

CATEGORY 1

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ACCESSION NBR:9905190187 DOC.DATE: 99/05/13 NOTARIZED: NO DOCKET #
 FACIL:50-244 Robert Emmet Ginna Nuclear Plant, Unit 1, Rochester G 05000244
 AUTH.NAME AUTHOR AFFILIATION
 ST. MARTIN,J.T. Rochester Gas & Electric Corp.
 MECREDY,R.C. Rochester Gas & Electric Corp.
 RECIP.NAME RECIPIENT AFFILIATION

VISSING G.S.

SUBJECT: LER 99-005-00:on 990413,undervoltage signal of safeguards
 bus during testing resulted in automatic start of "B" EDG.
 Caused by personnel error.Blow fuse was replaced & offsite
 power was restored to safeguards bus 17.With 990513 ltr.

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ROBERT C. MECREDY
Vice President
Nuclear Operations

May 13, 1999

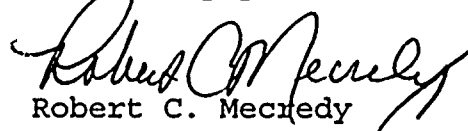
U.S. Nuclear Regulatory Commission
Document Control Desk
Attn: Guy S. Vissing
Project Directorate I-1
Washington, D.C. 20555

Subject: LER 1999-005, Undervoltage Signal on Safeguards Bus
During Testing Results in Automatic Start of "B"
Emergency Diesel Generator
R.E. Ginna Nuclear Power Plant
Docket No. 50-244

Dear Mr. Vissing:

The attached Licensee Event Report LER 1999-005 is submitted in accordance with 10 CFR 50.73, Licensee Event Report System, item (a) (2) (iv), which requires a report of, "Any event or condition that resulted in a manual or automatic actuation of any engineered safety feature (ESF), including the reactor protection system (RPS)".

Very truly yours,


Robert C. Mecredy

xc: Mr. Guy S. Vissing (Mail Stop 8C2)
Project Directorate I-1
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Regional Administrator, Region I
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U.S. NRC Ginna Senior Resident Inspector

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LICENSEE EVENT REPORT (LER)

(See reverse for required number of
digits/characters for each block)

FACILITY NAME (1)

R. E. Ginna Nuclear Power Plant

DOCKET NUMBER (2)

05000244

PAGE (3)

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TITLE (4)

Undervoltage Signal on Safeguards Bus During Testing Results in Automatic Start of "B" Emergency Diesel Generator

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 NAME	DOCKET NUMBER
04	13	1999	1999	005	00	05	13	1999		05000
OPERATING MODE (9)		5	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more) (11)							
POWER LEVEL (10)		000	20.2201(b)		20.2203(a)(2)(v)		50.73(a)(2)(i)(B)		50.73(a)(2)(viii)	
			20.2203(a)(1)		20.2203(a)(3)(i)		50.73(a)(2)(ii)		50.73(a)(2)(x)	
			20.2203(a)(2)(i)		20.2203(a)(3)(ii)		50.73(a)(2)(iii)		73.71	
			20.2203(a)(2)(ii)		20.2203(a)(4)		X 50.73(a)(2)(iv)		OTHER	
			20.2203(a)(2)(iii)		50.36(c)(1)		50.73(a)(2)(v)		Specify in Abstract below or in NRC Form 366A	
			20.2203(a)(2)(iv)		50.36(c)(2)		50.73(a)(2)(vii)			

LICENSEE CONTACT FOR THIS LER (12)

NAME

John T. St. Martin - Technical Assistant

TELEPHONE NUMBER (Include Area Code)

(716) 771-3641

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPX	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPX

SUPPLEMENTAL REPORT EXPECTED (14)		EXPECTED SUBMISSION DATE (15)		MONTH	DAY	YEAR
YES (If yes, complete EXPECTED SUBMISSION DATE).	NO X					

ABSTRACT (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines) (16)

On April 13, 1999, at approximately 1525 EDST, the plant was shutdown in Mode 5 for the 1999 refueling outage. A Refueling Shutdown Surveillance Procedure was in progress. During this surveillance (test), the "B" Emergency Diesel Generator, which had been locked out for the test, was reset with an undervoltage signal present on safeguards bus 17. The "B" Emergency Diesel Generator automatically started and reenergized bus 17 as per design.

The cause of the reset was a personnel error.

Immediate corrective action was to verify that the "B" Emergency Diesel Generator had started and reenergized bus 17. When the cause of the undervoltage signal on bus 17 was identified, normal offsite power was restored to bus 17.

Corrective action to prevent recurrence is outlined in Section V.B.

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		1999	- 005 -	00	

TEXT (If more space is required, use additional copies of NRC Form 366A) (17)

I. PRE-EVENT PLANT CONDITIONS

On April 13, 1999, at approximately 1525 EDST, the plant was shutdown in Mode 5 for the 1999 refueling outage with the reactor coolant system (RCS) being maintained at a temperature of approximately 90 degrees F and a pressurizer pressure of approximately 75 PSIG in water-solid pressure control. The residual heat removal (RHR) system was providing normal cooling to the RCS. The Safety Injection Functional Test (Refueling Shutdown Surveillance Procedure RSSP-2.1) was in progress.

