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SUBJECT: Provides required 30 day response to GL 96-06, "Assurance of Equipment Operability & Containment Integrity During Design-Basis Accident Conditions."

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**Carolina Power & Light Company**

Robinson Nuclear Plant
3581 West Entrance Road
Hartsville SC 29550

Robinson File No: 13510

Serial: RNP-RA/96-0188

OCT 30 1996

U. S. Nuclear Regulatory Commission

Attn: Document Control Desk

Washington, D.C. 20555

H. B. ROBINSON STEAM ELECTRIC PLANT, UNIT NO. 2
DOCKET NO. 50-261/LICENSE NO. DPR-23
RESPONSE TO NRC GENERIC LETTER 96-06,
"ASSURANCE OF EQUIPMENT OPERABILITY AND CONTAINMENT
INTEGRITY DURING DESIGN-BASIS ACCIDENT CONDITIONS"

Gentlemen:

The enclosure to this letter provides the 30 day required response to NRC Generic Letter 96-06, "Assurance of Equipment Operability and Containment Integrity During Design-Basis Accident Conditions." The response is required to be submitted within 30 days of the date of the GL. Since the GL was dated September 30, 1996, this response is required by October 30, 1996.

Questions regarding this response may be referred to Mr. A. L. Garrou at (803) 857-1544.

Very truly yours,

R. M. Kirch

Manager - Regulatory Affairs

JSK/klb

Enclosures

- c: Mr. S. D. Ebnetter, Regional Administrator, USNRC, Region II
Ms. B. L. Mozafari, USNRC Project Manager, HBRSEP
Mr. J. Zeiler, USNRC Resident Inspector, HBRSEP

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Affidavit

State of South Carolina
County of Darlington

C. S. Hinnant, having been first duly sworn, did depose and say that the information contained in letter 96-0188 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.

C. S. Hinnant

Sworn to and subscribed before me

this 30TH day of Oct. 1996

(Seal)

David Clark

Notary Public for South Carolina

My commission expires: MARCH 21, 2005

H. B. ROBINSON STEAM ELECTRIC PLANT, UNIT NO. 2
RESPONSE TO NRC GENERIC LETTER 96-06,
"ASSURANCE OF EQUIPMENT OPERABILITY AND CONTAINMENT
INTEGRITY DURING DESIGN-BASIS ACCIDENT CONDITIONS"

NRC Generic Letter (GL) 96-06, "Assurance of Equipment Operability and Containment Integrity During Design-Basis Accident Conditions," dated September 30, 1996, requested that the following actions be taken.

- (1) Determine if containment air cooler cooling water systems are susceptible to either waterhammer or two-phase flow conditions during postulated accident conditions.
- (2) Determine if piping systems that penetrate the containment are susceptible to thermal expansion of fluid so that overpressurization of piping could occur.

In addition to the postulated accident conditions, these items should be reviewed with respect to the scenarios referenced in GL 96-06.

The GL requested the following information be provided.

"Within 120 days of the date of this generic letter, addressees are requested to submit a written summary report stating actions taken in response to the requested actions noted above, conclusions that were reached relative to susceptibility for waterhammer and two-phase flow in the containment air cooler cooling water system and overpressurization of piping that penetrates containment, the basis for continued operability of affected systems and components as applicable, and corrective actions that were implemented or are planned to be implemented. If systems were found to be susceptible to the conditions that are discussed in this generic letter, identify the systems affected and describe the specific circumstances involved."

The GL required the following response.

"Within 30 days of the date of this generic letter, addressees are required to submit a written response indicating: (1) whether or not the requested actions will be completed, (2) whether or not the requested information will be submitted and (3) whether or not the requested information will be submitted within the requested time period."

Response

We currently intend to complete the requested actions and provide the requested information within 120 days of the date of GL 96-06 as discussed below.

- (1) As a result of our review of the Westinghouse Electric Corporation Nuclear Safety Advisory Letter (NSAL)-96-003, "Containment Fan Cooler Operation During a Design Basis Accident," dated June 20, 1996, and NRC Information Notice (IN) 96-45, "Potential Common-Mode Failure of Containment Coolers," dated August 12, 1996, we have completed a study of the potential for water hammer effects on the containment air cooler cooling water system as a result of a postulated Loss Of Coolant Accident (LOCA) coincident with a Loss Of Off-site Power (LOOP). Based on this study, we have concluded that the effects of a LOCA with a coincident LOOP are bounded by the effects of a LOOP event. During previous refueling outages, pressure surges have been observed and measured in the Service Water (SW) system during Safety Injection (SI)/LOOP testing, but the magnitude of these pressure transients has resulted in acceptable stresses. Damage to piping or supports has not been found following testing. Since the LOOP event bounds the LOCA/LOOP event and there has been no evidence of damage to the piping or supports following testing, the containment fan coolers and associated SW system piping are considered to be operable. We will provide a discussion of the basis for this conclusion in our 120 day response.

We recognize that during a LOCA and a coincident LOOP, two phase conditions could potentially occur in the containment fan cooler cooling water system. With regard to the Salem Plant condition, a preliminary review of hydraulic models and minimum flow requirements indicates that the heat removal capability of each containment fan cooler will remain above the minimum required at design conditions. We plan to continue to study the issue, and to provide a response within 120 days of the date of the GL.

- (2) Overpressurization of closed systems inside containment and between containment isolation valves was evaluated as a result of reviewing the information reported by Duquesne Light Company and Maine Yankee Atomic Power Company as well as NRC IN 96-49, "Thermally Induced Pressurization of Nuclear Power Facility Piping," dated August 20, 1996. We have not identified any concerns related to the configuration of the our piping systems that penetrate containment. Potentially affected containment penetrations and piping systems are therefore considered to be operable. A summary of the basis for our conclusion will be provided in our 120 day response.