

CATEGORY 1

REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR: 9608120049 DOC. DATE: 96/08/06 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. Document Control Branch (Document Control Desk)

SUBJECT: LER 96-008-00: on 960707, main feedwater pump breakers opened.
 Caused by change in seal water differential pressure that
 occurred during sys realignment. Stabilized auxiliary
 feedwater flow to both steam generators. W/960806 ltr.

DISTRIBUTION CODE: IE22T COPIES RECEIVED: LTR 1 ENCL 1 SIZE: 7
 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

RECIPIENT ID CODE/NAME	COPIES LTTR ENCL	RECIPIENT ID CODE/NAME	COPIES LTTR ENCL
PD1-1 PD	1 1	VISSING, G.	1 1
INTERNAL: AEOD/SPD/RAB	2 2	AEOD/SPD/RRAB	1 1
<u>FILE CENTER</u>	1 1	NRR/DE/ECGB	1 1
NRR/DE/EELB	1 1	NRR/DE/EMEB	1 1
NRR/DRCH/HHFB	1 1	NRR/DRCH/HICB	1 1
NRR/DRCH/HOLB	1 1	NRR/DRCH/HQMB	1 1
NRR/DRPM/PECB	1 1	NRR/DSSA/SPLB	1 1
NRR/DSSA/SRXB	1 1	RES/DSIR/EIB	1 1
RGN1 FILE 01	1 1		
EXTERNAL: L ST LOBBY WARD	1 1	LITCO BRYCE, J H	2 2
NOAC MURPHY, G.A	1 1	NOAC POORE, W.	1 1
NRC PDR	1 1	NUDOCS FULL TXT	1 1

NOTE TO ALL "RIDS" RECIPIENTS:
 PLEASE HELP US TO REDUCE WASTE! CONTACT THE DOCUMENT CONTROL DESK,
 ROOM OWFN SD-5 (EXT. 415-2083) TO ELIMINATE YOUR NAME FROM
 DISTRIBUTION LISTS FOR DOCUMENTS YOU DON'T NEED!

FULL TEXT CONVERSION REQUIRED
 TOTAL NUMBER OF COPIES REQUIRED: LTTR 25 ENCL 25

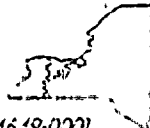
C
A
T
E
G
O
R
Y

1

D
O
C
U
M
E
N
T



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



AREA CODE 716 540-2700

ROBERT C. MECREDY
Vice President
Nuclear Operations

August 6, 1996

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

Subject: LER 96-008, Main Feedwater Pump Breakers Open, Due to Low Seal Water
Differential Pressure, Results in Automatic Start of Auxiliary Feedwater Pump
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 a manual or automatic actuation of any engineered safety feature (ESF), including the reactor protection system (RPS)", the attached Licensee Event Report LER 96-008 is hereby submitted.

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

Very truly yours,

Joseph A. Willey
Robert C. Mecredy

xc: U.S. Nuclear Regulatory Commission
Mr. Guy S. Vissing (Mail Stop 14C7)
PWR Project Directorate I-1
Washington, D.C. 20555

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

U.S. NRC Ginna Senior Resident Inspector

9608120049 960806
PDR ADOCK 05000244
S PDR

IF22
11

EXPIRES 04/30/98

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: 50.0 HRS.
REPORTED LESSONS LEARNED ARE INCORPORATED INTO THE
LICENSING PROCESS AND FED BACK TO INDUSTRY. FORWARD
COMMENTS REGARDING BURDEN ESTIMATE TO THE
INFORMATION AND RECORDS MANAGEMENT BRANCH (T-6 F33),
U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC
20555-0001, AND TO THE PAPERWORK REDUCTION PROJECT

FACILITY NAME (1)

R.E. Ginna Nuclear Power Plant

DOCKET NUMBER (2)

05000244

PAGE (3)

1 OF 6

TITLE (4)

Main Feedwater Pump Breakers Open, Due to Low Seal Water Differential Pressure, Results in Automatic
Start of Auxiliary Feedwater Pump

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
07	07	96	96	-- 008	-- 00	08	06	96	FACILITY NAME	DOCKET NUMBER
OPERATING MODE (9)		3	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR 5: (Check one or more) (11)							
POWER LEVEL (10)		000	20.2201(b)		20.2203(a)(2)(v)		50.73(a)(2)(i)		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	TELEPHONE NUMBER (Include Area Code)
John T. St. Martin - Technical Assistant	(716) 771-3641

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)	MONTH	DAY	YEAR

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

On July 7, 1996, at approximately 1930 EDST, the plant was in Mode 3 with the reactor coolant system being maintained at a temperature of 547 degrees F and a pressurizer pressure of 2235 PSIG. The condensate and main feedwater (MFW) systems were being realigned from "Cleanup Recirculation" to the normal at-power lineup. Low MFW pump seal water differential pressure occurred during this realignment, which caused the breaker for the "A" MFW pump to open. Since the other MFW pump breaker was already open, this created logic (both MFW pump breakers open) for autostart of the "B" motor-driven auxiliary feedwater pump.

