REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR: 8704220215 DOC. DATE: 87/04/15 NOTARIZED: NO DOCKET #
FACIL: 50-244 Robert Emmet Ginna Nuclear Plant, Unit 1, Rochester G 05000244
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RECIP. NAME RECIPIENT AFFILIATION

SUBJECT: LER 87-003-00: on 870415, major portion of fire sys detection & auto suppression found inoperable. Caused by operator failure to follow procedural direction during fire sys disconnect procedure. Procedure updated. W/870415 ltr.

DISTRIBUTION CODE: IE22D COPIES RECEIVED: LTR 1 ENCL 1 SIZE: 11
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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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)
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TITLE (4) Inoperable Fire System Detection Alarms and Automatic Suppression, Due To Personnel Error, During System Disconnect Performance

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 5 0 0 0
0 3	1 6	8 7	8 7	0 0 3	0 0	0 4	1 5	8 7		0 5 0 0 0

OPERATING MODE (9)		THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)			
N		20.402(b)	20.405(c)	50.73(a)(2)(iv)	73.71(b)
POWER LEVEL (10)		20.405(a)(1)(i)	50.36(c)(1)	50.73(a)(2)(v)	73.71(c)
1 0 0		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)	X 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
W.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	MANUFACTURER	REPORTABLE TO NPRDS		CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS	

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 fifteen single-space typewritten lines) (16)

On March 16, 1987 at 1100 EST, with the unit at 100% reactor power, a major portion of the Fire System Detection and Auto Suppression was found inoperable. This inoperability was due to an "Alarm Off" pushbutton in the Relay Room Fire Panel being inadvertently left depressed during the earlier performance of a Fire System Disconnect procedure.

Operations and the Instrument and Control Technician who initially observed the problem, immediately restored the "Alarm Off" pushbutton to normal, thus restoring the Fire System to operable status again.

The event was caused by the failure of the operator to follow procedural direction while performing the Fire System Disconnect procedure.

Corrective Action planned to prevent recurrence will be the upgrading of the disconnect procedure to have a second verification by a Fire Control and Safety person or a Licensed Operator.

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

I. PRE-EVENT PLANT CONDITIONS

The unit was at 100% reactor power and a Fire System Disconnect had been performed on Fire Zone Z-35 at 0940 EST per procedure SC-3.16.2.4 (Fire Signaling/Component(s) Disconnection - Reconnection). This disconnect was done so that personnel could perform work in the Fire Zone Z-35 area without inadvertently actuating the Fire Detection System due to dust, grinding, etc. A firewatch had been assigned to the Fire Zone Z-35 area prior to disconnect.

At 1045 EST, an Instrument and Control (I&C) Technician began work on the Fire System Tamper Switch Panel in Satellite Station C (SSC) in the Relay Room.

II. DESCRIPTION OF EVENT

A. EVENT:

On March 16, 1987 at 1100 EST, while the I&C Technician was working on the Tamper Switch in SSC, he observed a "Trouble Alarm" on Satellite Station A (SSA). SSA and SSC are very close together in the Relay Room. The I&C Technician immediately checked SSA for the source of the "Trouble Alarm" and observed the "Alarm Off" button depressed. Knowing that, with this button depressed, a major portion of the Fire Systems Detection Alarms and Auto Suppression was rendered inoperable, the I&C Technician notified the Control Room.

The Ginna Station Technical Specifications (TS) Section 3.14.3.1 requires that if a spray/sprinkler system is inoperable, except during emergency conditions which prohibit access, or for testing, within one hour, establish a continuous firewatch with backup fire suppression equipment for those areas in which redundant systems or components necessary for safe-shutdown could be damaged; for other areas, establish a firewatch patrol to inspect the zone with the inoperable system at least once per hour and

place backup fire suppression equipment in the unprotected area(s). Because from 0940 EST on March 16, 1987, until 1100 EST on March 16, 1987 (a lapsed time of approximately 1 hour and 20 minutes) with many of the spray/sprinkler systems inoperable without a firewatch and backup fire suppression being established, the requirements of Section 3.14.3.1 of TS was exceeded.

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

None.

C. DATES AND APPROXIMATE TIMES FOR MAJOR OCCURRENCES:

- o March 16, 1987, 0940 EST: Event date and time
- o March 16, 1987, 1100 EST: Discovery date and time
- o March 16, 1987, 1100 EST: SSA "Alarm Off" button restored to normal restoring the Fire System operability.

