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GRACE, J. N. Region 2, Office of Director

SUBJECT: Submits current status re commitments made 870415 meeting at Region II ofc. Probabilistic risk assessment revised & draft submitted to Region II & evaluation of molded case breaker interrupt capability completed.

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May 8, 1987

Robinson File No: 13510C

Serial: RNPD/87-1960

J. N. Grace
Regional Administrator
U.S. Nuclear Regulatory Commission
Region II
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Atlanta, Georgia 30323

H. B. ROBINSON STEAM ELECTRIC PLANT, UNIT NO. 2
DOCKET NO. 50-261
LICENSE NO. DPR-23
SAFETY SYSTEM FUNCTIONAL INSPECTION
STATUS REPORT - CAROLINA POWER & LIGHT COMPANY FOLLOW-UP

Dear Dr. Grace:

The purpose of this letter is to provide the current status concerning commitments made in the meeting held in NRC Region II offices on April 15, 1987, and documented in our letter of April 23, 1987, Serial No. RNPD/87-1760. The status of the actions in response to these commitments follows:

Electrical Systems

- DB-50 Interrupt Capability
  Carolina Power & Light Company committed to revise the Probabilistic Risk Assessment (PRA) prepared to demonstrate the acceptability of the DB-50 Breakers on Emergency Busses E1 and E2 and to submit the Final PRA for NRC review prior to power operation.

  Status
  The PRA has been revised and a draft of the final report submitted to NRR and Region II. A working level meeting with NRR is planned for May 12, 1987, to discuss this draft.

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Carolina Power & Light Company believes that the revised PRA continues to demonstrate the acceptability of the DB-50 breakers. However, recognizing that limited time may prevent final resolution of this issue, it is proposed that the PRA serve to support a Justification for Continued Operation (JCO) for an indefinite period until a final resolution is achieved. CP&L commits to work with NRC to support resolution of this issue within 180 days following return to power from the current refueling. The objective of this 180 day milestone would be either an agreement that the PRA be a final resolution or a plan and schedule submitted for proposed hardware changes.

- Molded Case Breaker Interrupt Capability
  Carolina Power & Light Company committed to complete an evaluation of the Breaker Interrupt Capability on MCC-5 and MCC-6 and prior to power operation submit the calculations which support the evaluation to the NRC.

  Status
  The evaluation has been completed and demonstrates that the molded case breakers in question on MCC-5 and MCC-6 are capable of interrupting postulated short circuit current. The evaluation included calculations and results of tests performed on similar breakers. A draft of the evaluation report was sent to NRC Region II on May 6, 1987. This item is considered closed pending NRC review.

- DC Electrical System Short Circuit Analysis
  Carolina Power & Light Company committed to complete an analysis to assess the interrupt capability of the DC Breakers and to submit the associated calculations for NRC review.

  Status
  The analysis is still being performed but currently reveals a potential for up to 24 breakers within the DC Electrical System off "A" Battery whose calculated short circuit current exceeds the published breaker interrupt rating. Currently, this situation is marginal and may be resolved by additional analysis. However, replacement breakers are now being procured and could be installed prior to return to power operation, if necessary.

  The analysis of the distribution system for "B" Battery load breakers has been completed and verifies their interrupt capability. A copy of the analysis report will be submitted to Region II.

Station Batteries

- Sizing - Carolina Power & Light Company committed to verify the adequacy of Station Batteries "A" and "B" and to develop a revised load profile. In addition, operability testing and verification were to be performed.

Status
The adequacy of the size of both Station Batteries was determined through a detailed review of the as-built configuration of the DC Electrical Distribution System supplied by each battery. Additionally, a performance test as described in IEEE Standard 450 was performed, successfully demonstrating battery serviceability.

Although the performance test was successful and both DC batteries have serviceable life remaining, battery capacity is not sufficient to satisfactorily complete a service test based on the revised system data and current 8-hour load profiles that appear in the FSAR. Accordingly, a review of the design basis for an 8-hour load profile was begun. FSAR Chapter 15 Analyses, Standard Review Plan NUREG-0800, and the IEEE Standard 946 (1985) were used in this review. An evaluation is currently being prepared to justify a revision to the profile. At this time, it appears that a reduction of the profile duration to one hour can be justified. Specifically, under the worst case scenario (LOCA plus loss of offsite power) both station batteries would be required to supply their loads (no charger at this time) for a period of up to 30 minutes. Within the 30 minutes, the safety grade battery chargers (one for each battery capable of supplying each battery's entire load) would be procedurally re-energized (currently included in Emergency Operating Procedures - EOP Network). An additional 30 minutes are added for conservatism and battery margin.

Other utilities were surveyed, and a number of other plants were identified who also operate with the requirement of a one hour load profile.

The new load profiles are being finalized at this time and each battery will be subjected to a service test with its respective profile prior to criticality.

The calculations performed to define the new profiles will be submitted to NRC Region II.

- Surveillance Testing
Carolina Power & Light Company committed to strengthen the Station Battery Surveillance Program using IEEE Standard 450 as guidance.

Status
A Special Procedure was developed using IEEE Standard 450 as guidance to conduct the performance tests described above. The service tests, yet to be performed, will be developed, using the same guidance. These procedures will then be incorporated into the overall improvements to the battery surveillance program to be completed by the end of this year.

Diesel Generators

- Scavenging Air Blowers
  Carolina Power & Light Company committed to ensure that Scavenging Air Blowers (SAB) on both D/Gs are being operated in accordance with vendor recommendations relative to rotor-to-casing clearances prior to criticality.

