Georgia Power Company
40 Inverness Center Parkway
Post Office Box 1295
Birmingham, Alabama 35201
Telephone 205 877-7279

Georgia Power
the southern electric system

J. T. Beckham, Jr.
Vice President—Nuclear
Hatch Project

HL-2377
003896

August 25, 1992

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D.C. 20555

PLANT HATCH - UNITS 1, 2
NRC DOCKETS 50-321, 50-366
OPERATING LICENSES DPR-57, NPF-5
LICENSEE EVENT REPORT
SINGLE FAILURE VULNERABILITY DISCOVERED
IN THE INTAKE STRUCTURE VENTILATION SYSTEM

Gentlemen:

In accordance with the requirements of 10 CFR 50.73(a)(2)(v), Georgia Power Company is submitting the enclosed, revised, Licensee Event Report (LER) concerning a single failure vulnerability discovered in the intake structure ventilation system. This event occurred at Plant Hatch - Unit 1.

Sincerely,

J. T. Beckham, Jr.

J. T. Beckham, Jr.

JKB/cr

Enclosure: LER 50-321/1992-013, Revision 1

cc: Georgia Power Company
Mr. H. L. Sumner, General Manager - Nuclear Plant
NORMS

U.S. Nuclear Regulatory Commission, Washington, D.C.
Mr. K. Jabbour, Licensing Project Manager - Hatch

U.S. Nuclear Regulatory Commission, Region II
Mr. S. D. Ebneter, Regional Administrator
Mr. L. D. Wert, Senior Resident Inspector - Hatch

IE22
/11

U.S. NUCLEAR REGULATORY COMMISSION

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

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1)	DOCKET NUMBER (2)	PAGE (3)
PLANT HATCH, UNIT 1	0 5 0 0 0 3 2 1	1 OF 10

TITLE (4)
SINGLE FAILURE VULNERABILITY DISCOVERED IN THE INTAKE STRUCTURE VENTILATION SYSTEM

EVENT DATE (5)			LER NUMBER (6)			REPORT DATE (7)			OTHER FACILITIES INVOLVED (8)	
MONTH	DAY	YEAR	YEAR	SEQ NUM	REV	MONTH	DAY	YEAR	FACILITY NAMES	DOCKET NUMBER(S)
									HATCH, UNIT 2	0 5 0 0 0 3 6 6
0 5	2 1	9 2	9 2	0 1 3	0 1	0 8	2 5	9 2		0 5 0 0 0

THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR (11)

OPERATING MODE (9): 1				
POWER LEVEL: 1 0 0	[ ] 20.402(b)	[ ] 20.405(c)	[ ] 50.73(a)(2)(iv)	[ ] 73.71(b)
	[ ] 20.405(a)(1)(i)	[ ] 50.36(c)(1)	[X] 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)
	[ ] 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: AREA CODE	
STEVEN B. TIPPS, MANAGER NUCLEAR SAFETY AND COMPLIANCE, HATCH	912	367-7851

COMPLETE ONE LINE FOR EACH FAILURE DESCRIBED IN THIS REPORT (13)

CAUSE	SYSTEM	COMPONENT	MANUFAC-TURER	REPORT TO NPRDS		CAUSE	SYSTEM	COMPONENT	MANUFAC-TURER	REPORT TO NPRDS

SUPPLEMENTAL REPORT EXPECTED (14)

[ ] YES(If yes, complete EXPECTED SUBMISSION DATE)	[X] NO	EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR

ABSTRACT (16)

On 5/21/92, at approximately 1030 CDT, Units 1 and 2 were in the run mode at 2436 CMWT (100 percent of rated thermal power). At that time, Nuclear Safety and Compliance personnel informed plant operators that a single failure in the intake structure ventilation system potentially could result in elevated temperatures inside the intake structure. Specifically, in the normal mode of operation, a failure of the fan control logic could result in the loss of all three ventilation fans. At this time, the ventilation system intake louvers were blocked open, and fans X41-C009A and B were placed in the continuous run mode. This mode assures the availability of at least one fan if the postulated failure of the control logic were to occur. A conservative analysis showed that a temperature rise adversely affecting the safety-related equipment inside the intake structure was theoretically possible. However, based on an evaluation of the fan control logic which showed that a complete failure is highly unlikely and an analysis which showed that the fire protection system would effectively limit the temperature rise, the analysis concluded that safety related components would not have been prevented from performing their required safety functions.

