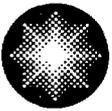


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Constellation Energy

R.E. Ginna Nuclear Power Plant

August 8, 2005

U. S. Nuclear Regulatory Commission
Washington, DC 20555

ATTENTION: Document Control Desk

SUBJECT: R.E. Ginna Nuclear Power Plant
Docket No. 50-244

LER 2005-003, Emergency Diesel Generator Start Resulting From Loss of Off-Site
Power Circuit 751

The attached Licensee Event Report (LER) 2005-003 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. There are no new commitments contained in this submittal. Should you have questions regarding the information in this submittal, please contact Mr. George Wrobel at (585) 771-3535 or George.Wrobel@constellation.com.

Very truly yours,

Mary G. Korsnick

MC/MR

Attachments: (1) LER 2005-003

cc: S. J. Collins, NRC
P.D. Milano, NRC

Resident Inspector, NRC (Ginna)

1001363

IE22

1001370
slm

ATTACHMENT (1)

LER 2005-003

1. FACILITY NAME R.E. Ginna Nuclear Power Plant	2. DOCKET NUMBER 05000244	3. PAGE 1 OF 7
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4. TITLE
Emergency Diesel Generator Start 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
06	10	2005	2005	003	00	08	08	2005	FACILITY NAME	DOCKET NUMBER
										05000
										05000

9. OPERATING MODE	6	11. THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check all that apply)								
10. POWER LEVEL	0	20.2201(b)			20.2203(a)(3)(ii)			50.73(a)(2)(ii)(B)		50.73(a)(2)(ix)(A)
		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

NAME George Wrobel, Director of Licensing	TELEPHONE NUMBER (Include Area Code) (585) 771-3535
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13. COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT

CAUSE	SYSTEM	COMPONENT	MANU-FACTURER	REPORTABLE TO EPIX	CAUSE	SYSTEM	COMPONENT	MANU-FACTURER	REPORTABLE TO EPIX
A	EK	BKR	W120	Y	B	BI	MO	U005	Y

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)

On June 10, 2005, a lightning strike resulted in the loss of off-site Circuit 751. With the electrical system in a 50/50 alignment, the loss of Circuit 751 resulted in the loss of safeguards busses 16 and 17. The B Emergency Diesel Generator (EDG) started automatically and re-energized Bus 16. The Bus 17 feeder breaker from the B EDG failed to close resulting in the temporary loss of Bus 17. The A Service Water Pump (SWP) motor faulted and tripped when manually started per procedure.

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 June 10, 2005 the plant was in Mode 1 at approximately 100% power. The on-site electrical system was in a 50/50 lineup configuration, meaning that each off-site circuit was providing power to two (2) of the four (4) 480 volt safeguards busses.

II. DESCRIPTION OF EVENT:

A. EVENT:

At approximately 1351, off-site power Circuit 751 was lost due to a distribution system lightning strike. Because the plant's electric distribution system was in a 50/50 lineup, this resulted in the temporary loss of two (2) of the four (4) safeguards busses (Bus 16 and Bus 17). The B EDG automatically started and supplied power to Bus 16. The Bus 17 supply breaker from the B EDG failed to close. While responding to the event per the applicable Abnormal Operating Procedure (AP), the A SWP was manually started. Approximately two (2) minutes after starting, the A SWP motor faulted and tripped, resulting in only one SWP supplying the entire service water loop. To minimize the heat load on the service water system, as required by the AP, operators shut down non-essential components, and in the case of the "B" EDG, installed alternate cooling to the jacket and lube oil heat exchangers from the fire main system. Following evaluation, all plant loads were returned to off-site power on the redundant source (Circuit 767), with the B and C SWPs running. The plant remained stable in Mode 1 at approximately 100% power during the event.

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

None

C. DATES AND APPROXIMATE TIMES OF MAJOR OCCURRENCES:

- June 10 2005, 1351 EDST: Event Date and Time, Loss of off-site power Circuit 751 and B EDG start. Bus 17 breaker from B EDG fails to close.
- June 10, 2005, 1353 EDST: SWP A trips
- June 10, 2005, 1454 EDST: Electrical system placed in the 100/0 off-site power alignment on Circuit 767
- June 10, 2005, 1531 EDST: Bus 17 returned to service.

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

- June 10, 2005, 2001 EDST: Off-site power circuit 751 returned to service.
- June 10, 2005, 2055 EDST: Notification of B EDG start, event #41765, under 10CFR50.72(b)(3)(iv)(A).

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.

F. SAFETY SYSTEM RESPONSES:

All safety systems functioned as designed with the exception of the following:

- The B EDG feeder breaker to Bus 17 failed to close
- The A SWP faulted and tripped

III. CAUSE OF EVENT:

The initial circuit walk down by Rochester Gas and Electric (RG&E) personnel (off-site distribution system owner) found the end bell insulators holding the west side phase conductor to Circuit 751 pole T-30 were blown apart. The end bells attach the conductor to the pole cross bar. When they failed the conductor dropped, made contact with a grounded device and tripped the circuits feeder breaker. RG&E attributed the failure to a lightning strike that exceeded the withstand capability of the insulator. The end bell assembly was replaced and the circuit restored to service.

