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ACCESSION NBR:9101160176 DOC.DATE: 91/01/11 NOTARIZED: NO DOCKET #
 FACIL:50-244 Robert Emmet Ginna Nuclear Plant, Unit 1, Rochester G 05000244
 AUTH.NAME AUTHOR AFFILIATION
 BACKUS,W.H. Rochester Gas & Electric Corp.
 MECREDY,R.C. Rochester Gas & Electric Corp.
 RECIP.NAME RECIPIENT AFFILIATION

SUBJECT: LER 90-016-00:on 901212,reactor trip occurred from
 inadvertent intermediate range trip.Caused by de-
 energization of one out two intermediate range nuclear
 instrument sys high flux trip bistable.W/910111 ltr.

DISTRIBUTION CODE: IE22T COPIES RECEIVED:LTR 1 ENCL 1 SIZE: 8
 TITLE: 50.73/50.9 Licensee Event Report (LER), Incident Rpt, etc.

NOTES:License Exp date in accordance with 10CFR2,2.109(9/19/72).. 05000244

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STATE

ROCHESTER GAS AND ELECTRIC CORPORATION • 89 EAST AVENUE, ROCHESTER N.Y. 14649-0001

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Vice President
General Manager

TELEPHONE
AREA CODE 716 546-2700

January 11, 1991

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

Subject: LER 90-016, Inadvertent Intermediate Range Trip
During Transfer of 480 Volt Bus 14 to the "A" Emergency
Diesel Generator Causes a Reactor Trip
R.E. Ginna Nuclear Power Plant
Docket No. 50-244

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 manual or automatic actuation of any Engineered Safety Feature (ESF), including the Reactor Protection System (RPS)", the attached Licensee Event Report LER 90-016 is hereby submitted.

This event has in no way affected the public's health and safety.

Very truly yours,

R. C. Macreddy
Robert C. Macreddy

xc: U.S. Nuclear Regulatory Commission
Region I
475 Allendale Road
King of Prussia, PA 19406

Ginna USNRC Senior Resident Inspector

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LICENSEE EVENT REPORT (LER)

APPROVED ONS NO. 3186-0104
EXPIRES - 6/31/85

FACILITY NAME (1)

R.E. Ginna Nuclear Power Plant

DOCKET NUMBER (2)

0 5 0 0 0 2 4 4

PAGE (3)

1 OF 0 7

TITLE (4)

Inadvertent Intermediate Range Trip During Transfer of 480 Volt Bus 14 to
"A" Emergency Generator Causes Reactor Trip

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)

1 2 1 2 9 0

9 0

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OPERATING

MODE (9)

N

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

20.402(b)

20.408(a)

80.734(12)(iv)

73.71(d)

20.408(a)(1)(i)

80.36(a)(1)

80.734(12)(v)

73.71(a)

20.408(a)(1)(ii)

80.36(a)(2)

80.734(12)(vi)

OTHER (Specify in Abstract

20.408(a)(1)(iii)

80.734(12)(i)

80.734(12)(vii)(A)

below and in Test, NRC Form

20.408(a)(1)(iv)

80.734(12)(ii)

80.734(12)(viii)

366A)

20.408(a)(1)(v)

80.734(12)(iii)

80.734(12)(ix)

20.408(a)(1)(vi)

80.734(12)(iv)

80.734(12)(x)

LICENSEE CONTACT FOR THIS LER (12)

NAME

Wesley H. Backus

TELEPHONE NUMBER

Technical Assistant to the Operations Manager

AREA CODE

3 1 5

5 2 4

- 4 4

4 6

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

CAUSE

SYSTEM

COMPONENT

MANUFAC

TURER

REPORTABLE

TO NRC

CAUSE

SYSTEM

COMPONENT

MANUFAC

TURER

REPORTABLE

TO NRC

SUPPLEMENTAL REPORT EXPECTED (14)

EXPECTED
SUBMISSION
DATE (15)

MONTH

DAY

YEAR

YES (If yes, complete EXPECTED SUBMISSION DATE)

X NO

ABSTRACT (Limit to 1400 spaces, i.e., approximately 1100 single-space typewritten lines) (16)

On December 12, 1990 at 2322 EST with the reactor at approximately 3% full power, a reactor trip occurred from one (1) out of two (2) Intermediate Range Nuclear Instrument High Flux Trip.

The two reactor trip breakers opened as required and all shutdown and control rods inserted as designed.

