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H. B. ROBINSON STEAM ELECTRIC PLANT, UNIT NO. 2  
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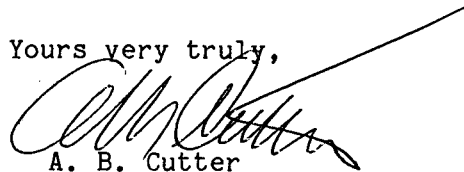
Gentlemen:

As previously discussed with the NRC Project Manager for H. B. Robinson Steam Electric Plant, Unit No. 2, submitted herein is additional information in support of previously submitted license amendment requests:

- Attachment 1: Basis/Safety Evaluation for request submitted May 8, 1989 (Battery and Battery Chargers)
- Attachment 2: Significant Hazards Analysis for request submitted May 8, 1989 ("Battery Changes" only)
- Attachment 3: Basis/Safety Evaluation for request submitted April 27, 1989 (MCCB Testing)
- Attachment 4: Basis/Safety Evaluation for request submitted May 5, 1989 (Diesel Fuel Oil Surveillance)

Questions regarding this matter may be referred to Mr. R. W. Prunty at (919) 546-7318.

Yours very truly,



A. B. Cutter

ABC/JSK/crs (456CRS)  
Attachments

cc: Mr. S. D. Ebnetter  
Mr. L. Garner (NRC - HBR)  
Mr. R. Lo

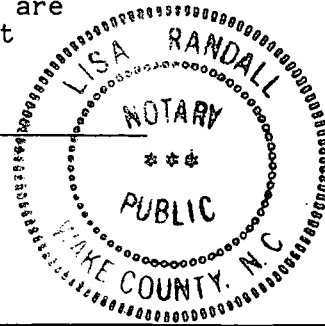
A. B. Cutter, having been first duly sworn, did depose and say that the information contained herein is true and correct to the best of his information, knowledge and belief; and the sources of his information are officers, employees, contractors, and agents of Carolina Power & Light Company.



Notary (Seal)

My commission expires: 6-7-93

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## ATTACHMENT 1

### BASIS FOR THE PROPOSED CHANGE (Battery and Battery Chargers)

Following the SSFI conducted by NRC in Spring of 1987 on HBR2's emergency power system, several concerns were raised regarding the station batteries, their charging system, and associated surveillance testing. Carolina Power & Light Company's ongoing interactions with NRC regarding these and other electrical issues resulted in commitments to upgrade the DC portion of the Auxiliary Electrical Systems Technical Specifications and surveillance requirements.

The changes addressed by this safety analysis fall into four categories:

a. Incorporation of the Battery Chargers and Associated Surveillances Into Technical Specifications

A recent plant modification has added backup, redundant battery chargers similar to the previously existing chargers. The new chargers, operated in accordance with the proposed surveillance and operability requirements, will provide additional assurance that the margin of safety described in the Technical Specification bases will be preserved: "One battery charger shall be in service so that the batteries will always be at full charge in anticipation of a loss-of-AC power incident. This ensures that adequate DC power will be available for emergency uses."

b. Provision of a Specific Action Statement for Batteries

The existing Technical Specification required both batteries to be available for criticality. With no specific action statement for loss of a battery, the action required would be that of Technical Specification 3.0, i.e., to place the unit in hot shutdown within next 8 hours and cold shutdown within the next 30 hours. Specifically addressing this action at Technical Specification 3.7 only clarifies the required action.

Regulatory position C.5 of Regulatory Guide 1.93, December 1974, "Availability of Electric Power Sources" provides guidance for establishing the unavailability time for redundant DC power supplies. The 2-hour unavailability time is utilized since it is the most restrictive time allowed for continued operation. This position is the industry accepted standard basis for DC Electrical power supply out-of-service times. The 2-hour unavailability time now becomes, in fact, the first 2-hours of the present TS 8-hour shutdown requirement. No new equipment nor change to existing equipment is involved with the battery action statement, therefore, no malfunction of equipment can be introduced.

c. Clarification of the Presently Required Battery Surveillance Testing in Accordance with CP&L's Commitment to IEEE 450-1980

