

3482. Analysis of Steam Generator Tubing from Crystal River, Unit 3

It has been 16 years since the first examination of tubing from the region above the lower tubesheet of a once-through steam generator (Oconee 1, NP-3026-LD). This earlier examination also was initiated by eddy current signals and identified shallow pitting within a sludge pile region and small localized spots of IGA inside the lower tubesheet crevice. Investigators believed the pitting attack was caused by the synergistic interaction of sulfur and chlorine in the sludge region. The spots of IGA were thought to result from contact with a limited amount of some corrosive sulfur compound. An equivalent type of attack also has occurred at Crystal River. Over the last several years, an upper bundle (hot section) IGA/SCC (stress corrosion cracking) has been observed at the Oconee units, particularly in shallow axial grooves. Following these observations, investigators re-examined samples from Crystal River 3. Their re-examination revealed that similar IGA at grooves existed in locations above the 10th TSP. Consequently, it could well be that the upper bundle general IGA/SCC degradation could be more than an Oconee issue, and further examinations from other OTSG's are warranted.

For more information see: EPRI TR-106483, Final Report, September 1997, 284 pages.

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