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July 24, 1992

U.S. Nuclear Regulatory Commission
Mail Station P1-137
Washington, D.C. 20555

Attention: Document Control Desk

SUBJECT: Grand Gulf Nuclear Station
Unit 1
Docket No. 50-416
License No. NPF-29
Automatic Isolation of RWCU System
LER 92-014-00

GNRO-92/00094

Gentlemen:

Attached is Licensee Event Report (LER) 92-014 which is an interim report.

Yours truly,

WTC/BAB/cg
attachment

cc: Mr. D. C. Hintz (w/a)
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NRC Form 366
(9-83)

U.S. NUCLEAR REGULATORY COMMISSION
APPROVED OMB NO. 3150-0104
EXPIRES: 8/31/88

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1)	DOCKET NUMBER (2)	PAGE (3)
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TITLE (4)

Automatic Isolation of RWCU System

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 6	2 5	9 2	9 2	-	0 1 4	-	0 0	0 7	2 4	9 2		0 5 0 0 0
												0 5 0 0 0

OPERATING MODE (9)		THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)			
1		20.402(b)	20.405(c)	X 50.73(a)(2)(iv)	73.71(b)
POWER LEVEL (10)		20.405(a)(1)(i)	50.36(c)(1)	50.73(a)(2)(v)	73.71(c)
0 9 9		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
	AREA CODE
Bruce A. Burke / Licensing Engineer	6 0 1 4 3 7 - 6 3 1 3

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	

SUPPLEMENTAL REPORT EXPECTED (14)		EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR
X YES (If yes, complete EXPECTED SUBMISSION DATE)	NO		0 3	1 0	9 3

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

Automatic actuation of the reactor water cleanup (RWCU) system outboard containment isolation valves occurred on June 25, 1992 at approximately 1337 hours. The leak detection system (LDS) main steam line tunnel high temperature annunciator alarmed simultaneous to the isolation. No leakage of RWCU or other systems was observed. It is believed that this spurious isolation was actuated by an LDS trip signal generated by a Riley Panalarm switch. A final report will be submitted after the investigation has determined the cause.

LDS features sensitive Riley Panalarm temperature switches. The leak detection logic actuates RWCU containment isolation valves on a single channel trip signal. Previous corrective actions to the LDS system have reduced such type occurrences.

The actuation of the RWCU isolation system did not compromise the safe operation of GGNS. All safety related equipment operated as designed. The safety and health of the general public was not affected by this event.

NRC Form 366A
(9-83)

U.S. NUCLEAR REGULATORY COMMISSION
APPROVED OMB NO. 3150-0104
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LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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

A. Reportable Occurrence

Automatic actuation of reactor water cleanup (RWCU) system [CE] Division 2 containment isolation valves [NH] occurred at Grand Gulf Nuclear Station (GGNS) on June 25, 1992. Automatic actuation of these RWCU system valves by a leak detection system (LDS) [JM] signal is an engineered safety feature (ESF) [JE] actuation. This event is reportable per 10 CFR 50.73(a)(2)(iv).

B. Initial Conditions

The plant was in Operational Condition 1 at approximately 99 percent power with reactor water at approximately 529 degrees F and 1030 psig. The RWCU system was in steady state operation with both cleanup pumps in service upon isolation. Surveillance of the leak detection system for reactor core isolation cooling (RCIC) [BN] main steam tunnel isolation delay timer was in progress at the time of the RWCU isolation.

C. Description of Occurrence

The RWCU outboard isolation valves closed automatically. This occurred simultaneous to a main steam line tunnel high temperature alarm in the control room.

LDS temperature switch E31-TS-N604B or differential temperature switch E31-TDS-N605B would have initiated the alarm. Neither trip unit switch nor any other switch in either division of LDS was found to be in the trip condition upon inspection following the isolation. No leakage of RWCU or other systems was observed during inspection following the isolation. Temperatures were normal in the main steam line tunnels. RWCU was restored to operation at 1407 hours on June 25, 1992.

D. Apparent Cause

It is believed that this actuation of the RWCU outboard isolation valves was triggered by an LDS trip signal. The cause of the signal is unknown, although spurious operation of temperature switches E31-TS-N604B or E31-TDS-N605B is suspected. Trip logic for actuation of RWCU containment isolation valves requires only a single channel (i.e., non-coincident) trip signal from LDS. LDS features Riley Panalarm temperature switches. These sensitive switches have caused numerous RWCU isolations due to spurious operation. Riley Panalarm switch model 86 and 86A were the subject of General Electric Service Information Letter 443 and its supplement.

Investigation has not determined the exact cause(s) of the isolation signal. The monthly surveillance of the RCIC delay timer was in progress coincident to the isolation and is being investigated to determine its potential effect on the actuation. The power source is common for the temperature switches and the RCIC timer. Both temperature switches were verified to be within their calibration schedule. Calibration was performed on both switches to verify proper function. No other system transient which preceded or coincided with the isolation is known to have initiated the event. A final report will be submitted after the investigation has determined the cause.

★U.S.GPO:1986-0-624-538/455

NRC Form 366A
(9-83)

U.S. NUCLEAR REGULATORY COMMISSION

APPROVED OMB NO. 3150-0104
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TEXT (If more space is required, use additional NRC Form 366A's) (17)

Recent RWCU isolation events of the same division were reported in LER 91-006 and LER 91-015. Another ESF actuation of RWCU Division 1 containment isolation valves occurred on July 9, 1992. That event will be reported in LER 92-015.

E. Safety Assessment

The actuation of the RWCU isolation system did not compromise the safe operation of GGNS. The RWCU inboard isolation valves were operable and not affected by this transient. Safety systems functioned as designed upon receipt of the isolation signal. Other ESF systems were available to perform their intended function and responded as designed. The safety and health of the general public was not compromised by this event.

F. Additional Information

Energy Industry Identification System (EIIS) codes are identified in the text within brackets [ ].

* U.S.GPO:1988-0-624-538/455