Immediate action was to stabilize auxiliary feedwater flow to both steam generators.

The underlying cause of the autostart was that the logic for autostart was created by the opening of the "A" MFW pump breaker.

This event is NUREG-1022 Cause Code (E).

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

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

FACILITY NAME (1)	DOCKET	LER NUMBER (6)			PAGE (3)
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
R.E. Ginna Nuclear Power Plant	05000244	96	-- 008	-- 00	2 OF 6

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

I. PRE-EVENT PLANT CONDITIONS:

On July 7, 1996, the plant was in Mode 3 as a result of plant shutdown to replace a leaking pressurizer (PRZR) safety valve. After the safety valve was replaced, plant heatup and startup was initiated, and was in progress. The reactor coolant system (RCS) was being maintained at a temperature of approximately 547 degrees F and a PRZR pressure of approximately 2235 PSIG in preparation for a mode change to Mode 2. The "A" motor-driven auxiliary feedwater (AFW) pump was operating to maintain water inventory in both steam generators (S/G) using the flow path through cross-connect valve 4000A, and the "B" motor-driven AFW pump was not operating. The circuit breaker for the "A" main feedwater (MFW) pump had jumpers installed and was closed in the "test" position, to comply with temporary administrative requirements.

The Control Room operators were in the process of realigning the condensate and MFW systems from the lineup used for "Cleanup Recirculation" of these systems to the normal at-power lineup. When in "Cleanup Recirculation" there is condensate flow to the hotwell which provides a differential pressure (D/P) between the condensate pump discharge and the MFW pump suction. When realigning to the normal at-power lineup without MFW flow, the D/P may decrease to zero during the realignment. At approximately 1929 EDST on July 7, 1996, MFW pump seal water D/P decreased below the alarm setpoint of 15 PSID. This resulted in an alarm from Main Control Board (MCB) Annunciator H-11 "Feed Pump Seal Water Lo Diff Press 15 PSI". The Control Room operators referred to Alarm Response Procedure AR-H-11, but, since no MFW pumps were operating, no actions were required.

II. DESCRIPTION OF EVENT:

A. DATES AND APPROXIMATE TIMES OF MAJOR OCCURRENCES:

- July 7, 1996, 1929 EDST: Main Control Board Annunciator H-11 alarms.
- July 7, 1996, 1930 EDST: The breaker for the "A" MFW pump opens.
- July 7, 1996, 1930 EDST: Event date and time.
- July 7, 1996, 1930 EDST: Discovery date and time.
- July 7, 1996, 1953 EDST: #1A seal water booster pump is started. Annunciator H-11 clears.
- July 7, 1996, 2003 EDST: The second running AFW pump is secured.

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

FACILITY NAME (1)	DOCKET	LER NUMBER (6)			PAGE (3)
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
R.E. Ginna Nuclear Power Plant	05000244	96	-- 008	-- 00	3 OF 6

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

B. EVENT:

On July 7, 1996, at approximately 1930 EDST, the plant was in Mode 3. MCB Annunciator H-11 was in the alarm condition. As per design, the "A" MFW pump circuit breaker tripped open approximately sixty (60) seconds after receipt of Annunciator H-11. With both MFW pump breakers open, there is a 2 of 2 logic for the autostart signal supplied to both motor-driven AFW pumps. Since the breaker for the "B" MFW pump was already open, the 2 of 2 logic was present, which caused an autostart of the "B" AFW pump. (The "A" AFW pump also received an autostart signal, but was already operating.)

The Control Room operators observed the autostart of the "B" AFW pump, and controlled AFW flow to the desired flow rate for Mode 3 conditions. At approximately 1953 EDST, the #1A seal water booster pump was manually started, which increased the seal water D/P above 15 PSID. This cleared the alarm condition for Annunciator H-11, which allowed the MFW pump breaker to be closed in the test position, as per temporary administrative requirements. When the breaker was closed (in test), the autostart signal for the AFW pumps was removed. Subsequently, the second running AFW pump was secured at approximately 2003 EDST.

