



Commonwealth Edison

Dresden Nuclear Power Station

R.R. #1

Morris, Illinois 60450

Telephone 815/942-2920

September 4, 1991

EDE LTR #91-543

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

Licensee Event Report #91-025-00, Docket #050237 is being submitted as required by Technical Specification 6.6, NUREG 1022 and 10 CFR 50.73(a)(2)(i)(b).

E. D. Eenigenburg
Station Manager
Dresden Nuclear Power Station

EDE/ade

Enclosure

cc: A. Bert Davis, Regional Administrator, Region III
File/NRC
File/Numerical

(ZDVR/298)

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LICENSEE EVENT REPORT (LER)

Form Rev 2.0

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

Title (4) SRM/IRM Functional Test Technical Specification Requirements Not Met Due to Procedure Deficiencies

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	8	12	9	1	9	1	0	2	5	0	0	0	9	0	4	9	1	N/A	
																		N/A	

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

LICENSEE CONTACT FOR THIS LER (12)

Name: Brian W. Sampson, Technical Staff System Engineer Ext. 2266 TELEPHONE NUMBER: AREA CODE 8 1 5 9 4 2 1 - 2 19 2 10

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) X NO

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

In response to a verbal request for information regarding Intermediate Range Monitor (IRM) functional testing, the Technical Staff System Engineer, Instrument Maintenance, and Operations initiated a review of applicable procedures. In the course of this review it was determined that Technical Specification requirements for functional testing of the IRM inoperable (INOP) Reactor Protection System (RPS) trip were not fully met by current station procedures. In addition, it was discovered that the Technical Specification requirements for functional testing of the IRM Hi-Hi RPS trip function and the Source Range Monitor (SRM) Hi and IRM Hi rod block functions were not met in some cases in which the testing surveillances were performed in Run mode during Unit shutdowns. Performance of the tests in Run mode does not allow proper functional testing because these SRM/IRM rod block and RPS trips are bypassed in that mode of operation. The cause of this event has been determined to be procedural deficiency. The safety significance is minimal because the proper operation of these functions has been verified and there is no indication that their condition was degraded. Corrective actions included issuance of temporary procedure changes to ensure proper testing. Long term corrective actions will include permanent procedure changes.

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TEXT Energy Industry Identification System (EIIS) codes are identified in the text as [XX]

PLANT AND SYSTEM IDENTIFICATION:

General Electric - Boiling Water Reactor - 2527 Mwt rated core thermal power

Nuclear Tracking System (NTS) tracking code numbers are identified in the text as (XXX-XXX-XX-XXXXX)

EVENT IDENTIFICATION:

SRM/IRM [IG] Functional Test Technical Specification Requirements Not Met Due to Procedure Deficiencies

A. CONDITIONS PRIOR TO EVENT:

Unit(s): 2(3) Event Date: August 12, 1991 Event Time: 1500 Hours
 Reactor Mode(s): N(N) Mode Name(s): Run(Run) Power Level(s): 80(57)%
 Reactor Coolant System (RCS) Pressure: 976(1004) psig

B. DESCRIPTION OF EVENT:

On August 12, 1991, a verbal request for information was made to a Technical Staff System Engineer regarding Intermediate Range Monitor (IRM) [IG] functional test procedures. This information was required to support an ongoing General Office Engineering project to review safety-related contact testing at the Station. In response to the request for information, an investigation was conducted by the Technical Staff System Engineer, Operations, and Instrument Maintenance which led to the discovery at approximately 1500 hours that the IRM Inoperable (INOP) Reactor Protection System (RPS) trip function was not fully tested at the frequency required by Technical Specification Table 4.1.1, Scram Instrumentation Functional Tests. This Technical Specification requires that the IRM INOP trip function be tested prior to each unit startup by verifying an RPS channel trip upon IRM INOP condition. The current procedure for testing the INOP function, Dresden Instrument Surveillance (DIS) 700-4, IRM Rod Block/Scram Calibration Test, only required indication on local alarms that an INOP condition is detected rather than actually tripping an RPS channel. Therefore, the IRM INOP RPS trip function was not fully tested per this procedure as required by the Technical Specifications.

