

SAFETY EVALUATION REPORT FOR PALISADES  
TECHNICAL SPECIFICATION CHANGE REQUEST  
ON SAFETY INJECTION TANK BORON CONCENTRATION  
(TACS 49281)

1.0 Introduction

The Palisades Plant has been experiencing minor leakage (within Technical Specification limits) of primary coolant into Safety Injection Tank (SIT) T-82B. In order to prevent this leakage from causing the boron concentration in T-82B to decrease below the Technical Specification lower limit of 1720 ppm, operator action is currently required to restore the boron concentration in T-82B by frequently raising and lowering the fluid level in this tank. The problem has been compounded by a failure of the SIT level indicating system which necessitates operator reliance on the high and low level switch alarms for level indication. Each time one of the alarms is received, the SIT must be declared inoperable until the level and boron concentration are reestablished within the Technical Specification limits (TS 3.3.1.b). Since maintaining the fluid level in T-82B is important with regard to Loss of Coolant Accident (LOCA) analyses, Consumers Power Company has proposed Technical Specification changes which will allow the fluid level in T-82B to be within the Technical Specification limits a greater percentage of the time than at present.

2. Proposed Technical Specification Change

The Technical Specification changes will reduce the minimum required boron concentration in SIT T-82B from 1720 ppm to not less than the primary coolant system boron concentration for the remainder of Cycle 5. The frequencies for sampling the boron concentration in T-82B will be increased to "weekly" from "monthly" and to within one hour of a primary coolant system boron concentration greater than 70 ppm.

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### 3. Staff Evaluation

Consumers Power Company has stated that safety analyses were performed for LOCA events to determine the SIT boron concentration required to maintain the reactor in a shutdown condition during a LOCA. The analyses assumed that all control rods remained fully withdrawn and that the contents of one SIT with a boron concentration of 1720 ppm emptied into the containment via the primary coolant system break, leaving two tanks with 1720 ppm and one tank with a boron concentration equal to that in the primary coolant system. The results showed that these assumptions were sufficient to shutdown the reactor and maintain it in a shutdown condition throughout the LOCA under all conditions of burnup, power level, and xenon level. We find the assumptions to be conservative and the results acceptable. In addition, by maintaining the boron concentration in one SIT equal to or greater than the primary coolant system boron concentration, a boron dilution event cannot occur. Therefore, the proposed Technical Specification change which allows the SIT T-82B to have a boron concentration lower limit equal to the primary coolant system boron concentration is acceptable for the remainder of Cycle 5.

The proposed changes in the frequencies for sampling the T-82B boron concentration allow for a closer monitoring of the boron concentration in T-82B and are, therefore, acceptable.

### 4. Conclusions

We have reviewed the Technical Specification changes proposed for Palisades in order to deal with the current problems involving primary coolant leakage into SIT T-82B and find them acceptable for the remainder of Cycle 5.