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AUTH.NAME AUTHOR AFFILIATION
DIETZ,C.R. Carolina Power & Light Co.
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SUBJECT: Requests NRC waiver of compliance from requirements of Tech Spec 3.3.1.2.b for Unit 2.

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ROBINSON NUCLEAR PROJECT DEPARTMENT
POST OFFICE BOX 790
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United States Nuclear Regulatory Commission
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H. B. ROBINSON STEAM ELECTRIC PLANT, UNIT NO. 2
DOCKET NO. 50-261
LICENSE NO. DPR-23
REQUEST FOR REGIONAL WAIVER OF COMPLIANCE
TECHNICAL SPECIFICATION 3.3.1.2.b

Gentlemen:

The purpose of this letter is for Carolina Power and Light Company (CP&L) to request an NRC waiver of compliance from the requirements of Technical Specification (TS) 3.3.1.2.b for H. B. Robinson, Unit No. 2. This waiver will allow the plant to remain at the hot shutdown condition for a total of 96 hours while affecting a repair associated with the "B" Safety Injection pump, and thereby precluding the impact of an additional thermal cycle on the plant during a time of minimal electrical system grid power reserves.

On July 8, 1992, at 2307 hours, H. B. Robinson Unit No. 2 entered a 24 hour Limiting Condition for Operation (LCO) for Technical Specification 3.3.1.2.b. due to inadequate recirculation flow for "B" Safety Injection Pump. An investigation of the cause of the low flow condition was initiated. At 2030 hours on July 9, 1992, a plant shutdown to hot shutdown condition was initiated. Following an additional day of investigation, it was determined that repairs could not be made within the allowed LCO time period. Technical Specification 3.3.1.2 requires that if the system cannot be restored within an additional forty eight hours, the unit must be placed in cold shutdown condition through the implementation of normal plant cooldown procedures.

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This LCO will expire on July 11, 1992 at 2259 hours. The purpose of this request is to solicit an NRC waiver of compliance that would extend the period of hot shutdown condition from 48 hours to 96 hours.

Following entry into this condition, with the waiver of compliance, H. B. Robinson Unit No. 2 would initiate a plant cooldown procedure should repairs be incomplete on July 13, 1992, at 2259 hours. Supporting information describing the circumstances and justification for this request are provided in the following narrative.

The investigation identified the cause of the "B" Safety Injection pump's reduced recirculation flow to be the result of foreign material blockage within the associated minimum flow recirculation flow orifice. This foreign material was subsequently identified as a plastic sheet material used as a purge dam material for welding operations associated with a recent modification to the RHR minimum flow recirculation system. It is believed that the material was introduced as a result of breakage of one of four, nine inch diameter purge pieces. The investigation has identified that the use of the plastic dams was abandoned after the attempted use of two dams was terminated by their removal from the RHR system piping because the plastic dams could not be adequately sealed. It is a hypothesized that a small, unidentified portion of these sheets may have been inadvertently introduced into the system piping associated with the RHR system, the Refueling Water Storage Tank, and the Safety Injection and Containment Spray Pump suction piping.

Removal of debris, should it have been present, has been accomplished through extensive system flushing. The RHR system has been operated at design flow rates with no evidence of foreign material present in that system. Because of the physical characteristics of the plastic material and the ECCS suction piping configuration associated with the Refueling Water Storage Tank, it is believed that any material introduced into the tank would have settled at the bottom of the tank. It is unlikely that the material would be caught in a flow stream due to the geometry of the material and the relationship of the tank with the Safety Injection system's supply line. Therefore it does not represent a blockage threat to any related equipment and piping systems. The "A" SI Pump has been operated at full flow following the completion of the RHR minimum flow recirculation modification, and has operated greater than thirty minutes in the minimum flow configuration with no evidence of foreign material blockage in that system. Additionally, flow testing has been completed on both Containment Spray pumps and on the RHR pumps in a minimum flow configuration with acceptable results. These pumps are normally aligned with the minimum flow recirculation lines closed with the pump discharge aligned directly to the containment. However, evidence of blockage has been detected in the "B" Safety Injection Pump minimum flow line and extensive flushing and testing has been on-going since this discovery.

