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AUTH.NAME AUTHOR AFFILIATION
VAUGHN,G.E. Carolina Power & Light Co.
RECIP.NAME RECIPIENT AFFILIATION
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SUBJECT: Provides justification for continued operation re
pressurizer surge line thermal stratification,per NRC
Bulletin 88-011.

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TITLE: Bulletin 88-11 Pressurizer Surge Line Thermal Stratification

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05000400

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P.O. Box 1551 • Raleigh, N.C. 27602

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G. E. VAUGHN
Vice President
Nuclear Services Department

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JUSTIFICATION FOR CONTINUED OPERATION REGARDING
PRESSURIZER SURGE LINE THERMAL STRATIFICATION

Gentlemen:

This letter is to inform you of developments which impact the completion schedule for the pressurizer surge line thermal design confirmation pursuant to NRC Bulletin 88-11, "Pressurizer Surge Line Thermal Stratification", for both the H.B. Robinson Steam Electric Plant, Unit No. 2 (HBR2) and the Shearon Harris Nuclear Power Plant (SHNPP).

On December 20, 1988, the NRC issued Bulletin 88-11 which requested addressees to establish and implement a program to confirm pressurizer surge line integrity.

Item 1b of the Bulletin required Licensees to demonstrate that the pressurizer surge line meets the applicable design codes and other FSAR and regulatory commitments for the licensed life of the plant, considering the phenomenon of thermal stratification and thermal striping in the fatigue and stress evaluations. This verification was to be completed within four months for plants in operation greater than ten years and within one year of receipt of the Bulletin for plants in operation less than ten years, i.e., April 29, 1989 for HBR2 and December 29, 1989 for SHNPP. If Licensees could not show that the analyses met the design requirements and commitments, then the Licensee must either submit a Justification for Continued Operation (JCO) or shutdown the facility, and implement items 1.c and 1.d of the Bulletin.

Item 1.c required Licensees to obtain plant specific data on thermal stratification either by instrumenting their plant or using data from another source and showing its applicability to their facility.

Item 1.d required Licensees to update their stress and fatigue analyses

using the new data. The updated analyses were to be completed within two years of receipt of the Bulletin, i.e., December 29, 1990. If the updated analyses failed to show compliance with the applicable codes and commitments then the Licensee is required to submit a JCO and proposed corrective actions for effecting long term resolution.

Carolina Power & Light Company has participated in a program for resolution of this issue through the Westinghouse Owners' Group (WOG). In response to action 1.b of Bulletin 88-11, a bounding evaluation was performed for Westinghouse plants. This evaluation presented the basis for concluding that there were no short-term safety concerns associated with the thermal stratification effects for a duration of ten additional heatup/cooldown cycles of continued plant operation. However, the evaluation provided less than full design life verification. As a result, a generic JCO was also developed. The combination of the bounding evaluation and JCO were considered an acceptable manner to respond to Item 1.b of the Bulletin pending completion of a more detailed generic technical report showing the acceptability of the pressurizer surge line design for the design life of the facility.

Both HBR2 and SHNPP submitted the JCO in support of a request to allow completion of the analysis verification by December 29, 1990. The NRC, in a letter dated September 12, 1990 to CP&L on the SHNPP docket, accepted the JCO's basis pending additional generic analyses by the WOG. The extended schedule allowed the WOG time to generically approach the problem by having Westinghouse provide a set of bounding generic analyses which, when integrated with plant specific data, was expected to show full design life verification. Distribution of the technical report to the WOG members was expected in a manner that would allow sufficient time to integrate plant specific data before submission to NRC by the December 29, 1990 requirement.

However, in the July 1990 WOG meeting, Westinghouse confirmed that the generic technical effort had not demonstrated full compliance for all of the Westinghouse designed plants participating in the program, including both HBR2 and SHNPP. After the WOG meeting, CP&L arranged a meeting with Westinghouse to review the generic technical effort and the basis for why HBR2 and SHNPP were not bounded. CP&L then initiated plant specific analyses in order to comply with the requirements of the Bulletin.

The plant specific analyses are anticipated to be completed by the end of the first quarter of 1991 for SHNPP and by the end of the second quarter of 1991 for HBR2. This represents an extension to the schedule called out in Item 1.d of the Bulletin. The revised schedule does not represent a significant impact in the overall effort. Sufficient margin remains for completion of the analyses and implementation of any modifications, if necessary, within the bounds of the existing justification for continued operation. The JCO documents the acceptability of the pressurizer surge line design for at least ten additional heatup and cooldown cycles from the date of the bounding evaluation, i.e., June 1989. SHNPP and HBR2 have experienced four and

two heatup and cooldown cycles, respectively, since the issuance of the JCO.

In accordance with the Bulletin's reporting requirements, Carolina Power & Light Company will submit, thirty days after completion of each of the analyses, a notification that the analyses have been completed. If the analyses shows the current design of the plant does not account for thermal stratification and striping for the life of the plant, the existing justification for continued operation will be re-evaluated, if necessary, and the proposed actions to be taken for resolution will be submitted.

In summary, since the generic technical report failed to completely demonstrate compliance for the SHNPP and HBR2 plants, CP&L has initiated plant specific analyses to ensure that thermal stratification and striping phenomena are accounted for in the design basis for the SHNPP and HBR2 plants. The analyses are anticipated to be completed by the end of the first quarter 1991 for SHNPP and the second quarter 1991 for HBR2. The JCO which justified completion of the design confirmation by December 29, 1990 remains valid and supports the revised schedule. Carolina Power & Light Company will submit to the NRC within 30 days of completion of each of the analyses either a notification that design verification is completed or additional information in accordance with the Bulletin's reporting requirements.

Please refer any questions regarding this submittal to Mr. Steven Chaplin at (919) 546-6623.

Yours very truly,



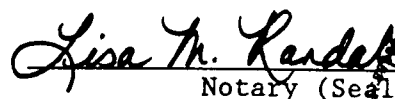
G. E. Vaughn

GEV/SDC

cc: Mr. R. A. Becker
Mr. S. D. Ebnetter
Mr. L. Garner (NRC-HBR2)
Mr. R. Lo
Mr. J. E. Tedrow

G. E. Vaughn, 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.

My commission expires: 6-7-93


Notary (Seal)

