

December 15, 1998

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

Gentlemen:

ULNRC-3934



**DOCKET NUMBER 50-483
CALLAWAY PLANT UNIT 1
UNION ELECTRIC CO.
FACILITY OPERATING LICENSE NPF-30
REQUEST FOR RELIEF FROM CERTAIN
AMERICAN SOCIETY OF MECHANICAL ENGINEERS CODE
REQUIREMENTS FOR INSERVICE INSPECTION OF THE
CALLAWAY PLANT UNIT 1 CONTAINMENT BUILDING**

Pursuant to the provisions of 10 CFR Part 50.55a (Codes and Standards), AmerenUE (Union Electric Co.) hereby proposes alternatives to certain requirements of the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code, Section XI, Subsection IWL, 1992 Edition and 1992 Addenda.

In the Federal Register, dated August 8, 1996, (Vol. 61, No. 154, 41303) the Nuclear Regulatory Commission (NRC) amended its regulations to incorporate by reference the ASME Code, Section XI, Subsection IWL, 1992 Edition, through the 1992 Addenda. Subsection IWL is titled *Requirements For Class CC Concrete Components of Light-Water Cooled Plants*. Subsection IWL provides the requirements for inservice inspection of concrete containment components. The Callaway Plant Unit 1 containment building is an ungrouted, post-tensioned concrete structure.

Details concerning the requested relief are provided in Attachment 1. Attachment 1 requests relief from ASME, Section XI, 1992 Edition, 1992 Addenda, subarticle IWA-2210, "Visual Examination," which lists requirements for minimum illumination and maximum direct examination distance of Class CC components under paragraph IWL-2310, "Visual Examination and Personnel Qualification." When remotely performing the visual examinations required by Subsection IWL, Paragraph IWL-2510, the maximum direct examination distance specified in

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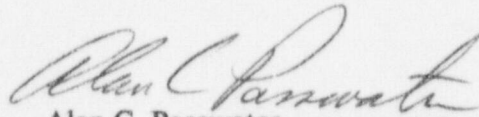
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Table IWA-2210-1 may be extended, and the minimum illumination requirements specified in Table IWA-2210-1 may be decreased provided that the techniques are qualified to detect the required conditions and indications.

The next scheduled containment building inspection for Callaway Plant is May 1, 1999. Based on this date we request expedited review of this relief request in order to complete development of plans and procedures for the examinations required by Subsection IWL.

Very truly yours,

A handwritten signature in cursive script, appearing to read "Alan C. Passwater".

Alan C. Passwater

Manager, Corporate Nuclear Services

BFH/jdg

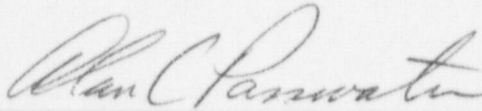
Enclosure

STATE OF MISSOURI)
)
CITY OF ST. LOUIS)

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Alan C. Passwater, of lawful age, being first duly sworn upon oath says that he is Manager, Corporate Nuclear Services 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

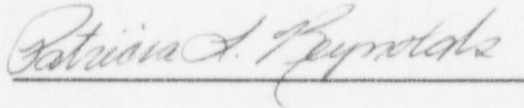


Alan C. Passwater
Manager, Corporate Nuclear Services

SUBSCRIBED and sworn to before me this 15th day
of December, 1998.



PATRICIA L. REYNOLDS
NOTARY PUBLIC—STATE OF MISSOURI
ST. LOUIS COUNTY
MY COMMISSION EXPIRES DEC. 22, 2000



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RELIEF REQUEST
ALTERNATIVE INSPECTION OF CONTAINMENT CONCRETE SURFACES

SYSTEM(S)/COMPONENTS(S) FOR WHICH RELIEF IS REQUESTED:

This relief request applies to the exterior portion of Callaway Plant's Unit 1 Containment Building constructed of concrete. The concrete portion of the Unit 1 Containment Building is subject to the rules and requirements for Inservice Inspection of Class CC (Concrete Containment) components, as applicable to IWL-2310, "Visual Examination and Personnel Qualification," and IWA-2210, "Visual Examinations."

