NRC Form 366
(9-83)

U.S. NUCLEAR REGULATORY COMMISSION
APPROVED OMB NO. 3150-0104
EXPIRES: 8/31/85

LICENSEE EVENT REPORT (LER)

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Wolf Creek Generating Station	0 5 0 0 0 4 8 2	1 OF 0 4

TITLE (4)

ESF Actuation - Control Room Ventilation Isolation

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 7	1 2	8 5	8 5	0 5 7	0 0	0 8	0 9	8 5		0 5 0 0 0

OPERATING MODE (9)	3	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)			
POWER LEVEL (10)	0 0 0	20.402(b)	20.405(c)	X 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 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
Merlin G. Williams - Superintendent of Regulatory, Quality and Administrative Services	AREA CODE 3 1 6 3 6 4 - 8 8 3 1

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	
B	IL	MOIN	G063	N							
B	VI	HS	C770	N							

SUPPLEMENTAL REPORT EXPECTED (14)		EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR
X YES (If yes, complete EXPECTED SUBMISSION DATE)	NO		0 9	1 3	8 5

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

On July 12, 1985, at approximately 1246 CDT, an Engineered Safety Features actuation was initiated by a Control Room intake radiation monitor spurious alarm causing a Control Room Ventilation Isolation. All required Engineered Safety Features (ESF) equipment responded properly with the exception of three Control Building dampers which failed to close. Failure of the dampers to assume their proper ESF positions was due to a faulty push-button switch which has since been replaced. The redundant Control Building dampers correctly assumed their ESF positions.

At the time of the event the plant was in Mode 3, Hot Standby, with the Reactor Coolant System at normal operating temperature and pressure. No radiation above normal background was present and at no time was there a threat to the public health or safety.

The cause of the radiation monitor spurious alarm has been attributed to a mismatch between the software and hardware in the microprocessing unit for the radiation monitor. A modification to the microprocessing unit has been installed to resolve the mismatch problem.

Previous ESF actuations due to spurious alarms from this radiation monitor were discussed in Licensee Event Reports 85-013-00, 85-037-00 and 85-040-00.

The cause of the faulty push-button switch is under evaluation and further information is provided in the text.

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

On July 12, 1985, at approximately 1246 CDT, a Control Room Ventilation Isolation Signal (CRVIS) was initiated by a spurious electronic "spike" in Control Room intake radiation monitor [IL-MON] GK-RE-04. All required Engineered Safety Features equipment responded properly with the exception of Control Building dampers [VI-DMP] GK-HZ123 A, B and C which failed to close during the event. These dampers control the supply and return air flow for the access control area and the counting room in the Control Building. Redundant Control Building dampers GK-HZ-13A, B and C did properly close isolating air flows to and from these areas.

The plant was in Mode 3, Hot Standby, at the time of the event with the Reactor Coolant System [AB] at normal operating temperature and pressure.

No radiation above normal background was present, as determined by redundant radiation monitor GK-RE-05, and the actuated systems were restored to normal configurations per plant operating procedures by approximately 1516 CDT.

Subsequent investigation identified a mismatch between the software and hardware in the RM-80 microprocessing unit for the radiation monitor as the probable cause of the event. Prior CRVIS actuations attributed to this mismatch were discussed in Licensee Event Reports 85-013-00, 85-037-00 and 85-040-00.

The radiation monitor was supplied by General Atomic Co. and is a Particulate, Iodine and Gas monitor (Assembly 0356-1601). Several of these radiation monitors are installed in the plant and are now being modified in accordance with directions provided by General Atomic to resolve the software/hardware mismatch problems. The modification involves replacement of several integrated circuit chips and some software reprogramming in each radiation monitor. Modification of GK-RE-04 was completed on 7/13/85 and no further events due to the mismatch problem have occurred.

No damage to plant equipment occurred as a result of this event and at no time did conditions develop which could pose a threat to the public health or safety.

