

October 29, 1999

U. S. Nuclear Regulatory Commission
Attn: Document Control Desk
Mail Stop P1-137
Washington, DC 20555-0001



ULNRC- 04141
TAC NO. M96791

Gentlemen:

**DOCKET NUMBER 50-483
CALLAWAY PLANT
UNION ELECTRIC COMPANY
NRC GENERIC LETTER 96-06**

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- References: (1) ULNRC-3403 dated October 30, 1996
(2) ULNRC-3526 dated January 27, 1997
(3) ULNRC-3667 dated October 17, 1997
(4) ULNRC-3826 dated May 1, 1998
(5) ULNRC-3836 dated May 19, 1998
(6) ULNRC-4033 dated May 17, 1999

Reference 1 through 6 provided previous correspondence concerning NRC Generic Letter 96-06. AmerenUE has completed all evaluations and modifications associated with this Generic Letter for Callaway Plant. Confirmatory calculations for the thermal overpressurization issue have been performed by our contractor, Altran Corporation, and reviewed by AmerenUE.

As previously discussed with the Staff, an error in the Altran PIPEPRESS program was identified which delayed the completion of this work. The error was in the methodology used to determine the pressure response. The method of calculating pressure used an incremental pressure change, which was not properly summed to provide the instantaneous pressure. The correct method would have been to determine the density at time(t) as a function of temperature at time(t) and pressure at t=0 (i.e. isobaric fluid expansion). The correction involved removing the PIPEPRESS program from the analysis in determining the temperature and pressure response. Fluid densities input to the ANSYS structural model are a

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function of temperature and initial pressure (i.e., pressure at $t=0$), thus avoiding the error of the PIPEPRESS program. The time dependent temperature response was used in the ANSYS structural model to determine the maximum line pressure.

With these changes in the calculation methodology all work for Callaway has been completed. If you have additional questions please contact us.

Sincerely,

for Daniel Shaper
Alan C. Passwater
Manager, Corporate Nuclear Services

DS/kah

STATE OF MISSOURI)
) S S
CITY OF ST. LOUIS)

David Shafer, of lawful age, being first duly sworn upon oath says that he is Supervising Engineer, Corporate Nuclear Services, Regulatory Operations for Union Electric Company; that he has read the foregoing document and knows the content thereof; that he has executed the same for and on behalf of said company with full power and authority to do so; and that the facts therein stated are true and correct to the best of his knowledge, information and belief.

By David Shafer
David Shafer
Supervising Engineer,
Regulatory Operations,
Corporate Nuclear Services

SUBSCRIBED and sworn to before me this 29th day
of October, 1999.

Melissa L. Orr

MELISSA L. ORR
Notary Public - Notary Seal
STATE OF MISSOURI
City of St. Louis
My Commission Expires: June 23, 2003

cc: M. H. Fletcher
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