October 22, 1991

Docket No. STN 50-483

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Mr. Donald F. Schnell
Senior Vice President - Nuclear
Union Electric Company
Post Office Box 149
St. Louis, Missouri 63166

Dear Mr. Schnell:

SUBJECT: EXEMPTION TO 10 CFR PART 50, APPENDIX J, SECTION III.A.5(b) (TAC NO. M80397)

The Commission has issued the enclosed Exemption from certain requirements of Appendix J to 10 CFR Part 50 for the Callaway Plant, Unit 1, in response to your letter dated March 15, 1991. The subject regulation is related to the acceptance criteria for the periodic Type A tests.

The Exemption is enclosed. A copy of the Exemption is being filed with the Office of the Federal Register for publication.

Sincerely,

original signed by

M. D. Lynch, Sr. Project Manager
Project Directorate III-3
Division of Reactor Projects III/IV/V
Office of Nuclear Reactor Regulation

Enclosure:
As stated

cc w/enclosure:
See next page

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7590-01

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

In the Matter of	)	
	)	
UNION ELECTRIC COMPANY	)	Docket No. STN 50-483
	)	
(Callaway Plant Unit No. 1)	)	

EXEMPTION

I.

The Union Electric Company (the licensee), is the holder of Facility Operating License No. NPF-30 which authorizes operation of the Callaway Plant, Unit No. 1. The license provides, among other things, that it is subject to all rules, regulations and orders of the Nuclear Regulatory Commission (the Commission) now and hereafter in effect.

The facility consists of a pressurized water reactor located at the licensee's site in Callaway County, Missouri.

II.

In its letter dated March 15, 1991, the Union Electric Company (the licensee) requested three exemptions from the requirements of Appendix J to 10 CFR Part 50. Since each exemption request addresses different sections of Appendix J and two of these were submitted with corresponding revisions to related portions of the Callaway Technical Specifications (TSs), each is being considered separately. The subject item (Item 3 of the letter of March 15, 1991) is a request for an exemption from the requirements of Section III.A.5.(b)(2). This section establishes an acceptance criterion for the total measured containment leakage rate, L_{am}, measured at the peak containment

internal pressure, P_a, calculated for the design basis accident. Since the periodic Type A tests at Callaway are conducted at P_a, the acceptance criterion for these tests is that L_{am} be less than 75 percent of the maximum allowable leakage rate, L_a, as specified in TS 3.6.1.2.a; this value is 0.20 percent by weight of the containment air per 24 hours.

The licensee has proposed in Item 3 of its letter dated March 15, 1991 to establish two conditions for determining the acceptability of the periodic Type A tests. The first is the "as found" Type A condition represented by the leakage rate calculated by adding the differences between the "as found" and "as left" measured local leakage rates from each Type B and Type C test to the leakage rate measured in the Type A test. These Type B and Type C tests are usually conducted prior to conducting the Type A test. In the event that potentially excessive leakage paths are identified which would interfere with the satisfactory completion of a periodic Type A test and such paths are isolated during the test, the Type B or Type C "as found" leakage rates measured on the isolated penetrations after the completion of the Type A test are added in to the Type A "as found" leakage rate total. The "as left" condition is represented by the periodic Type A leakage rate after any required repairs and/or adjustments are made.

The licensee's specific proposal for the revised acceptance criteria in lieu of the present single criterion cited above (i.e., L_{am} less than 0.75 L_a) is that the "as found" allowable leakage rate should be L_a and the "as left" allowable leakage rate should be less than 0.75 L_a.

The licensee's basis for this proposal is that the acceptance criterion for L_{am} was established in Appendix J as 0.75 L_a in order to provide a margin of 25 percent (i.e., 0.25 L_a) to account for possible deterioration of the

reactor primary containment leak-tightness between the periodic Type A tests. The licensee also states the value of L_a is the actual leakage rate assumed in the accident analyses in Chapter 15 of the Final Safety Analysis Report (FSAR). (Refer to Item III.2.2 of Table 15A-1 of the Callaway FSAR). The licensee further states that there is no need for the 25 percent margin at the end of a Type A test interval to account for deterioration during this interval.

The NRC staff finds that the licensee's proposal for the acceptance criterion for the "as found" maximum allowable leakage rate of L_a is acceptable on the basis that, throughout the prior Type A test interval, the reactor primary containment leakage would have been at or below the value required in the Callaway TSs and within the value assumed in the accident analyses in the Callaway FSAR. Furthermore, the licensee's proposal continues to maintain the requirement that the reactor primary containment (i.e., the "as left" condition) leakage rate prior to restart of the plant be reestablished as less than 0.75 L_a.

The NRC staff further finds that there is added assurance that there will not be any significant undetected degradation in the reactor primary containment leakage during each Type A test interval in that the primary contributors to potentially excessive leakage paths will be measured during the required Type B and Type C tests. These latter tests will be conducted at least during each 18-month refueling outage but in no case at intervals greater than 2 years (Sections III.D.2 and III.D.3 of Appendix J). The principal contributors to any deterioration in the containment leakage rate would thereby be detected and corrected at least once during the 36-month Type A test interval and at least twice during the 54-month Type A test interval.

The staff agrees that the subject exemption request does not pose any undue risk to public health and safety in that the licensee will continue to demonstrate the containment overall integrated leak rate will be less than its specified value in the Callaway Technical Specifications prior to restart after a refueling outage using the present acceptance criterion of 0.75 L_a. Further, any potentially excessive leakage paths will continue to be repaired and/or adjusted prior to restart and at intervals of 18 months, thereby continuing to ensure the integrity of the containment. Based on these considerations, the staff concludes that the licensee has proposed acceptable alternative criteria for the leak-tightness of the reactor primary containment which will ensure its integrity with respect to its compliance with the maximum permissible containment leakage rate specified in the Callaway TSs. Accordingly, the licensee has demonstrated that its proposed modified Type A test procedure achieves the underlying purpose of the rule, thereby demonstrating that one of the special circumstances of 10 CFR 50.12(a)(2)(ii) is present.

III.

In summary, the NRC staff finds that the licensee has demonstrated for the subject exemption request that there are special circumstances present as required by 10 CFR 50.12(a)(2). Further, the staff also finds that the protection provided by the licensee against potentially excessive containment leakage will not present an undue risk to the public health and safety.

Accordingly, the Commission has determined that, pursuant to 10 CFR 50.12, the exemption as described in Section II is authorized by law and will not endanger life or property or the common defense and security and is otherwise in the public interest and hereby grants the exemption

with respect to the requirements of 10 CFR Part 50, Appendix J, Section III.A.5(b)(2).

Pursuant to 10 CFR 51.32, the Commission has determined that the granting of the subject exemption will not have a significant effect on the quality of the human environment (56 FR 43623).

This Exemption is effective upon issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

original signed by

Bruce A. Boger, Director
Division of Reactor Projects III/IV/V
Office of Nuclear Reactor Regulation

Dated at Rockville, Maryland
this 22nd day of October 1991

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