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 MURLEY, T.E. Office of Nuclear Reactor Regulation, Director (Post 870411)

SUBJECT: Application for amend to License DPR-49, consisting of Tech Spec Change RTS-236, removing weekly MSIV surveillance requirements. MSIVs will continue to be full stroke tested on quarterly basis.

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Iowa Electric Light and Power Company

December 14, 1990
NG-90-2839

Dr. Thomas E. Murley, Director
Office of Nuclear Reactor Regulation
U. S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, DC 20555

Subject: Duane Arnold Energy Center
Docket No: 50-331
Op. License No: DPR-49
Request for Technical Specification Change (RTS-236)
"Removal of Weekly Main Steamline Power-Operated
Isolation Valves Weekly Surveillance Requirements"
File: A-117, N-11

Dear Dr. Murley:

In accordance with the Code of Federal Regulations, Title 10, Sections 50.59 and 59.90, we request revision of the Technical Specifications (TS) for the Duane Arnold Energy Center (DAEC).

The purpose of the proposed change (RTS-236) is to delete the requirement to exercise the Main Steamline Isolation Valves (MSIV) weekly by partial closure and reopening. The MSIVs will continue to be full stroke tested on a quarterly basis, which is consistent with BWR Standard Technical Specifications and the ASME Boiler and Pressure Vessel Code.

This application has been reviewed by the DAEC Operations Committee and the DAEC Safety Committee. Pursuant to the requirements of 10 CFR 50.91, a copy of this submittal, including the no significant hazards considerations analysis, is being forwarded to our appointed state official.

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Dr. Thomas E. Murley
December 14, 1990
NG-90-2839
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This letter is true and accurate to the best of my knowledge and belief.

IOWA ELECTRIC LIGHT AND POWER COMPANY

By *Daniel L. Mineck*
DANIEL L. MINECK
Manager, Nuclear Division

State of Iowa
(County) of Linn

Signed and sworn to before me on
this *14th* day of *December*, 1990,
by *Daniel L. Mineck*.

Kathleen M. Furman
Notary Public in and for the State of Iowa
September 28, 1992
Commission Expires

DLM/D M/pjv+

Attachments: 1) EVALUATION OF CHANGE WITH RESPECT TO 10CFR50.92
2) PROPOSED CHANGE RTS-236 TO THE DUANE ARNOLD ENERGY CENTER
3) SAFETY ASSESSMENT

cc: D. Mienke
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NRC Resident Office

EVALUATION OF CHANGE WITH RESPECT TO 10 CFR 50.92

Background:

DAEC TS Section 4.7.D.1.c requires that the main steam line power-operated isolation valves be exercised at least once per week by partial closure and reopening.

When the partial closure of the MSIV is performed, a test solenoid is manually energized. Energizing this solenoid causes a three way test pilot valve to change position, allowing a slow exhaust of the pneumatic pressure which maintains the MSIV open. The compressed springs in the MSIV exert a force on the stem which closes the MSIV. When the MSIV reaches the 90% open position, a limit switch is tripped indicating that the valve is closing. The test solenoid valve is then automatically de-energized, allowing the affected MSIV to return to the full open position. No reduction in reactor power is required to perform this weekly exercise since the MSIV only goes to 90% of full open and steam flow through the valve is not significantly reduced until the valve is less than 50% of full open.

Deletion of the requirement for weekly exercise of the MSIVs will decrease the probability of inadvertent scrams and transients and challenges to relief valves and, therefore, increase safety.

The NRC has suggested in NUREG-0737, Item II.K.3.16, that challenges to relief valves can be reduced by reducing the testing frequency of MSIVs. Elimination of the requirement for weekly exercise of the MSIVs by partial

closure is consistent with guidance provided by NRC in NUREG-0737, Item II.K.3.16.

A review of the BWR Standard Technical Specifications and the ASME Boiler and Pressure Vessel Code indicates that neither of these documents requires a weekly exercise such as is specified in DAEC Technical Specification (TS) 4.7.D.1.c. The only purpose for the weekly partial closure exercise that we have identified is to ensure that the MSIVs and their pilot valves are not binding. However, this is adequately demonstrated during the quarterly fast closure and reopening which is required by TS 4.7.D.1.b(2).

We determined through discussions with our NSSS vendor (General Electric) that the weekly exercise of the MSIVs was originally intended to demonstrate that the MSIV pilot valve is not binding by exercising the test pilot valve which is of the same design as the actual MSIV pilot valve. However, the pilot valves which were originally susceptible to binding have been replaced with valves of a design that is not susceptible to binding. The DAEC utilizes these replacement parts although plant Technical Specifications have not been revised to remove the weekly exercise of MSIVs.

It has been found that there is an error in the first footnote of Table 3.7-3 for the surveillance requirements of the Main Steam Line Valves. The footnote states: "Due to plant operational limitations, these valves will be subject to the requirements of 4.7.D.1.a only". The footnote should state "Due to plant operational limitations, these valves will be subject to the requirements of 4.7.D.1.a except for the MSIVs which will

be subject to 4.7.D.1.b". TS 4.7.D.1.b specifies that the MSIVs are to be tested quarterly by full stroke fast closure and reopening.

