

CATEGORY 1

REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR:9909290014 DOC.DATE: 99/09/22 NOTARIZED: NO DOCKET #
 FACIL:50-244 Robert Emmet Ginna Nuclear Plant, Unit 1, Rochester G 05000244
 AUTH.NAME AUTHOR AFFILIATION
 RUBY,R.M. Rochester Gas & Electric Corp.
 MECREDY,R.C. Rochester Gas & Electric Corp.
 RECIP.NAME RECIPIENT AFFILIATION

VISSING,G.S.

SUBJECT: LER 99-011-00:on 990823,small tears were discovered in
 flexible duct work connector at inlet of CR HVAC sys return
 air fan (AKF08).Caused by in-leakage greater than assumed.
 Joint was restored to leak tight condition.With 990922 ltr.

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 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

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ROBERT C. MECREDY
Vice President
Nuclear Operations

September 22, 1999


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

Subject: LER 1999-011, Small Breach in Ventilation System
Results in Plant Being Outside Design Basis
R.E. Ginna Nuclear Power Plant
Docket No. 50-244

Dear Mr. Vissing:

The attached Licensee Event Report LER 1999-011 is submitted in accordance with 10 CFR 50.73, Licensee Event Report System, items (a) (2) (ii) (B) and (a) (2) (i) (B), which require a report of, "Any event or condition...that resulted in the nuclear power plant being...In a condition that was outside the design basis of the plant." or "Any operation or condition prohibited by the plant's Technical Specifications".

Very truly yours,


Robert C. Mecredy

xc: Mr. Guy S. Vissing (Mail Stop 8C2)
Project Directorate I
Division of Licensing Project Management
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

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

U.S. NRC Ginna Senior Resident Inspector

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LICENSEE EVENT REPORT (LER)

(See reverse for required number of
digits/characters for each block)

FACILITY NAME (1) R. E. Ginna Nuclear Power Plant	DOCKET NUMBER (2) 05000244	PAGE (3) 1 OF 6
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TITLE (4) Small Breach in Ventilation System Results in Plant Being Outside Design Basis.
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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
08	23	1999	1999	-- 011 --	00	09	22	1999		05000
OPERATING MODE (9) 1			THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more) (11)							
POWER LEVEL (10) 100			20.2201(b)		20.2203(a)(2)(v)		X		50.73(a)(2)(i)	50.73(a)(2)(viii)
			20.2203(a)(1)		20.2203(a)(3)(i)		X		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)				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 Robert M. Ruby - Senior Licensing Engineer	TELEPHONE NUMBER (Include Area Code) (716) 771-3572

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX
B	VI	FCON	V087	YES					

SUPPLEMENTAL REPORT EXPECTED (14)		EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR
YES (If yes, complete EXPECTED SUBMISSION DATE).	NO X				

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

On August 23, 1999, the plant was in Mode 1 at approximately 100% steady state reactor power. At approximately 10:15 EDST, small tears were discovered in the flexible duct work connector at the inlet of the Control Room HVAC, System Return Air Fan (AKF08). The plant entered Technical Specification Limiting Condition for Operation 3.0.3 for approximately 48 minutes while temporary repairs were made.

Subsequently, it was determined that the openings could have caused an in-leakage greater than that assumed in the accident analysis, placing the plant in a condition outside its design basis. This was reported to the NRC within one hour of the determination per 10CFR50.72 (b)(1)(ii)(B).

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

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

I. PRE-EVENT PLANT CONDITIONS:

On August 23, 1999 the plant was in Mode 1 at approximately 100% steady state reactor power. Engineering management was making a tour/inspection of the Control Room HVAC system in preparation for an upcoming modification.

The Control Room HVAC system is designed to provide conditioned air at the proper temperature and to isolate and re-circulate the air upon receiving an isolation signal indicating the presence of radioactivity or toxic gas.

II. DESCRIPTION OF EVENT:

A. DATES AND APPROXIMATE TIMES OF MAJOR OCCURRENCES:

- o August 23, 1999, 1015 EDST: Event date and time.
- o August 23, 1999, 1015 EDST: Discovery date and time.
- o August 23, 1999, 1103 EDST: Temporary repairs completed.
- o August 23, 1999, 1145 EDST: Further evaluation indicates that the tear could have allowed in-leakage beyond design basis.
- o August 23, 1999, 1225 EDST: NRC Operations Center is notified of this event per 10CFR50.72(b)(1)(ii)(B)

B. EVENT:

On August 23, 1999, at approximately 1015 EDST, while performing a walkdown of the Control Room HVAC System, the Balance of Plant Systems Engineering Manager discovered tears in the rubber portion of the inlet flexible ductwork connector (expansion joint) for the Control Room HVAC System Return Air Fan (AKF08). A tear at this location would allow outside air flow into the system in the post accident recirculation mode. The Control Room operators were notified, the system was declared inoperable, and the plant entered Ginna Station Improved Technical Specifications (ITS) Limiting Condition for Operation (LCO) 3.0.3. At approximately 1103 EDST, Temporary Modification 99-029 was successfully installed which sealed the duct from potential in-leakage. The system was then declared operable and ITS LCO 3.0.3. was exited. Due to the timely repairs/modification, a unit shutdown was not required and a load reduction was not commenced.

Subsequent to returning the system to operable status, evaluations completed at approximately 1145 EDST indicated that the tear could have allowed in-leakage in excess of the assumed leak rate listed in the Ginna Station Updated Final Safety Analysis Report (UFSAR) Section 6.4, Table 6.4-1. With this information it was assumed that the system had been outside the design basis and this was reported to the NRC Operations Center per 10CFR50.72(b)(1)(ii)(B), at 1225 EDST on August 23, 1999.

