



January 17, 1990

Donald F. Schnell

U.S. Nuclear Regulatory Commission
Attn: Document Control Desk
Mail Station P1-137
Washington D.C. 20555

Gentlemen:

ULNRC-2140

DOCKET NUMBER 50-483
CALLAWAY PLANT
POTENTIAL LOSS OF REQUIRED SHUTDOWN MARGIN
DURING REFUELING OPERATIONS

Reference: NRC Bulletin No. 89-03, dated
November 21, 1989

This letter provides the requested response to
NRC Bulletin No. 89-03, concerning potential loss of
required shutdown margin during refueling operations.

- 1) Bulletin 89-03 requested that any intermediate fuel assembly configuration to be used during refueling is identified and evaluated to maintain sufficient refueling boron concentration to result in a minimum shutdown margin of approximately 5%.

Response: Westinghouse has provided guidelines which will assure that the required shutdown margin during refueling ($K_{eff} \leq .95$) is maintained. These guidelines are applicable for a maximum enrichment limit of 4.5 w/o U-235. This envelopes expected enrichments at Callaway.

- 2) Bulletin 89-03 requested that plants assure that fuel loading procedures only allow those intermediate fuel assembly configurations that do not violate the allowable shutdown margin and that these procedures are strictly adhered to.


Response: The Westinghouse guidelines are incorporated into Callaway procedure ETP-ZZ-00035, Refueling Performance. This procedure currently requires that fuel assemblies stored temporarily be stored in the baffle at least 1 fuel assembly away from any other fuel assembly, and at least 2 fuel assemblies away from any cluster of fuel assemblies. The plant staff strictly adheres to this procedure.

- 3) Bulletin 89-03 requested that the staff responsible for refueling operations is trained in the procedures recommended in Item 2 above and understand the potential consequences of violating these procedures. This training should include the fundamental aspects of criticality control with higher enriched fuel assemblies.

Response: Prior to refueling operations, the staff responsible for refueling is trained in refueling performance procedures through courses: Outage Training (T68.1200.6) and Operator Regualification (T61.0810.8).

If there are any questions concerning this matter, please contact me.

Very truly yours,



Donald F. Schnell

JMC/dvd

STATE OF MISSOURI

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
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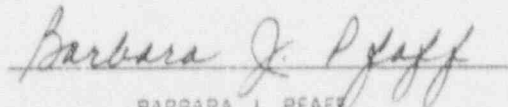
Donald F. Schnell, of lawful age, being first duly sworn upon oath says that he is Senior Vice President-Nuclear and an officer of Union Electric Company; that he has read the foregoing document and knows the content thereof; that he has executed the same for and on behalf of said company with full power 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



Donald F. Schnell
Senior Vice President
Nuclear

SUBSCRIBED and sworn to before me this 17th day
of January, ~~1989~~ 1990 



BARBARA J. PFAFE
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