

ILLINOIS POWER COMPANY



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CLINTON POWER STATION, P.O. BOX 678, CLINTON, ILLINOIS 61727

U-10266

April 15, 1985

DmB

Docket No. 50-461

Mr. James G. Keppler  
Regional Administrator  
Region III  
U.S. Nuclear Regulatory Commission  
799 Roosevelt Road  
Glen Ellyn, Illinois 60137

Subject: Potential 10CFR50.55(e) Deficiency 55-84-13  
Suppression Pool Temperature Monitoring System

Dear Mr. Keppler:

On June 7, 1984, Illinois Power Company notified Mr. P. Pelke, NRC Region III (Ref. IP memorandum Y-21918 dated June 7, 1984), of a potentially reportable deficiency concerning the Suppression Pool Temperature Monitoring System. This initial notification was followed by two (2) interim reports (Ref: IP Letter U-10176, D. P. Hall to J. G. Keppler, dated July 9, 1984, and IP Letter U-10217, D. P. Hall to J. G. Keppler, dated November 2, 1984). Illinois Power's investigation of this issue is complete. Our investigation into this matter has determined that this issue does not represent a reportable deficiency under the provisions of 10CFR50.55(e). This letter is submitted as a final report in accordance with the requirements of 10CFR50.55(e). Attachment A provides the details of our investigation.

We trust that this final report provides you sufficient background information to perform a general assessment of this potentially reportable deficiency and adequately describes our overall approach to resolve this issue.

Sincerely yours,

D. P. Hall  
Vice President

RLC/lr (NRC2)

Attachment

cc: NRC Resident Office  
Director, Office of I&E, US NRC, Washington, DC 20555  
Illinois Department of Nuclear Safety  
INPO Records Center

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ATTACHMENT A

Illinois Power Company  
Clinton Power Station

Docket No. 50-461

Potential 10CFR50.55(e) Deficiency 55-84-13:  
Suppression Pool Temperature Monitoring System

Final Report

Statement of Potentially Reportable  
Deficiency/Background

The Suppression Pool Temperature Monitoring System (SPTMS), as designed, meets the GE design recommendations for "Normal Pool Monitoring," but does not meet the GE recommendation for providing a "Post-LOCA Pool Monitoring" capability as outlined in General Electric's A22-4020 document.

The twenty (20) RTD units (16 safety related, 4 non-safety related) that comprise the SPTMS are physically located with the temperature sensing tip at Elevation 730'6", which permits temperature monitoring even at low water level (LWL) alarm set point of Elevation 730'11"; however, in a small break-LOCA condition with maximum suppression pool drawdown, the RTDs could be uncovered resulting in loss of temperature monitoring. If the suppression pool water level is drawn down below the level of the temperature sensors, the Operator could be misled by erroneous readings and manually initiated safety actions could be delayed.

Investigation Results

Illinois Power prepared and implemented an investigation plan to determine the extent of this deficiency at Clinton Power Station (CPS). The investigation plan included:

1. The Architect/Engineer Sargent & Lundy (S&L) and IP Nuclear Station Engineering (NSEd) performed a review/evaluation of the current design for adequacy to meet requirements for design basis accidents which could result in the uncovering of the suppression pool temperature sensors.
2. Nuclear Station Engineering (NSEd) reviewed the results of the S&L evaluation to determine the significance to safety of operations of the Clinton Power Station.
3. The root cause has been determined and appropriate corrective action necessary to resolve the identified deficiencies has been addressed.

## ATTACHMENT A

(continued)

### Corrective Action

In order to ensure that the operator is provided with correct temperature indication, the Suppression Pool Temperature Monitoring System design has been modified to include additional temperature monitoring elements in each of the four (4) quadrants of the suppression pool at elevation 726'-10" water level, which is below the maximum drawdown water level. This modification will be performed concurrently with the completion of the Suppression Pool Temperature Monitoring System. With this design modification the SPTMS will be in full compliance with both GE and NRC recommendations. It is anticipated that the above action will be completed by June 3, 1985.

It will also be necessary to revise the operating and emergency procedures to direct the operator to note the suppression pool water level and monitor the lower temperature elements if the upper elements are uncovered. It is anticipated that this action will be completed by April 30, 1985.

To determine whether other design requirements and recommendations of the A-22 series documents have been adequately addressed, an internal S&L audit reviewed all of these GE customer interface data documents. This review has been completed and has determined that all other requirements and recommendations have been adequately addressed.

### Root Cause

The omission of temperature elements at the pool maximum drawdown level was due to an error in the application of required input data to the design of the suppression pool.

ATTACHMENT A  
(continued)

Safety Implications/Significance

Illinois Power's investigation of this potentially reportable deficiency is complete. Illinois Power and Sargent & Lundy have reviewed, and evaluated the findings associated with this matter and have concluded that the issue does not represent a reportable condition under the provisions of 10CFR50.55(e). This conclusion was based on our analysis which has shown that the SPTMS temperature elements could be uncovered during the course of certain loss-of coolant accidents, but that this condition will not significantly affect the safety of operations of the Clinton Power Station. Our calculations have shown that the pool water temperature would remain below allowable limits. Although the Operator may take action based on the indicated pool temperature which may be incorrect due to the uncovering of the temperature sensing elements, his actions would not be adverse to plant safety. It is therefore concluded that this deficiency does not represent a significant condition adverse to the safety of operations of CPS. On this basis, the issue is not considered to be reportable under the provisions of 10CFR50.55(e).