October 22, 1991

Docket No. STN 50-483

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

Dear Mr. Schnell:

SUBJECT: EXEMPTION TO 10 CFR PART 50, APPENDIX J, SECTION III.A.1.(a) (TAC NO. M80396)

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 requirement to stop a Type A test (i.e., a containment overall integrated leakage rate test) in the event that potentially excessive leakage paths are found and to make repairs and/or adjustments prior to restarting the Type A test.

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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Union Electric Company

Callaway Plant
Unit No. 1

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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, each is being considered separately. The subject item (Item 2 of the letter of March 15, 1991) is a request for a partial exemption from the requirements of Section III.A.1.(a). This section requires that a Type A test, defined as a test to measure the primary reactor containment overall integrated leakage rate (CILRT) be terminated if, during this test, potentially excessive leakage paths are identified which would either interfere with satisfactory completion of the test or which would result in the Type A test not meeting the applicable acceptance criteria. For the periodic Type A tests under consideration, the tests will be conducted at the calculated peak containment internal pressure of 48.1 psig (P_a); the applicable acceptance criterion is contained in Section III.A.5.(b)(2). This criterion states that the measured leakage rate (L_{am}) at P_a shall be less than 75 percent of the maximum allowable leakage rate (L_a). These various terms are defined in Section II of Appendix J.

Section III.A.1.(a) further requires that, after terminating a Type A test due to potentially excessive leakage, the leakage through the potentially excessive leakage paths be measured using local leakage testing methods and repairs and/or adjustments to the affected equipment be made. The Type A test shall then be conducted.

The licensee proposes in the subject exemption request (Item 2) that, when excessive leakage is found during a Type A test, the test not be terminated. Instead, the licensee proposes that significant leaks will be

identified and isolated and the Type A test continued. The licensee further proposes that, after completion of the modified Type A test (i.e., a Type A test with the significant leakage paths isolated), local leakage rates of those paths isolated during the modified Type A test be measured before and after repairs and/or adjustments to those paths.

The licensee proposes that the adjusted "as-found" leakage rate for the Type A test be determined by adding the local leakage rates measured before any repairs and/or adjustments to those previously isolated leakage paths, to the containment integrated leakage rate determined in the modified Type A test. This adjusted "as-found" leakage rate is to be used in determining the scheduling of the periodic Type A tests in accordance with Section III.A.6 of Appendix J.

Finally, the licensee proposes that the acceptability of the modified Type A test be determined by calculating the adjusted "as-left" containment overall integrated leakage rate and comparing this to the acceptance criterion of Section III.A.5.(b)(2) which requires L_{am} to be less than 0.75 L_a. The adjusted "as-left" Type A leakage rate is determined by adding the local leakage rates measured after any repairs and/or adjustments to those previously isolated leakage paths, to the leakage rate determined in the modified Type A test.

The only differences between the licensee's proposal and the requirements in Section III.A.1.(a) of Appendix J are that: (1) the potentially excessive

leakage paths will be repaired and/or adjusted after completion of the Type A test rather than before the test; and (2) the Type A test leakage rate is partially determined by calculation rather than by direct measurement. With respect to this latter issue, the limiting value of the containment overall integrated leakage rate in Section 3.6.1.2.a of the Callaway Technical Specifications (TSs) is 0.20 percent by weight of the containment air over a 24-hour period measured at an internal containment pressure of 48.1 psig. The measured "as-left" local leakage rates through the paths isolated in the modified Type A test will be a small fraction of this TS value so that the values of these "as-left" local leakage rates will represent a relatively small correction to the containment overall integrated leakage rate measured in the modified Type A test. Accordingly, there will be very little significant difference between the calculated "as-left" reactor primary containment leakage rate (i. e., a modified Type A test) and one which would be directly measured in compliance with the requirements of Section III.A.1.(a).

With respect to the issue of making repairs and/or adjustments to potentially excessive leakage paths during a Type A test rather than after aborting a Type A test, the staff does not identify any significant difference in the end result; (i.e., the "as-left" local leakage rates will be maintained within an acceptable range).

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 same acceptance criterion. Further, any potentially excessive leakage paths will continue to be repaired and/or adjusted prior to restart, thereby continuing to ensure the integrity of the containment. Based on these considerations, the staff concludes that the licensee has proposed a method of conducting modified periodic Type A tests which will ensure the integrity of the reactor primary containment with respect to its compliance with the maximum permissible containment leakage rate as required by 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.1.(a).

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 42366).

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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