

3.3.2 Accident Leakage

The licensee will use the methodology described in Revision 1 of WCAP-14277 for calculating the steam generator tube leakage from the faulted steam generator during a postulated main steam line break event. The model consists of two major components: (1) a model predicting the probability that a given indication will leak as a function of voltage (i.e., the probability of leakage model); and (2) a model predicting leak rate as a function of voltage, given that leakage occurs (i.e., the conditional leak rate model). The staff concludes that the licensee's proposed methodology for calculating the tube leakage is consistent with the guidance in GL 95-05 and is acceptable.

3.3.3 Primary-to-Secondary Leakage During Normal Operation

When the voltage-based repair criteria is implemented, tubes may have or may develop through-wall or near through-wall cracks during an operational cycle, thus creating the potential for primary-to-secondary leakage during normal operation, transients, or postulated accidents. Postulated accident leak rates were discussed previously.

The staff concludes adequate leakage integrity during normal operation is reasonably assured by the TS limits on allowable primary-to-secondary leakage. GL 95-05 specifies the operational leakage limits of the plant TS should be reduced to 150 gallons per day. Farley Unit 1 TS currently limit the primary-to-secondary leakage through one steam generator to 140 gallons per day. This requirement is consistent with the guidance in GL 95-05 and is, therefore, acceptable.

3.4 Degradation Monitoring

To confirm the nature of the degradation occurring at the tube support plate elevations, tubes are periodically removed from the steam generators for destructive tests. The test data from removed tubes can confirm that the nature of the degradation observed at these locations is predominantly axially oriented ODSCC, provide data for assessing the reliability of the inspection methods, and supplement the existing databases (e.g., burst pressure, probability of leakage, and leak rate). GL 95-05 specifies that at least two tube be removed from steam generators with the objective of retrieving as many intersections as practical (minimum of four intersections) during the plant steam generator inspection outage preceding initial application of the voltage-based repair criteria. On an ongoing bases, additional tube specimen removals (minimum of two intersections) should be obtained at the first refueling outage following 34 effective full power months of operation or at the maximum interval of three refueling outages after the previous tube pull. Alternatively, the licensee may participate in an industry-sponsored tube pull program endorsed by the staff as described in GL 95-05.