The reactor trip was due to one (1) out of two (2) Intermediate Range Nuclear Instrument System High Flux Trip Bistable becoming de-energized during the transfer of Bus 14 power from its normal supply to the "A" Emergency Diesel Generator.

Immediately, corrective action was to stabilize the plant in hot shutdown per Emergency Operating Procedures.

The underlying cause of the event was determined to be a design deficiency in the available means of transferring electrical loads to a Diesel Generator, during power operations.

Actions will be taken to identify the optimal methodology for transferring electrical power supplies.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

U.S. NUCLEAR REGULATORY COMMISSION

APPROVED OMB NO 3150-0104

EXPIRES 8/31/85

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (8)			PAGE (3)		
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
R.E. Ginna Nuclear Power Plant	0 5 0 0 0 2 4 4	9 0	0 1 6	0 0	0 2	OF	0 7

TEXT (If more space is required, use additional NRC Form 368A's) (17)

I. PRE-EVENT PLANT CONDITIONS

The plant was in the process of starting up subsequent to the plant trip of 12/11/90 (discussed in LER 90-013). The reactor was at approximately 3% full power awaiting clearance that secondary chemistry parameters were within specification.

The Control Room operators were in the process of transferring Bus 14 from its normal power supply to the "A" Emergency Diesel Generator as part of the repair procedure for the Bus 14 Undervoltage Monitoring System. The Bus 14 Undervoltage Monitoring System Event is discussed in LER 90-015.

II. DESCRIPTION OF EVENT

A. DATES AND APPROXIMATE TIMES OF MAJOR OCCURRENCES:

- o December 12, 1990, 2322 EST: Event Date and Time
- o December 12, 1990, 2322 EST: Discovery Date and Time
- o December 12, 1990, 2322 EST: Control Room operators verify both Reactor Trip Breakers open and all Control and Shutdown Rods inserted.
- o December 12, 1990, 2327 EST: Control Room operators close both Main Steam Isolation Valves (MSIVs) to terminate plant cooldown.
- o December 12, 1990, 2332 EST: Plant stabilized at hot shutdown.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

U.S. NUCLEAR REGULATORY COMMISSION

APPROVED OMB NO 3150-0104
EXPIRES 9/31/85

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)		
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
		0 5 0 0 0 2 4 4	9 0 - 0 1 6 - 0 0	0 3	OF	0 7	

TEXT (If more space is required, use additional NRC Form 364A's) (17)

B. EVENT:

On December 12, 1990, at approximately 2322 EST, with the reactor at approximately 3% full power, the operators were transferring power supplies for Bus 14, per the direction of procedure M-48.14 (Isolation of Bus 14 Undervoltage System for Maintenance, Troubleshooting, Rework and Test). During this transfer, a momentary loss of power occurs to Bus 14. Bus 14 feeds MCC-1C, which feeds Instrument Bus 1B. Therefore, Instrument Bus 1B had a momentary loss of power, which de-energized the bistable for Intermediate Range (IR) Nuclear Instrument System (NIS) High Flux Trip, for IR NIS Channel N-36. This reactor trip was due to one (1) out of two (2) IR NIS High Flux Trip bistables becoming de-energized.

The Control Room operators immediately performed the applicable actions of Emergency Operating Procedures E-0 (Reactor Trip Or Safety Injection) and ES-0.1 (Reactor Trip Response) and stabilized the plant in hot shutdown. Subsequently, the MSIVs were closed to terminate a plant cooldown.

The Control Room operators notified higher supervision and the Nuclear Regulatory Commission (NRC) of the reactor trip.

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

None.

D. OTHER SYSTEMS OR SECONDARY FUNCTIONS AFFECTED:

None.

E. METHOD OF DISCOVERY:

The event was immediately apparent due to alarms and indications in the Control Room.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (8)			PAGE (3)		
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
R.E. Ginna Nuclear Power Plant	0 5 0 0 0 2 4 4 9 0	-	0 1 6	-	0 0	0 4	OF 0 7

TEXT (If more space is required, use additional NRC Form 368A's) (11)

F. OPERATOR ACTION:

Subsequent to the reactor trip, the Control Room operators performed the applicable actions of Emergency Operating Procedures E-0 (Reactor Trip Or Safety Injection) and ES-0.1 (Reactor Trip Response) and stabilized the plant in hot shutdown. The MSIVs were closed to terminate a plant cooldown.

G. SAFETY SYSTEM RESPONSES:

None.

