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 MCGAUGHY, R.W. Iowa Electric Light & Power Co.  
 RECIP. NAME RECIPIENT AFFILIATION  
 DENTON, H. Office of Nuclear Reactor Regulation, Director

SUBJECT: Requests exemption from requirements of 10CFR50, App J, Paragraph III, C re containment Spray Isolation Valves MOV-1902, 1933, 2000 & 2006. Type C testing requirement not practicable. Justification encl. Fee paid.

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Iowa Electric Light and Power Company

October 29, 1984  
NG-84-4469

Mr. Harold Denton, Director  
Office of Nuclear Reactor Regulation  
U.S. Nuclear Regulatory Commission  
Washington, DC 20555

Subject: Duane Arnold Energy Center  
Docket No: 50-331  
Op. License No: DPR-49  
Request for Exemption from 10 CFR Part 50,  
Appendix J, Paragraph III.C. - Type C Testing  
Requirements

Reference: Letter, D. Eisenhut (NRC) to L. Liu (Iowa  
Electric) dated January 17, 1984

Dear Mr. Denton:

Pursuant to 10 CFR 50.55a(g)(5)(iv) and 10 CFR 50.12, Iowa Electric Light and Power Company requests exemption from the requirements of 10 CFR Part 50, Appendix J, Paragraph III.C (Type C Testing Requirements) for the Duane Arnold Energy Center (DAEC) Containment Spray Isolation Valves MOV-1902, 1933, 2000 and 2006.

It has been determined that the Type C testing requirement is not practicable with the existing DAEC piping arrangement; therefore, exemption is requested from the Type C testing requirement with proposed alternate testing methods to determine the leakage rates for the valves.

The attachment to this letter provides justification for this exemption and describes the alternative testing methodology.

In accordance with the requirements of 10 CFR Part 170, we are enclosing the required application fee of \$150.

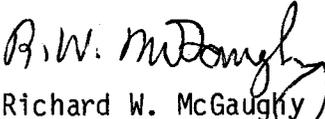
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Mr. Harold Denton  
October 29, 1984  
NG-84-4469  
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Should you have any questions, please feel free to contact me.

Very truly yours,

  
Richard W. McGaughey  
Manager, Nuclear Division

RWM/MSG/ckg\*

Attachment: Request for Exemption From Type C Testing Requirements

cc: M. Grim  
L. Liu  
S. Tuthill  
M. Thadani  
NRC Resident Office

IOWA ELECTRIC LIGHT AND POWER COMPANY  
DUANE ARNOLD ENERGY CENTER  
DOCKET NO: 50-331  
OPERATING LICENSE NO: DPR-49

REQUEST FOR EXEMPTION FROM TYPE C TESTING REQUIREMENTS

Introduction

The following information provides the background and justification pertinent to our request for relief from the requirements for Type C testing of the Torus/Containment Spray isolation valves.

Background

In letters dated October 13, 1975 (L. Liu (Iowa Electric) to K. Goller (NRC), IE-75-1103) and August 29, 1978 (L. Liu (Iowa Electric) to H. Denton (NRC), IE-78-1269), Iowa Electric Light and Power Company requested exemption from Type C testing requirements for penetrations X-39A/B and N-211A/B (Torus and Containment Spray Lines).

In a Safety Evaluation Report (SER) dated December 29, 1976, the NRC staff provided their disposition of the October 13, 1975, letter. The NRC staff stated,

"IELPCo (Iowa Electric) maintains that several lines do not include containment isolation valves corresponding to the definition of valves requiring Type C tests in Appendix J because these valves do not receive containment isolation signals, are required to remain open for the duration of the accident, or would remain pressurized for the duration of the accident. The lines containing these valves are the RHR suppression pool suction, the core spray suction, the suppression pool suction for RCIC and HPCI, the LPCI injection, the suppression pool spray, the RHR test line, the vessel head spray, and the containment spray.

In conclusion, the NRC staff said, "We find that the licensee's proposed exemption from the requirements of Section II.H of Appendix J for the above cited valves is acceptable, provided that the licensee shows that these valves will continue to function even if a single active failure were to occur." (emphasis added)

By letter dated August 29, 1978, Iowa Electric responded to the Staff's request for additional information. In our response, we noted, "the containment isolation function is single active failure protected..."

The above noted Iowa Electric exemption request and clarification, and the Staff's subsequent disposition, are further embodied in the attachment to the Staff's SER dated January 17, 1984. The Staff's prime contractor for the review of the exemption request, Franklin Research Center (FRC) provided the following information. The FRC stated, the inboard isolation valves for both

the containment spray and suppression pool (torus) are located outside containment (e.g., valves MOV 1902, 2000, 1933 and 2006) and that, "if any of these valves leak through the packing or body-to-bonnet seals, the leakage of containment air reaches the outside atmosphere. Consequently, Appendix J requires that these valves be tested. However, since the packing and body-to-bonnet seals are the only potential sources of leakage, the testing may be limited to these particular areas" (emphasis added).

The NRC staff, in their January 17, 1984, SER, agreed with the FRC by stating,

"for penetration X-39B (sic), the inboard isolation valves should be tested in the direction of accident pressure or by pressurizing between the inboard and outboard isolation valves in order to test the valve packing and body-to-bonnet seals of the inboard valve. For penetration (sic) N-211A & B, the inboard isolation valves should be tested in the direction of accident pressure or by pressurizing between the inboard and outboard valves provided that this testing will expose the packing and body-to-bonnet seal areas of the inboard valves to the test pressure."

#### Discussion

With regard to the foregoing background information and NRC guidance, Iowa Electric requests exemption from the requirements of Type C testing (as interpreted by the Staff) for valves MOV-1902, 1933, 2000 and 2006. In lieu of the Type C testing, we propose the following testing alternative.

- 1) During Type A testing, the subject valves will be placed in the open position, thereby exposing the gaskets and packing to the containment test pressure. While maintaining containment test pressure, leakage from the valve gaskets and stem packings will be locally identified by non-obtrusive leak detection techniques. Should excessive leakage be detected, corrective actions will be initiated, as appropriate, to eliminate any unacceptable leakage.
- 2) The subject valves will be leak tested by pressurizing between the inboard and outboard valves. Although there is no conclusive evidence that the packing and gaskets are pressurized during this test, it will provide an indication of the general condition of the valves.

#### Justification

Iowa Electric believes the proposed alternate testing of the subject valves is acceptable and relief from Type C testing requirements should be granted because:

- The area of potential leakage and concern, as noted by the FRC, is in the packing and body-to-bonnet seals. The proposed alternate testing will be effective in identifying leakage from the packing and seals; and,
- All four valves will be leak tested by pressurizing between the inboard and outboard valves. Pressurizing between the valves follows the Staff's guidance contained in the January 17, 1984, SER.