

WOLF CREEK

NUCLEAR OPERATING CORPORATION

John A. Bailey
Vice President
Operations

August 29, 1991

NO 91-0237

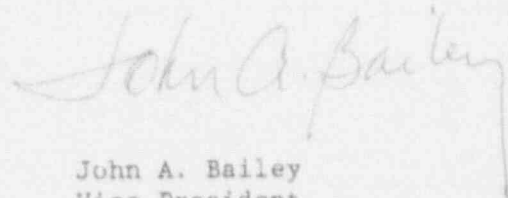
U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Mail Station P1-137
Washington, D. C. 20555

Subject: Docket No. 50-482: Licensee Event Report 91-012-00

Gentlemen:

The attached Licensee Event Report (LER) is being submitted pursuant to 10 CFR 50.73 (a) (2) (i) concerning a Technical Specification violation.

Very truly yours,



John A. Bailey
Vice President
Operations

JAB/aem

Attachment

cc: L. L. Gundrum (NRC), w/a
A. T. Howell (NRC), w/a
R. D. Martin (NRC), w/a
W. D. Reckley (NRC), w/a

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LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) **Wolf Creek Generating Station** DOCKET NUMBER (2) **0 5 0 0 0 4 8 2 1** of **0 5** PAGE (3)

TITLE (4) **Failure to Follow Procedures Results in Failure to Log Control Rod Position Comparisons While Rod Deviation Monitor Was Inoperable**

EVENT DATE (5) MONTH DAY YEAR YEAR LER NUMBER (6) SEQUENTIAL NUMBER REVISION NUMBER REPORT DATE (7) MONTH DAY YEAR OTHER FACILITIES INVOLVED (8) DOCKET NUMBER (9) 0 5 0 0 0 0 1 1

OPERATING MODE (9) **1** THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR (Check one or more of the following) (11) 20.402(b) 20.405(c) 50.73(a)(2)(iv) 73.71(b) 20.405(a)(1)(i) 50.36(c)(1) 50.73(a)(2)(v) 73.71(c) 20.405(a)(1)(ii) 50.36(c)(2) 50.73(a)(2)(vi) OTHER (Specify in Abstract below and in Text, NRC Form 366A) 20.405(a)(1)(iii) X 50.73(a)(2)(i) 50.73(a)(2)(vii)(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 **Merlin G. Williams - Manager Plant Support** TELEPHONE NUMBER **3 1 6 3 6 4 - 8 8 3 1** AREA CODE

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

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPROS	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPROS
X	I	D	C	T	R				
			C	4	9	8			
				N					

SUPPLIER'S LATE REPORT EXPECTED (14) YES (If yes, complete EXPECTED SUBMISSION DATE) X NO EXPECTED SUBMISSION DATE (15) MONTH DAY YEAR

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

During the period of July 30, 1991, at approximately 0900 CDT through July 31, 1991, at approximately 0748 CDT, the four-hour comparison of control rod demand position to digital position indication was not performed as the result of misinformation concerning the operability of the rod position deviation monitor. This condition is contrary to Technical Specification Surveillance Requirement 4.1.3.2. Although the monitor was not operable, the annunciator fed by the rod position deviation monitor would have alarmed correctly.

The misinformation occurred because personnel had overlooked four failed pulse counter cards. When the cards failed on July 18, 1991, a Corrective Work Request was not initiated. The individuals involved have been counseled and procedural guidance will be enhanced.

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TEXT (If more space is required, use additional NRC Form 368A's) (17)

INTRODUCTION

During the period of July 30, 1991, at approximately 0900 CDT through July 31, 1991, at approximately 0748 CDT, the four-hour comparison of control rod demand position to digital position indication was not performed as the result of misinformation concerning the operability of the rod position deviation monitor [IB-MON]. Technical Specification (T/S) Surveillance Requirement 4.1.3.2 states that each digital rod position indicator shall be determined to be operable by verifying that the Demand Position Indication System and the Digital Rod Position Indication System agree within 12 steps at least once per 12 hours except during time intervals when the rod position deviation monitor is inoperable. The surveillance requirement states that comparison of the Demand Position Indication System and the Digital Rod Position Indication System is to be performed at least once per 4 hours while the rod position deviation monitor is inoperable. The rod position deviation monitor receives data from various Nuclear Plant Information System (NPIS) computer [ID-CPU] points. When rod movement occurs, the NPIS computer monitors the motion of the rod movement through pulse counter cards [ID-CTR] and transmits an alarm condition to Annunciator 79C, "RPI DEV OR PR TILT" [IB-ANN] when a deviation occurs. Therefore the failure to satisfy T/S Surveillance Requirement 4.1.3.2 during this period is being reported in accordance with 10 CFR 50.73(a)(2)(i) as a condition prohibited by the plant's T/S.

DESCRIPTION OF EVENTS

In April 1991, the process of installing a new NPIS computer was initiated. Throughout the computer installation process, the Control Room operators have been periodically performing the portions of off-normal procedure OFN 00-023, "Loss of NPIS Computer" as required by the status of the computer installation.

During the installation of the NPIS computer, two failures that affected the operability of the position deviation monitor were identified. The first failure involved the intermittent failure of Multiplexer "E" [ID-MPX] to communicate with the computer. Multiplexer "E", which receives data input and transmits the data to the computer via a communication line, contains the primary and secondary plant data needed for the computer to complete various calculations including rod deviation. The second failure identified involved four failed pulse counter cards which partially disabled the computer's ability to monitor the motion of certain control rod groups and certain shutdown banks. The pulse counter cards accept electrical pulses from the field, and in the control rod groups and shutdown banks

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computer application, a pulse point is used for monitoring each inward or outward motion. On July 18, 1991, at approximately 1555 CDT, Control Room operators were notified that Instrumentation and Controls (I&C) computer personnel had determined that some of the pulse points on four of the pulse counter cards had failed. This failure caused inoperability of the rod position deviation monitor. The Control Room operators initiated four-hour logging of the comparisons of control rod demand position to digital position indication. This logging was being used to demonstrate compliance with T/S Surveillance Requirement 4.1.3.2 during time intervals when the rod position deviation monitor was inoperable.