The change to Technical Specification 4.6.3.5 and addition of 4.6.3.6 clarifies the test to be used to assess the remaining battery capacity and incorporates a service test to assess the battery design duty cycle following battery changes or significant load changes. The accepted standard guidance for these tests is IEEE 450-1980 which was committed to by CP&L. The batteries are tested individually with the redundant battery available; an additional prerequisite is that the plant is in cold shutdown. These changes formally document this commitment.

d. Miscellaneous Administrative Changes and Changes to Assure Format Consistency

The changes in the number of 480 volt and 4160 volt buses and the charging pump power supply in the Section 3.7 bases reflect the present as-built condition of the plant by incorporating the results of certain nonsafety-related electrical modifications. The addition of the word "removal" and change of "incident" to "accident" reflect the proper name of equipment and events. Also, the change proposed to Technical Specification 3.7.1.d.5 is to remove confusing terminology. These changes cannot create the possibility for an accident or malfunction of a different type than any previously evaluated nor reduce the margin of safety as defined in the basis for any Unit 2 Technical Specification.

## ATTACHMENT 2

### SIGNIFICANT HAZARDS ANALYSIS (Battery and Battery Chargers)

#### BATTERY CHANGES

Carolina Power & Light Company has reviewed the subject TS change request in accordance with the standards set forth in 10CFR50.92 and determined that this change does not constitute a significant hazard based upon the following considerations:

1. Operation of the facility, in accordance with the proposed amendment, would not involve a significant increase in the probability or consequences of an accident previously analyzed.

Addition of battery chargers to the TSs will not increase the probability of an accident as the battery chargers are not initiators of any previously analyzed accidents. The new battery chargers are operated in a similar manner to the existing chargers which were previously reviewed during initial licensing. The availability of the new backup chargers would, therefore, tend to decrease the probability of a malfunction of the charging system from impacting the battery mitigating safety function. Accident consequences would not increase since the battery mitigation function would be enhanced by the new TSs in that the new specifications provide limits on unavailability of the charger where no previous limits existed. The addition of backup chargers would further limit charger unavailability thereby enhancing battery availability for its accident mitigation function.

The existing TS required both batteries to be available for criticality. With no specific action statement for loss of a battery, the action required would be that of TS 3.0, i.e., place the unit in hot shutdown within the next 8 hours and cold shutdown within the next 30 hours. Specifically calling this action out at TS 3.7 only clarifies the required action.

Regulatory position C.5 of Regulatory Guide 1.93, December 1974, "Availability of Electric Power Sources" provides the NRC's bases for allowing a 2-hour unavailability time for redundant DC power supplies. This position is the industry standard basis for redundant DC electrical power supply out-of-service times. Since the new action statement incorporates the presently existing shutdown requirement, and the regulatory position is that a 2-hour unavailability for a redundant train is acceptable, no increase in the probability of occurrence or consequences of an accident exists. Since this is a restatement of an existing shutdown requirement for existing equipment, no malfunction of equipment can be introduced.

The proposed TS 4.6.3.5 and 4.6.3.6 imposes the requirement to load test the battery and perform a service test to assess the battery design duty cycle following a battery change or a significant load

change. The accepted standard guidance for this test is IEEE 450-1980 and was committed to by CP&L. The procedures implementing these TSs conform to that guidance. Since they are performed based on an accepted standard, there is no increase in the probability of occurrence or consequences of an accident or malfunction of equipment important to safety previously analyzed.

2. Operation of the facility in accordance with the proposed amendment would not create the possibility of a new or different kind of accident from any accident previously evaluated.

The new chargers are operated in a manner similar to the existing chargers which were previously reviewed. Therefore, no accident or malfunction of a different type than previously evaluated is created.

As noted in Item 1 above, the existing shutdown requirement for conditions of battery inoperability is restated in a different place for clarification. The unavailability time is that allowed by NRC per Regulatory Guide 1.93. Since this is a restatement of an existing shutdown requirement for existing equipment, this item can not create the possibility for an accident or malfunction of a different type.

