



UNITED STATES  
ATOMIC ENERGY COMMISSION  
DIRECTORATE OF REGULATORY OPERATIONS  
REGION II - SUITE 818  
230 PEACHTREE STREET, NORTHWEST  
ATLANTA, GEORGIA 30303

TELEPHONE: 404 526-4903

January 16, 1973

J. G. Keppler, Chief, Reactor Testing and Operations Branch (2)  
Directorate of Regulatory Operations, Headquarters

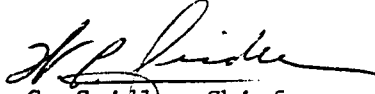
RO INQUIRY REPORT NO. 50-261/73-1Q  
CAROLINA POWER AND LIGHT COMPANY (H. B. ROBINSON NO. 2), LICENSE NO.  
DPR-23, DOCKET NO. 50-261-CRACKING IN AUXILIARY FEEDWATER LINE WELDS  
AT JUNCTION WITH MAIN FEEDWATER LINE

The enclosed Inquiry Report is forwarded for information.

B. J. Furr, Plant Manager, informed me by telephone that he was very satisfied with the repair to the welds. However, he said CP&L wanted Ebasco to evaluate the weld failures with regard to what actually caused the cracks. Ebasco intends to conduct such an evaluation in the near future.

In that the core contains some unpressurized fuel and tube bundles in the steam generators have been somewhat compromised due to partial cracking of some tubes, we feel a secondary system failure of the kind described above takes on more significance at Robinson. We intend to review the matter thoroughly during our next site inspection which is scheduled for the week of January 22, 1973.

The licensee concurred with our position that the weld problem should be formally reported to Directorate of Licensing.

  
W. C. Seidle, Chief  
Facilities Operations Branch

RO:II:WCS

Enclosure:  
RO Inquiry Rpt. No. 50-261/73-1Q

cc w/encl:  
J. B. Henderson, RO  
RO:HQ (5)  
→ DR Central Files  
Regulatory Standards (3)  
Directorate of Licensing (13)

cc encl only:  
\*PDR                   \*NSIC  
\*Local PDR           \*DTIE, OR

TRANSMITTED VIA MAG CARD  
1/17/73 - 10:45 a.m. (cb)

\*To be dispatched at a later date.

*Raw*

U. S. ATOMIC ENERGY COMMISSION  
REGION II  
DIRECTORATE OF REGULATORY OPERATIONS

RO Inquiry Report No. 50-261/73-1Q

Licensee: Carolina Power and Light Company  
336 Fayetteville Street  
Raleigh, North Carolina 27602

License No.: DPR-23

Facility: H. B. Robinson No. 2

Descriptive Title: Cracking in Auxiliary Feedwater Line Welds at  
Junction With Main Feedwater Line

Prepared By: H. L. Whitener  
H. L. Whitener, Reactor Inspector  
Facilities Operations Branch

1/16/73  
Date

A. Date and Manner AEC Was Informed:

On January 5, 1973, a licensee representative telephoned Region II to report that the reactor had been brought to cold shutdown for inspection of the weld joints where the auxiliary feedwater line joins the main feedwater line. Supplemental information was received from the site by telephone on January 8 and 11.

B. Description of Particular Event or Circumstance:

1. Events Leading To Inspection of The Welds

The licensee representative stated that the reactor was brought to cold shutdown the weekend of December 24, 1972, to repair a leak in the weld joint between the auxiliary and main feedwater lines supplying steam generator "B." No evidence of leakage could be observed after a small hole in the saddle (installed for added strength at this joint) was welded closed. The reactor was put back into service. A similar repair had been made on the same joint in steam generator "A" feedwater lines about one year prior to the current repair.

Inspection of this same joint in feedwater lines supplying steam generator "C" revealed that the weld joint was a different design and had no hole. This weld joint had an overlay of material for

increased strength rather than a saddle. Further review of the joint design led the licensee to conclude that the holes in the saddles were vent holes left there to indicate leakage in the pipe to pipe weld underneath the saddle. Consequently, the reactor was brought to cold shutdown on January 4, 1973, the feedwater lines drained and the saddle material removed for inspection of the piping welds.

## 2. Inspection Results

Dye penetrant and magnetic particle tests were performed on the welds joining the auxiliary lines to the main feedwater lines for steam generators "A" and "B." These tests showed cracking in the weld joint of both feedwater systems. The licensee at this time could only postulate possible causes of the weld cracking as follows:

- a. Weld Defects - In removing the weld material, evidence of defects in the original welds was observed. These particular welds were not radiographed in the initial 20% random check of welds integrity.
- b. Vibration - The licensee stated that although the vibration of these lines when the auxiliary pumps are in use is not excessive, these systems had been used extensively during initial testing of reactor systems and, consequently, had more than normal usage.
- c. Thermal Shock - Thermal shock of this joint results when the normal feedwater at about 500°F is replaced with the auxiliary feedwater supply which can be as low as 60°F.

## C. Action By Licensee:

The licensee has replaced the original welds where the auxiliary and main feedwater lines join in both systems "A" and "B." The saddles were replaced and vent holes re-established. After the weld repair was completed, the system was hydrotested at 1025 psi and no leakage was observed.

An Ebasco design engineer has been called to the site to evaluate the cause of weld cracking and to determine if additional pipe restraint is needed.

The licensee representative stated that the above information is not proprietary and that a report of the weld cracking will be submitted to Directorate of Licensing within 30 days.