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FACIL:50-244 Robert Emmet Ginna Nuclear Plant, Unit 1, Rochester G 05000244
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RECIP.NAME RECIPIENT AFFILIATION

SUBJECT: LER 92-001-02:on 920105,containment ventilation isolation occurred due to actuation signal from containment particulate radiation monitor R-11.Root cause undetermined. Radiation monitor reset & drawer replaced.W/920804 ltr.

DISTRIBUTION CODE: IE22T COPIES RECEIVED:LTR 1 ENCL 1 SIZE: 8
TITLE: 50.73/50.9 Licensee Event Report (LER), Incident Rpt, etc.

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August 4, 1992

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

Subject: LER 92-001, (Revision 2) Failure of Containment Radiation Monitor Due To Unknown Cause, Causes Containment Ventilation Isolation (i.e. ESF Actuation)
R.E. Ginna Nuclear Power Plant
Docket No. 50-244

In accordance with 10CFR50.73, 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 event report LER 92-001 (Revision 2) is hereby submitted. This revision is necessary to add supplemental information following a root cause determination by the vendor.

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

Very truly yours,

Robert C. Mecredy

Robert C. Mecredy

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Ginna USNRC Senior Resident Inspector

cert # p748 938 438

IE22 1/1

NRC FORM 366 (6-89)

U.S. NUCLEAR REGULATORY COMMISSION

APPROVED OMB NO. 3150-0104
EXPIRES: 4/30/92

ESTIMATED BURDEN PER RESPONSE TO COMPLY WTH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (P-530), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

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 7

TITLE (4) Failure of Containment Radiation Monitor Due To Unknown Cause, Causes Containment Ventilation Isolation (i.e., ESF Actuation)

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 1	0 5	9 2	9 2	— 0 0 1	— 0 2	0 8	0 4	9 2		0 5 0 0 0

OPERATING MODE (9)	N	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)			
POWER LEVEL (10)	0 9 8	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
Wesley H. Backus Technical Assistant to the Operations Manager	AREA CODE 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	
X	I L	M O N	V 0 5 6	Y							

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 January 5, 1992 at approximately 0240 EST, with the reactor at approximately 98% full power, a containment ventilation isolation occurred due to an actuation signal from the containment particulate radiation monitor (R-11).

All containment isolation valves that were open, closed as designed.

Immediate operator action was to perform the applicable alarm response procedures actions. This included verifying automatic actions, determining the cause of the containment ventilation isolation, and making appropriate notifications.

The immediate cause of the event was determined to be the failure of R-11.

Corrective action taken was to return the containment ventilation isolation system to pre-event normal status, sequentially followed by a troubleshooting effort by the Instrument and Control Department, and then changeout of the R-11 drawer with a qualified spare. The root cause of failure could not be determined. However, the most likely cause is believed to be a microprocessor lock-up. (This event is NUREG-1022 (X) cause code.)

I. PRE-EVENT PLANT CONDITIONS

The plant was at approximately 98% steady state reactor power with no major activities in progress.

II. DESCRIPTION OF EVENT

A. DATES AND APPROXIMATE TIMES OF MAJOR OCCURRENCES:

- o January 5, 1992, 0240 EST: Event date and time.
- o January 5, 1992, 0240 EST: Discovery date and time.
- o January 5, 1992, 0252 EST: Control Room operators restore R-11 (Containment Particulate Radiation Monitor and reset containment ventilation isolation).

B. EVENT:

On January 5, 1992 at approximately 0240 EST, with the reactor at approximately 98% full power, the following control board alarms were received, E-16 (RMS Process Monitor High Activity) and A-25 (Containment Ventilation Isolation). The Control Room operators, responding to the above alarms, observed that R-11 (Containment Particulate Radiation Monitor) had the light indicating failure illuminated. The Control Room operators immediately referred to alarm response procedures AR-A-25 and AR-RMS, and verified that all containment ventilation isolation valves that were open, closed as designed and performed the applicable actions of the alarm response procedures. Subsequently, at approximately 0242 EST, Control Board alarm E-20 (CNMT Or Plant Vent Rad Mon Pump Trip) was received. This alarm was due to the trip of the containment radiation monitor pump and isolation of the containment valves to and from the pump. The Control Room operators also verified that the other containment process radiation monitors were reading normal prior to the radiation monitor pump trip.

After the above immediate actions were completed, the Control Room operators addressed plant Technical Specifications and declared R-11 inoperable.

