

**ATTACHMENT B**

**ZION NUCLEAR GENERATING STATION**

**REVISED PTLR PAGES i, 2, AND 3  
SUBMITTED IN SUPPORT OF  
PROPOSED CHANGES TO  
APPENDIX A TECHNICAL SPECIFICATIONS  
FACILITY OPERATING LICENSES  
DPR-39 AND DPR-48**

**SUPPLEMENT 2 TO LICENSE AMENDMENT REQUEST 96-02**

## ZION - UNIT 1 AND 2

### PRESSURE AND TEMPERATURE LIMITS REPORT

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#### Attachments

- 1 Framatome Technologies Report 32-1257382-00, Adjusted Reference Temperature for Zion 1&2 P-T Curves.
- 2 WCAP-14666 Rev. 0 Zion Units 1 and 2 Radiation Analysis and Neutron Dosimetry Evaluation.
- 3 WCAP 14664, Zion Units 1 and 2 Heatup and Cooldown Limit Curves for Normal Operation.
- 4 Framatome Technologies Report 77-1257503-00, Pressurized Thermal Shock Evaluation for Zion 1&2 P-T Curves.

## ZION - UNIT 1 AND 2

### PRESSURE AND TEMPERATURE LIMITS REPORT

- 2.2 Low Temperature Overpressure Protection (LTOP) Setpoints (LCO 3.4.12 / [LCO 3.3.2.G])

The power-operated relief valves (PORVs) shall each have lift settings of  $\leq 407$  psig.

- 2.3 LTOP Enable Temperature (LCO 3.4.10 and 3.4.12 / [LCO 3.3.2.G])

The required enable temperature for the PORV's shall be  $\geq 320$  °F RCS temperature.

- 2.4 Reactor Vessel Boltup Temperature (Non-Technical Specification)

The minimum boltup temperature for the Reactor Vessel Flange shall be  $\geq 60$  °F. Boltup is a condition in which the Reactor Vessel head is installed with tension applied to the studs, and the RCS vented to atmosphere.

- 2.5 Reactor Vessel Minimum Pressurization Temperature (Non-Technical Specification)

The minimum temperature at which the Reactor Vessel may be pressurized (i.e., in an un-vented condition) shall be  $\geq 60$  °F, plus an allowance for the uncertainty of the temperature instrument, determined using a process consistent with ISA S67.04 - 1982.

### 3.0 Supplemental Data

Table 1 of Framatome Technologies Report 32-1257382-00, Adjusted Reference Temperature for Zion 1&2 P-T Curves (Attachment 1) provides the unirradiated Zion reactor vessel toughness data, calculations of the Adjusted Reference Temperature (ART) for the limiting reactor vessel materials, and summaries of the ARTs of the Zion Unit 1 reactor vessel beltline materials at the 1/4-T and 3/4-T locations for 32 EFPY.

Table 2 of Framatome Technologies Report 32-1257382-00, Adjusted Reference Temperature for Zion 1&2 P-T Curves (Attachment 1) provides the unirradiated Zion reactor vessel toughness data, calculations of the ART for the limiting reactor vessel materials, and summaries of the ARTs of the Zion Unit 2 reactor vessel beltline materials at the 1/4-T and 3/4-T locations for 25.63 EFPY.

Table 3-1 of Framatome Technologies Report 77-1257503-00, Pressurized Thermal Shock Evaluation for Zion 1&2 P-T Curves (Attachment 4) provides the  $RT_{PTS}$  values for Zion Unit 1 for 32 EFPY.

Table 3-2 of Framatome Technologies Report 77-1257503-00, Pressurized Thermal Shock Evaluation for Zion 1&2 P-T Curves (Attachment 4) provides the  $RT_{PTS}$  values for Zion Unit 2 for 32 EFPY.

## **ZION - UNIT 1 AND 2**

### **PRESSURE AND TEMPERATURE LIMITS REPORT**

#### **3.0 Supplemental Data (continued)**

Section 6.1 of Framatome Technologies Report 32-1257382-00, Adjusted Reference Temperature for Zion 1&2 P-T Curves (Attachment 1) provides the calculations of surveillance chemistry factors using surveillance capsule data.