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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 condition was self-identified by engineering management personnel during a walkdown of the Control Room HVAC System.

F. OPERATOR ACTION:

The Control Room Operators, upon notification of the condition, entered ITS LCO 3.0.3 and prepared to start a plant shutdown, if required. After the system was declared operable at 1103 EDST, the LCO was exited. At approximately 1145 EDST, plant staff determined that a non-emergency one hour notification, per 10CFR50.72(b)(1)(ii)(B), should be made to the NRC Operations Center. The Shift Supervisor made this notification at approximately 1225 EDST on August 23, 1999. The NRC Resident was also notified at this time.

G. SAFETY SYSTEM RESPONSES:

None

III. CAUSE OF EVENT:

A. IMMEDIATE CAUSE:

The immediate cause of the plant being in outside its design basis was a small breach in the flexible duct connection for the Control Room HVAC System Return Air Fan. The calculated leakage was in excess of the allowable in-leakage listed in UFSAR Table 6.4-1.

B. INTERMEDIATE CAUSE:

The intermediate cause of the small breach was two small tears in the flexible duct work connector on the suction of the Control Room HVAC System Return Air Fan.

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C. ROOT CAUSE:

Two tears were identified on opposite sides of the round duct at the inlet of the return air fan. Similar material from stock was later cut by a knife and examined. It was confirmed that the knife cut was not similar to that which was discovered in the Control Building HVAC equipment room. It was also verified that the material is very strong and not subject to tearing with manual hand forces. All of the flexible joint connectors in the Control Building HVAC equipment room, including the damaged joint, had been replaced during the 1999 refueling outage. Post modification testing and QC inspections during and after the installations verified acceptable ductwork flexible joint configurations as part of the modification turnover process. The duct work up to the edge of the joint was insulated after the testing. The joint was not re-tested after completion of the insulation work and other post modification demobilization.

The characteristics of the Temporary Modification make visual inspection of the tears impossible at this time. Therefore, given that the joint was intact and inspected for leakage at the end of the outage and, given the known physical characteristics of the tear, it was determined that further evaluation must be conducted when the joint is disassembled for replacement. Due to the Technical Specification requirements for operability of the Control Room HVAC System, it is expected that this will occur during the next refueling outage.

IV. ANALYSIS OF EVENT:

This event is reportable in accordance with 10CFR50.73, Licensee Event Reporting System, item (a)(2)(ii)(B), which requires a report of, "Any event or condition...that resulted in the nuclear power plant being...in a condition that was outside the design basis of the plant" and 10CFR50.73, License Event Reporting System, item (a)(2)(i)(B) which requires a report of "Any operation or condition prohibited by the plant's Technical Specifications". The leakage due to the tear in the flexible coupling was greater than the assumed leakage in the accident analysis, as described in the UFSAR.

An assessment considering the consequences and implications of this event resulted in the following conclusions:

There were no operational or safety consequences and implications attributed to the increase in leakage because:

- Although the in-leakage was in excess of that assumed in the UFSAR, the actual amount was only 2.2% of the total flow in the system. In addition, during accident conditions, approximately 20% of the total flow is diverted through the charcoal filter unit down stream of the in-leakage. This would serve to reduce the effect of any excess activity ingested into the system due to the tear.
- Any event that results in a significant release would require entry into the Nuclear Emergency Response Plan, resulting in continuous Radiation Protection (RP) technician coverage in the Control Room. In this situation the Control Room area radiation and airborne activity are continuously monitored. Should the activity concentration reach unacceptable levels, the RP technician would implement appropriate protective actions. Some of the contingencies available are respirators and potassium iodide tablets to limit the uptake of radioactive iodine.

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- From a toxic gas perspective, the most likely source of significant toxic gas release was removed from site several years ago with the removal of the anhydrous ammonia tank outside the Condensate Demineralizer building. The remaining on-site chemicals, which could result in a toxic gas situation (chlorine, ammonia, hydrazine, sulfuric acid, and sodium hydroxide) are in a liquid state. Therefore, due to the slower evaporation rate, the Control Room atmosphere is less likely to reach hazardous airborne concentrations during a spill. In addition, the sulfuric acid and sodium hydroxide tanks in the primary demineralizer room have been emptied and are no longer in use. Similar tanks in the Condensate Demineralizer building are located in separate pits which prevents inadvertent mixing of these chemicals. The next most likely toxic gas release source is gaseous chlorine located at the Ontario water plant, approximately one mile to the east of the plant. The distance involved would allow significant dilution of the gas in the atmosphere. Also, the water plant is in a location where the prevailing winds in the area tend to blow the gas away from the plant. Finally, the presence of these gasses in the Control Room atmosphere would be readily apparent to the Operators due to the noxious nature of the fumes. There are two Self Contained Breathing Apparatus (SCBA) units located in the Control Room with an additional five units located in the fire lockers outside the Control Room door.

Based on the above, it is 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:

- Temporary Modification 99-029 was implemented to restore the joint to a leak tight condition.
- Work Order 19902982 is planned to replace the existing flexible joint material with a new flexible joint.
- Other flexible joint material joints in the Control Building HVAC equipment room were examined and were found to be in new condition with no tears.

B. ACTION TAKEN OR PLANNED TO PREVENT RECURRENCE:

- A sign was added to this location to state that the ductwork should not be stepped upon.
- The joint will be closely inspected for potential damage mechanism during the replacement, presently planned for the next refueling outage. Should this inspection yield any additional information relating to root cause, appropriate corrective actions will be implemented and a revised LER will be transmitted to the NRC.

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VI. ADDITIONAL INFORMATION:

A. FAILED COMPONENTS:

The failed component is "Flexglas", manufactured by Vent Fabrics, Inc. The specific application is as a Flexible Duct Connector SCS152 in the Control Room HVAC system.

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