Technicians had just completed a portion of the Safety Injection Functional Test (RSSP-2.1) that deenergizes the "B" safeguards train safeguards buses (buses 16 and 17) to verify interlocks. Steps in RSSP-2.1 to restore power to these buses were being performed. Note that the "B" Emergency Diesel Generator (EDG) had been placed in lockout as part of this test. When restoring power to safeguards bus 17, the normal supply circuit breaker for bus 17 did not close to reenergize the bus. Troubleshooting was initiated to correct this condition with bus 17.

II. DESCRIPTION OF EVENT

A. DATES AND APPROXIMATE TIMES OF MAJOR OCCURRENCES:

- o April 13, 1999, 1525 EDST: Event date and time.
- o April 13, 1999, 1525 EDST: Discovery date and time.
- o April 13, 1999, 1525 EDST: Control Room operators verify the "B" Emergency Diesel Generator (EDG) operation and that safeguards bus 17 is reenergized.
- o April 13, 1999, 1553 EDST: The "B" EDG is stopped.
- o April 13, 1999, 1631 EDST: Safeguards bus 17 is reenergized by offsite power.

B. EVENT:

On April 13, 1999, at approximately 1525 EDST, the plant was shutdown in Mode 5 for the 1999 refueling outage with the reactor coolant system (RCS) being maintained at a temperature of approximately 90 degrees F and a pressurizer pressure of approximately 75 PSIG in water-solid pressure control. The residual heat removal (RHR) system was providing normal cooling to the RCS. The Safety Injection Functional Test (Refueling Shutdown Surveillance Procedure RSSP-2.1) was in progress.

Technicians had just completed a portion of the Safety Injection Functional Test (RSSP-2.1) that deenergizes the "B" safeguards train safeguards buses (buses 16 and 17) to verify interlocks. Steps in RSSP-2.1 to restore power to these buses were being performed. Note that the "B" Emergency Diesel Generator (EDG) had been placed in lockout as part of this test. When restoring power to safeguards bus 17, the normal supply circuit breaker for bus 17 did not close to reenergize the bus. Troubleshooting was initiated to correct this condition with bus 17.

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When performing RSSP-2.1, all vital equipment powered from a safeguards train is deenergized. After the bus 17 breaker did not close, the test coordinator for RSSP-2.1 determined that it was desirable to restore this equipment to the extent practicable, and continued to restore safeguards bus 16, associated motor control centers and other vital equipment powered by bus 16 from the "B" safeguards train, as directed by RSSP-2.1.

After restoration of equipment on bus 16, the test coordinator communicated that the next steps in RSSP-2.1 would reset the "B" EDG from the lockout position. The test coordinator recalled that bus 17 was deenergized, which generates an undervoltage signal for bus 17. If the EDG were to be reset, it would start on this undervoltage signal. However, the licensed operator assisting with RSSP-2.1 reset the "B" EDG just prior the test coordinator attempting to clarify that this step should be delayed, at approximately 1525 EDST on April 13.

The Control Room operators received Main Control Board annunciator alarm J-32 (EMERGENCY DIESEL GEN 1B PANEL). The Control Room operators and test coordinator determined that the "B" EDG had automatically started and was tied to safeguards bus 17. There was an undervoltage signal present on safeguards bus 17 with bus 17 deenergized (after the normal supply breaker did not close). When the "B" EDG was reset, it automatically started due to the undervoltage signal and reenergized bus 17.

The Control Room operators referred to System Operating Procedure T-27.4, "Diesel Generator Operation" for guidance on operating the "B" EDG unloaded on bus 17. They determined that loads should be placed on bus 17 to avoid operating the "B" EDG unloaded. Attempts to load equipment onto bus 17 were unsuccessful, and the "B" EDG was stopped at approximately 1553 EDST.

Troubleshooting of the normal supply breaker for bus 17 revealed there were no breaker problems. A blown fuse was found in the potential transformer circuitry for bus 17. With this fuse blown, an undervoltage signal was present for bus 17 whether the bus is energized or deenergized, which prevented the normal supply breaker from closing. This fuse was replaced, removing the undervoltage signal for bus 17.

At approximately 1631 EDST, the normal supply breaker for safeguards bus 17 was closed and bus 17 was reenergized by offsite power. Subsequently, the "B" EDG was realigned for auto standby.

C. INOPERABLE STRUCTURES, COMPONENTS, OR SYSTEMS THAT CONTRIBUTED TO THE EVENT:

There was a blown fuse that caused an undervoltage signal on bus 17. The undervoltage signal prevented the bus 17 normal supply breaker from being able to close. The fuse was functioning prior to the start of RSSP-2.1 activities affecting the "B" safeguards train, and blew at some point after bus 17 was initially deenergized per RSSP-2.1.