A subsequent walk down by the Ginna system engineer and distribution system experts from Baltimore Gas and Electric (BG&E) and Constellation Energy Corporate was performed on 6/27/05. The pole T-30 cross arm was noted to be charred between the pole's top guy wire and the cross arm standoff insulator. The guy wire on this pole was being used to ground the static wire at this pole. The guy wire was routed between the cross arms and was in contact with the arm that was charred. This construction practice decreased the basic impulse level (BIL), capability of the pole design to withstand lightning surges, and was the root cause for the failure of the insulator and subsequent loss of Circuit 751.

The failure of the end bell insulator caused the supported conductor to fault to ground. This

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

resulted in a feeder breaker trip and a loss of Circuit 751 power to the plant.

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 8.3.1.2.4.1 states in part:

"The electrical system equipment is arranged so that no single contingency can inactivate enough engineered safety features equipment to jeopardize the plant safety."

"Two independent off-site power sources are available to supply the engineered safety features equipment. These off-site sources each feed an independent auxiliary (startup) transformer. Off-site circuit 751 feeds transformer 12A. Off-site circuit 767 feeds transformer 12B. Each transformer is capable of supplying all plant engineered safety features equipment."

The B EDG operated as designed throughout the event, providing a reliable source of power to Bus 16. Bus 17, although de-energized for a limited period of time, had a reliable source of power available from off-site circuit 767 at all times.

One off-site power Circuit (767) was not affected and remained in service. It was subsequently aligned to carry all off-site loads. This is consistent with Ginna Technical Specifications Section 3.8.2.

One service water train was operable at all times. This configuration is addressed by the Ginna Technical Specifications Section 3.7.8, which maintains the plant within the current licensing basis.

Therefore, it was determined that the plant responded within it's design and licensing basis, and that the public's health and safety was assured at all times.

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

V. CORRECTIVE ACTIONS:

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

- Off-site power was restored to Bus 16 and Bus 17.
- Service water system was returned to a normal at power pump configuration.
- Circuit 751 was restored to operable status.

B. ACTION TAKEN OR PLANNED TO PREVENT RECURRENCE:

The failed end bell insulator was replaced on pole T-30. There are five additional end bell insulators on this pole and they were replaced as a precautionary measure. This was performed by RG&E on 6/10/2005. Circuit 751 was returned to operable status.

Circuit 751 was walked down by a BG&E distribution circuit engineer. The circuit construction with a grounded static wire provides adequate protection to the phase conductors of the protected circuit provided the conductors are within a 45 degree protection zone from the static wire. Circuit construction design is being obtained from RG&E to verify the 45 degree protection zone.

The BG&E engineer walk down identified inadequate clearance existed between a grounded guy wire and the energized circuit conductor on poles T-21, T-29 and T-30. The inadequate clearance on poles T-29 and T-30 was corrected by RG&E on June 30, 2005. RG&E is evaluating the inadequate clearances on pole T-21, and corrective action will be taken as necessary.

The BG&E engineer did not identify any additional enhancements that could be taken to improve Circuit 751's reliability. Circuit 767 at Station 13A was walked down and no enhancements for additional reliability were noted.

RG&E performed a condition assessment of Circuit 751. Visual inspection and thermography of Circuit 751 are performed annually with the last performance in June 2005 with no anomalies noted. Tree trimming is performed annually, scheduled for August/September this year. A one time corona inspection was completed on July 1, 2005 with no findings. Station 204 insulator inspection and washing is performed annually, scheduled for September this year.

Plant Change Request (PCR) 2004-0028 will reconfigure Circuit 751 to originate from

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Station 13A with underground construction to Ginna Station, similar to Circuit 767. This will significantly increase this off-site power source reliability by eliminating overhead line failure mechanisms. This reconfiguration is anticipated to occur in 2006.

VI. ADDITIONAL INFORMATION:

A. FAILED COMPONENTS:

Circuit Breaker (B EDG supply to Bus 17), Westinghouse, Model DB-50

Motor (A SWP), US Electric, Model H02443

B. PREVIOUS LERs ON SIMILAR EVENTS:

The following LERs were the result of the loss of Circuit 751.

- 2005-002
- 2003-006
- 2003-005
- 1998-005
- 1997-002
- 1995-006
- 1995-007
- 1994-012
- 1994-005
- 1992-007
- 1991-002

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

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

COMPONENT	IEEE 803 FUNCTION IDENTIFIER	IEEE 805 SYSTEM IDENTIFICATION
Off-Site Power Circuit 751	JX	EA
Emergency Diesel Generators	DG	EK
Insulator	INS	EA
Electric Motor	MO	BI
Circuit Breaker	BKR	EK

D. SPECIAL COMMENTS:

The failure of the B EDG supply breaker to Bus 17 was caused by lack of sufficient lubrication. Technician coaching has been performed, and steps to identify and lubricate other susceptible breakers have been initiated per the Ginna Corrective Action Process.

The failure of the A SWP motor was caused by motor insulation failure. The cause of the insulation failure is under extensive evaluation per the Ginna Corrective Action Process.