UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

MAY 17 1984

MEMORANDUM FOR: H. Denton
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THRU: James R. Miller, Chief
Operating Reactors Branch #3, DL

FROM: E. G. Tourigny, Project Manager
Operating Reactors Branch #3, DL

SUBJECT: DAILY HIGHLIGHT

Fort Calhoun Station, Unit No. 1

The Fort Calhoun Station was in the process of returning to service after a refueling outage when a major steam generator tube leak occurred in steam generator B during the primary system hydrostatic pressure test. The primary system pressure was approximately 1800 pounds and the secondary system pressure was approximately 200 pounds. The maximum leakage was estimated at approximately 112 gallons per minute based on SG level measurements and charging flow; the maximum charging rate for the plant is 120 gallons per minute.

The operators noticed water level and radioactivity level in the generator rising and isolated the steam generator. The plant was cooled down using steam generator A. It was estimated that 7500 gallons was transferred from the reactor coolant system to steam generator B. Approximately 15,000 gallons of water is currently in steam generator B; its capacity is about 22,000 gallons. No water was introduced through the main steam line and no measurable radiological release was detected.

The licensee plans to drain the steam generator and find the leak.

Two factors must be evaluated in determining the cause of the leak. Prior to refueling, the licensee detected minor leakage estimated to be less than one gallon per day. Extensive work was performed during the outage to attempt to find this leak. This included eddy current testing, helium testing, and dye testing. The leak could not be found. In addition, both steam generators had rim cut operations performed during the outage.

It is not known at this time if the major leak was a further degradation of the previous leakage problem or whether it was a result of the rim cut operation.

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