

December 11, 2003

Mr. Robert L. Clark  
Office of Nuclear Reactor Regulation  
U.S. Nuclear Regulatory Commission  
ATTN: Document Control Desk  
Washington, DC 20555

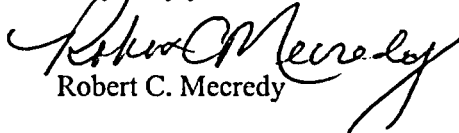
Subject: LER 2003-005, Manual Reactor Trip Resulting From Loss of Off-Site Power  
Circuit 751  
R.E. Ginna Nuclear Power Plant  
Docket No. 50-244

Dear Mr. Clark:

The attached Licensee Event Report (LER) 2003-005 is submitted in accordance with 10 CFR 50.73, Licensee Event Report System, item (a)(2)(iv)(A).

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

Very truly yours,

  
Robert C. Mecredy

xc: Mr. Robert L. Clark (Mail Stop O-8-C2)  
Project Directorate I  
Division of Licensing Project Management  
Office of Nuclear Reactor Regulation  
U.S. Nuclear Regulatory Commission  
One White Flint North  
11555 Rockville Pike  
Rockville, MD 20852

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

U.S. NRC Ginna Senior Resident Inspector

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89 East Avenue | Rochester, NY 14649  
tel (585) 546-2700

www.rge.com

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**LICENSEE EVENT REPORT (LER)**

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

Estimated burden per response to comply with this mandatory information collection request: 50 hours. Reported lessons learned are incorporated into the licensing process and fed back to industry. Send comments regarding burden estimate to the Records Management Branch (T-6 E6), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to bis1@nrc.gov, and to the Desk Officer, Office of Information and Regulatory Affairs, NEOB-10202 (3150-0104), Office of Management and Budget, Washington, DC 20503. If a means used to impose information collection does not display a currently valid OMB control number, the NRC

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**4. TITLE**  
Manual Reactor Trip Resulting From Loss of Off-Site Power Circuit 751

5. EVENT DATE			6. LER NUMBER			7. REPORT DATE			8. OTHER FACILITIES INVOLVED	
MO	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REV NO	MO	DAY	YEAR	FACILITY NAME	DOCKET NUMBER
10	15	2003	2003	005	00	12	11	2003	FACILITY NAME	DOCKET NUMBER
										05000
										05000

<b>9. OPERATING MODE</b> 2	<b>11. THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check all that apply)</b>									
	20.2201(b)		20.2203(a)(3)(ii)		50.73(a)(2)(ii)(B)		50.73(a)(2)(ix)(A)			
<b>10. POWER LEVEL</b> 1%	20.2201(d)		20.2203(a)(4)		50.73(a)(2)(iii)		50.73(a)(2)(x)			
	20.2203(a)(1)		50.36(c)(1)(i)(A)		X 50.73(a)(2)(iv)(A)		73.71(a)(4)			
20.2203(a)(2)(i)		50.36(c)(1)(ii)(A)		50.73(a)(2)(v)(A)		73.71(a)(5)				
20.2203(a)(2)(ii)		50.36(c)(2)		50.73(a)(2)(v)(B)		OTHER Specify in Abstract below or in NRC Form 366A				
20.2203(a)(2)(iii)		50.46(a)(3)(ii)		50.73(a)(2)(v)(C)						
20.2203(a)(2)(iv)		50.73(a)(2)(i)(A)		50.73(a)(2)(v)(D)						
20.2203(a)(2)(v)		50.73(a)(2)(i)(B)		50.73(a)(2)(vii)						
20.2203(a)(2)(vi)		50.73(a)(2)(i)(C)		50.73(a)(2)(viii)(A)						
20.2203(a)(3)(i)		50.73(a)(2)(ii)(A)		50.73(a)(2)(viii)(B)						

**12. LICENSEE CONTACT FOR THIS LER**

<b>NAME</b> Mike Ruby, Senior Licensing Engineer	<b>TELEPHONE NUMBER (Include Area Code)</b> (585)771-3572
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**13. COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT**

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX

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

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

During start-up from the 2003 Refueling Outage (RFO) on October 15, 2003, high wind conditions resulted in the loss of off-site Circuit 751. With the electrical system in the normal start-up alignment, the loss of Circuit 751 resulted in the loss of the bus powering the B Reactor Coolant Pump (RCP). Following the loss of the B RCP, the operators manually tripped the reactor as required by Abnormal Operating Procedure AP-RCS.2, Loss of Reactor Coolant Flow. Safeguards busses 16 and 17 were also lost due to the loss of Circuit 751, but were subsequently re-energized by the B Emergency Diesel Generator (EDG) as designed. The A and B Motor Driven Auxiliary Feedwater Pumps started as designed. The plant was stabilized in Mode 3 using the appropriate procedures.

