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ACCESSION NBR: 8804140147 DOC. DATE: 88/04/08 NOTARIZED: NO DOCKET #
FACIL: 50-244 Robert Emmet Ginna Nuclear Plant, Unit 1, Rochester G 05000244

AUTH. NAME	AUTHOR AFFILIATION
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RECIP. NAME	RECIPIENT AFFILIATION

SUBJECT: LER 88-003-00: on 880310, low steam generator water level during unit start-up.

W/8 ltr.

DISTRIBUTION CODE: IE22D COPIES RECEIVED: LTR 1 ENCL 1 SIZE: 7
TITLE: 50.73 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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INTERNAL:	ACRS MICHELSON	1	1	ACRS MOELLER	2	2
	AEOD/DOA	1	1	AEOD/DSP/NAS	1	1
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	ARM/DCTS/DAB	1	1	DEDRO	1	1
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	NRR/DRIS/SIB 9A	1	1	NRR/PMAS/ILRB12	1	1
	~~REG FILE~~ 02	1	1	RES TELFORD, J	1	1
	RES/DE/EIB	1	1	RES/DRPS DIR	1	1
	RGN1 FILE 01	1	1			
EXTERNAL:	EG&G GROH, M	4	4	FORD BLDG HOY, A	1	1
	H ST LOBBY WARD	1	1	LPDR	1	1
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NRC Form 366 (9-83)

U.S. NUCLEAR REGULATORY COMMISSION

APPROVED OMB NO. 3150-0104
EXPIRES: 8/31/85

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1)	DOCKET NUMBER (2)	PAGE (3)
R.E. Ginna Nuclear Power Plant	0 5 0 0 0 2 4 4	1 OF 0 6

TITLE (4) Low Steam Generator Water Level During Unit Start-up, Due To Reactor Coolant System Temperature Control Problems 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)
0 3	1 0	8 8	8 8	— 0 0 3 —	0 0	0 4	0 8	8 8		0 5 0 0 0
										0 5 0 0 0

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

OPERATING MODE (9): N

POWER LEVEL (10): 0 2 7

[ ] 20.402(b)	[ ] 20.405(c)	[X] 50.73(a)(2)(iv)	[ ] 73.71(b)
[ ] 20.405(a)(1)(i)	[ ] 50.36(c)(1)	[ ] 50.73(a)(2)(v)	[ ] 73.71(c)
[ ] 20.405(a)(1)(ii)	[ ] 50.36(c)(2)	[ ] 50.73(a)(2)(vii)	[ ] OTHER (Specify in Abstract below and in Text, NRC Form 366A)
[ ] 20.405(a)(1)(iii)	[ ] 50.73(a)(2)(i)	[ ] 50.73(a)(2)(viii)(A)	
[ ] 20.405(a)(1)(iv)	[ ] 50.73(a)(2)(ii)	[ ] 50.73(a)(2)(viii)(B)	
[ ] 20.405(a)(1)(v)	[ ] 50.73(a)(2)(iii)	[ ] 50.73(a)(2)(x)	

LICENSEE CONTACT FOR THIS LER (12)

NAME	TELEPHONE NUMBER	
	AREA CODE	
Wesley H. Backus Technical Assistant to the Operations Manager	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 NPRDS	CAUSE	SYSTEM	COMPONENT	MANUFAC-TURER	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 fifteen single-space typewritten lines) (16)

On March 10, 1988 at 1856 EST with the reactor power at approximately 27%, during a unit startup, a reactor trip occured due to low "A" Steam Generator (SG) level coincident with Steam Flow - Feedwater Flow (SF/FF) mismatch.

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

The underlying cause of the event was the unanticipated reactor coolant system temperature control problems experienced by the control room operators during the start-up.

Immediate corrective action was to stabilize the plant per the Plant Emergency Operating Procedures for reactor trip.

Action taken to prevent recurrence was to temporarily change the reactor core model for the plant specific simulator to more closely simulate the RCS temperature control problems and train the operators to this new model prior to the startup.

Action planned to prevent recurrence is to investigate improved startup training and Westinghouse's Owner's Group trip reduction programs for steam generator level trips.

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

I. PRE-EVENT PLANT CONDITIONS

Unit startup was in progress per Operating Procedure O-1.2 (Plant From Hot Shutdown To Full Load) from the Annual Refueling and Maintenance Outage. The control room operators were experiencing problems with Reactor Coolant System (RCS) temperature control due to a slightly positive Moderator Temperature Coefficient (MTC), an apparently slow reacting condenser steam dump system and very little indication of main feedwater flow at low power. Because of the RCS temperature control problems, the control room operators were also experiencing problems with Steam Generator (SG) level control. To gain better main feedwater flow indication, reactor power was increased to approximately 27% of full power.