CODE REQUIREMENTS FOR WHICH RELIEF IS REQUESTED:

American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel (B&PV) Code, Section XI, 1992 Edition 1992 Addenda, requirement IWL 2310, "Visual Examination and Personnel Qualification," and IWA-2210, "Visual Examinations" require specific minimum illumination and maximum direct examination distance for all concrete surfaces.

PROPOSED ALTERNATIVE:

Perform the concrete surface inspection remotely as required by Subsection IWL, Paragraph IWL-2510, extending the maximum direct examination distance, and reducing the minimum illumination requirements specified in Table IWA-2210-1.

BASIS FOR RELIEF:

Title 10 CFR 50.55a was amended in the Federal Register (Vol. 61, No. 154, 41303) to require the use of the ASME B&PV Code, Section XI, 1992 Edition, 1992 Addenda, when performing containment examinations. In addition to the requirements of Subsection IWL, the rulemaking also imposes the requirements of ASME B&PV Code, Section XI, 1992 Edition, 1992 Addenda, Subsection IWA for minimum illumination and maximum direct examination distance of Class CC (Concrete Containment) components, specifically for the examination of concrete under Paragraph IWL-2510.

In accordance with IWA-2210, when remotely performing the visual examinations required by Subsection IWL, Paragraph IWL-2510, using remote techniques, the maximum direct examination distance specified in Table IWA-2210 may be extended, and the minimum illumination requirements specified in Table IWA-2210-1 may be decreased. The change in examination and illumination requirements are allowed provided the remote examination procedure is demonstrated to resolve the required test chart characters in Table IWA-2210-1. In lieu of using the Table IWA-2210-1 test chart characters, the Responsible Engineer will use a combination of character and workmanship-based samples to determine the resolution required to ensure that indications of interest are detectable. The Responsible Engineer will also identify the minimum size for indications of interest. For remote visual examination, the procedure and equipment to be used will be demonstrated capable of resolving these minimum indications to the satisfaction of the

Responsible Engineer. The record of demonstration will be available to regulatory authorities.

In order to conform with Section XI, IWA-2000 requirements for visual examination, Subsection IWL referenced VT-1 and VT-3 examinations, but designated them VT-1C and VT-3C to signify that these were examinations of a concrete structure. The original VT-1 and VT-3 examinations in Subsection IWA were designed for use on metal surfaces. Flaw detection on metal surfaces requires the ability to resolve a much smaller indication than that required on concrete due to the small grain size of a metal surface in comparison to the much larger grain size of a cast concrete surface. The visual examination requirements for illumination levels and examination distances prevent the ability to demonstrate that the remote visual examination is equivalent to direct visual examination when performing examinations of concrete surfaces. The visual examination of a concrete containment is intended to uncover indications of significant conditions over a large area in a generally benign environment.

In subsequent editions after 1992 of the ASME Code the requirements for a VT-1C examination have been replaced with a "detailed visual examination," and the requirements for a VT-3C examination have been replaced with a "general visual examination." The general visual examination of a concrete surface is performed under the direction of the Responsible Professional Engineer (RPE) to indicate the general structural condition of the containment. IWL-2000 references ACI-201.1 R-68 for guidelines used to determine concrete deterioration and distress. If the general visual examination detects any deterioration, the detailed visual examination is performed, again under the direction of the RPE, to determine the magnitude and extent of the deterioration. Also, alternative lighting and resolution requirements have been added to later editions of Subsection IWL to be used in lieu of the requirements of IWA-2000. AmerenUE will follow the requirements of this version of the code and this relief request in the May, 1999 examinations.

Relief is requested in accordance with 10 CFR Part 50.55a(a)(3)(i). Inspecting the concrete surfaces using increased distances and decreased illumination requirements, approved by the Responsible Engineer, will still allow the detection of flaws of a size sufficient to present a structural problem with the concrete structure.

IMPLEMENTATION SCHEDULE:

The IWL program plan, of which this relief request is a part, will be implemented prior to the next scheduled containment inspection beginning in May, 1999.