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

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

I. PRE-EVENT PLANT CONDITIONS:

On October 15, 2003 the plant was in Mode 2 at approximately 1% reactor power conducting startup operations following the 2003 RFO. The on-site electrical system was in the 50/50 lineup configuration, meaning that each off-site circuit was providing power to two (2) of the four (4) 480 Volt Safeguards Busses. Since the turbine generator was not yet on line, the 4160 volt busses and 480 volt non-safeguards busses were also powered from the off-site circuits in a similar configuration. The control room had entered procedure ER-SC.1, Adverse Weather Plan, at 0921 hours due to high winds (sustained greater than 55 mph) in the area.

II. DESCRIPTION OF EVENT:

A. EVENT:

At approximately 1025 off-site power Circuit 751 was lost due to the high winds being experienced in the area (peak winds of approximately 65 mph). This resulted in the temporary loss of one half of the on-site electrical system, including the bus that powers the B RCP. Upon loss of the B RCP, the operators manually tripped the reactor as directed by procedure AP-RCS.2, Loss of Reactor Coolant Flow.

Safeguards Bus 16 and Bus 17 also lost power due to the loss of Circuit 751. However, the B EDG automatically started and supplied power to these busses as designed. The A and B Motor Driven Auxiliary Feedwater Pumps started as designed.

Due to the loss of Bus 16, one of the running charging pumps was also lost. This, combined with the post trip cooldown, resulted in automatic letdown isolation and temporary deenergization of pressure heaters on pressurizer low level of 13%. A review of Plant Process Computer System (PPCS) data indicated that the level did not decrease below 13% and immediately recovered to the normal operating range, allowing recovery of the affected systems.

The Main Steam Isolation Valves (MSIVs) were manually closed per procedure ES-0.1, "Reactor Trip Response." This event does not meet the definition for NRC Performance Indicator (PI) "scram with loss of normal heat removal" as clarified in NEI Frequently Asked Question (FAQ) 303.

Off-site power Circuit 767 remained operable during this event. The off-site power configuration was later switched to 100/0, with Circuit 767 supplying all off site power requirements.

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

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

None

C. DATES AND APPROXIMATE TIMES OF MAJOR OCCURRENCES:

- October 15, 2003, 1025 EDST: Event Date and Time, Loss of off-site power Circuit 751 and B EDG start.
- October 15, 2003, 1026 EDST: Manual Reactor Trip
- October 15, 2003, 1034 EDST: Main Steam Isolation Valves (MSIVs) Closed
- October 15, 2003, 1036 EDST: Plant placed in 100/0 off-site power alignment on Circuit 767
- October 15, 2003, 1052 EDST: Bus 16 and Bus 17 returned to off-site power (Circuit 767)
- October 15, 2003, 1120 EDST: B EDG Shutdown
- October 15, 2003, 1316 EDST: B RCP Restarted
- October 15, 2003, 1325 EDST: Notification of Reactor Trip, B EDG start, and Auxiliary Feedwater Pump start, event #40248, under 10CFR50.72b(3)(iv)(A) and 10CFR50.72(b)(2)(iv)(B)
- October 15, 2003, 1343 EDST: Circuit 751 returned to service.

D. OTHER SYSTEMS OR SECONDARY FUNCTIONS AFFECTED:

None, since there were no failures of any components with multiple functions.

E. METHOD OF DISCOVERY:

The condition was immediately apparent from plant indications and response in the Control Room.

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F. SAFETY SYSTEM RESPONSES:

All safety systems functioned as designed to stabilize the plant in Mode 3.

