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50-237

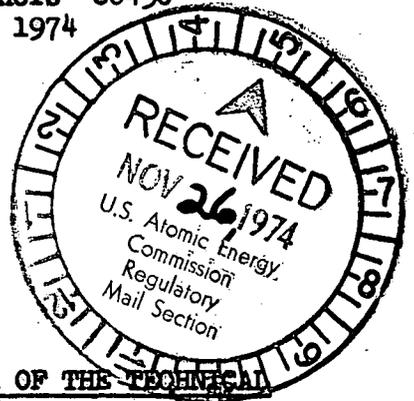
BES Ltr.#831-74

Dresden Nuclear Power Station  
 R. R. #1  
 Morris, Illinois 60450  
 November 18, 1974

Regulatory

File Cy.

Mr. James G. Keppler, Regional Director  
 Directorate of Regulatory Operations-Region III  
 U. S. Atomic Energy Commission  
 799 Roosevelt Road  
 Glen Ellyn, Illinois 60137



**SUBJECT: REPORT OF ABNORMAL OCCURRENCE PER SECTION 6.6.A OF THE TECHNICAL SPECIFICATIONS**  
**HIGH PRESSURE COOLANT INJECTION SYSTEM AREA TEMPERATURE SWITCH SETPOINT VIOLATION**

References: 1) Regulatory Guide 1.16 Rev.1 Appendix A

- 2) Notification of Region III of AEC Regulatory Operations  
 Telephone: Mr. Knope, 1530 hours on November 11, 1974  
 Telegram: Mr. J. Keppler, 0840 hours on November 12, 1974
- 3) Drawing Number: 12E2527

Report Number: 50-237/1974-63

Report Date: November 18, 1974

Occurrence Date: November 9, 1974

Facility: Dresden Nuclear Power Station, Morris, Illinois



**IDENTIFICATION OF OCCURRENCE**

High pressure coolant injection system (HPCI) area temperature sensors 2370A-D, 2371 A-D, 2372 A-D and 2373 A-D were found with setpoints above the 200°F Technical Specification limit.

**CONDITION PRIOR TO OCCURRENCE**

Dresden Unit 2 was in the refuel mode with a refueling outage in progress.

**DESCRIPTION OF OCCURRENCE**

During routine scheduled calibration of the HPCI area temperature sensors, the setpoints were found to be above the 200°F limit. The reactor was in the refuel mode with the head removed, therefore no immediate corrective action was necessary.

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DESIGNATION OF APPARENT CAUSE OF OCCURRENCE (Design Error)

Existing temperature sensors are not suited for a "first operation" surveillance type operation.

ANALYSIS OF OCCURRENCE

The function of the temperature sensors is to isolate the HPCI turbine steam supply in the event of a steam leak in the HPCI cubicle. The Technical Specifications require an isolation at or below 200°F. The "as found" set-points of the 16 switches involved would have provided an isolation at 223°F minimum and 236°F maximum. The steam supply to the HPCI turbine is in the range of 558° - 360°F.

In addition to the high temperature sensors, steam line breaks detection is also provided by differential pressure sensors. These devices are checked monthly. It is therefore concluded that no significant safety hazard was created as a result of the high setpoint of the HPCI temperature sensors.

CORRECTIVE ACTION

To prevent a future occurrence, a plant modification (M-12-2-74-139) will be made. Numerous problems exist with the calibration technique required to calibrate Fenwal switches. The modification will install a liquid filled temperature sensor which can be more accurately calibrated and which is more repeatable.

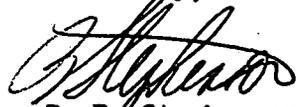
FAILURE DATA

The switches were last checked in February of 1972. At that time several switches were found above limits. Similar switches on Dresden Unit 3 have been found with high setpoints and the subsequent investigation has determined that the existing switches are misapplied in that an accurate first operation trip point cannot be consistently obtained.

The manufacturer of the switches (Fenwal Inc.) has investigated the problem and has stated that the existing switches are not properly suited when a first trip setpoint is required.

The switches involved are Fenwal series 1700 hermetically sealed thermo-switch type units.

Sincerely,



B. B. Stephenson  
Superintendent

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