III. CAUSE OF EVENT

A. IMMEDIATE CAUSE:

The reactor trip occurred due to a 1 out of 2 High Flux Trip signal from IR NIS Channel N-36. This trip signal is manually defeated when reactor power is above permissive P-10 (8% reactor power). At existing plant conditions (3% power) this trip signal could not be defeated.

B. INTERMEDIATE CAUSE:

The High Flux Trip signal from IR NIS Channel N-36 was due to its trip bistable de-energizing during the momentary loss of power to Instrument Bus 1B.

The momentary loss of power to Instrument Bus 1B was due to the momentary loss of power to Bus 14 during the transfer of Bus 14 from its normal supply to the "A" D/G.

C. ROOT CAUSE:

The underlying cause of the momentary loss of power to Bus 14 during the transfer of Bus 14 from its normal supply to the "A" D/G was due to a design deficiency. Technical Specifications actions (based on the design of the Undervoltage Protection system), require the bus loads be transferred to the Emergency Diesel Generator, after a failure in the Undervoltage Protection system. The switching operations to

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

U.S. NUCLEAR REGULATORY COMMISSION

APPROVED OMB NO 3150-0104

EXPIRES 8/31/85

FACILITY NAME (1) R.E. Ginna Nuclear Power Plant	DOCKET NUMBER (2) 0 5 10 0 0 2 4 4 9 0	LER NUMBER (8)			PAGE (3)		
		YEAR -	SEQUENTIAL NUMBER 0 1 6	REVISION NUMBER -			

TEXT (If more space is required, use additional NRC Form 364A's) (17)

accomplish this load transfer presents a probability of a reactor trip (if below Permissive P-10) or a turbine runback (if above Permissive P-10 with the IR High Flux trip signal blocked). Any switching sequence performed in the Control Room to meet the Technical Specifications requirements will present some probability of an Engineered Safety Feature (ESF) actuation.

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 reporting of "any event or condition that resulted in manual or automatic actuation of any Engineered Safety Feature (ESF), including the Reactor Protection System (RPS)," in that the IR NIS High Flux Reactor Trip was an automatic actuation of the RPS.

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

- o The two reactor trip breakers opened as required.
- o All control and shutdown rods inserted as designed.
- o The plant was stabilized in hot shutdown.

This transient was compared to the transients described in the Ginna Updated Final Safety Analysis Report (UFSAR). None of the assumptions of the UFSAR were violated during this event. The response of the plant to this transient is bounded by the results of the UFSAR analysis.

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

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)		
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
R.E. Ginna Nuclear Power Plant	0 5 1 0 0 0 2 4 4	9 0	- 0 1 6	- 0 0	0 6	OF 0 7	

TEXT (If more space is required, use back of NRC Form 368A-10-83)

V. CORRECTIVE ACTION

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

As the direct cause of the event involved a momentary loss of power to the 1B Instrument Bus, no immediate corrective action was necessary. Subsequently, at 0644 EST on December 13, 1990, the normal supply to Bus 14 was restored.

B. ACTION TAKEN OR PLANNED TO PREVENT RECURRENCE:

As the underlying cause of the event was a design deficiency, corrective action planned or taken to prevent recurrence is as follows:

- o The methods available for transfer of loads to an Emergency Diesel Generator will be identified. We will evaluate the optimal methodology for switching power supplies, one that will minimize the risk of an ESF actuation.
- o Based on the results of this evaluation, we will determine the need for hardware improvements or changes to the Technical Specifications.
- o Maintenance procedures were reviewed, and those affecting transfer of power that affects continuity of power to Instrument Buses were made unavailable for use.
- o Those procedures that were made unavailable for use will be reviewed, and revised where needed, prior to being released for use.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

U.S. NUCLEAR REGULATORY COMMISSION

APPROVED OMB NO 3150-0104

EXPIRES 8/31 85

FACILITY NAME (1)

DOCKET NUMBER (2)

LER NUMBER (3)

PAGE (3)

R.E. Ginna Nuclear Power Plant

0 | 5 | 0 | 0 | 0 | 2 | 4 | 4 | 9 | 0 | - | 0 | 1 | 6 | - | 0 | 0 | 0 | 7 | OF | 0 | 7

TEXT (If more space is required, use additional NRC Form 364A's) (17)

VI. ADDITIONAL INFORMATION

A. FAILED COMPONENTS:

None

B. PREVIOUS LERs ON SIMILAR EVENTS:

A similar LER event historical search 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:

See LER 90-015 for a discussion of the Undervoltage System failure that resulted in the need for the repair activity, and LER 90-017 for a discussion of other events caused by this repair activity.