shall be monitored for growth of these indications by using a test probe equivalent to the high frequency bobbin probe used in the 1997 inspection. The indicated percentage throughwall value from the current inspection shall be compared to the indicated percentage throughwall value from the 1997 inspection.

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