

REACTOR COOLANT SYSTEM

SURVEILLANCE REQUIREMENTS (Continued)

2. A seismic occurrence greater than the Operating Basis Earthquake.
 3. A loss-of-coolant accident requiring actuation of the engineered safeguards.
 4. A main steam line or feedwater line break.
- d. The provisions of Specification 4.0.2 are not applicable.

4.4.5.4 Acceptance Criteria

- a. As used in this Specification:
 1. Tubing or Tube means that portion of the tube or tube sleeve which forms the primary system to secondary system boundary.
 2. Imperfection means an exception to the dimensions, finish or contour of a tube from that required by fabrication drawings or specifications. Eddy-current testing indications below 20% of the nominal tube wall thickness, if detectable, may be considered as imperfections.
 3. Degradation means a service-induced cracking, wastage, wear or general corrosion occurring on either inside or outside of a tube.
 4. Degraded Tube means a tube containing imperfections $\geq 20\%$ of the nominal wall thickness caused by degradation that has not been repaired by repair roll or sleeving in the affected area.
 5. % Degradation means the percentage of the tube wall thickness affected or removed by degradation.
 6. Defect means an imperfection of such severity that it exceeds the repair limit. A defective tube is a tube containing a defect that has not been repaired by repair roll or sleeving in the affected area or a sleeved tube that has a defect in the sleeve.
 7. Repair Limit means the imperfection depth at or beyond which the tube shall be removed from service by plugging or repaired by repair roll or sleeving in the affected area because it may become unserviceable prior to the next inspection and is equal to 40% of the nominal tube wall thickness. The process described in Topical Report BAW-2120P will be used for sleeving.

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SURVEILLANCE REQUIREMENTS (Continued)

- (Continued) 7. The repair roll process used is described in the Topical Report BAW-2303P, Revision 4. The new roll area must be free of degradation in order for the repair to be considered acceptable.
8. 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 steam line or feedwater line break as specified in 4.4.5.3.c, above.
9. Tube Inspection means an inspection of the steam generator tube from the point of entry completely to the point of exit. The previously existing tube and tube roll, outboard of the new roll area in the tube sheet, can be excluded from future periodic inspection requirements because it is no longer part of the pressure boundary once the repair roll is installed.

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BASES (Continued)

operation and by postulated accidents. Operating plants have demonstrated that primary-to-secondary leakage of 150 GPD can be detected by monitoring the secondary coolant. Leakage in excess of this limit will require plant shutdown and an unscheduled inspection, during which the leaking tubes will be located and plugged or repaired by repair rolling or sleeving in the affected areas.

Wastage-type defects are unlikely with proper chemistry treatment of the secondary coolant. However, even if a defect should develop in service, it will be found during scheduled inservice steam generator tube examinations. As described in Topical Report BAW-2120P, degradation as small as 20% through wall can be detected in all areas of a tube sleeve except for the roll expanded areas and the sleeve end, where the limit of detectability is 40% through wall. Tubes with imperfections exceeding the repair limit of 40% of the nominal wall thickness will be plugged or repaired by repair rolling or sleeving the affected areas. Davis-Besse will evaluate, and as appropriate implement, better testing methods which are developed and validated for commercial use so as to enable detection of degradation as small as 20% through wall without exception. Until such time as 20% penetration can be detected in the roll expanded areas and the sleeve end, inspection results will be compared to those obtained during the baseline sleeved tube inspection.

An additional repair method for degraded steam generator tubes consists of rerolling the tubes in the tubesheet to create a new roll area and pressure boundary for the tube. The repair roll process will ensure that the area of degradation will not serve as a pressure boundary, thus permitting the tube to remain in service. The degraded area of the tube can be excluded from future periodic inspection requirements because it is no longer part of the pressure boundary once the repair roll is installed in the tubesheet.

All tubes which have been repaired using the repair roll process will have the new roll area inspected during the inservice inspection. Defective or degraded tube indications found in the new roll area as a result of the inspection of the repair roll and any indications found in the originally rolled region of the rerolled tube need not be included in determining the Inspection Results Category for the general steam generator inspection.

The repair roll process will be performed as described in the Topical Report BAW-2303P, Revision 4. The new roll area must be free of degradation in order for the repair to be considered acceptable. After the new roll area is initially deemed acceptable, future degradation in the new roll area will be analyzed to determine if the tube is defective and needs to be removed from service. Leakage from repair rolls will be accounted for to ensure post-accident primary-to-secondary leakage will not exceed that assumed in the safety analyses.