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VICE PRESIDENT
NUCLEAR OPERATIONS

December 20, 2002

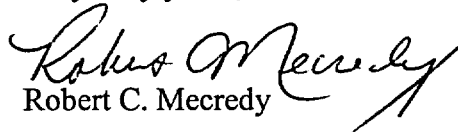
Mr. Robert L. Clark
U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D.C. 20555-0001

Subject: LER 2002-002, Small Breach in Ventilation System Results in Potentially Not
Being Able to Mitigate the Consequences of an Accident
R.E. Ginna Nuclear Power Plant
Docket No. 50-244

Dear Mr. Clark:

The attached Licensee Event Report LER 2002-002 is submitted in accordance with 10 CFR
50.73, Licensee Event Report System, item (a)(2)(v)(D).

Very truly yours,


Robert C. Mecredy

xc: Mr. Robert L. Clark (Mail Stop O-8-C2)
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NRC FORM 366 (7-2001)		U.S. NUCLEAR REGULATORY COMMISSION		APPROVED BY OMB NO. 3150-0104 Estimated burden per response to comply with this mandatory information collection request 50 hours. Reported lessons learned are incorporated into the licensing process and fed back to industry. Send comments regarding burden estimate to the Records Management Branch (T-6 E6), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to bjs1@nrc.gov, and to the Desk Officer, Office of Information and Regulatory Affairs, NEOB-10202 (3150-0104), Office of Management and Budget,		EXPIRES 7-31-2004		
LICENSEE EVENT REPORT (LER) (See reverse for required number of digits/characters for each block)								
1. FACILITY NAME R. E. Ginna Nuclear Power Plant				2. DOCKET NUMBER 05000244		3. PAGE 1 OF 7		
4. TITLE Small Breach in Ventilation System Results in Potentially Not Being Able to Mitigate the Consequences of an Accident								
5. EVENT DATE			6. LER NUMBER		7. REPORT DATE		8. OTHER FACILITIES INVOLVED	
MO	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REV NO	MO	DAY	YEAR
11	08	2002	2002	- 002 -	00	12	20	2002
							FACILITY NAME DOCKET NUMBER 05000	
							FACILITY NAME DOCKET NUMBER 05000	
9. OPERATING MODE		1		11. THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR § (Check all that apply)				
10. POWER LEVEL		100		20.2201(b)		20 2203(a)(3)(ii)		50.73(a)(2)(ii)(B)
				20.2201(d)		20 2203(a)(4)		50.73(a)(2)(iii)
				20.2203(a)(1)		50 36(c)(1)(i)(A)		50.73(a)(2)(iv)(A)
				20 2203(a)(2)(i)		50.36(c)(1)(ii)(A)		50 73(a)(2)(v)(A)
				20.2203(a)(2)(ii)		50 36(c)(2)		50.73(a)(2)(v)(B)
				20.2203(a)(2)(iii)		50.46(a)(3)(ii)		50 73(a)(2)(v)(C)
				20 2203(a)(2)(iv)		50.73(a)(2)(i)(A)		X 50 73(a)(2)(v)(D)
				20.2203(a)(2)(v)		50.73(a)(2)(i)(B)		50.73(a)(2)(vii)
				20 2203(a)(2)(vi)		50.73(a)(2)(i)(C)		50.73(a)(2)(viii)(A)
				20 2203(a)(3)(i)		50 73(a)(2)(iii)(A)		50.73(a)(2)(viii)(B)
12. LICENSEE CONTACT FOR THIS LER								
NAME John T. St. Martin, Technical Assistant						TELEPHONE NUMBER (Include Area Code) (585)771-3641		
13. COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT								
CAUSE	SYSTEM	COMPONENT	MANU-FACTURER	REPORTABLE TO EPIX	CAUSE	SYSTEM	COMPONENT	MANU-FACTURER
A	VI	FCON	V087	Y				
14. SUPPLEMENTAL REPORT EXPECTED						15. EXPECTED SUBMISSION DATE		
YES (If yes, complete EXPECTED SUBMISSION DATE)						MONTH DAY YEAR		
X NO								
16. ABSTRACT (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines)								
<p>On November 8, 2002, the plant was in Mode 1 at approximately 100% steady state reactor power. At approximately 0905 EST, it was discovered that there was a small breach in a flexible connection at the inlet of the Control Room HVAC system (system VI) Return Air Fan (AKF08). The plant entered Technical Specification Limiting Condition for Operation 3.0.3 for approximately 40 minutes while temporary repairs were made.</p> <p>It was determined that the small breach in the flexible connection could have caused an in-leakage into the Control Room greater than that assumed in the accident analysis. This was reported to the NRC within eight hours of the determination per 10 CFR 50.72(b)(3)(v)(D).</p> <p>The cause of the small breach was a partial failure of a flexible connection.</p> <p>Corrective action to prevent recurrence is listed in Section V.B.</p>								