D. OTHER SYSTEMS OR SECONDARY FUNCTIONS AFFECTED:

With the "Alarm Off" button depressed in SSA, the following functions were affected on a major portion of the Fire System;

- o Audible Control Room Fire System alarms were defeated
- o Automatic Fire Suppression was prevented
- o Manual-Remote Fire Suppression from the Control Room was prevented
- o Manual-Remote Fire Suppression from the area electric release stations was prevented.

The major portions of the Fire System affected are as follows:

NOTE: The prefix "S" denotes Fire Suppression Detection System and the prefix "Z" denotes Fire Detection only. The * denotes Auto Actuation of a Fire Suppression System.

- o S01 * Auxiliary Building Basement East - Safety Injection (SI) pumps
- o S02 * 1-G Charcoal Filter in Auxiliary Building
- o S03 * Auxiliary Building Intermediate Center - Bus #16
- o S04 * Auxiliary Building Intermediate East - Cable Tray
- o S05 * Cable Tunnel
- o S06 * Control Building Air Handling Room
- o S07 * Old Computer Room
- o S12 * "A" Emergency Diesel Generator Room
- o S13 * "B" Emergency Diesel Generator Room
- o S14 * Turbine Driven Auxiliary Feed Pump
- o S15 * Intermediate Building Basement North - Cable Trays
- o S16 * Oil Storage Room
- o S17 * Screen House Basement - Cable Trays
- o S24 Condenser Pit

o	S25	*	Hydrogen Seal Oil Unit
o	S27	*	Turbine Oil Reservoir
o	S29	*	Control Room/Turbine Building Wall
o	Z01		Auxiliary Building Basement East and Charging Pumps
o	Z02		Auxiliary Building Basement West and Residual Heat Removal (RHR) Sump area
o	Z03		Auxiliary Building Intermediate West
o	Z04		Auxiliary Building Operating Floor - Bus #14 and Component Cooling Water (CCW) pumps
o	Z05		Cable Tunnel
o	Z06		Containment "A" Auxiliary Filter Charcoal Bank
o	Z07		Containment "B" Auxiliary Filter Charcoal Bank
o	Z08		Containment Basement Cable Trays
o	Z09		Containment "A" Post Accident Charcoal Bank
o	Z10		Containment "A" Post Accident Charcoal Bank
o	Z11		Containment "B" Post Accident Charcoal Bank
o	Z12		Containment "B" Post Accident Charcoal Bank
o	Z13		Containment "A" RCP Cable Trays

- o Z14 Containment "B" RCP Cable Trays
- o Z15 Containment Intermediate Level Cable Trays
- o Z16 Containment Operating Floor Cable Trays
- o Z19 Control Room Area
- o Z20 "A" Emergency Diesel Generator Vault
- o Z21 "B" Emergency Diesel Generator Vault
- o Z22 Motor Driven Auxiliary Feed Pump area
- o Z23 "A" Containment Purge Filter
- o Z24 "B" Containment Purge Filter
- o Z25 Standby Auxiliary Feed Pump area
- o Z26 Screen House Service Water Pump area
- o Z35 Auxiliary Building - Spent Fuel Pit area
- o Z36 Intermediate Building - Sub-basement
- o Z37D1 Intermediate Building - Steam Header area
- o Z37D2 Intermediate Building - Above Steam Header
- o Z37D3 Intermediate Building - Top Floor area
- o Z38D1 Intermediate Building Basement - Hot Side
- o Z38D2 Intermediate Building Main Floor - Hot Side
- o Z38D3 Intermediate Building - Top Floor Hot Side
- o The Fire Pumps Auto Start Signal

E. METHOD OF DISCOVERY:

The "Alarm Off" button in SSA was found depressed by an I&C Technician while he was performing maintenance on a tamper switch in SSC.

F. OPERATOR ACTION:

Operations and the I&C Technician immediately restored the Fire System to operable status.

III. CAUSE OF EVENT

A. IMMEDIATE CAUSE:

A major portion of the Fire System Detection Alarms and Automatic Suppression rendered inoperable due to the "Alarm Off" button in SSA being depressed.