For the same reasons stated in 1 above, this item cannot create the possibility for an accident or malfunction of a different type.

3. Operation of the facility, in accordance with the proposed amendment, would not involve a significant reduction in a margin of safety.

The TSs Bases state the margin of safety as follows: "One battery charger shall be in service so that the batteries will always be at full charge in anticipation of a loss-of-AC power incident. This ensures that adequate DC power will be available for emergency uses." In addition, "station batteries will deteriorate with time, but precipitous failure is extremely unlikely. The surveillance specified is that which has been demonstrated over the years to provide an indication of a cell becoming unserviceable . . . ."

The changes to the TSs as proposed provide limiting conditions and actions where none previously existed or clarify the testing to be performed to assure adequacy. The margin of safety as expressed above is embodied in the 1-hour duty cycle of the batteries and the capability of the plant to be shut down with one of the redundant batteries unavailable as documented in the FSAR.

A recent modification assured that the backup chargers provided were adequately sized to supply the duty cycle noted. Carolina Power & Light Company's commitment to IEEE 450-1980 assures the testing performed will assess the capacity of the batteries. Since none of the changes noted diminish the duty cycle nor the plant's shutdown capability, the margin of safety is preserved.

### ATTACHMENT 3

#### BASIS FOR PROPOSED REVISION (MCCB Testing)

The proposed revision adds an item 18 to Table 4.1-3, "Frequencies for Equipment Tests" requiring a refueling interval test of the thermal and magnetic trip elements of the MCCBs associated with the Auxiliary Feedwater (AFW) Header Discharge Valve to Steam Generator A, V2-16A, and the Service Water to Turbine Building Cooling Water Isolation Valve, V6-16C.

As committed in Carolina Power & Light Company's letter dated April 11, 1988, a license amendment is proposed which incorporates in the Technical Specifications surveillance requirements for testing the electrical overload trip elements of molded case circuit breakers (MCCB) which provides normal and alternate power supplies for two valves which have automatic bus transfers (ABT) between redundant safety-related motor control centers. This testing, which uses an industry standard method for testing MCCBs, is designed to demonstrate that adequate coordination exists among the MCCBs involved such that the potential for transferring faults between redundant load groups is acceptably low. This test will be performed with the breakers removed from service during the refueling outage, therefore, there will not be any adverse effects on the plant. Testing the breakers will insure they perform their intended function.

#### ATTACHMENT 4

##### BASIS FOR CHANGE (Diesel Fuel Oil Surveillance)

This change will incorporate the existing surveillance program for fuel oil as previously approved by NRC into the TS. This present methodology of sampling was reviewed and approved by NRC in correspondence from S. A. Varga to J. A. Jones dated December 10, 1981. These issues were readdressed in CP&L's response to proposed violation 50-261/87-06-11 dated August 12, 1988.

##### SAFETY ANALYSIS

The incorporation of a technical specification surveillance for fuel oil is solely an administrative change. The surveillance is presently required and controlled by the following procedures:

1. CP-001, Chemistry Monitoring Program, Attachment 11.3, Monthly Chemistry Report, requires monthly sampling of the U-2 Diesel Fuel Oil Storage Tank and provides the oil quality criteria to be met.
2. OP-909, Fuel Oil System, is the operating procedure providing instructions for transferring fuel oil to the U-2 Diesel Fuel Oil Storage Tank from other onsite fuel oil tanks and tank trucks. For each source's procedure, sampling of the source fuel oil quality, with appropriate acceptance criteria noted, is required prior to transfer operations beginning.

The addition of the surveillance requirement to Technical Specifications will not require changes in the sampling methodology or frequency. It will also not necessitate changes to the existing facilities as described in the UFSAR. Since the fuel oil system as it is presently configured will not change nor will the surveillance inclusion in the Technical Specifications require a change in the present method of surveillance, there will not be an increase in the probability of occurrence or consequences of an accident or malfunction of equipment important to safety as previously analyzed. The addition of this surveillance to Technical Specifications will not create the possibility for an accident or malfunction of a different type than previously analyzed. This proposed change will not reduce the margin of safety as defined in any Technical Specification bases.