



October 14, 1996

U.S. Nuclear Regulatory Commission  
Attn: Document Control Desk  
Washington, D.C. 20555

Subject: Zion Station Units 1 and 2  
Supplement to Application for Amendment to Facility  
Operating Licenses DPR-39 and DPR-48  
NRC Docket Nos. 50-295 and 50-304

- References:
- 1) Letter from R. P. Tuetken, Commonwealth Edison, to U.S. Nuclear Regulatory Commission, dated July 26, 1996 - Application for Amendment to Facility Operating Licenses DPR-39 and DPR-48.
  - 2) Teleconference between Commonwealth Edison personnel and members of the NRC Staff on September 13, 1996
  - 3) Letter from C. Y. Shiraki, U. S. Nuclear Regulatory Commission, to I. Johnson Commonwealth Edison, dated September 26, 1996 - Request for Additional Information

This letter transmits, pursuant to 10 CFR 50.90, a supplement to a previous application for an amendment to Appendix A of the Zion Unit 1 and 2 Facility Operating License, DPR-39 and DPR-48. The previously proposed amendment (Ref. 1) would allow licensee control of the Reactor Coolant System (RCS) pressure and temperature limits for; heat up, cooldown, low temperature operation, and hydrostatic testing.

The purpose of this supplement is to ensure the Technical Specifications are in conformance with the design assumptions of WCAP-14040-NP-A used in the Pressure-Temperature Limit Report (PTLR) calculations. These supplemental changes have been discussed with the NRC staff in a telephone conference (Ref. 2). This supplement also addresses a concern identified in an NRC Request for Additional Information (Ref. 3).

*ADD 1/1*

9610210206 961014  
PDR ADOCK 05000295  
P PDR

This supplement to the application for amendment is comprised of the following attachments to this letter:

Attachment A provides a description and safety analysis of the proposed supplemental changes to the Technical Specifications.

Attachment B provides an annotated copy and a clean copy of the affected pages of the Technical Specifications

Attachment C provides a conclusion that the previously submitted Significant Hazards Considerations for the proposed changes to the Technical Specifications remains valid.

Attachment D provides a conclusion that the previously submitted Environment Assessment of the proposed changes to the Technical Specifications remains valid.

Attachment E provides pressure/temperature curves revised to show the minimum bolt-up temperature.

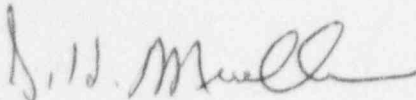
This supplement has been reviewed and approved by Zion Station Onsite and Offsite Review personnel in accordance with Commonwealth Edison procedures.

To the best of my knowledge and belief, the statements contained in this supplement to an amendment application are true and correct. In some respects these statements are not based on my personal knowledge, but obtained from information furnished by other Commonwealth Edison employees, contract employees, and consultants. Such information has been reviewed in accordance with company practices, and I believe it to be reliable.

Commonwealth Edison is notifying the State of Illinois of this application for amendment by transmitting a copy of this letter and its attachments to the designated state official.

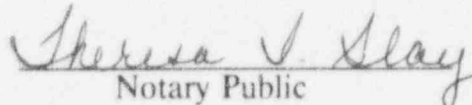
Please direct any questions you may have concerning this submittal to this office.

Respectfully,



J. H. Mueller  
Site Vice President  
Zion Station

Subscribed and Sworn to before me, a Notary Public in and for  
the State of Illinois and County of Lake  
this 14th day of October, 1996.

  
Notary Public

Attachments

cc: NRC Regional Administrator - RIII  
Zion Station Project Manager - NRR  
Senior Resident Inspector - Zion Station  
Office of Nuclear Facility Safety - IDNS  
IDNS Resident Inspector  
Zion NLA  
Master Files  
Reg. Assurance File  
DCD Licensing



## **ATTACHMENT A**

### **ZION NUCLEAR GENERATING STATION**

#### **DESCRIPTION AND SAFETY ANALYSIS FOR PROPOSED CHANGES TO APPENDIX A TECHNICAL SPECIFICATIONS FACILITY OPERATING LICENSES DPR-39 AND DPR-48**

#### **SUPPLEMENT TO LICENSE AMENDMENT REQUEST 96-02**

### **DESCRIPTION OF PREVIOUSLY PROPOSED CHANGE**

In Reference 1, Commonwealth Edison Company proposed to amend Appendix A, Technical Specifications, of Facility Operating Licenses DPR-39 and DPR-48 to allow licensee control of the Reactor Coolant System (RCS) pressure and temperature limits for; heatup, cooldown, low temperature operation, and hydrostatic testing. This proposed change was submitted consistent with the guidance provided in NRC Generic Letter 96-03, NUREG 1431, Revision 1, and WCAP 14040-NP-A. As outlined in the NRC Safety Evaluation Report (SER) dated October 15, 1995, C.I. Grimes to R.A. Newton, WCAP 14040-NP-A fulfills all the requirements listed in draft NRC Generic Letter date June 2, 1995, (finalized as Generic Letter 96-03) to be included in a PTLR methodology.