B. RCOT CAUSE:

Two root causes contributed to this event. They are as follows:

- The operator's failure to follow procedural direction while performing the disconnect procedure, (i.e. there was a distinct step in the disconnect procedure that instructed the operator to, "release the alarm off button by depressing it again and verifying the trouble light goes out").

- There is currently no selective visual indication in the Control Room that alerts the operator when any of the fire zones supervised at SSA are disconnected, reconnected, or inadvertently left in trouble.

IV. ANALYSIS OF EVENT

This event is reportable in accordance with 10 CFR 50.73, Licensee Event Report System, item (a)(2)(i)(B), which requires reporting of "any operation or condition prohibited by the Plant's Technical Specifications" in that portions of the Fire Suppression System and the Fire Detection System were inoperable for more than 1 hour without a firewatch and backup fire suppression being established.

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

- Although the above systems would not have operated as designed, the area fire detectors were still operating and if a fire in any of the areas existed a visual indication at the Fire Control Panel in the Control Room would have been received. Should indication have been received, the Station Fire Brigade would have been activated and they could have operated the suppression system locally at the hydraulic release stations. The Fire Service Pumps could have been started manually from the Control Room.

- Fire barriers are located throughout the plant to separate major areas from each other and also to separate certain safety related areas from the remainder of the plant. These are designed to stop a fire from propagating from one area to another. All penetrations in these barriers are sealed with appropriate materials to match the requirements of the barrier. It is reasonable to assume that even if a fire went undetected in an area, that the fire would be restricted to that area due to the installed fire barriers.

- The Ginna Station Fire Hazard Safe Shutdown Analysis assumes achieving and/or maintaining cold shutdown status from a fire in any area of the plant. Modifications have been made and procedures developed to assure this.

There were no safety consequences or implications from this event because, the Fire Detection and Suppression System was only inoperable for approximately 1 hour and 20 minutes and the above defense in depth concepts (i.e. fire barriers, and Fire Hazard Safe Shutdown Systems) were used in the plant design. Added to this Fire Detection System visual detection was still available in the Control Room, with local-manual fire suppression actuation possible.

V. CORRECTIVE ACTION

A. ACTION TAKEN TO RETURN THE FIRE SYSTEM TO OPERABLE STATUS:

- Operations and the I&C Technician immediately restored the "Alarm Off" button to normal thus restoring the fire system to operable status.

B. ACTION TAKEN OR PLANNED TO PREVENT RECURRENCE:

- Make changes to SC-3.16.2.4 (Fire Signaling System/Component(s) Disconnection - Reconnection) procedure to have either a knowledgeable fire control and safety person or a Licensed Operator observe and verify the Fire System Disconnect-Reconnect operation.

- Implement with a high priority status, Engineering Work Request (EWR) 4280 to provide an alarm light to be located on the Control Room Fire Display Panel to clearly indicate when the Fire System has been disconnected/reconnected either by choice or inadvertently.

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

VI. ADDITIONAL INFORMATION

A. FAILED COMPONENTS:

There were no component failures that contributed to this event.

B. PREVIOUS LER's ON SIMILAR EVENTS:

A similar LER event historical search was conducted with the following results:

- LER 84-010 "Inoperable Fire Suppression System". The LER 84-010 event was caused by operator error, (i.e. failure to restore the "Alarm Off" button on the Fire Detection Panel to normal) when restoring Fire Systems S-15 and Z-22 back to service per SC-3.16.2.4. The Corrective Action for LER 84-010 dealt with Reconnection and not Disconnection. It was only partially applicable and incapable of preventing the LER 87-003 event.

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

ROGER W. KOBER
VICE PRESIDENT
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April 15, 1987

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

Subject: LER 87-003, Inoperable Fire System Detection Alarms and Automatic Suppression Due To Personnel Error During System Disconnect Performance.
R.E. Ginna Nuclear Power Plant
Docket No. 50-244

In accordance with 10 CFR 50.73, Licensee Event Report System, item (a)(2)(i)(B) which requires a report of, "any event or condition prohibited by the Plant's Technical Specifications," the attached Licensee Event Report LER 87-003 is hereby submitted.

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

Very truly yours,

Roger W. Kober

Roger W. Kober

xc: U.S. Nuclear Regulatory Commission
Region I
631 Park Avenue
King of Prussia, PA 19406

Ginna USNRC Resident Inspector

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