The cause of the single failure vulnerability was a less than adequate design.

Corrective actions include changes to the operating mode of the system, blocking the ventilation louvers open, performing a safety assessment for current operation, performing a detailed analysis, counseling personnel, and evaluating long term corrective actions.

PLANT AND SYSTEM IDENTIFICATION

General Electric Boiling Water Reactor
Energy Industry Identification System Codes are identified in the text as (EIIS Code XX).

DESCRIPTION OF EVENT

On 5/21/92, at approximately 1030 CDT, Units 1 and 2 were in the run mode at 2436 CMWT (approximately 100 percent of rated thermal power). At that time, nonlicensed Nuclear Safety and Compliance personnel informed licensed plant operators that portions of the river intake structure ventilation system (EIIS Code UA) did not meet the single failure criterion specified in the plant's design basis. Specifically, a failure of the ventilation fan control logic could result in the loss of all three ventilation fans. Thus, following a postulated design basis accident, the river intake structure (EIIS Code MK) may not be maintained at or below the safety-related equipment design temperature. With the single failure criterion not met, and the postulated temperature increase inside the building, sustained operation of the plant service water (PSW, EIIS Code BI) and the residual heat removal service water (RHRSW, EIIS Code BI) pump motors during worst case conditions came into question. Deficiency card 1-92-2313 was written to document the condition and track resolution of the concern and corrective actions. An immediate operability concern was judged not to exist at the time of the event. The outside air temperature was considerably lower than the maximum design conditions and at least one fan backdraft damper was blocked open which provided a convective air flow path. To insure future operability of the PSW and RHRSW pump motors, the intake structure air intake and exhaust louvers were blocked open and two ventilation fans were placed in the continuous run mode.

The river intake structure ventilation system consists of three 50 percent capacity fans and four sets of gravity operated air inlet louvers. All three fans have individual four position (hand/auto/off/standby) control switches. All three fans are controlled by one wall mounted thermostat when the fans are in the automatic mode. Per design, two of the three fans are normally operated in the automatic mode which allows the thermostat to control fan operation and the third fan is maintained in the standby mode. The standby fan is designed to start automatically on a low air flow condition occurring due to a failure of either of the operating fans.

The intake structure ventilation system receives power from two independent and redundant Class 1E essential busses (EIIS Code EB). Two of the three fans, 1X41-C009A and C, receive power from Unit 1 Division I Bus 1R24-S009. The third fan, 1X41-C009B receives power from Unit 1 Division II Bus 1R24-S010. The ventilation system logic receives power from Division I. The control switches and associated relays for all fans are located in control panel 1H21-P268.

TEXT

In the Spring of 1991, GPC personnel initiated a review of the intake structure ventilation system in response to high ambient temperature conditions experienced in the intake structure during normal operation in the summer months and the 50 percent fan redundancy which was identified during preparations for the Electric Distribution System Functional Inspection. The Plant's Architect Engineer (A/E), in responding to the request, recommended that at least two ventilation fans (powered from separate divisions) be continuously run with the handswitch in the "hand" position and to block open all gravity operated air louvers. The review showed that the ventilation system's design was deficient in that a failure of one division of power could result in the availability of only one 50-percent capacity fan and a failure of the control circuitry could result in the loss of all three fans. However, due to a lack of clearly communicating the need to implement the recommended actions and the fact that the temperature was no longer a concern as the recommendation was received in October, no action was taken.

On 4/24/92, preliminary results from the Individual Plant Evaluation (IPE) effort were being reviewed. The IPE assessment showed that a loss of all ventilation cooling to the intake structure was a contributor to a loss of plant service water and significantly increased the total core damage frequency for the plant. At this time, operability of the PSW and RHRSW motors was not believed to be impacted. This was based on a previous evaluation that showed motors similar to the PSW and RHRSW pump motors could operate for up to 31 days at temperatures up to 195 degrees F, an evaluation of the temperature rise to 131 degrees F with only a single ventilation fan in operation, the assumption that the interim recommendations had been implemented, the accessibility of the intake structure which would allow for corrective actions, and the fire protection system which should limit temperatures in the event of a ventilation system failure. The safety-related equipment inside the intake structure was evaluated for operation in a sustained environment of 135 degrees F for a 31 day period and was shown to be acceptable. The evaluation also included a verification of the seismic adequacy of the system. However, as previously discussed, the ventilation system was, in fact, operating in the normal auto/standby configuration since the system operating changes previously recommended had not been implemented.

