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SUBJECT: Application for amend to License DPR-49, consisting of
 Request For TS Change RTS-205, revising TS sections re single
 loop operation to improve clarity & implement human factors
 improvements.

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Iowa Electric Light and Power Company

December 30, 1991
NG-91-3905

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-205): "Revision of TS
Sections pertaining to Single Loop
Operation"
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 license amendment will combine the Recirculation Pump Limiting Condition for Operation (LCO) and Surveillance Requirements into one section, consolidate Single Loop Operation (SLO) requirements from other sections, and make minor editorial changes and corrections.

These changes will improve clarity, implement human factors improvements and enhance the operators' ability to understand and comply with the SLO Specifications. Making these changes will enhance operational safety by minimizing the potential for misapplication or misunderstanding of the requirements.

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 no significant hazards considerations, is being forwarded to our appointed state official.

In order to provide adequate time to make the necessary changes in procedures and provide training to plant personnel we request an implementation period of 90 days from the effective date of

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Dr. Thomas E. Murley
December 30, 1991
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the approved amendment.

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

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 30th day of December,
1991, by *Daniel L. Mineck*

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

September 28, 1992
Commission Expires

DLM/TWP/pjv~

Attachments: 1) Evaluation of Change Pursuant to 10 CFR 50.92
2) Proposed change RTS-205 to the Duane Arnold
Energy Center Technical Specifications
3) Safety Assessment
4) Environmental Consideration

cc: T. Page
L. Liu
L. Root
R. McGaughy
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:

Single Loop Operation (SLO) has been permitted at the Duane Arnold Energy Center (DAEC) since the incorporation of Facility Operating License Amendment No. 119 into the DAEC Technical Specifications (TS) in 1985. SLO allows continued reactor operation at power with one of the two recirculation loops out of service. This permits continued electrical production during periods when one recirculation pump is not available due to component malfunction or maintenance.

General Electric Service Information Letter (SIL) No. 380 provided guidance and recommendations for SLO due to concerns regarding the possibility of thermal-hydraulic instabilities that could occur under certain conditions. These recommendations were incorporated into the DAEC TS as part of Amendment No. 119.

SLO has been conducted several times since 1985 with no indication of instability. Due to the complex nature of the TS dealing with SLO, some administrative concerns have been noted regarding the difficulty in applying SLO requirements. As a result, the proposed revision would make changes to improve organization and clarity and apply "human-factors" concepts. The revision does not affect the technical content of the Specifications previously approved in Amendment No. 119.

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

Duane Arnold Energy Center, Linn County, Iowa

Date of Amendment Request: December 30, 1991

Description of Amendment Request:

The proposed license amendment will combine the Recirculation Pump Limiting Condition for Operation (LCO) and Surveillance Requirements of TS Sections 3.3.E/4.3.E and 3.6.F/4.6.F into one Section (3.3.F/4.3.F), modify Figure 3.3-1 for clarity, add Single Loop Operation (SLO) thermal limit adjustments referenced in the Core Operating Limits Report (COLR) to Section 3.3.F and remove them from Section 3.12, and make minor editorial changes and corrections.

The Recirculation Pump LCO and Surveillance Requirements for both two loop and SLO will be combined into one section and rewritten, reformatted, and reorganized to improve clarity. This will involve separating LCO and Surveillance Requirements that are currently combined, rearranging sections into a more logical sequence, and

relocating requirements from other TS sections to consolidate SLO requirements into one location.

In some cases, additional guidance will be provided that was not specifically given previously. For example, an LCO will be added to address an inadvertent entry into region 1 of Figure 3.3-1 (greater than the 80% load line and less than 39% rated core flow). The action statement is consistent with current operating practice in avoiding areas where the increased likelihood of thermal-hydraulic instability could exist. The action, however, was not specifically stated in TS previously.

References to MCPR adjustments and flow biased APRM setpoint adjustments when in SLO will be added to Section 3.3. A note will also be added to provide requirements for starting of the recirculation M/G set and pump under administrative control for testing purposes. These requirements are already required by other TS sections, but will be added to consolidate SLO requirements.