To facilitate completion of the "B" Safety Injection Pump flushing procedure and to preclude a plant transient associated with placing the plant in the cold shutdown condition, Carolina Power & Light Company requests a Regional Waiver of Compliance from the requirement of Technical Specification 3.3.1.2 to allow the plant to remain at hot shutdown condition for an additional 48 hours beyond the current LCO. This extension would allow additional inspection and cleaning activities to be conducted to assure that no foreign substance remains in any safety system piping. Based on the complexity of the tasks associated with opening/closing, cutting/welding, and procedural development for safety related systems, an additional 48 hours will be needed to avoid a significant thermal transient on the unit. Due to the limited access points and the desire to avoid significant overhauls related to the opening of the pump itself, we have chosen a path of investigation and testing that could require the additional 48 hours. The unknowns surrounding the potential test results are not easily predictable. The grid load expected through the weekend is expected to be very close to the system generation capability. The load predicted in the ensuing days beyond the weekend exceeds system reserves including known available purchase power. Load forecasts predict approximately 100 Mwe reserve at the peaks (7700 to 8000 Mwe) over the weekend, with a deficit of 700 to 800 Mwe through following days peaks (8800 to 8900 Mwe). It would require the use of Robinson Unit 2 for grid stability by Monday if additional purchases do not become available in the region. By avoiding the cooldown H. B. Robinson can be in a position to return to service to meet this load. Additionally the avoidance of a cooldown would preclude the diversion of manpower necessary to complete the debris removal and equipment recovery in the SI pump area.

This request for waiver was discussed between CP&L and NRC-Region II at 1600 hours on July 11, 1992. Following that discussion, NRC-Region II verbally granted the requested waiver, effective until July 13, 1992, at 2259 hours, at which time a cooldown will be initiated in accordance with normal plant procedures. The duration of the waiver is consistent with CP&L's conservative estimate of the time required to complete the necessary actions described above. This letter provides follow-up written documentation describing the rationale for the waiver request.

The plant is currently in hot shutdown condition with all ECCS systems operable with the exception of the "B" Safety Injection pump. As a compensatory action, the plant's boron concentration has been raised to cold shutdown levels. A minimum of two Charging Pumps will be maintained fully operable as a backup to the "B" Safety Injection Pump that is currently inoperable, and plant operators will be reminded of the Functional Restoration Procedures that would mitigate an accident should one occur with the loss of SI. The amount of decay heat inventory has been evaluated based on the Unit's operation prior to shutdown, and a single charging pump has capacity that exceeds the heat removal requirements. Additional operator attention to the capability of the Functional Restoration Procedures will ensure a reliable compensatory performance can be achieved.

In addition, emergency operating procedures are in place to provide for loss of core cooling. The basis of Technical Specification 3.3 states that, "For a single component to become inoperable does not negate the ability of the system to perform its function, but reduces the redundance provided in the system design and thereby limits the ability to tolerate additional equipment failures." As the reactor is currently in a hot shutdown condition, the decay heat from the fuel will continue to decrease during the additional 48 hours and consequently reduce the cooling requirements should a loss of coolant accident occur.

Carolina Power & Light Company has evaluated this request against the requirements of 10CFR50.92(c) and has concluded that it does not involve a significant hazards consideration. Specifically, it does not involve a significant increase in the probability or consequences of an accident previously evaluated on the basis of the discussion in the previous paragraphs. Carolina Power and Light Company has performed a PRA of the additional risk associated with the additional 48 hours, and has found it to be negligible.

This request does not create the possibility of a new or different kind of accident from any accident previously evaluated on the basis that it involves no change to the design or configuration of the plant, and the plant is currently in hot shutdown condition. Finally, this request does not involve a significant reduction in margin of safety. Since the plant is currently borated to cold shutdown boron concentration and the Charging System is capable of providing adequate core cooling at the current reduced heat loading, any reduction of margin created by one inoperable Safety Injection pump has been compensated for. CP&L has committed to retest all Engineered Safety Feature fluid systems prior to returning the plant to service and has successfully completed this testing with the exception of the"B" Safety Injection pump train.

CP&L has reviewed this request and concluded that it does not involve irreversible environmental consequences. There is no change in the amount of effluent that may be released off site, and there is no significant increase in individual or cumulative occupational radiation exposure. This request meets the criteria of 10CFR51.22(c)(9) for categorical exclusion from the requirement for an environmental assessment. As discussed above, this request involves no significant hazards consideration.

The actions associated with the subject waiver of compliance were reviewed by the Plant Nuclear Safety Committee on July 11, 1992.

If you have any further questions concerning this matter, I will be available to discuss them with you.

Very truly yours,

Charles R. Dietz
Vice President
Robinson Nuclear Project Department

RDC:dwm

cc: USNRC Document Control Desk
Mr. S. D. Ebneter
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