At approximately 0252 EST, January 5, 1992, the Control Room operators reset R-11 by cycling its AC power supply off and on, reset the containment ventilation isolation signal, and restarted the containment radiation monitor pump. All containment process radiation monitor readings returned to approximately pre-event values, indicating that R-11 was now operating properly. Subsequently, at 0324 EST, the Control Room operators performed periodic test procedure PT-17.2 (Process Radiation Monitors R-11 - R-22 Iodine Monitors R-10A and R-10B) on R-11 only and demonstrated that R-11 was operating as required.

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

None.

D. OTHER SYSTEMS OR SECONDARY FUNCTIONS AFFECTED:

With the containment ventilation isolation, the following major components were isolated:

- R-10A, Containment Iodine RMS Monitor
- R-11, Containment Particulate RMS Monitor
- R-12, Containment Gas RMS Monitor

E. METHOD OF DISCOVERY:

The event was immediately apparent due to Control Board annunciator alarms and containment ventilation isolation valve position indication on the Control Board. Also, Radiation Monitor R-11 digital readout indicated an invalid error code.

F. OPERATOR ACTION:

Control Room operators responded to the event by performing the applicable actions of alarm response procedures E-16, A-25, RMS, and E-20 and other actions as they deemed necessary. This included the following:

- Verifying that all containment ventilation isolation valves that were open, closed as designed.
- Addressing the plant Technical Specifications to ensure the plant was operating within these specifications.
- Declaring R-11 inoperable per administrative procedure A-52.4 (Control of Limiting Conditions for Operating Equipment).
- Resetting R-11, resetting the containment ventilation isolation signal and restarting R-10A, R-11, and R-12 sample pump and verifying sample flow was re-established.
- Verifying that R-10A, R-11, R-12 RMS monitor readings returned to normal.
- Notifying the NRC and higher supervision of the ESF actuation.

G. SAFETY SYSTEM RESPONSES:

The containment ventilation isolation valves that were open, closed automatically from the containment ventilation isolation signal.

III. CAUSE OF EVENT

A. IMMEDIATE CAUSE:

The containment ventilation isolation was due to an R-11 failure.

B. ROOT CAUSE:

After the following troubleshooting, the root cause remains undetermined.

- The Instrument and Control (I&C) Department calibrated the R-11 drawer with no adjustments required.
- Victoreen Inc., the manufacturer of the instrument was called. Victoreen Inc. advised that, the most probable cause was the micro-processor "locking-up" and it was reset by the operators cycling its AC power supply off and on. They suspect it may be a "one time" event.
- Victoreen Inc. tested the returned R-11 drawer to determine the root cause of the failure. Victoreen Inc. could not repeat the failure. Victoreen Inc. indicates that the most likely cause of the failure was a microprocessor lock-up.

IV. ANALYSIS OF EVENT

This event is reportable in accordance with 10CFR50.73, 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)". The containment ventilation isolation due to the R-11 failure, was an automatic actuation of an ESF subsystem.

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 containment ventilation isolation because:

- o The containment ventilation isolation system operated as designed.
- o The components affected were capable of withstanding the isolation.
- o The containment ventilation isolation was in the conservative direction.

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:

- o The Control Room operators, after determining that the containment ventilation isolation was due to the R-11 failure, reset R-11, reset the containment ventilation isolation signal and restored the system to pre-event status.

B. ACTION TAKEN OR PLANNED TO PREVENT RECURRENCE:

The following corrective action was taken:

- o The R-11 drawer was replaced with a qualified spare and the removed R-11 drawer will be sent to Victoreen, Inc., so that they can attempt to duplicate the failure and determine the root cause.
- o Engineering was involved in assessing the situation and concluded that no additional follow-up actions were required.

- As the most likely cause of the failure was determined to be microprocessor lock-up, the R-11 Drawer Microprocessor was replaced and returned to Ginna Station stock as a qualified spare. Rochester Gas and Electric Engineering concurred with this corrective action.

VI. ADDITIONAL INFORMATION

A. FAILED COMPONENTS:

The R-11 drawer was a model #942A, manufactured by Victoreen, Inc.

B. PREVIOUS LERs ON SIMILAR EVENTS:

A similar LER event historical search was conducted with the following results: LERs 87-005, 88-007, 89-011, 89-013, and 89-014 were similar events with known causes that appear much different than this event. No other documentation of similar events could be identified.

C. SPECIAL COMMENTS:

None.