Figure 3.3-1 will be modified to improve clarity and provide additional information with the figure. The new figure will more closely resemble those used during plant operation, and more clearly define the various regions of concern for LCO and Surveillance Requirements.

The paragraph in Section 3.12 referencing the Operating Limit MCPR adjustment for SLO will be deleted, since it is redundant to a previous section which references the Core Operating Limits Report for MCPR limits.

The appropriate bases information will be reworded, reorganized, or deleted based on the above changes.

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 occurring because it does not result in any physical or operational changes to the plant. The change serves only to clarify current operational requirements

previously approved in Amendment No. 119 by incorporating "human-factors" improvements to the SLO TS.

- (2) The proposed change does not result in any physical or operational changes to the plant nor does it change current operating practice, 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 only serves to clarify current operational requirements previously approved in Amendment No. 119.

The consolidation of requirements from other TS sections into the SLO section and the addition of TS guidance for operation in certain regions of Figure 3.3-1 are consistent with current operating practice and incorporate human-factors improvements, and do not reduce the margin of safety.

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

PROPOSED CHANGE RTS-205 TO THE DUANE ARNOLD ENERGY CENTER
TECHNICAL SPECIFICATIONS

The holders of license DPR-49 for the Duane Arnold Energy Center propose to amend Appendix A (Technical Specifications) to said license by deleting certain current pages and replacing them with the attached, new pages. The List of Affected Pages is given below.

List of Affected Pages

i	3.6-7a*
vii	3.6-7b*
3.3-7	3.6-8
3.3-7a	3.6-33
3.3-7b	3.6-34
3.3-7c	3.6-35
3.3-19	3.12-4
3.3-21	3.12-9
3.6-7	6.11-5a

* These pages are being deleted as a result of the reorganization proposed by this change.

Summary of Changes:

The following list of proposed changes is in the order that the changes appear in the Technical Specifications.

Description of Changes

1. The Table of Contents has been revised to reflect the revised order and renumbering of Sections 3.3.E and 3.3.F.
2. The List of Figures was revised to include Figure 3.3-1, which was inadvertently omitted in a previous submittal, and to remove references to previously deleted figures.
3. Section 3.3.F was renumbered to 3.3.E and moved accordingly. This is a more logical sequence since the action statement deals with Sections 3.3.A through 3.3.D.
4. Section 3.3.E (Recirculation Pumps) was renumbered to 3.3.F based on change 3 above. In addition, the new Section 3.3.F was rewritten, reformatted, and reorganized to improve clarity. LCO and Surveillance Requirements for both Two Loop Operation

(previously in 3.3.E) and Single Loop Operation (previously in 3.6.F.2) are now contained in 3.3.F. Specific changes will be noted below as appropriate.

5. Section 3.3.F.1 contains requirements previously located in the first paragraph of Section 3.3.E. In addition, the section was reworded to improve clarity and consistency with other TS sections when discussing reactor operating modes. A description of "natural circulation" was also added.
6. Section 3.3.F.2 contains requirements previously located in the last paragraph of Section 3.3.E. These requirements were reworded to improve clarity and utilize the current definition of Reactor Power Operation for consistency. In addition, the rewording reflects the intent to prohibit a recirculation pump restart in the event of an inadvertent recirculation pump trip.
7. Section headings 4.3.F.1 and 2 were added and identified as "Not used" to make the section designation in 4.3.F match that in 3.3.F.
8. Sections 3.3.F.3 and 4.3.F.3 include the requirements for Two Loop Operation which were previously located in 3.3.E and 4.3.E. These sections were reworded and reformatted to separate LCO and Surveillance Requirements that were provided in the same section and to improve clarity. In addition to the format changes, references to the regions of Figure 3.3-1 were added and surveillance times were moved from the LCO to the Surveillance Requirements section.
9. Sections 3.3.F.4 and 4.3.F.4 contain requirements for Single Loop Operation (SLO) previously located in 3.6.F.2 and 4.6.F.2. These sections were reworded and reformatted to separate LCO and Surveillance Requirements that were contained in the same section and to improve clarity. In addition to the format changes, references to the regions of Figure 3.3-1 were added and surveillance times were moved from the LCO to the Surveillance Requirements section. Other specific changes to this section are addressed below.
 - a. Sections 3.3.F.4.a, b, and c were relocated to improve organization. These requirements are applicable at all times while in SLO and are stated at the beginning of Section 3.3.F.4. Later sections in 3.3.F.4 contain requirements that apply under specific operating conditions. Other changes are identified below.
 - b. Reference to the SLO MCPR adjustment was added to Section 3.3.F.4.a and the section reworded accordingly. This