  Status
  A SAB, factory modified with increased rotor-to-housing clearances, was installed on "B" D/G in March 1987. Clearances were taken on the SAB for "A" D/G and have been verified by the D/G manufacturer as meeting their recommendations. Accordingly, there are no run time restrictions on either D/G due to the SAB issue, and this item is considered complete.

- Governor Operation
  Carolina Power & Light Company committed to investigate the load decay noticed on "A" Diesel Generator during parallel operations.

  Status
  During refurbishment testing conducted by the manufacturer, it was noticed that the governors were sensitive to governor oil temperature changes. Specifically, a 45°F increase in governor oil temperature would result in about 1% decrease in engine RPM (9 RPM). This resulted from a component referred to as a "speeder spring." The spring supplied with the original governor was not a temperature compensating spring. The springs installed in current governors are temperature compensating and substantially reduce the effects of governor oil temperature. Both governors have been refurbished with the newer design spring.

  The refurbished governor from "A" D/G was installed on "B" D/G. The other refurbished governor is currently being installed on "A" D/G. Both D/Gs will be tested prior to criticality.

  An evaluation is being conducted to determine the effect of the non-temperature compensated speeder spring on D/G capability under design basis operation. Although the combination of the temperature effect and "speed droop" setting could result in a reduction in engine RPM (output frequency), at this time, the reduction appears that it would not have compromised the ability of the safeguards equipment to respond to a design basis event.

  This item is considered complete pending conclusion of the above evaluation.

- Support Coolers
  Carolina Power & Light Company committed to replace Diesel Generator Support Coolers prior to return to power operation.

  Status
  The five remaining coolers are onsite and are currently being installed. Installation of the coolers should be completed the week of May 11, 1987. Preliminary indication of failure mode, based on ongoing metallurgical analysis, appears to be common heat exchanger tube wastage.

- Vendor Recommendations
  Carolina Power & Light Company committed to review current outstanding recommendations regarding Diesel Generator operation and to implement those necessary to ensure continued Diesel Generator operability.

  Status
  A list of outstanding Vendor Recommendations has been reviewed. Although not of a critical nature, additional recommendations will be implemented during the outage. Some involve inspection while others involve procedural change. Appropriate operating procedures are currently being revised to incorporate the procedural recommendations.

Dedicated Shutdown

- Procedures
  Carolina Power & Light Company committed to review the DS procedures for technical adequacy, human factors, and entry conditions. Additionally, procedures were to be upgraded, as necessary, and operator training was to be conducted prior to return to power operation.

  Status
  The review portion of the procedures is essentially complete. Necessary revisions to procedures are now in progress. Seven have been drafted to date. Operator training for those operators required to use these procedures is currently planned to be performed the week of May 18, 1987, in parallel with procedure final review and approval.

  Regarding the repair procedures involving Maintenance personnel, the intent will be that Operations personnel will be trained and assigned responsibility for identifying the location where the repairs are to be effected (i.e., cables terminated, instrument tubing connected, etc.). The actual repairs to be effected then would fall within the "skill-of-the-craft." This would preclude the need for any special training of Maintenance personnel prior to return to power operation.

- Communications
  Carolina Power & Light Company committed to ensure that operators can conduct required Emergency Communications to support DS shutdown of the Plant.

  Status
  An FCC License has been obtained for the currently installed radio repeater. Crystals for the licensed frequency are scheduled to be installed beginning the week of May 11, 1987, and the radios returned for use before return to power operation.

- Emergency Lighting
  Carolina Power & Light Company committed to review the existing Emergency Lighting System relative to Appendix-R requirements.

  Status
  Documentation relative to the installation of the present emergency lighting system has been reviewed. The documentation included acceptance testing of the emergency lighting which included verification of its adequacy by Operations personnel. The testing was accomplished by de-energizing normal lighting and ensuring the area was sufficiently lighted, by the emergency lighting, to perform required functions. Where documentation is not complete, a reverification of adequate lighting will be performed. This reverification is currently in progress.

  Three specific concerns regarding emergency lighting were noted by the SSFI team and are discussed below:

  1. Ladder area for steam admission valves to steam driven auxiliary feedwater pump (SDAFW) - Emergency lighting exists in this area; however, its adequacy will be reverified.

  2. Lighting to support manual speed control of SDAFW - Although emergency lighting does not exist in this area, the manual control of SDAFW pump speed has been re-evaluated and determined to be unnecessary to support DS shutdown. The mechanical governor is sufficient to control turbine speed for the duration of the DS procedure. Therefore, as part of the DS procedure revision, the need for this operation will be deleted.

  3. Lighting inside the DS diesel enclosure - There is no emergency lighting inside this enclosure. However, the DS diesel is operated from a remote control panel and entry into the enclosure is not required to implement the DS procedures. Additional lighting might be necessary, however, in the event the diesel should trip and local operation is needed. Therefore, in the short-term a hand lantern will be made available to assist the operator if this should occur. A more permanent fixture will be installed in the future.

Carolina Power & Light Company believes that considerable progress has been made toward resolution of the concerns identified by the SSFI Team and appreciates the continuing dialogue with your staff on these issues.

If you have any questions regarding the above, please contact J. M. Curley or me.

Very truly yours,

Guy P. Beatty, Jr.
Vice President
Robinson Nuclear Project Department

RDC:jch

cc: Document Control Desk
H.E.P. Krug