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

I. PRE-EVENT PLANT CONDITIONS:

On November 8, 2002 the plant was in Mode 1 at approximately 100% steady state reactor power. Unrelated to plant activities, an engineering manager was conducting a routine plant tour, including a tour of the Control Building Air Handling Room.

The Control Room HVAC system (VI) is designed to provide conditioned air to the Control Room 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. EVENT:

On October 29, 2002, the system engineer inspected conditions in the Control Building Air Handling Room, specifically for the inlet flexible connector (FCON) SCS152 at the suction of return air fan AKF08 for the Control Room HVAC system. On this date, the flexible connector was intact.

On November 8, 2002, at approximately 0905 EST, while performing a routine plant tour in the Control Building Air Handling Room, an engineering manager discovered a small breach in the rubber fabric of this flexible connector. It was reported that this breach could allow unisolable outside air to be drawn into the Control Room.

The initial report was that the flexible connector fabric had torn or separated from the metal collar, creating an unisolable opening. At the time, the "tear" was identified to be approximately 10" in arc length, and created a small breach in the Control Room envelope. (Subsequent observations determined that the rubber fabric was not torn, but had pulled out of the crimp which is formed in the metal collar during installation of the fabric.) A breach at this location would allow outside air flow into the system in the post accident recirculation mode. Evaluations indicated that a breach of this size 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 would not have been able to fulfill its safety function to mitigate the consequences of an accident. It was determined that the volume of air in-leakage into the Control Room could be greater than that assumed in the accident analysis.

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The Control Room Operators, upon notification of the condition, declared the system inoperable, and the plant entered Ginna Station Improved Technical Specifications (ITS) Limiting Condition for Operation (LCO) 3.0.3. The operators prepared to initiate a unit shutdown, if required. At approximately 0945 EST, Temporary Modification (TM) 2002-0011 was installed. This TM sealed the opening between the flexible connector and the metal collar, providing an air tight seal. 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.

A non-emergency eight hour notification, per 10 CFR 50.72(b)(3)(v)(D), was made to the NRC Operations Center at approximately 1230 EST on November 8, 2002. The NRC Resident was also notified at this time.

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

None

C. DATES AND APPROXIMATE TIMES OF MAJOR OCCURRENCES:

- November 8, 2002, 0905 EST: Event date and time.
- November 8, 2002, 0905 EST: Discovery date and time.
- November 8, 2002, 0945 EST: Temporary repairs completed.
- November 8, 2002, 1230 EST: NRC Operations Center is notified of this event per 10 CFR 50.72(b)(3)(v)(D)

D. OTHER SYSTEMS OR SECONDARY FUNCTIONS AFFECTED:

None

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E. METHOD OF DISCOVERY:

The condition was self-identified by engineering management personnel during a routine plant tour.

F. SAFETY SYSTEM RESPONSES:

The Control Room HVAC system was declared inoperable due to inability to fulfill its safety function, but the system continued to function to provide air to the Control Room. No actuation of Control Room HVAC isolation was required during this event.

III. CAUSE OF EVENT:

The cause of the separation was attributed to an inappropriate load being applied to the top area of the duct, which caused tension at the flexible connector's collar. This resulted in partial failure of the flexible connection.

The characteristics of the Temporary Modification make visual inspection of the affected connection impossible at this time. Given the known physical characteristics of the small breach, it was determined that further evaluation must be conducted when the connection 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.

Security Log sheets, which document entrance and exit dates and times to the Control Building Air Handling Room, were obtained from the date the connector was last inspected by the system engineer until the discovery date. The sheets were used in determining work activities that could have taken place during this period of approximately one week. Work activities were identified, but none that occurred in the vicinity of the affected flexible connection. Selected maintenance and testing personnel who entered the room during this period were interviewed, and no one recalled standing on the duct or placing any loads on the duct.