addition is consistent with the intent of this change to consolidate SLO requirements into one section.

- c. Section 3.3.F.4.b was added to require the adjustment of flow-biased APRM setpoints. These adjustments are already required by TS 3.1.A and 3.2.C, but were added to this section to consolidate SLO requirements.
 - d. Section 3.3.F.4.c contains requirements previously located in Section 3.6.F.2.d. In addition, this section was reworded to clarify that "startup" refers to reactor startup and that the 24 hour clock starts when SLO is entered. A footnote was also added to provide the requirements for starting a recirculation M/G set and pump for testing. These requirements are already stated in TS 3.6.A and 3.6.F.3 and were duplicated to clarify and consolidate SLO requirements into this section.
 - e. Section 3.3.F.4.d was added to provide TS guidance in case of inadvertent entry into Region 1 of Figure 3.3-1. This guidance was not previously provided and is consistent with current operating practice.
 - f. Section 3.3.F.4.e(i) was added to make the Two Loop and Single Loop sections more consistent. This requirement was not specifically stated previously in 3.6.F.2.b(ii) and is consistent with current operating practice.
10. Section 3.3.F.5 contains requirements previously located in 3.6.F.2.d and 3.6.F.3 and combines them into the LCO section for restoration from SLO. This change consolidates requirements and improves clarity.
 11. Figure 3.3-1 was modified to improve clarity and provide more information. The figure more closely resembles those used by plant operators, and more clearly defines the various regions of concern for LCO and Surveillance Requirements. A brief description of the type of surveillance monitoring was also added.
 12. Section 3.6.F.2 was modified to reflect the relocation of SLO requirements to Section 3.3.F.4. The footnote was deleted since it is no longer applicable to Section 3.6.F.
 13. Section 3.6.F.2.e was deleted, since the DAEC does not have an automatic/master recirculation flow control mode. The Master Flow Controller was removed previously during the 1988 refueling outage, under 10 CFR 50.59.

14. The MCPR adjustment for SLO was deleted from Section 3.12.C.2 and relocated to Section 3.3.F.4.a. The value of the SLO Operating Limit MCPR adjustment is addressed in the Core Operating Limits Report (COLR). Since Section 3.12.C.1 already references the COLR for MCPR limits, Section 3.12.C.2 is redundant.
15. The Bases of Sections 3.3.E and 3.6.F were revised to reflect the reorganization discussed above. Specific changes to this section are addressed below:
 - a. An entry for 3.3.E was added and identified as "Not used" for consistency in lettering for subsequent sections. This corresponds to an LCO statement in 3.3.E.
 - b. The SLO Bases in 3.6.F and Recirculation Pump Bases in 3.3.E were combined into 3.3.F and reformatted accordingly.
 - c. Redundant information regarding thermal-hydraulic instability indications and SIL No. 380 was deleted. A statement was added regarding the need for instability monitoring in certain regions of Figure 3.3-1.
 - d. An error in a reference in 3.12 was corrected. The references listed were renumbered in a previous submittal.
 - e. An incorrect statement regarding 39% core flow and its corresponding point on Figure 3.3-1 was removed. Also, the statements about the "power/flow map" were changed to refer to "Figure 3.3-1" for consistency.
 - f. In addition, minor editorial changes were made for clarity.
16. The Bases of Section 3.12 was revised to remove the value of the SLO Operating Limit MCPR adjustment and reference the COLR.
17. Section 6.11.2.a.(4) was revised to reflect the new Specification numbering.