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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: Supplemental application for amend to License DPR-49,
 consisting of Proposed Change RTS-124, revising Tech Specs re
 single recirculation loop operation, Tech Specs supersede
 801017, 811218 & 830624 submittals.

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Iowa Electric Light and Power Company

December 7, 1984
NG-84-4741

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
Operating License No: DPR-49
Technical Specification Change RTS-124C:
Single Recirculation Loop Operation
Reference: Letter, R. McGaughy to H. Denton, "Reload
Licensing Submittal for the Duane Arnold Energy
Center, Cycle 8," NG-84-3525, August 17, 1984
File: A-117

Dear Mr. Denton:

In accordance with the requirements of 10 CFR 50.59 and 50.90, we transmitted our proposed technical specification change regarding single recirculation loop operation on October 17, 1980, which was subsequently amended in our December 18, 1981 and June 24, 1983 transmittals. We hereby amend our previous applications with the enclosed technical specification page changes, which are intended to supersede those previously submitted.

As this application is based upon our reload licensing submittal for Cycle 8, RTS-164 (Reference), we request that this application not be approved prior to RTS-164.

This amendment has been reviewed by the Duane Arnold Energy Center Operations Committee and the Safety Committee. A check for \$4,000 was submitted with our original application and, therefore, no further fee is being submitted at this time. Additional fees, if required, will be submitted under the provisions of 10 CFR 170.

Three signed and 37 additional copies of this application are transmitted herewith. Pursuant to the requirements of 10 CFR 50.91, a copy of this application and analysis of no significant hazards considerations is being sent to our appointed state official. This application, consisting of

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the foregoing letter and enclosures, is true and accurate to the best of my knowledge and belief.

IOWA ELECTRIC LIGHT AND POWER COMPANY

BY

Richard W. McGaughy
Richard W. McGaughy
Manager, Nuclear Division

Subscribed and sworn to Before Me on
this 7th day of December 1984.

Sue E. Scott

Notary Public in and for the State of Iowa

RWM/RAB/ckg*

Attachments: 1) Proposed Change RTS-124C
2) Evaluation per 10 CFR 50.92
3) Technical Specification Affected Pages



cc: R. Browning
L. Liu
S. Tuthill
M. Thadani
T. Houvenagle
NRC Resident Office

EVALUATION OF CHANGE WITH RESPECT TO 10 CFR 50.92

Summary

The purpose of this change to the previous revision, RTS-124B submitted June 24, 1984, is to update the submittal for permanent licensing of Single Loop Operation (SLO) to be consistent with the Reload Licensing amendment for Cycle 8 (RTS-164 submitted August 17, 1984) and to include the GE recommendations in SIL #380, Revision 1. The major changes deal with the revised Minimum Critical Power Ratio (MCPR) operating limits for the P8 X 8R fuel and new Maximum Average Planar Linear Heat Generation Rate (MAPLHGR) curves for the fresh fuel for Cycle 8. Also, this revision reflects the new GE guidance regarding thermal-hydraulic stability for dual loop as well as single loop operation, as given in SIL #380, Revision 1. Several administrative changes are also included, dealing with updating references and deletion of blank pages.

In accordance with the requirements of 10 CFR 50.92, the enclosed application is judged to involve no significant hazards based upon the following information:

- (1) Does the proposed license amendment involve a significant increase in the probability or consequences of an accident previously evaluated?

Single Loop Operation (SLO):

Operation with one recirculation pump not in operation primarily affects the probability of an inadvertent startup of an idle recirculation pump transient, evaluated in Chapter 15 of the UFSAR. The proposed technical specification changes require the idle loop to be electrically isolated prior to continued operation with one pump not in operation. By isolating the inactive loop by electrically disconnecting the recirculation pump, while leaving the suction and discharge (or bypass) valves open, requires the following issues be addressed. There is no degradation in ECCS performance by operating in this manner as the LPCI loop selection logic is designed to close the discharge and bypass valves prior to LPCI injection (UFSAR Section 7.3.1.1.2.4). The failure of the logic to close these valves has been considered in the LOCA analysis and is not considered to be the limiting single failure for any break size. Thereby, the probability of these events is judged not to be increased from that previously analyzed. In addition, other technical specification changes are proposed, such as increased Safety Limit MCPR, revised flow-biased scram and rod block setpoints, and reduced MAPLHGR limits, to ensure that the consequences of any accident previously evaluated are not increased when operating in SLO.

Thermal Hydraulic (T/H) Stability:

The proposed technical specification will add surveillance requirements for detecting limit cycle oscillations and high core plate ΔP noise, and remedial operator actions for responding to them. These actions involve adjusting core flow and/or orderly reductions of core thermal power. As these are normal plant operating adjustments they are judged not to increase the probability or consequences of any accident previously evaluated.

(2)

- (2) Does the proposed license amendment create the possibility of a new or different kind of accident from any accident previously evaluated?

SLO:

Operation with one recirculation pump not in operation is judged not to create the possibility of a new or different kind of accident from any previously analyzed, as all abnormal operating transients which could be initiated because of SLO, such as an Inadvertent Start-up of an Idle Recirculation Pump or Recirculation Pump Trip at Power and failure of the LPCI Loop Selection Logic, have already been analyzed in the UFSAR.

T/H Stability:

The additional surveillance requirements and remedial actions for limit cycle oscillations and high core plate ΔP noise involve normal plant

operating practices and, therefore, are judged not to create a new or different kind of accident from any previously analyzed.

- (3) Does the proposed amendment involve a significant reduction in a margin of safety?

SLO:

The revised operating limits and setpoints for SLO are being added to ensure that the margin of safety will not be reduced during operation with one recirculation pump not in operation, as demonstrated in NEDO-24272, DAEC Single-Loop Operation, July 1980, submitted as part of our original application, LDR-80-277, October 17, 1980.

T/H Stability:

The additional surveillance requirements and remedial actions for limit cycle oscillations and high core plate ΔP noise will increase the present margin of safety.

SLO:

In the April 6, 1983 Federal Register, the NRC published "Examples Of Amendments That Are Considered Not Likely To Involve A Significant Hazards Consideration." Example number (vi) of that list states:

"A change which either may result in some increase to the probability or consequences of a previously-analyzed accident or may reduce in some way a safety margin, but where the results of the change are clearly within all acceptable criteria with respect to the system or component specified in the Standard Review Plan: for example, a change resulting from the application of a small refinement of a previously used calculational model or design method."

(3)

Operation with one recirculation pump not in operation has been analyzed (NEDO-24272) and found to be acceptable. Thus, the above example is judged to apply.

T/H Stability:

Example number (ii) of the referenced list states:

"A change that constitutes an additional limitation, restriction, or control not presently included in the technical specifications: for example, a more stringent surveillance requirement."

As the present technical specifications do not contain requirements regarding operator actions for limit cycle oscillations and high core plate ΔP noise, this example is judged to apply.