



Commonwealth Edison
Dresden Nuclear Power Station
R.R. #1
Morris, Illinois 60450
Telephone 815/942-2920

February 20, 1990

EDE LTR #90-133

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

Licensee Event Report #90-001-0, Docket #050249 is being submitted as required by Technical Specification 6.6, NUREG 1022 and 10 CFR 50.73(a)(2)(iv).

L. J. Lerner for

E.D. Eenigenburg
Station Manager
Dresden Nuclear Power Station

EDE/jt

Enclosure

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

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LICENSEE EVENT REPORT (LER)

Form Rev 2.0

Facility Name (1) Dresden Nuclear Power Station, Unit 3 Docket Number (2) 0 5 10 10 10 12 14 19 Page (3) 1 of 0 4

Title (4) Inadvertent Auto Start of Unit 3 Diesel Generator Due Procedure Deficiency

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	1	2 4 9 10	9 10	0 1 1 2	0 1 0	0	2	2 10 9 10		0 5 10 10 10 1 1

OPERATING MODE (9) N

POWER LEVEL (10) 0 0 0

THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10CFR (Check one or more of the following) (11)

<input type="checkbox"/> 20.402(b)	<input type="checkbox"/> 20.405(a)(1)(i)	<input type="checkbox"/> 20.405(a)(1)(ii)	<input type="checkbox"/> 20.405(a)(1)(iii)	<input type="checkbox"/> 20.405(a)(1)(iv)	<input type="checkbox"/> 20.405(a)(1)(v)	<input type="checkbox"/> 20.405(c)	<input type="checkbox"/> 50.36(c)(1)	<input type="checkbox"/> 50.36(c)(2)	<input type="checkbox"/> 50.73(a)(2)(i)	<input type="checkbox"/> 50.73(a)(2)(ii)	<input type="checkbox"/> 50.73(a)(2)(iii)	<input checked="" type="checkbox"/> 50.73(a)(2)(iv)	<input type="checkbox"/> 50.73(a)(2)(v)	<input type="checkbox"/> 50.73(a)(2)(vii)	<input type="checkbox"/> 50.73(a)(2)(viii)(A)	<input type="checkbox"/> 50.73(a)(2)(viii)(B)	<input type="checkbox"/> 50.73(a)(2)(x)	<input type="checkbox"/> 73.71(b)	<input type="checkbox"/> 73.71(c)	<input type="checkbox"/> Other (Specify in Abstract below and in Text)
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LICENSEE CONTACT FOR THIS LER (12)

Name: Ismael Rivera, Jr., Technical Staff System Engineer Ext. 2549

TELEPHONE NUMBER: AREA CODE 8 1 5 9 4 2 1 -2 19 12 10

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

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS

SUPPLEMENTAL REPORT EXPECTED (14)

Yes (If yes, complete EXPECTED SUBMISSION DATE) X | NO

Expected Submission Date (15)

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

On January 24, 1990 at 2132 hours, with the reactor shutdown in the refuel mode and during preparation for the performance of Special Procedure (SP) 90-1-39, Bus Undervoltage and ECCS Integrated Functional Test for Unit 3 Diesel Generator, the Unit 3 Diesel Generator (DG) automatically started due to an Electrical Maintenance Department (EMD) individual inadvertently completing the auto-start circuit of the DG. The electrician was utilizing a low resistance hand held voltage tester to check terminals on an undervoltage relay subsequent to connecting leads from a chart recorder when the circuit was completed, causing the unplanned DG start. The safety significance of this event was minimal because the Nuclear Station Operator, upon receiving alarms associated with the auto-start of the DG, verified proper DG operation, ensured there were no initiation signals present, and on orders of the Shift Engineer secured the DG. SP 90-1-39 was then satisfactorily completed. The restricted use of low resistance hand held voltage testers will be communicated to all EMD personnel. The Bus Undervoltage and ECCS Integrated Functional Test procedures will also be revised to identify test switches to be momentarily opened for recorder installation, thus eliminating a repeat occurrence of an inadvertent initiation of the DG in this manner. This was the first occurrence of this type.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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

