

January 14, 2004

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

Ladies and Gentlemen:

ULNRC- 04939



**DOCKET NUMBER 50-483
CALLAWAY PLANT UNIT 1
UNION ELECTRIC CO.
FACILITY OPERATING LICENSE NPF-30
APPLICATION OF PROPRIETARY
LEAK-BEFORE-BREAK (LBB) METHODOLOGY
REPORTS AND DRAFT REGULATORY GUIDE DG-1108**

- References: 1. ULNRC-04868 dated June 27, 2003
2. ULNRC-04926 dated December 9, 2003

In Reference 1 above, AmerenUE transmitted an application for amendment to Facility Operating License No. NPF-30 for the Callaway Plant. During the NRC review of that amendment application, several questions arose which were discussed during a meeting with NRC staff on November 12, 2003. Reference 2 above provided the responses to those questions.

During a teleconference on December 19, 2003, additional issues were discussed on the response to the shielding question (pages 12-14 of Attachment 1 to Reference 2). The first issue involved a verification that this shielding modification would not impact vital area access to the plant during the course of an accident (NUREG-0737 Action Item II.B.2). The second issue requested that AmerenUE provide a more quantitative basis (i.e., dose saved outweighs any additional dose resulting from the modification) supporting our statements that this modification is an ALARA measure. The following discussion addresses the two additional issues.

ADD 1

We have reviewed the equipment located within the zone of influence on the 2000 foot and 2026 foot elevations of the Reactor Building and found no equipment that would require possible personnel interface. If plant personnel happened to be inside containment during power operations, they would be just passing through the area and would not exceed the dose currently received during a refueling outage. Since the secondary bio-shield walls are not fission product barriers, they were not designed to provide shielding to meet design basis event dose rates. As such, vital area access will not be affected. In addition, we looked at the dose rates that might be affected outside of the Reactor Building as a result of cutting this access door through the bio-shield wall. Our investigation showed that no credit is taken for our secondary bio-shield wall for dose calculations outside of containment; therefore, cutting this doorway will not change that design basis.

The purpose of cutting a doorway through the 'C' loop SG secondary bio-shield wall is to provide a safer, faster way of accessing the secondary steam generator platforms and the reactor coolant pumps. A review of outage work history and dose rates at Callaway Plant indicates that, during a normal refueling, outage scaffold crews will receive about 80 mrem installing access scaffold ladders to the secondary platform (sludge lance platform). The temporary ladders are needed because normal access is closed off due to steam generator maintenance activities. The ladders are dangerous from a personnel safety aspect because they are approximately 25 feet high with no cage, therefore fall protection is required. We looked at the time it took to access the temporary ladder, climb it, and raise tools to the platform and multiplied this time by the dose rates in the area and the number of entries during a refueling outage. We conservatively estimated the dose received during a refueling outage just for this activity to be approximately 500 mrem. If one compares the dose of 580 mrem/refueling outage to the increased dose rates personnel may be exposed to outside the bio-shield wall as a result of cutting the access doorway, one can calculate stay times for an equivalent dose. Based on this, we concluded that personnel would have to be within the zone of influence on the 2000 foot elevation of the Reactor Building, which will have a dose rate of 188 mrem/hour, a total of 3.1 hours during a cycle. Likewise, personnel would have to be within the zone of influence on the 2026 foot elevation of the Reactor Building, which will have a dose rate of 67 mrem/hour, a total of 8.6 hours during a cycle.

Based on the above, total exposure to plant personnel will be reduced as a result of providing an access doorway through the secondary bio-shield wall at this location resulting in keeping personnel exposure ALARA. In addition, we will be eliminating the personnel safety concern of climbing the temporary ladder to the sludge lance platform.

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If you have any further questions on this amendment application, please contact us.

Very truly yours,

A handwritten signature in black ink that reads "Keith D. Young". The signature is written in a cursive style with a large, looping "K" and "Y".

Keith D. Young
Manager, Regulatory Affairs

KDY/TEH/WMC/GGY/mlo

STATE OF MISSOURI)
)
COUNTY OF CALLAWAY)

SS

Keith D. Young, of lawful age, being first duly sworn upon oath says that he is Manager, Regulatory Affairs, 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 *Keith D. Young*
Keith D. Young
Manager, Regulatory Affairs

SUBSCRIBED and sworn to before me this 14th day of January, 2004.



Cathy J. Crisp
Notary Public
State of Missouri
Expiration 1-29-06

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cc: U.S. Nuclear Regulatory Commission (Original and 1 copy)
Attn: Document Control Desk
Mail Stop P1-137
Washington, DC 20555-0001

Mr. Bruce S. Mallett
Regional Administrator
U.S. Nuclear Regulatory Commission
Region IV
611 Ryan Plaza Drive, Suite 400
Arlington, TX 76011-4005

Senior Resident Inspector
Callaway Resident Office
U.S. Nuclear Regulatory Commission
8201 NRC Road
Steedman, MO 65077

Mr. Jack N. Donohew (2 copies)
Licensing Project Manager, Callaway Plant
Office of Nuclear Reactor Regulation
U. S. Nuclear Regulatory Commission
Mail Stop 7E1
Washington, DC 20555-2738

Manager, Electric Department
Missouri Public Service Commission
PO Box 360
Jefferson City, MO 65102