On the morning of July 30, 1991, the Manager I&C discussed the status of the NPIS computer with I&C computer group personnel. The I&C computer group personnel indicated that the NPIS computer was functioning correctly. Subsequently during the daily management meeting, the need for logging rod positions every four hours was discussed. The Manager I&C indicated that he did not know why the rod positions were still being logged since he believed this computer application to be working properly.

As a result of this discussion during the daily management meeting, the Manager Operations representative that had attended the meeting contacted the Control Room operators at 0900 CDT to notify them that they could discontinue four-hour logging of the comparisons of control rod demand positions to digital position indication since Multiplexer "E" was performing satisfactory. The Control Room operators then discontinued four-hour logging of rod positions.

Subsequently, an I&C computer analyst, who recalled that the four pulse counter cards had not been repaired yet, became aware that Control Room operators were no longer logging rod position comparisons. On July 31, 1991, at approximately 0748 CDT, the I&C computer analyst notified Control Room operators that the rod position deviation monitor was not fully operable because of the failed pulse counter cards. Upon receipt of this information, Control Room operators re-initiated the four-hour logging of the comparisons of control rod demand position to digital position indication.

The four pulse counter cards were subsequently repaired and were re-installed and verified to be operating properly on August 5, 1991. The comparison of control rod demand position to digital position indication was properly performed throughout the period of July 31, 1991, at 0900 CDT through August 5, 1991.

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ROOT CAUSE AND CORRECTIVE ACTIONS

Review of this event has identified several factors which contributed to the failure to satisfy the surveillance requirement. The portion of the NPIS computer that monitors for rod position deviation was turned over to Control Room operators on June 28, 1991, following successful functional testing. Procedure ADM 01-042, "Plant Modification Request Implementation," states that portions of plant modifications may be placed in-service prior to the completion of the entire modification. Procedure ADM 01-042 also indicates indirectly that a Work Request that is initiated for the purposes of implementing a modification may not be used for the correction of nonconformances. Procedure ADM 01-057, "Work Request", states that a Corrective Work Request is to be used for nonconformance resolution. The failure of the pulse points and subsequent repair, re-installation and testing was documented by the inappropriate addition of a Work Request Continuation Sheet to the Work Request for installation of the NPIS computer. Therefore, one factor which contributed to this event was a failure to initiate a Corrective Work Request when the four failed pulse counter cards were discovered. The inappropriate use of work controls set the stage that allowed Control Room operators to rely solely on verbal communications concerning the operability of this equipment. To ensure Corrective Work Requests are used for any future nonconformance resolution for modifications which have been partially placed in-service, procedure ADM 01-042 will be revised to specifically state this requirement. This revision will be completed by November 1, 1991. The I&C personnel who did not use the appropriate work controls as required have been counseled on the proper use. Additionally, Control Room operators will require affirmation from the work groups that the appropriate work control document is in the closure process when they receive verbal communications concerning operability of equipment. As an overall enhancement, an evaluation of the computer software work controls will be conducted and enhancements implemented where appropriate.

Another factor that contributed to this event was the nature of the pulse counter card failures. Although the failed pulse points would not monitor a change in rod positions, the actual positions of the rods were being indicated. Therefore, when the Control Room operators were notified that Annunciator 79C was performing correctly, the NPIS computer points which are fed by the pulse points did appear to be performing correctly. Additionally, even though the failed pulse points would have resulted in failure to update some of the positions, Annunciator 79C would have alarmed had a deviation of greater than 12 steps occurred, thereby alerting the Control Room operator to the deviation. A review of recent problems with Annunciator 79C found that on July 12, 1991, during the performance of surveillance procedure STS SF-001, "Control and Shutdown Rod Operability Verification," the on-duty Supervising Operator (SO) displayed the NPIS

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computer points that indicate rod positions to verify that the points had been updated to reflect the as-left rod positions. While viewing this display which includes all inputs to Annunciator 79C, the SO observed that the output to Annunciator 79C was indicating an alarm condition even though Annunciator 79C had not activated. As a result of this observation, the SO contacted I&C computer personnel and declared Annunciator 79C inoperable at 1330 CDT. Troubleshooting activities by I&C computer personnel were initiated. At 1752 CDT, the NPIS computer appeared to be functioning properly and at 1802 CDT, Annunciator 79C was declared operable. From the information available about this July 12, 1991 problem with Annunciator 79C, it is unknown if the pulse points were operating properly at that time. Surveillance procedure STS SF-001 will be revised to include a check of these NPIS computer points to verify that the points are updating as the rods are cycled. This revision will be completed by October 1, 1991.

ADDITIONAL INFORMATION

During the interval that four-hour comparisons of the demand position to the digital position indication were not performed as required by Technical Specification Surveillance Requirement 4.1.3.2, the unit was operated in Mode 1, Power Operation, at 100 percent reactor power. Throughout this interval Annunciator 79C would have alarmed had a rod deviation of greater than 12 steps occurred, thereby alerting Control Room operators to the condition. Therefore, there was no threat to the health and safety of the public.

The pulse counter cards are manufactured by Computer Products Incorporated, model number 7437/33-014. The cause of the failure of the pulse counter cards was indeterminate.

There have been no previous similar occurrences.