



UNITED STATES  
 NUCLEAR REGULATORY COMMISSION  
 REGION II  
 101 MARIETTA STREET, N.W.  
 ATLANTA, GEORGIA 30323

Report No.: 50-261/86-04

Licensee: Carolina Power and Light Company  
 P. O. Box 1551  
 Raleigh, NC 27602

Docket No.: 50-261

License No.: DPR-23

Facility Name: H. B. Robinson

Inspection Conducted: January 29-30, 1986

Inspector: *T. D. Gibbons* for *2/27/86*  
 T. D. Gibbons Date Signed

Approved by: *T. E. Conlon* *2/27/86*  
 T. E. Conlon, Section Chief Date Signed  
 Engineering Branch  
 Division of Reactor Safety

SUMMARY

Scope: This routine, unannounced inspection involved 16 inspector-hours on site in the areas of followup on the licensee event of loss of offsite power on January 28, 1986, and inspector followup item.

Results: No violations or deviations were identified.

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## REPORT DETAILS

### 1. Persons Contacted

#### Licensee Employees

- \*J. M. Curley, Acting Plant General Manager
- \*H. J. Young, Director, Quality Assurance/Quality Control (QA/QC)
- \*J. C. Sturdavant, Technician, Regulatory Compliance
- \*G. Honma, Senior Specialist, Regulatory Compliance

#### NRC Resident Inspector

- \*H. Krug, Senior Resident Inspector

\*Attended exit interview

### 2. Exit Interview

The inspection scope and findings were summarized on January 30, 1986, with those persons indicated in paragraph 1 above. The inspector described the areas inspected that related to the loss of offsite power. The licensee did not identify as proprietary any of the materials provided to or reviewed by the inspector during this inspection.

### 3. Licensee Action on Previous Enforcement Matters

This subject was not addressed in the inspection.

### 4. Unresolved Items

Unresolved items were not identified during the inspection.

### 5. Followup on Licensee Event

The inspector was sent to the plant to assist the resident inspector in evaluating the loss of offsite power (LOSP) incident which occurred on January 28, 1986. This incident is still being evaluated by the licensee and his contractors.

On January 28, 1986, the plant tripped from 80% power at 9:17 a.m. The licensee believes that high pressurizer pressure caused the reactor trip. The cause of the high pressurizer pressure was a fault on emergency bus E-2 which resulted in a voltage spike on Instrument bus 4. The voltage spike on Instrument bus 4 initiated a main turbine runback. The runback caused a pressure transient which initiated the reactor trip.

The main generator is kept on line for 60 seconds after the reactor trips then oil circuit breakers (OCB) 52/8 and 52/9 opened in the 230 Kv switchyard. Load dispatcher records indicate that the 115 KV switchyard tripped at the same time as the OCBs. This removed power from the 115 KV switchyard de-energizing the startup transformer. When the OCBs are opened, the three 4160 buses which are normally fed from the auxiliary transformer automatically switched to the startup transformer. When this switching occurred, the startup transformer was no longer receiving power from the 115 KV switchyard. This action resulted in a total LOSEP. Emergency diesel generator (EDG) A started and loaded on 480 volt emergency bus E1 and the A train safety systems functioned as designed and the plant was brought safely to hot shutdown. The B train EDG was out of service for routine maintenance and was restored to service in about half an hour.

The licensee reported that the incident was terminated by reconnecting to the offsite power at 16:03 on January 28. The unit was placed in hot standby and then brought to cold shutdown on January 30, 1986, when the decision was made to start the scheduled refueling outage.

The licensee has identified that the loss of bus E-2 was caused by a degraded grid relay which tripped the bus E-2 feeder breaker. The cause of the 115 KV switchyard appears to be a phase C phase differential relay which protects the startup transformer. The licensee has not determined the cause of the phase differential trip. The licensee has set up an extensive testing program to identify the phase differential problem. The Senior Resident Inspector is following this problem on inspector followup item 86-01-02.

#### 6. Inspector Followup Item

(Closed) IFI 84-18-01, Review of the Requalification Program of I&C Technicians and Electricians

The licensee has issued Training Instruction (TI) 113, "Replacement Training for I&C Technicians and Electricians". The licensee stated that the training program was accredited by INPO in December 1985. The inspector examined the training records of six I&C technicians and four electricians. The records identified the formal training given to each individual. A separate record identifies the on-the-job training given the individual and signature of supervisor who certifies the employer in the job area.