DUKE POWER COMPANY
POWER BUILDING
422 SOUTH CHURCH STREET, CHARLOTTE, N. C. 28242

WILLIAM O. PARKER, JR.
VICE PRESIDENT
STEAM PRODUCTION

TELEPHONE AREA 704
373-4083

March 10, 1981

Mr. James P. O'Reilly, Director
U. S. Nuclear Regulatory Commission
Region II
101 Marietta Street, Suite 3100
Atlanta, Georgia 30303

Re: Oconee Nuclear Station
Docket No. 50-269

Dear Mr. O'Reilly:

Please find attached Reportable Occurrence Report RO-269/80-4. This report is submitted pursuant to Oconee Nuclear Station Technical Specification 6.6.2.1.a(3), which concerns abnormal degradation of the RCS pressure boundary and describes an incident which is considered to be of no significance with respect to its effect on the health and safety of the public.

My letter of January 8, 1981 addressed the delay in the preparation of this report.

Very truly yours,

William O. Parker, Jr.

JLJ:pw
Attachment

cc: Director
Office of Management & Program Analysis
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Mr. Bill Lavallee
Nuclear Safety Analysis Center
P. O. Box 10412
Palo Alto, California 94303

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DUKE POWER COMPANY
OCONEE UNIT 1

Report Number: RO-269/80-40

Report Date: March 10, 1981

Occurrence Date: December 26, 1980

Facility: Oconee Unit 1, Seneca, South Carolina

Identification of Occurrence: 1A OTSG Primary to Secondary Leak

Conditions Prior to Occurrence: 100% FP

Description of Occurrence: At 0015 hours on December 26, 1980, the radiation monitor RIA-40 count rate increased apparently because of an OTSG tube leak. Grab samples indicated an approximate leak rate of 0.25 gpm. The reactor power was reduced to 90% FP. This reduced the indicated leak to 0.13 gpm. The unit was operated with the leak until February 8, 1981, when the unit incurred a turbine trip and an anticipatory reactor trip. A bubble test conducted at 1500 hours on February 13, 1981, quickly found tube 78-2 to have a leak. Eddy Current tests found tube 78-2 to have a through-wall indication at the upper edge of the 15th tube support plate. A tube stabilizer was installed in the upper tube sheet at 0430 on February 16, 1981, and the lower end was explosively plugged at 0945 the same day.

Apparent Cause of Occurrence: During the 1979 refueling outage ISI, tube 78-2 indicated no discernable indication near the 15th tube support plate. However, small indications were found at the upper and lower tube sheets. The leak of a tube in the lane region in less than one fuel cycle has been experienced numerous times and is thought to be caused by high cycle fatigue.

Analysis of Occurrence: Although this leak was an abnormal degradation of the RCS pressure boundary, removing the tube from service restored boundary integrity. An operations procedure, "Control of Secondary Contamination," was implemented after the leak was discovered. No contaminated liquids beyond the limits of 10 CFR 20 escaped to the environment from this leak. This procedure was effective in limiting the escape of contaminated liquids from the secondary system. Gaseous activity released through the air ejectors were within the Technical Specification limits for gaseous activity released. Therefore, the health and safety of the public were not affected.

Corrective Action: Upon discovering the leak, the Operations procedure, "Control of Secondary Side Contamination", was implemented. The Unit reactor power was reduced to keep the leakage rate below 0.20 gallons per minute.

After the unit was shutdown and the system opened, the entire lane region was Eddy Current tested. Tube 78-2, having indicated leaking during the leak test and having exibited a through-wall defect at the 15th tube support plate, was removed from service by installing a welded stabilizer rod in the top tube sheet and explosively plugging the bottom end of the tube. Other tubes found to have indications: 75-6, 30% @ 15th; 75-21, 30% @ 15th; 75-29, 25% @ 15th; 77-32, 25% @ 15th; 78-23, 25% @ 15th; and 78-25, 30% @ 15th. Not any were over the pluggable limit of 40% through-wall indication.