### **DESCRIPTION OF SUPPLEMENT TO PROPOSED CHANGE**

This supplement proposes additional changes to those already proposed in Reference A. These additional changes will make two of the existing specifications for Low Temperature Overpressure Protection (LTOP) more restrictive, and will modify the previously submitted RCS pressure/temperature curves to graphically illustrate a temperature restriction that is currently identified in the text.

### **NEED FOR THE SUPPLEMENT**

This supplement is needed to ensure the that Technical Specifications adequately preserve the assumptions in the PTLR analysis submitted in Reference 1. This was discussed with the NRC by telephone conversion on September 13, 1996 (Ref. 2). This supplement also addresses a concern identified in an NRC Request for Additional Information (Ref. 3).

## ATTACHMENT A

### CURRENT TECHNICAL SPECIFICATIONS REQUIREMENTS AND BASES

Zion Station's Technical Specifications contain Limiting Conditions for Operations (LCOs) that require implementation of certain Low Temperature Overpressure Protection measures and establish pressure/temperature limits for the RCS. These specifications are intended to address concerns arising from the loss of ductility by reactor vessel material at reduced temperatures.

If the plant is in Mode 4 and the temperature of any RCS cold leg is less than or equal to 250 °F, or if the plant is in Mode 5, or if the plant is in Mode 6 with the reactor vessel head on, then the following specifications apply:

Existing LCO 3.3.2.G.2 allows a maximum of one charging pump or safety injection pump to be aligned for injection into the RCS, and allows no accumulators to be operable.

Existing LCO 3.3.2.G.3 requires that when starting a reactor coolant pump, when no reactor coolant pumps are running, the temperature in the secondary side of the steam generator in the loop in which the reactor coolant pump is to be started shall be less than 50°F higher than the RCS temperature.

Figure 3.3.2-1 provides the pressure/temperature curves that define the operational boundaries for the RCS. The current pressure/temperature curves do not indicate the requirements for bolting up the reactor vessel head.

### DESCRIPTION AND BASES OF SUPPLEMENTAL PROPOSED CHANGES

This supplement changes LCO 3.3.2.G.2 such that a maximum of one charging pump and no safety injection pumps may aligned for injection to RCS, and continues to allow no accumulators to be operable. This change is based on the mass injection transient scenario analyzed in the PTLR, which assumes the mass flow rate of only one charging pump. Attachment B to this supplement provides an annotated and a clean copy of Technical Specification page 83 containing this change. These pages should be included with the pages provided in Attachment B of Reference 1 to form a complete set of revised pages.

This supplement changes LCO 3.3.2.G.3 such that when starting a reactor coolant pump, when no reactor coolant pumps are running, the temperature in the steam generator secondary side in any unisolated RCS loop shall be less than 50°F higher than the RCS temperature. This change is based on the bounding analysis performed to support the PTLR, which assumes that starting the first pump will cause a sudden heat input to a water-solid RCS from any steam generator in an unisolated RCS loop (assuming all RCS

## ATTACHMENT A

loops are unisolated) due to backflow in the unisolated loops. To prevent this, temperature in the secondary side of all unisolated loops must be less than 50°F higher than the RCS temperature prior to starting a reactor coolant pump with no reactor coolant pumps running. Attachment B to this supplement provides an annotated and a clean Technical Specification page 83a containing this change. This page replaces the page 83a provided in Attachment B of Reference 1 to form a complete set of revised pages.

The changes proposed in Reference 1 included deleting Figure 3.3.2-1, and utilizing RCS pressure/temperature curves provided in the ComEd controlled PTLR. This supplement changes the RCS pressure/temperature curves, which were previously submitted in Reference 1, to graphically indicate the same limits on reactor vessel head bolt-up temperature that are discussed in the PTLR text. This change is based on NRC Generic Letter 96-03, Attachment 1, Item 6, and addresses a concern identified as Item No. 10 in Reference 3. Attachment E to this supplement provides a set of pressure/temperature curves (Figures 1-5) containing this change, and correcting a minor editorial error in the text below the curves ("Rates up to ...."). These figures replace the Figures 1-5 provided in Attachment F of Reference 1.