Section 3.0 of WCAP-14666 Rev. 0, Zion Units 1 and 2 Radiation Analysis and Neutron Dosimetry Evaluation (Attachment 2), provides a summary of the fluences used in the generation of the heatup and cooldown curves.

#### **4.0 Reactor Vessel Material Surveillance Program**

The reactor vessel material surveillance program is described in section 5.3.1.1 of the ZION UFSAR. The withdrawal schedules for Units 1 and 2 are presented in FSAR Table 5.3-6 and PTLR Tables 4.0-1 and 2.

The surveillance capsule reports are as follows:

1. Battelle Report No. BCL-585-4, "Zion Nuclear Plant Reactor Pressure Vessel Surveillance Program: Unit 1 Capsule T, and Unit 2 Capsule U," March 25, 1978, Table 21, pg.50, and Table 23, pg. 53.
2. Westinghouse WCAP-9890, "Analysis of Capsule U from the Commonwealth Edison Company Zion Nuclear Plant Unit 1 Reactor Vessel Radiation Surveillance Program," March 1981, pgs. 5-20 and 5-21.
3. Southwest Research Institute Report No. SwRI-7484-001/1, "Reactor Vessel Material Surveillance Program for Zion Unit No. 1 Analysis of Capsule X," March 1984, Table XI, pg.32.
4. Southwest Research Institute Report No. SwRI-06-6901-001, "Reactor Vessel Material Surveillance Program for Zion Unit No. 2 Analysis of Capsule T," July 1983, Table XI, pg.36.
5. Westinghouse WCAP-12396, "Analysis of Capsule Y from the Commonwealth Edison Company Zion Unit 2 Reactor Vessel Radiation Surveillance Program," September 1989.
6. B&W Technologies BAW-2082, "Analysis of Capsule Y, Commonwealth Edison Company Zion Nuclear Plant Unit 1 Reactor Vessel Material Surveillance Program," March 1990.

## **ATTACHMENT C**

### **ZION NUCLEAR GENERATING STATION**

#### **EVALUATION OF SIGNIFICANT HAZARD CONSIDERATIONS FOR PROPOSED CHANGES TO APPENDIX A TECHNICAL SPECIFICATIONS FACILITY OPERATING LICENSES DPR-39 AND DPR-48**

#### **SUPPLEMENT 2 TO LICENSE AMENDMENT REQUEST 96-02**

Commonwealth Edison previously evaluated the proposed amendment and determined that it involved no significant hazards considerations. This was documented in the original license amendment request, Reference (a).

Supplement 2 adds an additional requirement to the PTLR previously submitted in support of the amendment request. The additional requirement specifies the minimum temperature at which the reactor vessel can be pressurized, including an allowance for the uncertainty of the instrument used to measure the temperature. Supplement 2 also clarifies the meaning of a previously used term, "Reactor Vessel Boltup" to preclude confusion with the new minimum pressurization temperature requirement. Supplement 2 does not change or delete any requirements contained in the previously submitted PTLR. Supplement 2 adds a restriction not previously contained in the PTLR, and as a result, renders the PTLR more conservative.

Therefore, the changes contained in Supplement 2 do not alter ComEd's previous determination that the proposed amendment does not involve a significant increase in the probability or consequences of a previously evaluated accident, does not create the possibility of a new or different kind of accident from any previously evaluated accident, and does not involve a significant reduction in a margin of safety. The determination that the proposed amendment involves no significant hazards considerations, as documented in the original license amendment request, remains valid.

## **ATTACHMENT D**

### **ZION NUCLEAR GENERATING STATION ENVIRONMENTAL ASSESSMENT STATEMENT FOR PROPOSED CHANGES TO APPENDIX A TECHNICAL SPECIFICATIONS FACILITY OPERATING LICENSES DPR-39 AND DPR-48**

#### **SUPPLEMENT 2 TO LICENSE AMENDMENT REQUEST 96-02**

The previously proposed amendment was evaluated against the criteria for licensing and regulatory actions requiring environmental assessment in accordance with 10 CFR 51.21. It was determined that the proposed amendment met the criteria for categorical exclusion as provided under 10 CFR 51.22(c)(9). This was documented in the original License Amendment Request, Reference (a). The changes contained in Supplement 2 do not alter the original evaluation. Therefore the determination of categorical exclusion documented in the original environmental assessment remains valid.