Further investigation into SRM [IG] and IRM surveillance testing uncovered an additional problem. During controlled plant shutdowns it is the current practice for the Instrument Maintenance Department (IMD) to perform SRM/IRM calibrations and functional testing surveillances during the shutdown with the unit still in Run mode. The surveillance procedures used are DIS 700-3, Source Range Monitor (SRM) Rod Block Calibration Check, and DIS 700-4. These surveillances provide for the functional testing of the IRM Hi-Hi RPS trip and the SRM Hi and IRM Hi rod block trips. Technical Specification Table 4.1.1 requires that the IRM Hi-Hi RPS trip function be tested before each startup by tripping the associated RPS channel for each IRM, and Technical Specification Table 4.2.1, Minimum Test and Calibration Frequency for Core and Containment Cooling Systems Instrumentation, Rod Blocks, and Isolations, requires that the SRM Hi and IRM Hi rod block functions be tested before each startup by verifying that an SRM Hi or IRM Hi condition generates a rod block. In cases when these procedures are performed during shutdown they are not performed again if startup occurs in less than seven days. However, when the surveillances

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are performed in Run mode, the SRM and IRM rod block and RPS trips are bypassed. In this case, the normal practice was to perform the SRM and IRM rod block and trip calibrations by verifying that local alarms occur at the required setpoints. However, in these situations, the procedures allowed omission of steps requiring performing the functional tests by actually generating rod blocks and RPS trips. Therefore, in these cases, the IRM Hi-Hi RPS trip and the SRM and IRM Hi rod block trips were not functionally tested as required by the Technical Specifications.

A 24 hour Red Phone notification was made on August 13, 1991 to report the Technical Specification violation concerning the IRM INOP and Hi-Hi trip functional test deficiencies. The deficiencies concerning the SRM and IRM Hi rod block functions were not discovered until August 16, and were reported in a 24 hour Red Phone notification on that day.

C. APPARENT CAUSE OF EVENT:

This event is being reported in accordance with Title 10 of the Code of Federal Regulations Part 50 Section 73(a)(2)(i)(b), which requires the reporting of any operation or condition prohibited by the plant's Technical Specifications.

The root cause of this event is procedural deficiency. DIS 700-4 did not require that the IRM INOP function be checked by tripping an RPS channel. Instead, it only required verification that a local INOP alarm is received upon initiation of an INOP condition while the IRM is placed in bypass to avoid generating a half scram. Also, neither DIS 700-3 nor DIS 700-4 contained any notes or precautions stating that performance of the procedures in Run mode does not allow complete testing of the IRM Hi-Hi RPS trip or SRM/IRM Hi rod block trip functions as required by the Technical Specifications.

A contributing cause to this deficiency lies in the fact that the frequency of the performance of these procedures has changed over the history of the plant. Originally, the calibrations and functional tests were always performed prior to each startup, as required by Technical Specifications. In the past, however, plant startups following unit scrams sometimes occurred after only a short time down (i.e. turn-arounds following scrams were often very short). Due to the short turn-around times, the SRM and IRM calibration and functional test surveillances were sometimes the source of startup delays. Because of this, a practice was implemented of performing the surveillances once per week, no matter what condition the plant was in at the time. That way the surveillances were always less than seven days old, so no startup delays could occur. The exact time at which this practice was implemented has not been determined. However, interviews of maintenance management personnel indicate that the time frame involved is approximately fifteen years. Although unknown at the time, this practice of performing the surveillances with the Unit in Run mode may have resulted in Technical Specification violations due to inability to properly perform functional tests on SRM/IRM rod blocks and RPS trips in the Run mode. Within the last two years the policy has changed again. Due to longer turn-around times following scrams, it was determined that performing DIS 700-3 and DIS 700-4 once per week was unnecessary and resulted in a significant waste of IMD manpower. Because of this, the requirement of performing the surveillances once per week was removed, and the practice of performing the surveillances during controlled shutdowns was implemented. This most recent policy change still left open the potential for not meeting Technical Specifications requirements in cases in which the unit undergoes a controlled shutdown for an outage of less than seven days duration.

