



Consumers
Power
Company

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May 14, 1982

Mr J G Keppler, Regional Administrator
US Nuclear Regulatory Commission
Region III
799 Roosevelt Road
Glen Ellyn, IL 60137

MIDLAND PROJECT -
DOCKET NOS 50-329 AND 50-330
ACCIDENT TEMPERATURE EFFECTS ON
CONTAINMENT LEVEL MEASUREMENT
FILE: 0.4.9.61 SERIAL: 16192

- References: 1) NRC IE Bulletin 79-21, "Temperature Effects on Level Measurements," transmitted to Consumers Power by letter J G Keppler to S H Howell, dated August, 1979
- 2) Letter, R A Wells (CPCo) to H R Denton (NRC), "Docket Nos 50-329, 50-330, Chapter 7 and 8 Information," Serial 16632, dated April 15, 1982

On April 14, 1982, W R Bird notified Mr R Walker of your staff of the potentially reportable 10CFR50.55(e) condition concerning accident temperature effects on containment level measurement. This letter is an interim 50.55(e) report on this subject.

The general subject is a generic issue as provided by Reference 1. Reference 1 was provided for informational purposes only for power reactors with a construction permit. The Midland Plant conducted an analysis on the effects of high energy line break environment on the level sensors inside containment used to initiate safety actions or to provide post-accident monitoring in response to NRC question 031.54 (IE Bulletin 79-21). The results of the analysis were transmitted by Reference 2, along with a proposed modification. This information is included as an attachment to this letter. We have discussed this issue with the NRC staff Chapter 7 reviewers. The staff finds the proposed modification acceptable to resolve any concern with the Midland design subject to confirmation of implementation (7.3.3.1, SER).

Another 50.55(e) report, either interim or final, will be provided on or before October 1, 1982.

James W. Cook

WRB/TJK/lr

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CHAPTER 7 - NRC QUESTION 031.54 (IE Bulletin 79-21)

In response to NRC Question 031.54 for Midland 1 and 2, Consumers Power Company has conducted an analysis on the effects of high energy line break (HELB) environment on the level sensors inside containment used to initiate safety actions or to provide post-accident monitoring information. The results of the analysis indicate that the level sensors inside containment are affected to some degree by the HELB environment but the effects do not adversely affect the assumptions used in the plant safety analysis with the exception of the once-through system generator (OTSG) safety-grade water level sensors used by the auxiliary feedwater controls. These safety-grade OTSG water level sensors will incur errors that exceed present allowable setpoint bands due to the adverse HELB environment.

Additional analysis shows that insulation installed on the reference legs of these OTSG water level sensors is sufficient to reduce the total error of the auxiliary feedwater system to allow it to perform the necessary automatic functions with no actions required by the operator.

During a small break loss of coolant accident (SBLOCA), it is a procedural requirement for the Midland Plant that the operator manually raise the water level in the OTSG to a predetermined level. This manual level setpoint has a narrow setpoint band for the SBLOCA conditions. To manually control the level within the allowable setpoint band the operator will be required to make some minor adjustments to where he is controlling the level in the OTSG based on the temperature of the reference legs of the OTSG wide-range water level sensors (the operator will utilize a table of correction factors). Safety-grade temperature sensors will be installed to provide this indication. Our analysis has determined that no adjustments will be necessary for at least 15 minutes after a SBLOCA occurs.

Therefore, the Midland design will be changed to include insulation on the reference legs of the OTSG safety-grade water level sensors. Safety-grade temperature sensors will also be provided on two different reference legs of the wide-range OTSG safety-grade water level sensors of each OTSG with indication in the control room.