

CATEGORY 1

REGULATOR INFORMATION DISTRIBUTION SYSTEM (RIDS)

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FACIL:50-261 H.B. Robinson Plant, Unit 2, Carolina Power & Light C 05000261
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MOYER, Carolina Power & Light Co.
RECIP.NAME RECIPIENT AFFILIATION
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SUBJECT: Special rept:on 970716,acoustic monitor would not reset properly after alarming & declared out of svc.Cause of failure will not be determined until Refueling Outage 18.

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TS Table 3.5-5

Carolina Power & Light Company
Robinson Nuclear Plant
3581 West Entrance Road
Hartsville SC 29550

Robinson File No: 13510
Serial: RNP-RA/97-0172

AUG 06 1997

United States Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, DC 20555

H. B. ROBINSON STEAM ELECTRIC PLANT, UNIT NO. 2
DOCKET NO. 50-261/LICENSE NO. DPR-23
SPECIAL REPORT - PRESSURIZER SAFETY VALVE PRIMARY POSITION INDICATOR

Gentlemen:

Carolina Power & Light (CP&L) Company is providing this Special Report in accordance with H. B. Robinson Steam Electric Plant (HBRSEP), Unit No. 2, Technical Specifications (TS) Table 3.5-5, "Instrumentation to Follow the Course of an Accident," Item 6, "Safety Valve Position Indicator (Primary)," Note 3. TS Table 3.5-5, Item 6, requires that one channel of Safety Valve Position Indication be operable. The action statement for this TS Table Item requires restoration of the primary method to an operable status within seven days, or the preparation and submittal of a special report to the NRC within the following 14 days. The special report must provide the cause of the inoperable primary position indication method, the actions taken to restore it to an operable status, the estimated date for completion of the repairs, and any compensatory actions being taken while the primary position indication method is inoperable.

Reactor Coolant valve RC-551C is one of three RCS Pressurizer Safety Valves. These valves are provided with an acoustic-based system which monitors the valve and provides information as to whether the valve is open or closed. The system utilizes accelerometers mounted on the safety valves to detect the vibrations caused by flow through the valve. The accelerometers are connected by low-loss cables to preamplifiers which are located inside an enclosure mounted outside the pressurizer cubicle. The outputs of the preamplifiers are transmitted to signal conditioners and audio and alarm processing equipment which is located in the Cable Spreading

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Room. The system can distinguish between normal background noise (e.g., when the valve is closed) and the higher noise level when the valve is open.

In 1991, portions of the valve monitoring system were relocated by plant modification M-1013 to the Cable Spreading Room. During this relocation the power source for the system was changed from Instrument Bus IB-2 to IB-1. Between the time the system was installed in 1983, and the implementation of modification M-1013, no failures of the valve monitoring system were identified. In April 1996 a failure of the system occurred, and preamplifier VM - 551C was replaced on September 21, 1996.

This subsequent failure was identified after an electrical storm on July 16, 1997. In conjunction with the storm, spikes were observed on Instrument Bus IB-1. The acoustic monitor would not reset properly after alarming at 1728 hours, and was declared out of service at 1735 hours on July 16, 1997. Accordingly, this Special Report is required to be submitted to the NRC by August 6, 1997.

The Actions Taken to Restore to an Operable Status

After the equipment was declared out-of-service, a work request was initiated to investigate the failure. By switching the cables between the preamplifier and a working channel, it was determined that components inside containment, either accelerometer VE-551C, or preamplifier VM-551C, had failed. Based on personnel safety and As Low As Reasonably Achievable (ALARA) considerations, and an understanding that post-maintenance testing cannot be performed at operating temperature, plant management determined that repair or replacement of the failed component(s) with the plant operating was not appropriate. Therefore, the cause of the failure will not be determined until Refueling Outage 18, at which time the evaluation to determine the most likely root cause will be completed, and the failed component(s) will be replaced or repaired.

Compensatory Actions Being Taken While the Primary Position Indication Method is Inoperable

The back-up method of position indication consists of a temperature element on the downstream piping for each safety valve (i.e., Temperature Indicator (TI)-465 for RC-551C) and Pressurizer Relief Tank (PRT) pressure (i.e., Pressure Indicator (PI)-472). These parameters are logged and printed hourly by the ERFIS Computer in the Control Room and are periodically reviewed by Control Room personnel. Additionally, alarms are provided in the control room for PRT pressure, temperature and level, and for the safety valve downstream piping temperature.

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The Cause of the Inoperable Primary Position Indication Method

A review of the repair history of the system revealed that no repair activity had been performed on the system since it was installed in 1983, until a failure occurred in April 1996. Preamplifier VM - 551C was subsequently replaced on September 21, 1996. The first failure occurred during an electrical storm.

An evaluation to determine the most likely root cause of the failure will be performed during Refueling Outage 18 when the components can be practicably removed from containment. This activity will be complete by May 28, 1998. The evaluation will consider whether changes to the system since its installation may have contributed to the failures.

A supplement to this report will be provided by June 30, 1998, to inform the NRC of the results of the evaluation.

The Estimated Date for Completion of the Repairs

Repairs of the acoustic monitor circuitry will be completed prior to restart from Refueling Outage 18, currently scheduled to begin on March 7, 1998.

If you have any questions concerning this matter, please contact me or Mr. H. K. Chernoff of my staff.

Very truly yours,



J. W. Moyer
Plant General Manager

- c: Mr. B. B. Desai, USNRC Senior Resident Inspector, HBRSEP
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