C. APPARENT CAUSE OF EVENT:

This event was considered an unplanned automatic actuation of an Engineered Safety Feature (ESF), and therefore, reportable under 10CFR50.73(a)(2)(iv). After interviews with the EMD and Technical Staff personnel involved in the event, the conclusion was reached that the root cause of the DG auto-start was attributed to a lack of caution or instruction in the procedure for installing the test recorder. The actuation of the DG and its associated alarms resulted from the EMD electrician verifying that the terminal points that the test recorder was hooked up to remained energized. In the process of checking voltage on terminals 11 and 12 on undervoltage relay 127-B34-1X3 utilizing a low DC resistance hand held voltage tester, the undervoltage circuit was made up, and the diesel auto-started. The voltage tester has a low DC resistance and consequently appears like a short when installed across open contacts. Terminal points 11 and 12 of undervoltage relay 127-B34-1X3 are normally open contacts and are in series with the ASR of the Unit 3 DG. When these contacts make up or are jumpered across to simulate a closure, the ASR will be energized. The low resistance of the voltage tester acted as a direct short across the contacts and as a result momentarily energized the ASR. The electrician proceeded to check the next pair of contacts, terminal points 7 and 8, which gives the annunciator alarm in the control room. Terminal points 7 and 8 were not included in the installation instructions. No other points were checked.

D. SAFETY ANALYSIS OF EVENT:

The Unit 3 reactor was in a cold shutdown condition with the mode switch in refuel. Dresden Technical Specifications (TS) state that whenever the reactor is in the cold Shutdown or Refueling modes, a minimum of one DG (either the Unit 3 DG or the Unit 2/3 swing DG) shall be operable whenever any work is being done which has the potential for draining the vessel; secondary containment is required, or a core cooling system is required (TS 3.9.D). TS 4.9.D.4 states that additionally, during each refueling outage, a simulated loss of off-site power in conjunction with an ECCS initiation signal test be performed on the 4160 volt emergency bus (Buses 33-1 and 34-1). This is accomplished by: Verifying de-energization of the emergency buses and load shedding from the emergency buses, verifying the DG starts from ambient condition on the auto-start signal, energizes the emergency buses with permanently connected loads, energizes the auto-connected emergency loads through the load sequencer, and operates for greater than or equal to five minutes while its DG is loaded with the emergency loads.

SP 90-1-39, Bus Undervoltage and ECCS Integrated Functional Test for Unit 3 DG, and SP 90-1-40, Bus Undervoltage and ECCS Integrated Functional Test for Unit 2/3 DG (Unit 3 Test Only), were performed during the refueling outage to meet TS 3.9.D.4 as described previously. Prior to the performance of these surveillances, both the Unit 3 and 2/3 DGs were operable. SP 90-1-40 was performed first and completed satisfactorily, thus satisfying the operability requirements for the 2/3 DG. Immediately following, SP 90-1-39 was then performed and also completed satisfactorily; thus, the Unit 3 DG was also proven operable.

Therefore, during the time at which the Unit 3 DG was unintentionally started, the Unit 2/3 DG was operable, satisfying the requirements of TS 3.9.D. Also, as described previously, the Unit 3 DG started properly when challenged by inadvertent actuation of the auto-start relay. Consequently, the safety significance of this event is considered minimal.

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E. CORRECTIVE ACTIONS:

The actions taken to prevent recurrence will consist of two items. The restricted use of low resistance hand held voltage testers will be addressed during an upcoming Dresden Station Tailgate. This tailgate will emphasize the use of this type of voltage tester only when working on power circuits and not when working on relaying and control circuits (249-200-90-01201). The purchase of high resistance leads for the voltage testers will also be reviewed by the Maintenance Staff (249-200-90-01202). The third measure will consist of a revision of the Bus Undervoltage and ECCS Integrated Functional Test procedures by the Technical Staff to identify the applicable test switches to be utilized to disable the auto-start of the DG when hooking up the test recorder to the terminal points on the respective undervoltage relays (249-200-90-01203). Lastly, the Training Department will request the Production Training Center to include specific training on the proper use of this type of voltage tester into initial training for electricians (249-200-90-01204).

F. PREVIOUS EVENTS:

LER/Docket Numbers Title

Although this is believed to be the first unplanned automatic DG start caused by inappropriate use of a voltage tester, two previous unrelated unplanned automatic DG start events are listed below.

86-009/050249 Automatic Start of the Unit 2/3 Diesel Generator Due to Personnel Error.

The main feed breaker from Bus 33 to Bus 33-1 was opened resulting in the auto-start of the Unit 2/3 DG.

86-005/050249 Automatic Start of the Unit 3 Diesel Generator Due to Personnel Error.

An equipment operator inadvertently opened the main feed breaker from Bus 34 to Bus 34-1 and caused the Unit 3 DG to auto-start.

G. COMPONENT FAILURE DATA:

There were no component failures during this event; therefore, this section is not applicable.