

**N3463. Analysis of Steam Generator Tubing from Oconee Unit 1 Nuclear Station**

Aside from fatigue of tubing next to the open lane and a minor amount of IGA/pitting observed around the lower tubesheet region, the once-through steam generator (OTSG) operation experience has been relatively free of corrosion-related degradation. However, observation of IGA/stress corrosion cracking (SCC) degradation in the upper bundle region of one Oconee Unit 1 OTSG is new. An investigation of seven tubes pulled from an Oconee Unit 1 once-through steam generator during the 1994 refueling outage revealed tube degradation associated with eddy-current indications. Defects responsible for the indications consisted of shallow inter-granular attack (IGA) in the free span regions above the 10th tube support plate (TSP) and axially aligned IGA of up to 47% through-wall confined to OD scratches and grooves.

At the present time, the existing degradation does not appear to pose a safety concern. However, since the mechanism and operational factors contributing to the degradation are unclear, it is paramount that these issues be addressed in the future. It is also important to determine if this degradation is specific only to the Oconee units or if it could affect the entire OTSG fleet. The B&W Owners Group, several utilities, and EPRI are planning to evaluate both areas.

*For more information see: EPRI TR-106484, Final Report, April 1997, 310 pages.*

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