On 5/21/92, Nuclear Safety and Compliance personnel were reviewing the 4/24/92 operability assessment when they concluded that a failure of the fan control logic could potentially result in significantly elevated temperatures inside the intake structure. Consequently, sustained operation of the PSW and RHRSW pump motors at the elevated temperatures came into question. Deficiency card 1-92-2313 was initiated to document the deficiency. An immediate operability concern was judged not to exist at the time of the event as the time required for heatup would allow for corrective actions, the outside air temperature was considerably lower than the design maximum of 96 degrees F, and at least one exhaust backdraft louver was blocked open.

To resolve the single failure concern, ventilation fans 1X41-C009A and B were placed in the "hand" mode, fan 1X41-C009C was placed in standby, and all four ventilation louvers were blocked open. This configuration assures at least one 50 percent capacity fan is in operation in the event of a postulated failure of the fan control logic, or a loss of the Division I or Division II power sources as the fan control logic is bypassed in the "hand" mode. Consequently, operability of the safety-related equipment in the intake structure was assured following a postulated failure of the fan control logic, a loss of the Division I or Division II power sources, or a design basis earthquake.

CAUSE OF EVENT

The cause of the single failure vulnerability was a less than adequate design. The intake structure ventilation system was designed to provide reliability with some redundancy; however, the control circuits were not originally designed to meet Class 1E criteria which would preclude a single failure from preventing the ventilation system from performing its intended function.

The cause for the untimely corrective action and untimely dissemination of information was personnel error in that the existence of a design deficiency was not clearly communicated in a timely manner to the appropriate management. Specifically, personnel did not adequately track resolution of the concerns identified in late 1991 nor did they take definitive action to initiate a deficiency card to document the single failure concern for the fan control logic. Consequently, operation of the ventilation system in the "hand" mode was not implemented until 5/21/92.

REPORTABILITY AND SAFETY ASSESSMENT

This report is required by 10 CFR 50.73(a)(2)(v) because the design of the intake structure ventilation system was such that a single failure of the fan control logic could have resulted in elevated temperatures significantly higher than the safety-related equipment design temperature.

The safety-related equipment contained in the intake structure consists of the PSW pump motors, the RHRSW pump motors, the standby PSW pump motor, and the associated circuitry, piping, valves, and supports for the above components. The PSW pump motors are required to supply cooling water to ensure the operation of specific safety-related equipment in the event of a design basis accident or transient. The PSW system supplies cooling water to safety-related equipment such as the diesel generators, residual heat removal (RHR) pump coolers, and emergency core cooling system equipment room coolers which are required for a safe reactor shutdown following a design basis accident or transient. The PSW system also supplies cooling water to non-safety related equipment during normal operation. During a design basis accident, the non-safety related equipment is designed to be isolated from the PSW system, and cooling water is supplied only to safety-related equipment. Consequently, only one of the four PSW pumps is required to supply the cooling demand under accident conditions.

The RHRSW system is required to provide cooling water to the RHR system heat exchangers and is required to operate for a safe reactor shutdown following a design basis accident or transient. The RHRSW system is required to operate whenever the RHR heat exchangers are required to operate in the shutdown cooling mode or in the suppression pool cooling and spray mode of the RHR system. In the shutdown cooling mode, the RHRSW system provides cooling water to the RHR

TEXT

system to ensure decay heat removal from the reactor core. The RHRSW system removes heat from the suppression pool to limit the suppression pool temperature and primary containment pressure following a loss of coolant accident (LOCA). This ensures the primary containment can perform its function of limiting the release of radioactive materials to the environment following a LOCA. Two of the four RHRSW pumps are required to meet the cooling demand following a design basis accident.

