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 FACIL: 50-331 Duane Arnold Energy Center, Iowa Electric Light & Pow 05000331
 AUTH. NAME: MCGAUGHY, R.W. AUTHOR AFFILIATION: Iowa Electric Light & Power Co.
 RECIP. NAME: DENTON, H.R. RECIPIENT AFFILIATION: Office of Nuclear Reactor Regulation, Director

SUBJECT: Requests exemption from schedule requirements of 10CFR50.48(C) to permit completion of protection of additional structural steel, described in R McGaughy 841031 ltr, prior to Cycle 8 startup.

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Iowa Electric Light and Power Company

November 30, 1984
NG-84-5388

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 Schedule
Requirements of 10 CFR 50.48, Fire Protection

References: 1) Letter, R. McGaughy to H. Denton, NG-84-4135, September 28, 1984
2) Letter, R. McGaughy to H. Denton, NG-84-4749, October 31, 1984

File: P-72a

Dear Mr. Denton:

The purpose of this letter is to complete our request for exemption from certain schedule requirements of 10 CFR 50.48(c) for the additional work which was recently identified and is discussed in Reference 2.

As you know, Iowa Electric met with NRC Chemical Engineering Branch reviewers in Bethesda on September 5, 1984 to discuss the exemptions which were later requested in our Reference 1 submittal. At that meeting, we proposed various exemptions from the requirement to protect structural steel forming part of or supporting required fire barriers. The basis for these proposed exemptions was that the peak temperature of the structural steel would not exceed the critical temperature of 1100°F when exposed to fires postulated in the DAEC Fire Hazards Analysis. The basis for the critical temperature of 1100°F is explained in NRC Generic Letter 83-33. Protection of structural steel associated with required fire barriers and found to exceed 1100°F without considering local effects was completed on September 28, 1984 as were all other non-alternate shutdown, non-outage related Appendix R modifications which had been identified at that time.

Our peak temperature calculations did not explicitly model local temperature effects due to the spatial relationship of combustible material to structural steel, flame plume effects, or fire zone ventilation. At the

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September meeting, the NRC reviewers indicated that these local effects would need to be considered and that the approach used by Philadelphia Electric for the Limerick Plant had been reviewed recently and found to be acceptable. We have re-calculated the peak steel temperatures using the Limerick methodology and the results were furnished in our Reference 2 submittal. In substantial part the results confirmed our earlier conclusion that the structural steel would not exceed 1100°F. However, as reported in Reference 2, some additional structural steel, based on the Limerick methodology, must be protected from the effects of fire.

For the DAEC, most of the additional protection does not require an outage. Therefore, according to our interpretation of 10 CFR 50.48(c) and our Integrated Plan schedule, this work should have been completed by October 4, 1984. However, this additional work was identified as a result of new NRC guidance and its extent was unknown to us until after the deadline. We have always made a good faith effort in our approach to Appendix R and have, to date, never requested a schedular exemption. However, this situation forces us to request an exemption from 10 CFR 50.48(c).

We have made a preliminary review of the work to be done and conclude that we can complete the protection of the additional structural steel identified in Reference 2 prior to startup following our Cycle 7/8 refueling outage. The outage is scheduled to begin February 1, 1985. The schedule for completion is the same as that for our alternate shutdown and outage related Appendix R modifications. Therefore, this delay will not affect our overall schedule for full Appendix R compliance.

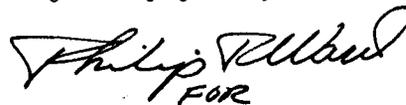
The schedule delay poses no risk to the health and safety of the public because ionization-type smoke detectors are installed in all the fire zones in which additional structural steel must be protected. This allows us to detect any fire in these zones quickly and dispatch the fire brigade to extinguish it prior to heating the structural steel above 1100°F. Portable fire extinguishers and hose stations are located in or immediately adjacent to each zone.

We, therefore, request exemption from the schedule of 10 CFR 50.48(c) to permit the completion of the protection of the additional structural steel described in Reference 2 "prior to Cycle 8 startup." This exemption is justified on the bases that this work is the result of new NRC

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guidance, the health and safety of the public is not endangered, and our overall schedule for full compliance with Appendix R is not affected.

Very truly yours,



Philip R. McGaughy
FOR

Richard W. McGaughy
Manager, Nuclear Division

RWM/SLS/cg*

cc: S. Swails
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NRC Resident Office
Commitment Control No. 84-0315