Consumers Power Company

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General Offices: 212 West Michigan Avenue, Jackson, Michigan 49201 • Area Code 517 788-0550

September 11, 1974

Directorate of Licensing
US Atomic Energy Commission
Washington, DC 20545

Re: Docket 50-255
License DPR-20
Palisades Plant
AO-18-74

Gentlemen:

Attached is Abnormal Occurrence Report AO-18-74 covering pressurization of the primary coolant system with a low system temperature. This violation involved plant procedures and had no adverse effect on plant equipment.

Yours very truly,

Ralph B. Sewell (Signed)

DAB/mel

Ralph B. Sewell
Nuclear Licensing Administrator

CC: JGKeppler, USAEC

50-255 inquiry

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ABNORMAL OCCURRENCE REPORT
Palisades Plant

1. Report Number: AO-18-74, Docket 50-255.

2. a. Report Date: September 11, 1974.

   b. Occurrence Date: September 1, 1974.

3. Facility: Palisades Plant.

4. Identification of Occurrence: Pressurization of Primary Coolant System (PCS) when below the specified temperature.

5. Conditions Prior to Occurrence: Refueling shutdown.

6. Description of Occurrence: The pressure of the PCS was being increased to perform a leak test. The shift supervisor noted that the primary pressure was about 975 psia while the primary system temperature was only 150°F. Figure 3.1 of the Technical Specifications requires a temperature of 160°F to pressurize above 900 psia. This was, therefore, a violation of a limiting condition of operation.

7. Designation of Apparent Cause: Operator error and/or procedure deficiency.

   The operating procedures tell the operator to refer to the operating curve, prior to pressurization. There is, however, no mechanism to force the operator to follow the curve throughout the pressurization.

8. Analysis of Occurrence: A calculation was performed to demonstrate that the code allowable stress levels were not exceeded. The present vessel fluence was determined to be:

$$\text{Present nvt } \left(\frac{1.82 \times 10^{18} \text{ nvt}}{2540 \text{ MW}_t \times 584 \text{ Days}}\right) \times \left(\frac{13.72 \times 10^{6} \text{ MWh}_t}{1}\right) \times \left(\frac{\text{Days}}{24 \text{ Hours}}\right)$$

$$\text{Present nvt} = 0.70 \times 10^{18}$$

Where 13.72×10^{6} MWh_t is the cumulative thermal output to date and the ratio of nvt to MWd is taken from the Technical Specifications basis.

Figure 3.3 of the Technical Specifications shows that at 1.0×10^{18} nvt, the increase in NDTT is 60°F. Using this conservative number and allowing for 10°F temperature indication error, and 10°F for the initial NDT temperature, the minimum temperature for pressurization at this point in vessel life would be:

8. Analysis of Occurrence: (Contd)

Initial NDTT	10°F
NDTT Shift	60°F
Instrument Error	10°F
	60°F
NDTT Plus 60	140°F

Thus, no actual vessel limitations have been violated. However, it is deemed more important that the possibility existed that vessel limits could have been exceeded by the violation of the procedure.

Discussion with the shift supervisor revealed that the procedure manual in the control room was opened to the leak test procedure when he discovered the procedure violation. Step 4 of the prerequisites clearly specified that Figure B1.1 was applicable and that Section B1.2 of Technical Specifications was to be referenced - via a caution note.

9. Corrective Action: No corrective action is required to the PCS since the limits violated were procedural and calculations have shown that physical limits were not exceeded.

To prevent recurrence of this incident, a procedural change will be initiated which will require that while a leak test is being performed, a pressure vs temperature curve will be plotted.

The particular operator and shift supervisor will be reprimanded for this occurrence, and the subject of procedure adherence will be stressed to all operators in a series of shift meetings.

10. Failure Data: Not applicable.