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REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR:9104240254 DOC.DATE: 91/04/15 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 91-003-00:on 910314,firewatch not posted during fire sys
 isolation cause Tech Spec violation.Caused by inadequate
 adherence to procedures.Establish formalized method to
 verify firewatch prior to holding fire sys.W/910415 ltr.

DISTRIBUTION CODE: IE22T COPIES RECEIVED:LTR 1 ENCL 1 SIZE: 10
 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 A

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ROBERT C. MECREDY
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AREA CODE 716 546-2700

April 15, 1991

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

Subject: LER 91-003, Firewatch Not Posted During Fire System
Isolation, Due To Inadequate Adherence to Procedures
Causes A Condition Prohibited By Plant Technical
Specifications
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
operation prohibited by the Plant's Technical Specifications",
the attached Licensee Event Report LER 91-003 is hereby submitted.

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

Very truly yours,

Robert C. Mecredy
Robert C. Mecredy

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

Ginna USNRC Senior Resident Inspector

Ent No P2490-75074

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TEXT (If more space is required, use additional NRC Form 388A's) (17)

I. PRE-EVENT PLANT CONDITIONS

The reactor was at approximately 89% full power and coasting down to a shutdown (planned for March 22, 1991) per operating procedure O-6.12 (Plant Operation During Coastdown).

Maintenance Department personnel were in the process of performing Maintenance Work Order (MWO) #9024072. MWO #9024072 was associated with work for valve 9242D. (Valve 9242D is the ball drip valve for flooding valve 9242F and sprinkler system S-04). Maintenance procedure M-67.3 (Flood Valve System Maintenance) was being used to perform part of the work required by MWO #9024072.

As part of MWO #9024072 instructions, Fire Protection personnel were notified by the Maintenance Lead Technician of the impending isolation of fire sprinkler system S-04. The technician assumed that with this required notification, Fire Protection personnel would post a firewatch with backup suppression system, prior to Operations personnel holding the system for maintenance. (Fire sprinkler system S-04 is a Technical Specification sprinkler system requiring that a continuous firewatch with backup fire suppression equipment be established within one hour of the system being inoperable). The technician, assuming the firewatch with suppression equipment was in place, signed off step 5.2 of M-67.3. Based on discussions with the Maintenance Technician, Operations personnel erroneously concluded that a firewatch was already posted. Therefore, the Operations Shift Supervisor (SS) gave permission to hold fire system S-04.

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U.S. NUCLEAR REGULATORY COMMISSION

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

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TEXT (If more space is required, use additional NRC Form 306A's) (17)

II. DESCRIPTION OF EVENT

A. DATES AND APPROXIMATE TIMES OF MAJOR OCCURRENCES:

- o March 14, 1991, 1045 EST: Event date and time.
- o March 14, 1991, 1327 EST: Discovery date and time.
- o March 14, 1991, 1415 EST: Firewatch with backup suppression equipment established.
- o March 14, 1991, 1510 EST: Fire sprinkler system S-04 declared operable.

B. EVENT:

On March 14, 1991 at 1045 EST, with the reactor at approximately 89% full power, fire sprinkler system S-04 (Auxiliary Building Mezzanine Cable Trays) was held in accordance with MWO #9024072 and M-67.3. The fire detection system for S-04 was unaffected by this work, and remained operable. The work was performed in accordance with MWO #9024072 and M-67.3 and at 1327 EST the hold was released by the Maintenance Technician. The Control Room notified the primary side (i.e. Auxiliary Building) Auxiliary Operator (AO), by radio, to remove the hold tags. The Fire Protection Engineer heard the radio transmission and contacted the SS, informing the SS that a firewatch with backup fire suppression equipment had not been established for fire sprinkler system S-04. Subsequently at 1415 EST a firewatch with backup fire suppression equipment was established. At approximately 1415 EST the hold tags were removed and the systems isolation valves were opened. The system was declared operable at 1510 EST.

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

Fire sprinkler system S-04 being inoperable without a firewatch with backup fire suppression equipment established in one hour is contrary to Plant Technical Specification 3.14.3.1. The specification states in part, "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". Considering the one (1) hour to establish the firewatch with backup fire suppression equipment, the plant was contrary to Technical Specifications for approximately two (2) and one half (1/2) hours.

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

None.

D. OTHER SYSTEMS OR SECONDARY FUNCTIONS AFFECTED:

None.

E. METHOD OF DISCOVERY:

The event was made apparent during the monitoring of Control Room radio communications by the Fire Protection Engineer.

F. OPERATOR ACTION:

Subsequent to the discovery of the event, Operations personnel restored the affected system to operability, consulted the Plant Technical Specifications and notified higher supervision and the NRC Resident Inspector.

G. SAFETY SYSTEM RESPONSES:

None.

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TEXT (If more space is required, use additional NRC Form 306A's) (17)

III. CAUSE OF EVENT

A. IMMEDIATE CAUSE:

The immediate cause of the event was that a firewatch with backup suppression equipment was not established for fire sprinkler system S-04 while it was made inoperable for maintenance.

B. ROOT CAUSE:

The root cause of the event was determined to be inadequate adherence to procedures and an erroneous assumption of task completion which negated implementation of existing administrative controls.

The Maintenance Technician's use of verbal notification for task assignment to Fire Protection personnel without personally ensuring task completion in the field, prior to signing the procedure step which stated "ensure firewatch coverage of the affected area is in place" was the procedure adherence error.