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D. SAFETY ANALYSIS OF EVENT:

Although the IRM INOP RPS trip function was not functionally tested by tripping an RPS channel prior to each startup as required by Technical Specifications, a test was performed prior to each startup per DIS 700-4 in which the IRM INOP RPS trip function was tested by verifying local alarms. In addition, the IRM INOP function is tested during each refuel outage by tripping an RPS channel per DIS 500-9, RPS Functional Response Time Tests. The INOP function was successfully tested in the most recent Unit 2 and Unit 3 refuel outages. Over the course of the current cycle for Unit 2 there have been eight startups. In two of these startups the IRM Hi-Hi RPS trip and the SRM/IRM Hi rod block trip functions were not properly tested due to the fact that the surveillances were performed in the Run mode during the Unit shutdown. For Unit 3 this situation has occurred in three of nine startups over the course of the current cycle. In all of these cases for both Units, however, the surveillances were successfully performed in future startups with no abnormalities being found. There is no indication that the ability of these systems to perform their intended function was degraded at any time. For these reasons, the safety significance of this event is minimal.

E. CORRECTIVE ACTIONS:

Immediate corrective actions included writing temporary procedure changes on several procedures to ensure that all functional tests are performed prior to each startup in the manner required by Technical Specifications. Specifically, steps and notes were added to DIS 700-3 and DIS 700-4 to require proper functional testing of SRM Hi and IRM Hi rod block trips as well as IRM Hi-Hi and IRM INOP RPS trips. In addition, Operations startup procedures and checklists were temporarily changed to require verification prior to startup that DIS 700-3 and DIS 700-4 have been completed within the preceding seven days in either Refuel or Startup mode. The specific procedures changed were Dresden General Procedures (DGP) 1-1, Unit 2(3) Normal Unit Startup, DGP 1-2, Unit 2(3) Startup to Hot Standby, DGP 1-S1, Unit 2(3) Master Startup Checklist, and DGP 1-S2, Unit 2(3) Minimum Startup Checklist. These changes will ensure that DIS 700-3 and DIS 700-4 have been performed with the mode switch in a position that will allow proper testing within the seven days prior to any startup. These changes are currently in place.

A Potentially Significant Event report was also issued by the Station to initiate notification of other Commonwealth Edison sites in accordance with Nuclear Operations Directive (NOD) OP.10.

Long term corrective actions will involve a review of all applicable procedures by the Technical Staff System Engineer, Instrument Maintenance, and Operations. Based on this review permanent procedure changes will be made which will ensure that all Technical Specification functional test requirements are met at all times for the SRMs and IRMs. These permanent changes may include creation of new procedures as well as revisions of existing procedures (237-200-91-14001).

Finally, a review of other neutron monitoring calibration and functional test requirements was conducted. This review showed that current station procedures adequately meet the requirements of all other neutron monitoring testing requirements.

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F. PREVIOUS OCCURENCES:

LER/Docket Numbers Title

88-002-0/050237 Failure to Test the APRM Inop Function in the Startup Mode Due to Procedural Deficiency.

An audit of Technical Specification adherence identified a deficiency in the weekly Average Power Range Monitor (APRM) [IG] surveillance procedure Dresden Operating Surveillance (DOS) 500-3, APRM Rod Block and Scram Functional Test. This deficiency resulted in omitting the APRM inoperative (INOP) function test whenever the procedure was performed with the reactor in the Startup mode. This was a violation of Technical Specification Table 4.1.1. Corrective action involved revising DOS 500-3 to ensure compliance with Technical Specifications as well as reviewing other Station procedures to verify that all Technical Specification surveillance requirements were met. However, this review had a broad scope which was intended to insure that proper surveillance procedures were in place for each major functional activity and was not sufficient to uncover the relatively obscure deficiencies within these procedures.

G. COMPONENT FAILURE DATA:

There were no component failures involved with this event.