D. OTHER SYSTEMS OR SECONDARY FUNCTIONS AFFECTED:

None



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TEXT (If more space is required, use additional copies of NRC Form 366A) (17)

E. METHOD OF DISCOVERY:

This event was immediately apparent due to the Main Control Board alarm and other indications in the Control Room when the "B" EDG started and reenergized Bus 17.

F. OPERATOR ACTION:

Due to the undervoltage condition on bus 17, the "B" EDG automatically started and reenergized this bus. The Control Room operators verified that the "B" EDG was operating and safeguards bus 17 was energized. The "B" EDG was stopped when loads could not be placed on bus 17.

The Shift Supervisor notified higher supervision and the NRC Ginna Senior Resident Inspector of the start of the "B" EDG. Subsequently, the Shift Supervisor notified the NRC per 10 CFR 50.72 (b) (2) (ii), non-emergency four hour notification, at approximately 1758 EDST on April 13, 1999.

When the blown fuse was replaced, the Control Room operators closed the normal supply breaker for safeguards bus 17 and bus 17 was reenergized by offsite power. Subsequently, the "B" EDG was realigned for auto standby.

G. SAFETY SYSTEM RESPONSES:

The plant was in Mode 5, and most safeguards equipment had been made inoperable for the Safety Injection Functional Test. The "B" EDG automatically started due to the undervoltage condition on bus 17, displayed proper voltage and frequency, and reenergized safeguards bus 17. However, no equipment could be loaded onto bus 17 with the undervoltage signal present (caused by the blown fuse).

III. CAUSE OF EVENT

A. IMMEDIATE CAUSE:

The automatic actuation of the "B" EDG was due to reset of the "B" EDG with an undervoltage signal present on safeguards bus 17.

B. INTERMEDIATE CAUSE:

The undervoltage signal on safeguards bus 17 was initially caused by a blown fuse which prevented the bus 17 normal supply breaker from being able to close. It was not known that the fuse was blown at the time the bus 17 breaker would not close. With bus 17 normal supply breaker not closed and the bus deenergized, there was also an undervoltage signal present, due to the dead bus itself.

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C. ROOT CAUSE:

The underlying cause of the reset of the "B" EDG was a personnel error. At the time the bus 17 breaker did not close, the test coordinator determined that it was desirable to restore equipment to the extent practicable, and continued to restore safeguards bus 16, associated motor control centers and other vital equipment powered by bus 16 from the "B" safeguards train, as directed by RSSP-2.1. The test team (test coordinator and licensed operator) did not stop to discuss this course of action with the Control Room operators, nor to evaluate any concerns for restoring affected equipment or to determine how much of RSSP-2.1 should be completed. The licensed operator assisting with RSSP-2.1 assumed that the procedural steps of RSSP-2.1 should be completed through the steps which restored all vital equipment to operable status.

This error was a cognitive personnel error on the part of the test team, in that a thorough review of the effects of the "B" EDG reset was not performed and the licensed operator who reset the "B" EDG assumed he had been given direction to perform this step as per RSSP-2.1. There were no unusual characteristics in the Control Room that contributed to the error.

IV. ANALYSIS OF EVENT:

This event is reportable in accordance with 10 CFR 50.73, Licensee Event Report System, item (a) (2) (iv), which requires a report of, "Any event or condition that resulted in a manual or automatic actuation of any engineered safety feature (ESF), including the reactor protection system (RPS)", in that the starting of the "B" EDG was an automatic actuation of an ESF system.

An assessment was performed considering both the safety consequences and implications of this event with the following results and conclusions:

There were no operational or safety consequences or implications attributed to the start of the EDG because:

- o The "B" EDG was available for operation and functioned as designed to reenergize safeguards bus 17. However, due to the blown fuse, an undervoltage signal was still present and equipment could not be loaded onto bus 17.
- o While in this condition, the plant electrical power systems (offsite power sources and the EDGs) remained within the requirements of ITS LCO 3.8.2. The "A" EDG was operable and the "A" safeguards train remained energized by offsite power.

Based on the above, it can be concluded that the plant operated as designed, and that the public's health and safety was assured at all times.

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V. CORRECTIVE ACTION

A. ACTION TAKEN TO RETURN AFFECTED SYSTEMS TO PRE-EVENT NORMAL STATUS:

- o The blown fuse was replaced.
- o Offsite power was restored to safeguards bus 17.
- o The "B" EDG was realigned for auto standby.

B. ACTION TAKEN OR PLANNED TO PREVENT RECURRENCE:

- o Procedure RSSP-2.1 will be revised to verify associated buses are energized with no undervoltage signal present, prior to reset of an EDG.
- o Operations personnel will be introduced to concepts that are intended to enhance four dimensions of team performance: information exchange, communication, supporting behavior, and initiative/leadership.

VI. ADDITIONAL INFORMATION

A. FAILED COMPONENTS:

There were no failed components. The blown fuse was replaced.

B. PREVIOUS LERs ON SIMILAR EVENTS:

An historical search of LERs was conducted with the following results: No documentation of similar LER events with the same root cause at Ginna Station could be identified.

C. SPECIAL COMMENTS:

None