The intake structure ventilation system fan control logic is provided with a ceiling mounted firestat and associated logic that is set to activate all three ventilation fans at approximately 165 degrees F for the purpose of venting the smoke and heat from a fire. The firestat logic is normally energized and is designed to fail safe in that all three fans are activated upon loss of power to the firestat logic. A local wet pipe sprinkler system is provided around each PSW and RHRSW pump motor and is set to activate at 175 degrees F. The effect of the sprinkler spray on the operating pump motors has been evaluated and determined not to impact sustained operation. The sprinkler system is activated by ampule type sprinkler heads which are installed to applicable codes and augmented quality assurance criteria. The control room is provided with an alarm for the start of a fire protection system pump. The applicable annunciator response procedures would direct operations personnel to determine the location for the alarm and to dispatch personnel to assess conditions. In the case where a failure of the ventilation fans resulted in actuation of the sprinkler system, Operations personnel would be dispatched to the intake structure to assess conditions and initiate appropriate corrective actions.

An analysis which calculated the potential magnitude of the temperature rise inside the intake structure has been completed. The analysis was based on conservative assumptions such as the maximum design temperature for the river water and outside air temperature. The temperature rise was calculated for three scenarios. Each scenario assumes a design basis accident occurs on one unit with the other unit in normal operation. Consequently, three PSW and two RHRSW pump motors are assumed for the accident unit and three PSW pump motors are assumed for the unit in operation. For each scenario, the intake structure building geometry was nodalized into 14 subvolumes. A common model and air flow paths were considered for the three scenarios. Additionally, the PSW and RHRSW surge arrestors, which provide in-line power surge protection to the motors, were modeled into the thermal hydraulic model.

The temperature profiles for the intake structure were generated using the GOTHIC computer program. GOTHIC is a state-of-the-art personal computer based thermal-hydraulic analysis program developed by the Electric Power Research Institute (EPRI). The results of the analysis are as follows:

Scenario 1 considers that a failure of the fan control thermostat or the thermostat relay occurs which results in a loss of all three ventilation fans. Continued operation of the six PSW and two RHRSW pump motors increases the temperature inside the intake structure and activates the firestat. The

TEXT

firestat, as designed, bypasses the thermostat control circuitry and is capable of starting the three ventilation fans. The assumptions and initial conditions are as follows:

1. The loss of all three fans occurs when the outside air temperature is 95 degrees F.

2. The inlet dampers are closed. Based on the gaps between the damper blades, the ventilation flow area is assumed to be four square feet of inlet area and four square feet of outlet area. This corresponds to approximately 10 percent of the fully opened flow area of the outlet dampers.

3. A failure of the Division 1 power supply also occurs. Consequently, only the single fan powered from the Division 2 power supply activates.

4. The firestat activates at 170 degrees F (i.e., the 165 degree F setpoint plus 5 degrees F tolerance). For additional conservatism, a 30 second delay is assumed to occur after the trip temperature is reached.

The results of the thermal hydraulic analysis show that a peak temperature of 225 degrees F will occur in the worst case subvolume. The rise to the peak temperature occurs in approximately three minutes. An equilibrium temperature of 140 degrees F in the worst case volume is reached approximately four minutes after the fan is started.

Although the temperature profiles exceed the design temperature limits, an evaluation performed by General Electric showed the PSW and the RHRSW pump motors would not be adversely affected by the temperature transient. The pump motors can be expected to perform normally during and after the elevated temperature transient. The surge arrestors remain well below the manufacturer's maximum recommended temperature rating of 176 degrees F.

The Motor Control Centers (MCCs) in the intake structure provide power to the ventilation fans, sump pumps, PSW strainer motors, traveling water screen motors, motor operated valves, building lighting and other control equipment. Premature tripping of any breaker or fuse in the MCCs will not affect the operation of the PSW and RHRSW pumps. Cable derating and premature tripping for the fuse or the fan breaker have been reviewed and do not impact the operation of the ventilation system. The PSW and RHRSW pump motors are powered from switchgear in the diesel building. The temperature increase has a negligible impact on the cables to the pump motors.

The mechanical equipment in the intake structure which are of significance are the minimum flow valves in both the PSW and RHRSW pump loops. During normal plant operation, the PSW pumps are considered to be operating whereas the RHRSW pumps are maintained in the standby condition. During an accident condition, the PSW pumps are maintained in the operating condition and the RHRSW pumps are started as needed. The minimum flow valves for the PSW loop do not have to change position. The minimum flow valves in the RHRSW loops are normally closed when the RHRSW pumps are started, and only open when the system pressure

TEXT

increases beyond the normal operating system pressure signifying that the RHRSW pumps are being dead headed. The valve operators can operate up to a maximum temperature of 150 degrees F. A higher temperat e can result in damage to the molded nylon fabric/nitrile rubber diaphram in the valve operator and consequent failure of the minimum flow valve. If the valve were to fail in the open position, this would not affect the abi.ity of the RHRSW pumps to start. The diminished flow due to the failed valves will not prevent the RHRSW pumps from delivering adequate cooling water to the RHR heat exchangers for system heat removal requirements.