We consider this exercise of MSIVs to be unnecessary and its elimination will not reduce plant safety. Therefore, it is proposed that TS 4.7.D.1.c on page 167 of the DAEC Technical Specifications be deleted, TS 4.7.D.1.d be renumbered to 4.7.D.1.c and the first footnote of Table 3.7-3 be corrected as specified above.

Iowa Electric Light and Power Company, Docket No. 50-331

Duane Arnold Energy Center, Linn County, Iowa

Date of Amendment Request: December 14, 1990

Description of Amendment Request:

By its submittal dated December 14, 1990, Iowa Electric Light and Power (IELP) has proposed a license amendment which removes the weekly exercise surveillance of MSIVs (4.7.D.1.c) and corrects an error in the first footnote of Table 3.7-3 from the DAEC Technical Specifications. This proposal is consistent with guidance provided by NRC in NUREG-0737, Item II.K.3.16, reducing challenges to relief valves due to MSIV testing, our Scram Frequency Reduction Program, ASME Boiler and Pressure Vessel Code, BWR Standard Technical Specifications, and previously approved amendments for Nebraska Public Power's Cooper Station (approved August 8, 1988) and Tennessee Valley Authority's Browns Ferry Units 1, 2 and 3 (approved March 1, 1988).

Basis for proposed no significant hazards consideration determination:

The Commission has provided standards (10 CFR 50.92(c)) for determining whether a significant hazards consideration exists. A proposed amendment to an operating license for a facility involves no significant hazards consideration if operation of the facility in accordance with the proposed amendment would not (1) involve a significant increase in the probability or consequences of an accident previously evaluated; (2) create the possibility of a new or different kind of accident from any accident previously evaluated; or (3) involve a significant reduction in a margin of safety.

In reviewing this proposed request for Technical Specification change, we have reached these conclusions:

1. The proposed license amendment does not involve a significant increase in the probability or consequences of an accident previously evaluated. This proposed change deletes the requirements to exercise the MSIVs weekly. That exercise involves partial closure of each individual valve to the 90% open position and reopening to the full open position.

The safety function of the MSIV is to isolate the main steamline in case of a steamline break or Control Rod Drop Accident in order to limit the loss of reactor coolant and/or the release of radioactive materials. The MSIVs perform a safety function which mitigates the consequences of accidents; however, an event can be initiated by the inadvertent closure of the MSIVs. Therefore, eliminating excessive operation of the MSIVs reduces the probability of occurrence of an

inadvertent closure. Also, the surveillance which is being deleted does not test the safety function of the MSIVs. The safety function is tested during the quarterly full stroke fast closure test. Since deleting the weekly exercise of the valves is not considered to have any effect on the reliability of the MSIVs to perform their safety function, there is no increase in the consequences of any postulated accidents. Therefore, deleting the requirement for weekly exercise of the MSIVs does not involve a significant increase in the probability or consequences of an accident previously evaluated.

2. The proposed license amendment does not create the possibility for an accident. The safety function of the MSIVs is to mitigate the consequences of accidents by isolating the main steamline in order to limit the release of reactor coolant and/or radioactive materials. The MSIVs do not prevent the occurrence of any accident; however, an event can be initiated by the inadvertent closure of the MSIVs. This event (Group One Isolation) has been previously evaluated in Chapter 15 of the Updated Final Safety Analysis Report. Therefore, deleting the requirement to exercise the MSIVs weekly will not create any new or different kind of accident. The weekly exercising of the MSIVs by partial closure does not test the safety function of the valves. The quarterly full stroke fast closure test demonstrates the ability of the MSIVs to perform their safety function. Since the MSIVs perform a mitigating safety function, and the quarterly test adequately tests the safety function, elimination of the weekly exercise will not create any new or different kind of accident.

3. The proposed license amendment does not involve a significant reduction in the margin of safety. The safety function of the MSIV is not tested during the weekly exercise. The ability of the MSIVs to perform their safety function is tested quarterly. Therefore, deletion of the requirement to exercise the MSIVs weekly does not reduce the testing frequency of the MSIVs. The weekly exercise of the MSIVs was originally specified in order to detect binding of the pilot valve, however the type of pilot valves that were susceptible to binding were replaced some time ago and there is no longer any need for frequent operation of the valves. The quarterly full closure test of MSIVs adequately demonstrates that the MSIVs and their pilot valves are not binding and that the MSIVs will perform their safety function. Additionally, reducing the frequency of MSIV operation reduces the probability of inadvertent scrams and transients, and challenges to relief valves, providing a net addition to the margin of safety.

The quarterly full stroke fast closure test is considered to be sufficient. It is the only test required by the ASME Boiler and Pressure Vessel Code and the BWR Standard Technical Specifications (STS). Also, other power operated primary containment isolation valves are tested no more frequently than once per quarter.

Based upon the discussion above, the weekly exercise of the MSIVs does not test the safety function of the MSIVs and the quarterly full stroke fast closure test fulfills the ASME and STS requirements. Therefore, eliminating the weekly exercise of the MSIVs does not significantly reduce any margin of safety.

The proposed changes will not increase the probability or consequences of any previously analyzed accident, introduce any new or different kind of accident from any previously evaluated, or reduce any existing margin of safety. Therefore, this proposed license amendment involves no significant hazards consideration.

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