**Commonwealth Edison**
Dresden Nuclear Power Station
6500 North Dresden Road
Morris, Illinois 60450
Telephone 815/942-2920

Date March 7, 1994

GFSLTR# 94-0071

U.S. Nuclear Regulatory Commission
Document Control Desk
Washingdon, D.C. 20555

License Event Report 2-94-006, Docket 50-237 is being submitted as required by Technical Specification 6.6, NUREG 1022 and 10 CFR 50.73 (a)(2)(v).

Gary F. Spedl
Station Manager
Dresden Station

GFS/lg

Enclosure

cc: J. Martin, Regional Administrator, Region III
NRC Resident Inspector's Office
File/NRC
File/Numerical

9403140165 940307
PDR ADOCK 05000237
S PDR

IE22

LICENSEE EVENT REPORT (LER)

Form Rev 2.0

| Facility Name (1) | Docket Number (2) | Page (3) |
|---|---|---|
| Dresden Nuclear Power Station, Unit 2 | 0 5 0 0 0 2 3 7 | 1 of 0 3 |

Title (4)

Unit 2 Shutdown Cooling Pump Motors did not have Relay Setting Orders Reviewed Prior to Motor Installations due to Defective Procedures

| Event Date (5) | | | LER Number (6) | | | Report Date (7) | | | Other Facilities Involved (8) | |
|---|---|---|---|---|---|---|---|---|---|---|
| Month | Day | Year | Year | Sequential Number | Revision Number | Month | Day | Year | Facility Names | Docket Number(s) |
| 0 2 | 0 5 | 9 4 | 9 4 | — 0 0 6 | — 0 0 | 0 3 | 0 7 | 9 4 | N/A | |
| | | | | | | | | | N/A | |

| OPERATING MODE (9) | | THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIRMENTS OF 10CFR (Check one or more of the following) (11) | | | |
|---|---|---|---|---|---|
| POWER LEVEL (10) | 0 9 9 | 20.402(b) | 20.405(c) | 50.73(a)(2)(iv) | 73.71(b) |
| | | 20.405(a)(1)(i) | 50.36(c)(1) | X 50.73(a)(2)(v) | 73.71(c) |
| | | 20.405(a)(1)(ii) | 50.36(c)(2) | 50.73(a)(2)(vii) | Other (Specify in Abstract below and in Text) |
| | | 20.405(a)(1)(iii) | 50.73(a)(2)(i) | 50.73(a)(2)(viii) (A) | |
| | | 20.405(a)(1)(iv) | 50.73(a)(2)(ii) | 50.73(a)(2)(viii)(B) | |
| | | 20.405(a)(1)(v) | 50.73(a)(2)(iii) | 50.73(a)(2)(x) | |

LICENSE CONTACT FOR THIS LER (12)

| NAME | TELEPHONE NUMBER |
|---|---|
| George C. Eckert II, SEC - Plant Support Engineering Ext. 2796 | AREA CODE 8 1 5 9 4 2 - 2 9 2 0 |

COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)

| CAUSE | SYSTEM | COMPONENT | MANUFAC-TURER | REPORTABLE TO NPRDS | CAUSE | SYSTEM | COMPONENT | MANUFAC-TURER | REPORTABLE TO NPRDS |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | |
| | | | | | | | | | |

| SUPPLEMENTAL REPORT EXPECTED (14) | | Expected Submission Date (15) | Month | Day | Year |
|---|---|---|---|---|---|
| X | Yes (If yes, complete EXPECTED SUBMISSION DATE) | NO | 0 9 | 1 6 | 9 4 |

ABSTRACT (Limit to 1400 spaces, i.e., approximately fifteen single-space typewritten lines) (16)


At approximately 1300 hours on February 5, 1994 with Unit 2 at 99% power, it was discovered that the installed Unit 2 Shutdown Cooling Pump Motors, which were replacement motors, had different electrical characteristics than the original motors. It was determined that a review of the protective relay setpoints for these motors had not been performed.

Subsequent engineering analysis indicated that the relay setpoints should be reset to accommodate the installed motors. The analysis also indicated that the coordination between the motor feed breakers and the main feed breakers to ESS buses 23-1 and 24-1 had not been affected. The ESS buses were never in jeopardy of becoming unavailable due to a fault at or on any of the Shutdown Cooling Pump motors. The protective relay setpoints were reset and the pumps declared operable.