III. CAUSE OF EVENT:

The cause of the event was high wind conditions which caused the overhead lines of off-site power Circuit 751 to make contact with a tree branch, resulting in electrical arcing and the subsequent loss of Circuit 751. The operators were conservatively required by procedure to manually trip the reactor in the existing plant condition.

This event is NUREG-1022 Cause Code (C), "External Cause"

IV. ASSESSMENT OF THE SAFETY CONSEQUENCES OF THE EVENT:

This event is reportable in accordance with 10 CFR 50.73, Licensee Event Report System, item (a)(2)(iv)(A), which requires a report of, "Any event or condition that resulted in manual or automatic actuation of any of the systems listed in paragraph (a)(2)(iv)(B) of this section, except when:

- (1) The actuation resulted from and was part of a pre-planned sequence during testing or reactor operation; or
- (2) The actuation was invalid and;
  - (i) Occurred while the system was properly removed from service; or
  - (ii) Occurred after the safety function had been already completed."

UFSAR section 7.2.2.2.11 states in part, "Below the permissive power setpoint P-8, loss of flow in both loops would cause a reactor trip. This permits an orderly plant shutdown under administrative control following a single loop loss of flow during low power operation." Because power level was less than P-8 (approximately 49% power) at the time, an automatic reactor trip was not required for reactor protection for this event. However, to limit potential effects resulting from a resulting transient, procedure AP-RCS.2, Loss of Reactor Coolant Flow, conservatively requires the operators to trip the reactor if both loops are not operating with the trip breakers closed.

The Ginna UFSAR section 8.1.4.4 states in part, "Although severe weather increases the probability of a loss of offsite power, it has only a slight effect on the risk of a station blackout. The emergency power systems at Ginna Station were thoroughly reviewed for operability in the instances of severe and extreme natural phenomena such as floods, tornadoes, and snowstorms as part of the Systematic Evaluation Program (SEP). The Ginna Station design basis, therefore, already includes the system design features and procedures to ensure that no unacceptable loss of emergency onsite power will occur during severe weather events."

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The B EDG operated as designed throughout the event, ensuring a reliable source of power to the AC emergency busses at all times. The A EDG was operable, but was not challenged.

One off-site power circuit (767) was not affected by the weather conditions and remained in service. It was subsequently aligned to carry all off-site loads until Circuit 751 could be restored. This is consistent with Ginna Technical Specifications Section 3.8.

Therefore, it was determined that the plant responded within its design and licensing basis, that there were no unreviewed safety questions, and that the public's health and safety was assured at all times.

V. CORRECTIVE ACTIONS:

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

- The plant was stabilized in Mode 3.
- Off-site power was restored to Bus 16 and Bus 17.
- The B RCP was restarted to return two loop forced flow.
- Circuit 751 restored to service.

B. ACTION TAKEN OR PLANNED TO PREVENT RECURRENCE:

RG&E has initiated a self assessment and risk analysis of Circuit 751 reliability which will provide recommendations to station management regarding the following:

- Procedure changes to provide better direction on off-site power alignments during various plant modes and weather conditions.
- Possible modifications to the off-site power system.

VI. ADDITIONAL INFORMATION:

A. FAILED COMPONENTS:

None

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B. PREVIOUS LERs ON SIMILAR EVENTS:

An historical search of LERs was conducted with the following results:

The following LERs were the result of the loss of Circuit 751. Although these events resulted in the auto start of an Emergency Diesel Generator, none resulted in a plant trip because of the operating mode and electrical configuration at the time of the event.

- 1998-005
- 1997-002
- 1995-006
- 1995-007
- 1994-012
- 1994-005
- 1992-007
- 1991-002

C. THE ENERGY INDUSTRY IDENTIFICATION SYSTEM (EIIS) COMPONENT FUNCTION IDENTIFIER AND SYSTEM NAME OF EACH COMPONENT OR SYSTEM REFERRED TO IN THIS LER:

COMPONENT	IEEE 803 FUNCTION IDENTIFIER	IEEE 805 SYSTEM IDENTIFICATION
Off-Site Power Circuit 751	JX	EB
Main Steam Isolation Valves	ISV	SB
Reactor Coolant Pump	P	AB
Emergency Diesel Generators	DG	EK
Auxiliary Feedwater Pump	P	BA

D. SPECIAL COMMENTS:

None