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

SUBJECT: Request for Tech Spec (RTS) Change RTS-245 to License
 DPR-49, modifying DG surveillance requirements by reducing
 testing of operable DG when other DG inoperable.

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Iowa Electric Light and Power Company

May 28, 1992
NG-92-1202

JOHN F. FRANZ, JR.
VICE PRESIDENT, NUCLEAR

Dr. Thomas E. Murley, Director
Office of Nuclear Reactor Regulation
U. S. Nuclear Regulatory Commission
Attn: Document Control Desk
Mail Station P1-137
Washington, DC 20555

Subject: Duane Arnold Energy Center
Docket No: 50-331
Op. License No: DPR-49
Request for Technical Specification
Change (RTS-245): "Revision of Diesel
Generator Conditional Surveillance
Requirements"
File: A-117

Dear Dr. Murley:

In accordance with the Code of Federal Regulations, Title 10, Sections 50.59 and 50.90, we request revision of the Technical Specifications (TS) for the Duane Arnold Energy Center (DAEC).

The proposed change will modify the diesel generator surveillance requirements by reducing testing of the operable diesel generator when the other diesel generator is inoperable. This is based on general industry consensus and engineering analysis that overtesting diesel generators can cause accelerated wear and shorten equipment life and could therefore be detrimental to overall plant safety.

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 analysis of significant hazards considerations, is being forwarded to our appointed state official.

Should you have any questions regarding this matter, please contact this office.

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Dr. Thomas E. Murley
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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 John F. Franz, Jr.
John F. Franz, Jr.
Vice President, Nuclear

State of Iowa
(County) of Linn

Signed and sworn to before me on this 29th day of
May, 1992, by John F. Franz, Jr.

Hellen M. Furman
Notary Public in and for the State of Iowa

September 30, 1992
Commission Expires

JFF/TWP/pjv~

Attachments: 1) Evaluation of Change Pursuant to 10 CFR 50.92
2) Proposed Change RTS-245 to the Duane Arnold
Energy Center Technical Specifications
3) Safety Assessment
4) Environmental Consideration

cc: T. Page ^{TWP}
L. Liu
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C. Shiraki (NRC-NRR)
A. Bert Davis (Region III)
S. Brown (State of Iowa)
NRC Resident Office

EVALUATION OF CHANGE PURSUANT TO 10 CFR 50.92Background:

The Duane Arnold Energy Center (DAEC) utilizes two standby diesel generators as backup power sources to supply on-site loads in case of a loss of offsite power. These diesel generators would supply loads required under postulated design-basis accident conditions or those required for orderly shutdown of the plant when offsite power is unavailable.

Current DAEC Technical Specifications (TS) state that, when one diesel generator is determined to be inoperable, the remaining diesel generator must be demonstrated to be operable within eight (8) hours and daily thereafter. This condition is permitted for up to seven (7) days provided certain requirements are met.

A benefit of testing is that there is a decreased potential for an undetected failure. A drawback is the increased unavailability of the equipment while it is in the test mode and during repairs due to potential failures resulting from chronic testing. There are, however, other less obvious potential drawbacks from increased testing. These include reduced reliability due to test-related degradation, the potential for plant transients initiated by surveillance testing and plant shutdown due to these transients. Furthermore, personnel are diverted from other duties for testing.

Recent industry experience has indicated that over-testing, such as the daily testing requirements noted above, can cause accelerated wear and shorten equipment life. In addition, the testing sometimes places the equipment into a "less-than-desirable" condition. In the case of the diesel generators, this testing involves starting the diesel generators, connecting them electrically to the offsite power sources, and loading them. This creates a situation where the operable diesel generator is connected to a power source which, if it failed, could cause a loss of the operable diesel generator. This would leave the plant in an undesirable condition with the possibility of a loss of the standby power source and of all 4160 VAC major power.

In a recent submittal to the NRC justifying deletion of daily conditional testing requirements, one utility showed that reduced testing decreased diesel generator unavailability time by a factor of three. The improvement was shown to be due to the reduction of test-induced failures (Safety Evaluation for Amendment No. 114 to Operating License No. DPR-28, Docket No. 50-271.) Similar conclusions have been drawn from industry studies of fast starts of diesel generators which caused accelerated degradation (NUREG 1024, "Technical Specifications - Enhancing the Safety Impact," prepared by the task group on Technical Specification, dated November 1983.) Engineering judgement would dictate utilizing these factors to improve system availability.

As a result, this submittal requests reduced testing in order to minimize wear-related degradation on the diesel generators and thus increase overall diesel generator reliability and availability. We propose to require testing the operable diesel within the first 24 hours of finding a diesel generator inoperable and every subsequent 72 hours thereafter. Initial testing within 24 hours provides flexibility to pursue making repairs on the inoperable diesel generator while assuring that a generic failure mechanism does not exist. The 24 and 72 hour time periods are reasonable considering that both are shorter than either the normal surveillance interval (30 days) or the allowed out-of-service time (7 days). Since the 30 day and 7 day periods are derived to assure a very low likelihood of an undetected component failure during these periods, it is reasonable to assume an even lower likelihood for an undetected failure will exist during the 24 and 72 hour periods.

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

Duane Arnold Energy Center, Linn County, Iowa

Date of Amendment Request: May 28, 1992

Description of Amendment Request:

The proposed license amendment will modify the surveillance requirements of Technical Specification 4.5.G such that when one diesel generator is determined to be inoperable, the other diesel generator must be demonstrated to be operable within the first 24 hours and every subsequent 72 hours thereafter.

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 concluded:

- (1) The proposed change does not increase the probability or consequences of an accident. Reducing the amount of required testing does not result in any change to the input assumptions or

parameters used in any DAEC accident analysis and therefore does not negatively affect any accident scenario. In fact, it will serve to enhance the diesel generator's ability to respond during accident conditions.

- (2) The proposed change does not result in any physical change to the plant configuration and therefore cannot create the possibility of any new or different type of accident.
- (3) The margin of safety as defined by TS will not be reduced, since the proposed change makes no modifications to plant equipment and should actually increase the overall availability of the diesel generators. The diesel generators will be in a "test" condition for less time and will experience less wear-related degradation. The chances for human error will also be decreased. This will allow the diesel generators to better fulfill their design function.

Based on the above, we conclude that the Amendment does not involve a significant hazards consideration.

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Attorney for Licensee: Jack Newman, Kathleen H. Shea, Newman and Holtzinger, 1615 L Street NW, Washington, DC 20036