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

None

D. OTHER SYSTEMS OR SECONDARY FUNCTIONS AFFECTED:

None

E. METHOD OF DISCOVERY:

This event was immediately apparent when the "B" AFW pump autostarted 60 seconds after receipt of MCB Annunciator H-11. The autostart of the "B" AFW pump was an expected response to both MFW pump breakers being open.

F. OPERATOR ACTION:

When Annunciator H-11 alarmed, the Control Room operators referred to procedure AR-H-11. After the "B" AFW pump autostarted, they took prompt actions to control AFW flow. The Control Room operators subsequently notified higher supervision and notified the NRC per 10CFR50.72 (b) (2) (ii), non-emergency four hour notification, at approximately 2218 EDST on July 7, 1996.

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

FACILITY NAME (1)	DOCKET	LER NUMBER (6)			PAGE (3)
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
R.E. Ginna Nuclear Power Plant	05000244	96	-- 008	-- 00	4 OF 6

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

G. SAFETY SYSTEM RESPONSES:

The "B" AFW pump autostarted as per design due to both MFW pump breakers being open. (The "A" AFW pump also received an autostart signal, but was already operating.)

III. CAUSE OF EVENT:

A. IMMEDIATE CAUSE:

The immediate cause of the autostart of the "B" AFW pump was both MFW pump breakers open, due to tripping open the "A" MFW pump breaker.

B. INTERMEDIATE CAUSE:

The intermediate cause of tripping open the "A" MFW pump breaker was a 60 second time delay due to low seal water D/P. A system realignment was in progress, and low seal water D/P may occur during this realignment.

C. ROOT CAUSE:

The underlying cause of the MFW pump breaker tripping open was a change in seal water differential pressure that occurred during system realignment. This ultimately resulted in the undesired opening of a MFW pump breaker. This situation was created to be in compliance with the Ginna Station Improved Technical Specifications (ITS) Table 3.3.2-1 Function 6.f. To prevent an unnecessary actuation of both AFW pumps during Mode 2 conditions, a MFW pump breaker may be administratively closed in the test position, provided it is capable of being tripped on undervoltage and overcurrent conditions.

This event is NUREG-1022 Cause Code (E), "Management / Quality Assurance Deficiency". The administrative requirements were established to comply with ITS Table 3.3.2-1, which requires the autostart function of the motor-driven AFW pump upon opening of both MFW pump breakers during Modes 1 and 2. Prior to Amendment No. 61 to the ITS, this function was only required in Mode 1 when the MFW pumps were actually in service. The addition of Mode 2 (when the MFW pumps may not be in service) was inadvertently added to the ITS by Amendment No. 61.

The autostart of the AFW pump does not meet the NUMARC 93-01, "Industry Guideline for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants", definition of a "Maintenance Preventable Functional Failure".

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

FACILITY NAME (1)	DOCKET	LER NUMBER (6)			PAGE (3)
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
R.E. Ginna Nuclear Power Plant	05000244	96	-- 008	-- 00	5 OF 6

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

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)". The start of an AFW pump is an actuation of an ESF.

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 autostart of the "B" AFW pump because:

- The autostart of the "B" AFW pump occurred with the "A" AFW pump already operating and with acceptable levels in both S/Gs. AFW flow was controlled to maintain these levels.
- The limiting case for the supply of AFW is the Loss of Feedwater accident at 100% power. The plant condition at the time of this event was less than 5% power with feedwater being supplied by the "A" AFW pump, so there was no loss of feedwater event.

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

V. CORRECTIVE ACTION:

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

- AFW flow was controlled as desired to maintain S/G level.
- The #1A seal water booster pump was started to provide a D/P for the MFW pumps.
- The second running AFW pump was secured.

B. ACTION TAKEN OR PLANNED TO PREVENT RECURRENCE:

- The ITS will be revised to eliminate the need for having a MFW pump breaker closed in the test position during Mode 2 conditions.
- Until the ITS are revised, the temporary administrative controls (for installing jumpers and closing a MFW pump breaker in the test position) will be reevaluated.

**LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION**

FACILITY NAME (1)	DOCKET	LER NUMBER (6)			PAGE (3)
R.E. Ginna Nuclear Power Plant	05000244	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	6 OF 6
		96	-- 008	-- 00	

TEXT (If more space is required, use additional copies of NRC Form 366A) (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 could be identified.

C. SPECIAL COMMENTS:

None