Prior to the above startup all the involved control room operators had had formal classroom training on the operational effects of a slightly positive MTC. The main point that was emphasized in these training sessions was that the control room operators would probably see little operational effect from the slightly positive MTC. These control room operators had also, prior to the above startup, performed startups on the plant specific simulator which was not modeled for the new fuel cycle's positive MTC.

II. DESCRIPTION OF EVENT

A. EVENT:

On March 10, 1988 at 1856 EST with the reactor at approximately 27% of full power, during a unit startup, a reactor trip occurred due to low level in the "A" SG (i.e. SG level $\leq$ 30%) coincident with Steam Flow, Feedwater Flow (SF/FF) mismatch (i.e. SF $\geq$ 0.8 E6 lbm/hr. more than FF).

The control room operators performed the actions of Emergency Operating Procedure E-0 (Reactor Trip or Safety Injection), and ES-0.1 (Reactor Trip Response) and stabilized the plant in hot shutdown.

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

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

None.

C. DATES AND APPROXIMATE TIMES FOR MAJOR OCCURRENCES:

- o March 10, 1988, 1856 EST: Event date and time
- o March 10, 1988, 1856 EST: Discovery date and time
- o March 10, 1988, 1920 EST: Closed both main steam line isolation valves
- o March 10, 1988, 1930 EST: Unit stabilized in hot shutdown

D. OTHER SYSTEMS OR SECONDARY FUNCTIONS AFFECTED:

None

E. METHOD OF DISCOVERY:

The event was immediately apparent due to alarms and indication in the control room.

F. OPERATOR ACTION:

Following the reactor trip the control room operators performed the actions of Emergency Operating Procedures E-0 (Reactor Trip or Safety Injection) and ES-0.1 (Reactor Trip Response).

Subsequently the control room operators closed the main steam line isolation valves to terminate a primary system cooldown, due to low decay heat generation, and stabilized the plant.

III. <u>CAUSE OF EVENT</u>

A. IMMEDIATE CAUSE:

The reactor trip occurred due to low level in the "A" SG coincident with the "A" SG SF/FF mismatch (i.e. SG level $\leq$ 30% and SF $\geq$ 0.8 E6 lbm/hr. more than FF) because of RCS temperature control problems.

B. ROOT CAUSE:

The RCS temperature control problems were due to the slightly positive MTC, the steam dump system control deadband delay time and very little indication of feedwater flow at low power levels, causing the operators to increase power to get better feedwater flow indication.

IV. <u>ANALYSIS OF EVENT</u>

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 "A" SG low level coincident with the "A" SG SF/FF mismatch 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:

There were no safety consequences or implications attributed to the "A" SG low level coincident with the "A" SG SF/FF mismatch reactor trip because:

- o The two reactor trip breakers opened as required.
- o All control and shutdown rods inserted as designed.

- o The unit was stabilized in hot shutdown with all required systems operational.

- o Both SGs levels were maintained on scale in the narrow range instrumentation thus assuring a heat sink for decay heat removal.

Based on the above, it can be concluded that all systems required, performed as designed thus assuring the public's health and safety.

V. CORRECTIVE ACTION

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

- o The "A" SG water level was returned to its normal operating band by feedwater addition through the Auxiliary Feedwater System.

B. ACTION TAKEN OR PLANNED TO PREVENT RECURRENCE:

Prior to unit start-up on March 12, 1988, the plant specific simulator core model was temporarily changed to more closely simulate the positive MTC being experienced at the plant. After the above modeling was complete, the operating shift performing the startup, trained on the plant specific simulator to gain operating experience with a positive MTC and minimum FF/SF indication. This additional startup training proved to be very beneficial as the startup progressed as planned.

Subsequently all licensed shift operators were trained on starting up the plant with a positive MTC. This training was completed prior to March 24, 1988. Additionally all licensed staff personnel will be trained on starting up the plant with a positive MTC. This training is planned to be complete by April 18, 1988.

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

Rochester Gas and Electric Corporation (RG&E) will investigate improving start-up training on the simulator in the following areas:

- o SG Level Control
- o Feedwater Flow Control
- o Reactivity Control

RG&E will investigate the condenser steam dump control system utilization during unit start-up.

RG&E will review the recommendations of the Westinghouse Owner's Group trip reduction and assessment program (WOG TRAP) for reduction of SG level trips and steam generator level control equipment.

VI. <u>ADDITIONAL INFORMATION</u>

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:

None.

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

TELEPHONE
AREA CODE 716 546-2700

April 8, 1988

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

Subject: LER 88-003, Low Steam Generator Water Level During Unit Startup Due To Reactor Coolant System Temperature Control Problems Causes 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 88-003 is hereby submitted.

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

Very truly yours,

Roger W. Kober for —

Bruce A. Snow
Superintendent of
Nuclear Production

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

Ginna USNRC Resident Inspector

P605.773 707

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