The safety-related instrumentation in the intake structure are the pressure switches which initiate standby PSW pump operation and the differential pressure switches which initiate backwash of the PSW pump strainers. The pressure switches are located in the wet pit area whereas the differential pressure switches are located outdoors in the PSW strainer area. The analysis has revealed that there is only a slight temperature rise in the wet pit area and this should not affect the operation of the pressure switches. The differential pressure switches are located outdoors and are not impacted by elevated temperature in the river intake structure.

Consequently, the occurrence of a failure of the fan control thermostat or thermostat relay, combined with a failure of either the Division 1 or Division 2 power sources, would not have prevented the PSW and RHRSW components from performing their required safety functions.

Scenario 2 postulates a complete loss of the ventilation system control logic in that this scenario assumes a failure of the fan control thermostat or thermostat relay combined with a failure of the firestat or firestat control logic. In this scenario, continued operation of the PSW and RHRSW pump motors increases the temperature inside the intake structure and activates the fire protection sprinkler system. The assumptions and initial conditions are the same as those for Scenario 1 except for the following:

1. A failure of the firestat or firestat control logic prevents actuation of the single ventilation fan.

2. The fire protection sprinkler heads are modeled as a heat sink device with a triggering mechanism set to activate at 188 degrees F. (175 degree F setpoint + 13 degrees F tolerance)

The results of the thermal hydraulic analysis of Scenario 2 show that a peak temperature of 285 degrees F is reached in the worst case subvolume. The peak temperature occurs in approximately seven minutes. An equilibrium temperature of 125 degrees F is reached approximately two minutes after the fire protection system is initiated. The surge arrestors reach a peak temperature of 141 degrees F.

For Scenario 2, an evaluation performed by General Electric showed the PSW and the RHRSW motors would not be adversely affected by the temperature transient. The pump motors can be expected to perform normally during and after the elevated temperature transient. The effect of the water spray on the operating

TEXT

pump motors has been evaluated and determined to have no adverse impact on sustained operation. The surge arrestors remain well below the manufacturer's maximum recommended temperature. The evaluations of the MCCs, the mechanical equipment, and the safety-related instrumentation presented for Scenario 1 is also applicable to Scenario 2. Since a complete loss of the ventilation system is assumed in Scenario 2, premature tripping of the fuse or fan breaker is not a concern for this scenario. Consequently, a failure of the fan control thermostat or thermostat relay, combined with a failure of the firestat or firestat control logic, would not have prevented the PSW or RHRSW components from performing their required safety function.

Scenario 3 postulates a failure of the fan control thermostat or thermostat relay, a failure of the firestat or firestat control logic, and a failure of the fire protection sprinkler system. The assumptions and initial conditions are the same as Scenarios 1 and 2 except for the failures assumed above.

The results of the thermal hydraulic analysis of this extreme scenario shows that a temperature of 390 degrees F occurs after 8 hours in the worst case subvolume. At this elevated temperature, failure of the PSW and RHRSW components can be anticipated.

Although the postulated temperature rise could result in an unacceptable environment, the analysis concluded this exceedance was dependent on unlikely assumptions and conservatisms. Specifically, a complete loss of the ventilation system is dependent upon a failure of the firestat or firestat relay. This failure was concluded to be highly unlikely. The firestat is a bimetallic strip type thermostat originally procured as a seismically tested "Q" item and an active failure is not likely. The firestat relay, a GE CR 120, is a proven device that uses a highly reliable, spring type operation. Given that the firestat logic is normally energized and designed to fail safe, a failure that results in an open circuit will cause the relay to deenergize, and start all three fans. Should a failure occur that results in a short circuit across the coil, the upstream breaker in distribution panel 1Z (1R25-S044) will trip, the relay will deenergize, and start all three fans. A failure which prevents the relay from operating, yet does not allow it to change states, is a highly unlikely failure. Even if the postulated failure were to have occurred, the fire protection system was available and would have actuated, effectively limiting the temperature to acceptable levels. Given the fail safe design of the fan control logic, the requirement for a highly unlikely failure to occur, the degree of confidence with which a single fan can be assumed to operate, and the availability of the fire protection system, GPC has concluded that a postulated failure of the normal control logic for the intake structure ventilation system would not have prevented the PSW and RHRSW components from performing their required safety functions in a design basis accident. Based on the above analysis, it is concluded that this event had no impact on nuclear safety. This analysis is applicable to all operating conditions.