The failure of Control Building dampers GK-HZ123 A, B and C to close in response to the Control Room Ventilation Isolation signal was due to a push-button hand switch [VI-HS] GK-HIS 123 which is common to the three dampers. Investigation determined that the switch (momentary push-button contacts) was stuck with the "open" contacts closed. This effectively caused an overriding "manual-open" signal to be present such that the dampers did not close in response to the CRVIS.

The push button switch was supplied by Cutler-Hammer Inc. and is a type E30JY9 with two double pole contact blocks. This switch has been replaced and was sent to Cutler-Hammer for inspection and evaluation.

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

Subsequently another switch (unrelated to the CRVIS event) was identifed with its double pole contact block plunger stuck. This contact block was sent to Cutler-Hammer for inspection and evaluation. Preliminary inspection has identified a small piece of material in the contact block which may have prevented this push-button plunger from returning and releasing the switch contacts.

Further on site inspections of approximately 476 safety related Cutler-Hammer type E30JY9 switch assemblies identified three (3) additional switches which had double pole contact block plungers stuck in the depressed position. These three switches are currently being replaced.

Preliminary evaluation has identified that plunger sticking has only occurred in double pole contact blocks (Cutler-Hammer KLA3, KLA4 and KLA5) used in momentary contact switches. Pressure on the contact block plunger at the back of the switch returns the switch to its normal position. These double pole contact blocks are no longer manufactured and all replacement contact blocks are being assembled by ganging together two single pole contact blocks (Cutler-Hammer KLA1 and KLA2). No problems have been experienced to date with switches using the single pole contact blocks.

Evaluation of this problem by KG&E and Cutler-Hammer is ongoing. Pending the results of these evaluations and determination of the applicable resolutions, several interim actions have been taken:

- all safety related type E30JY9 switches have been inspected
- all safety related switches found with stuck contact block plungers have been or are being replaced
- all safety related switches using the double pole contact blocks are being uniquely identified on the face of the switch
- instructions have been issued to operating personnel to physically verify proper switch operation (contact block plunger retracted) following each use of the identified switches
- additional personnel trained in physical verification of switch operation have been made available around the clock to assist operating personnel if necessary.
- once per week (initially), each identified switch will be independently visually inspected to confirm that contact block plungers are in the normal position.
- any switch identified to have stuck will be replaced - contingent upon availability of replacement switch assemblies and/or contact blocks, and appropriate plant conditions.

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

While the cause, and consequently the final resolution, of this problem is not known at this time, the interim actions that have been taken assure awareness of potential problem recurrence and provide continued verification that conditions do not develop which could lessen the effectiveness of plant safety features.

In addition to the actions described above, two efforts are in progress to fully define the consequences to plant safety functions of an undetected stuck switch. One effort involves engineering analysis of safety functions which could be affected by a stuck switch. The second effort involves an operational review of Plant Emergency Procedures to identify at what point during various events the suspect switches are operated and the implication of switch failure at that point in time or at a subsequent time in the event. The results of these efforts are expected to reduce the number of switches of concern.

A supplement to this Licensee Event Report describing the results of the ongoing evaluations and the actions planned or taken to resolve the switch contact block problem will be submitted at a later time.

KANSAS GAS AND ELECTRIC COMPANY

GLENN L. KOESTER
VICE PRESIDENT - NUCLEAR

August 9, 1985

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

Mr. R.P. Denise, Director
Wolf Creek Task Force
U.S. Nuclear Regulatory Commission
Region IV
611 Ryan Plaza Drive, Suite 1000
Arlington, Texas 76011

KMLNRC 85-195
Re: Docket No. STN 50-482
Subj: Licensee Event Report 85-057-00

Gentlemen:

The enclosed Licensee Event Report is submitted pursuant to 10 CFR 50.73 (a) (2) (iv) concerning an Engineered Safety Feature actuation and pursuant to 10 CFR 50.73 (a)(2)(v) concerning a condition that could have prevented the fulfillment of a safety function.

If you have any questions concerning this matter, please contact me or Mr. Otto Maynard of my staff.

Yours very truly,

for Glenn L. Koester
Vice President - Nuclear

GLK:dab

Enclosure

xc: PO'Connor (2), w/a
JCummins, w/a

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