PLANT AND SYSTEM IDENTIFICATION:

General Electric-Boiling Water Reactor-2527 MWt rated core thermal power.

EVENT IDENTIFICATION:

Unit 2 Shutdown Cooling [BO] Pump Motors did not have Relay Setting Orders Reviewed Prior to Motor Installations due to Defective Procedures.

A. CONDITIONS PRIOR TO EVENT:

Unit: 2 Event Date: 02/05/94 Event Time: 1300 hrs

Reactor Mode: N Mode Name: Run Power Level: 99%

Reactor Coolant System (RCS) Pressure: 1000 psig

B. DESCRIPTION OF EVENT:

At approximately 1300, on February 5, 1994 with Unit 2 operating at 99% power, it was determined that replacement motors installed on the 2A, B, and C Shutdown Cooling pumps did not receive an evaluation of the effect of the replacement motors on protective relay (breaker) settings. This problem was discovered during a similar installation on Unit 3.

The Unit 2 Shutdown Cooling Pumps were declared administratively inoperable per Dresden Administrative Technical Requirements 3/4.9 on February 5, 1994 at 1459. An ENS phone notification was made at 1459 EST, February 5, 1994 to report a condition affecting RHR Capability. Engineering analysis was performed to determine the correct relay setpoints and the effect the new setpoints would have on the ESS buses [EB]. The analysis indicated that the relay setpoints should be reset to accommodate the installed motor. The new relay setpoints would not affect the coordination of any of the motor feed breakers with the upstream ESS bus feed breakers. Therefore, the upstream relays would not be reset.

The existing configuration of the installed motors and existing relay setpoints did not adversely affect the availability of the ESS buses. The existing relay setpoint had both the long time and instantaneous settings too low for the existing motor. As such, a motor may have spuriously tripped its feed breaker due to high current but would not have challenged the main feed breaker to the ESS buses.

C. APPARENT CAUSE OF EVENT:

This report is being submitted in accordance with 10 CFR 50.73(a)(2)(v) which requires the reporting of any event or condition that alone could have prevented the fulfilement of the safety function of systems needed to remove residual heat.

The apparent cause of having motors installed without a review of their protective relay setpoints is due to a preconceived idea that this motor changeout was a like-for-like replacement and did not require an engineering review. This work was classified as reliability related. The existing work practices and procedures do not require an engineering review of this type of work package. The interaction of the replacement motor with the existing protective relaying was not

understood or believed to be a problem. Consequently, the change was not compatible with the as built condition.

D. SAFETY ANALYSIS OF EVENT:

The Shutdown Cooling System is not considered safety related or used to mitigate the consequences of any design basis accident. The protective relays were found to be improperly set in the direction which would have resulted in spurious tripping of the affected motors. Engineering analysis of the installed protective relay setpoints determined that the safety related bus which feeds the affected motors would have been protected from a postulated fault. All three of the affected motors have been satisfactorily run since their installation thereby making it highly unlikely that all three Shutdown Cooling Pump motors would have simultaneously caused breaker trips upon demand. Furthermore, if all three Shutdown Cooling pumps were lost, procedural guidance exists per DOA 1000-1 if alternate Shutdown Cooling methods were required.

The ESS 23-1 and 24-1 4kv buses provide the electrical feed to the Shutdown Cooling Pump motors. At no time were these buses in jeopardy of being lost because of the improperly set protective relays for the Shutdown Cooling Pump motors. The protective relays for the Shutdown Cooling Pump motor breakers must coordinate with the protective relays on the main feed breakers to the ESS buses. Coordination ensures that a fault at a load will be cleared by the load breaker and will not propagate upstream to the main feed breaker. Coordination existed between the Shutdown Cooling Pump motor breakers and the main feed breakers both before and after the Shutdown Cooling Pump motors protective relays were reset. Therefore, if a fault condition existed at or on a Shutdown Cooling Pump motor, the motor feed breaker would have tripped without affecting the availability of the ESS bus.

E. CORRECTIVE ACTIONS:

1) The protective relays for all three Shutdown Cooling Pump motor breakers were reset on 2/11/94.

2) The Site Engineering and Construction - Plant Support Department will further investigate this issue to determine what procedures should be changed to ensure this problem does not occur again. The results will be submitted in a supplemental report.

F. PREVIOUS OCCURRENCES:

There were no previous occurrences of this nature found.

G. COMPONENT FAILURE DATA:

None.