TEXT

CORRECTIVE ACTIONS

A safety assessment has been completed to ensure that a single ventilation fan is capable of providing adequate cooling to the intake structure, given worst case conditions. The assessment showed that the intake structure temperature could reach an average of approximately 131 degrees F with single fan operation. The safety-related equipment inside the intake structure has been evaluated for operation at this temperature for a 31-day period and shown to be acceptable. The operation and system configuration of the ventilation system has been aligned to ensure consistency with the assumptions in the safety assessment. Ventilation fans 1X41-C009A and B have been placed in the "hand" mode and ventilation fan 1X41-C009C has been placed in the standby mode. The ventilation louvers have been blocked open. Operation in this mode assures at least one ventilation fan will be available given the occurrence of a failure of the fan control logic, or a loss of either division of power or a design basis earthquake. These actions were completed on 5/21/92. Operation of the intake structure ventilation system will continue as described above until alternative long term actions are implemented.

An evaluation has been performed relative to the need for additional measures to ensure the intake structure ventilation system is available to provide adequate cooling to safety-related equipment inside the intake structure. The evaluation concluded that the current configuration is adequate for interim operation during the summer and fall. The evaluation also concluded that modifications are warranted to ensure no single component failure has the capability of rendering the ventilation system inoperable. These modifications will consist of moving one ventilation fan's power source to a Unit 2 power source, installing individual local controls for each fan, and upgrading the fan control circuitry to meet safety-related criteria. These modifications will be implemented by 3/31/93.

Appropriate personnel have been counseled regarding the requirement to clearly communicate identified deficiencies potentially affecting equipment operability.

Heating, ventilation and air conditioning (HVAC) systems at Plant Hatch which are required to support safety-related systems during normal operation or following a design basis accident have been or will be reviewed as part of the IPE or as part of previous engineering reviews. A detailed single failure analysis of the main control room environmental control (MCREC) system has been recently completed and corrective actions have been completed. These efforts are described in LER 50-321/1991-009, Revision 1, dated April 29, 1992. The diesel building HVAC systems were reviewed and evaluated during the diesel safety system functional inspection (SSFI) performed in 1989 and during the electrical distribution system functional inspection (EDSFI) performed in 1991. No significant deficiencies were identified. The review of the control building HVAC systems, as part of the IPE project, will be completed by 11/30/92.

NRC Form 366A (6-89)

U.S. NUCLEAR REGULATORY COMMISSION

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

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (5) YEAR	SEQ NUM	REV	PAGE (3)
PLANT HATCH, UNIT 1	0 5 0 0 0 3 2 1	9 2	0 1 3	0 1	10 OF 10

TEXT

ADDITIONAL INFORMATION

No systems other than those described in this report were affected by this event.

Four previous similar events have been identified in which an HVAC system was determined not to be in compliance with the single failure design criterion. These events were reported in LERs 50-321/87-04, Revision 1, dated 8/8/88, and 50-321/88-11, dated 6/8/88, and LER 50-321/91-09, Revision 1, dated 4/29/92. The first event, reported in LER 50-321/87-04, Revision 1, involved a single fuse failure preventing the MCREC system from fully entering the isolation mode. The second event, also reported in LER 50-321/87-04, Revision 1, involved a failure of one chlorine gas monitor preventing the MCREC system from fully entering the pressurization mode. The third event involved the use of non-seismic area radiation monitors in the MCREC system pressurization mode actuation logic system. Failure of the monitors during a seismic event could have possibly grounded the actuation logic circuits rendering them inoperable and preventing the system from entering the pressurization mode. The fourth event involved the identification of single failure vulnerabilities which could have prevented the MCREC system from maintaining the main control room within Technical Specifications limits and which affected the pressurization function of the MCREC system.

Corrective actions for these events included design changes, procedure changes, and performing a single failure analysis of the MCREC system. These corrective actions would not have prevented this event since the system involved was unrelated to the previous events.