This event is NUREG-1022 Cause Code (A), "Personnel Error".

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IV. ASSESSMENT OF THE SAFETY CONSEQUENCES OF THE EVENT:

This event is reportable in accordance with 10 CFR 50.73, Licensee Event Report System, item (a)(2)(v)(D), which requires a report of, "Any event or condition that could have prevented the fulfillment of the safety function of structures or systems that are needed to: ... (D) Mitigate the consequences of an accident". The in-leakage due to the small breach was estimated to be greater than the assumed leak rate 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 in-leakage because:

- Although the estimated in-leakage of outside air was in excess of that assumed in the UFSAR, the actual amount was only 1.1 % of the total flow in the system. In addition, during accident conditions, approximately 25 % of the total flow is diverted through the charcoal filter unit down stream of the in-leakage. This filtration would serve to reduce the effect of any excess activity ingested into the system due to the in-leakage. During the time that the small breach existed, the as-left leak rates for containment, and for ECCS piping located outside the containment (which contain radioactive fluids post-LOCA) was less than leak rates assumed in accident analyses. Thus, the actual source of radioactive nuclides was less, counterbalancing the impact of the increased air in-leakage.
- Area radiation monitor R-1 continuously monitors radiation levels in the Control Room. In addition, any event that results in a significant release would require entry into the Nuclear Emergency Response Plan, which requires the shift Radiation Protection (RP) technician to report to the Control Room. Given the status of R-1 and other plant indications, the shift RP technician would perform Control Room habitability surveys as needed. 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.
- The 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 Town of Ontario water plant,

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approximately one mile to the east of the plant. The water plant is in a location where the prevailing winds in the area would tend to blow the gas away from the plant if the town storage tanks were to rupture. However, even when the winds would tend to blow in other directions, the distance involved would allow significant dilution of the gas in the atmosphere. 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 five Self Contained Breathing Apparatus (SCBA) units located in the Control Room with additional units located in a building adjacent to the Control Room.

Based on the above, it is concluded that the plant operated as designed, that there were no unreviewed safety questions, and that the public's health and safety was assured at all times.

V. CORRECTIVE ACTIONS:

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

- Temporary Modification (TM) 2002-0011 was implemented to close the small breach between the flexible connector fabric and the metal collar and to provide an air tight seal. The TM installed two overlapping layers of insulation, to seal the existing connection.
- Other flexible connections in the Control Building Air Handling Room were examined and were found to be in acceptable condition and configuration.

B. ACTION TAKEN OR PLANNED TO PREVENT RECURRENCE:

- When appropriate conditions can be established during the 2003 refueling outage, the flexible connector will be disassembled and replaced. During disassembly, the affected area will be carefully inspected, and after the flexible connector is removed, it will be inspected to determine if a different root cause for the failure can be identified. Should this inspection yield significant information relating to a different root cause, appropriate corrective actions will be implemented and a revised LER will be transmitted to the NRC.
- Plant Change Request (PCR) 2002-0059 has been initiated to evaluate the flexible connection design and the configuration of the duct adjacent to flexible connector SCS152.
- Two (2) large warning signs will be installed on the duct, to replace the smaller sign currently installed near the affected flexible connector.

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VI. ADDITIONAL INFORMATION:

A. FAILED COMPONENTS:

The failed component is "Ventglas", manufactured by Vent Fabrics, Inc. The specific application is as flexible connector SCS152 in the Control Room HVAC system.

B. PREVIOUS LERs ON SIMILAR EVENTS:

An historical search of LERs was conducted with the following results: LER 1999-011 was a similar LER event with a different root cause, but with similar contributing factors.

C. THE ENERGY INDUSTRY IDENTIFICATION SYSTEM (EIIS) COMPONENT FUNCTION IDENTIFIER AND SYSTEM NAME OF EACH COMPONENT OR SYSTEM REFERRED TO IN THIS LER:

COMPONENT	IEEE 803 FUNCTION IDENTIFIER	IEEE 805 SYSTEM IDENTIFICATION
Air Handling Unit	AHU	VI (Control Building/Control Complex Environmental Control System)
Fan	FAN	VI
Flexible Connector	FCON	VI

D. SPECIAL COMMENTS:

None