The Maintenance Technician assumed that his notification to Fire Protection personnel was sufficient to ensure posting of a firewatch. Operations personnel concluded that a firewatch was already posted, based on the actions taken by the Maintenance Technician. Fire Protection personnel expected that formal notification from the SS would be provided, and that Operations would not remove system S-04 from service until a firewatch had been posted. The assumption of task completion based upon verbal notification and the introduction of an intermediary party prevented implementation of existing administrative controls. Note that the function of notification is normally directly communicated between Fire Protection and the SS for disconnects/reconnects of Fire Protection components. This assumption of task completion prevented activation of procedure SC-3.16.2.4, administrative controls which would have prevented this event.

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TEXT (If more space is required, use additional NRC Form 306A's) (17)

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 a report of, "any operation prohibited by the Plant's Technical Specifications", in that a firewatch with backup suppression equipment not being established within one hour while fire sprinkler system S-04 was inoperable placed the plant in a condition prohibited by Plant Technical Specification 3.14.3.1.

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

- o The fire detection system for fire sprinkler system S-04 was operable.
- o There was an Auxiliary Operator (trained as a fire brigade member) continuously in the general area during the event.
- o A firewatch was immediately posted when the event became apparent.
- o With the fire detection system still operable in the area, the plant fire brigade could have responded in approximately 5 minutes of a fire being detected.
- o The fire area for the Auxiliary Building mezzanine level had a maximum permissible fire load of 240,000 BTU's/sq. ft. with an actual fire load of 22,425 BTU's/sq. ft. which is considered low fire hazard (less than 80,000 BTU's/sq. ft.). All fire barriers, with the exception of the cable tunnel entrance, are of three hour rated construction. The walls are of formed concrete construction and the ceiling boundary to fire zone ABO above is of reinforced concrete 18 inches thick. The clear floor to ceiling height is 16.5 ft., for a total volume of approximately 170,000 cu. ft. No pumps or other pieces of equipment that

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TEXT (If more space is required, use additional NRC Form 386A's) (17)

contain lubricating or fuel oil are located in this area. Transient combustibles would be in the form of ordinary combustibles required for maintenance; however, as radiological conditions result in access to the zone being monitored by Health Physics, quantities of these materials are considered small. A concentrated loading of 100,000 BTU's/sq. ft. exists in a 1000 sq. ft. area of zone ABM by the entrance to the cable tunnel. This loading, which consists entirely of cables located in trays, is protected by smoke detectors and a deluge system.

Five portable extinguishers and three manual hose stations are available for fire fighting and thirteen smoke detectors are provided for early detection. All penetrations to fire zone ABO above (exclusive of the open stairs, open hatch and the gap around the RWST) are sealed to provide a three hour rating. To ensure the integrity of the barrier separating fire zone ABO from ABM, close spaced, closed head sprinklers are provided around the two open stairs and one open hatch.

There is redundant shutdown capability to ensure heat removal in the event of a fire in ABM. DC power can be supplied through an existing intertie between the TSC battery charger and main fuse cabinet 1B. This capability, requiring simple operator action and no repair, allows for loss of battery charger feeds in zone ABM.

Based on this analysis the integrity of the Fire Protection Program was not compromised.

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TEXT (If more space is required, use additional NRC Form 306A's) (17)

V. CORRECTIVE ACTION

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

- o As soon as the event became apparent a firewatch with backup fire suppression equipment was established for the area.
- o Subsequently the system isolation valves were opened and the fire sprinkler system S-04 was declared operable.

B. ACTION TAKEN OR PLANNED TO PREVENT RECURRENCE:

- o Site Contingency Procedure SC-3.16.2.4 (Fire Signaling System/Component(s) Disconnection/Isolation/Reconnection) was revised to enhance control of compensatory measures for fire system valve isolation and restoration.
- o Administrative Procedure A-52.4.1 (Control of Limiting Conditions for Operation of Fire Spray/Sprinkler, Fire Detection Equipment and Fire Barriers) was revised to require SC-3.16.2.4 to be used for fire system valves. This procedure linkage ensures that the firewatch is posted prior to removing any of these valves from service.
- o Maintenance procedures for the fire sprinkler system will be reviewed, and revised as necessary, to be consistent with responsibilities of Operations and Maintenance personnel.
- o A formalized firewatch request method will be instituted by the Maintenance Planning group, to officially notify Fire Protection personnel of the need to perform maintenance work on the fire detection system and/or suppression system components.

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TEXT (If more space is required, use additional NRC Form 308A's) (17)

- o When a work package is scheduled, the new firewatch request method form, applicable sections of procedure (SC-3.16.2.4, and the request for system isolation (Hold Request) will all be forwarded to the operating shift by Fire Protection personnel, rather than by Maintenance personnel.
- o The Maintenance Lead Technician has been formally counseled on the need to properly and completely implement the requirements of procedural steps.

VI. ADDITIONAL INFORMATIONA. FAILED COMPONENTS:

None.

B. PREVIOUS LERS ON SIMILAR EVENTS:

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

- o LER 84-008 was a similar event with approximately the same root cause (i.e. miscommunication). The corrective action taken for this event was apparently not in the depth needed to prevent recurrence.

C. SPECIAL COMMENTS:

None.

