

WOLF CREEK

NUCLEAR OPERATING CORPORATION

John A. Bailey
Vice President
Operations

May 21, 1992

NO 92-0127

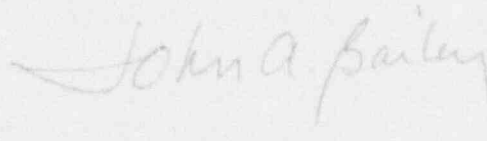
U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
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Washington, D. C. 20555

Subject: Docket No. 50-482: Licensee Event Report 92-008-00

Gentlemen:

The attached Licensee Event Report (LER) is being submitted as a voluntary report.

Very truly yours,



John A. Bailey
Vice President
Operations

JAB/jra

Attachment

cc: A. T. Howell (NRC), w/a
R. D. Martin (NRC), w/a
G. A. Pick (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 1 7** PAGE (3)

TITLE (4) **Inadequate Surveillance Test Procedure Guidance And Review Could Have Resulted In Technical Specification Violations**

EVENT DATE (5)			LER NUMBER (6)		REPORT DATE (7)			OTHER FACILITIES INVOLVED (8)																				
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	MONTH	DAY	YEAR	DOCKET NUMBER (8)																			
0	3	2	8	9	2	9	2	-	0	0	8	-	0	0	0	5	2	1	9	2	0	5	0	0	0	0	0	0

OPERATING MODE (9) **1**

POWER LEVEL (10) **1 0 0**

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)(vii)	<input checked="" type="checkbox"/> OTHER (Specify in Abstract below and in Tax. NRC Form 366A)
20.405(a)(1)(iii)	50.73(a)(2)(i)	50.73(a)(2)(viii)(A)	Voluntary
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
Steve G. Wideman - Supervisor Licensing	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 NPSDR	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPSDR

SUPPLEMENTAL REPORT EXPECTED (14)

YES (If yes, complete EXPECTED SUBMISSION DATE) NO

EXPECTED SUBMISSION DATE (15)

MONTH	DAY	YEAR

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

From approximately 2300 CST on March 28, 1992, through approximately 1730 CST on March 29, 1992, and from approximately 1900 CDT on April 22, 1992, through approximately 0500 CDT on April 23, 1992, the 30-minute monitoring and logging of the indicated Axial Flux Difference (AFD) for each operable excore channel was not performed as required by Technical Specification (T/S) Surveillance Requirement 4.2.1.1.b for periods when the AFD Monitor Alarm has been inoperable for greater than 24 hours. Subsequent evaluation has determined that the AFD Monitor Alarm was operable during both of these periods. Although these events did not result in T/S violations since the AFD Monitor Alarm was operable, a voluntary Licensee Event Report is being submitted.

The root causes of these events are inadequate procedural guidance in surveillance test procedure STS SF-002, "Core Axial Flux Difference" and inadequate review of STS SF-002 in-progress prior to assuming the Reactor Operator watch station. To prevent recurrence of these events, a note providing direction for determining the correct interval has been added at the appropriate locations in surveillance test procedure STS SF-002 to provide the necessary procedural guidance and Operations supervisory personnel have counseled the personnel involved to ensure adequate reviews of procedures in-progress are performed prior to assuming watch stations.

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TEXT (If more space is required, use additional NRC Form 360A's) (17)

INTRDUCTION

From approximately 2300 CST on March 28, 1992, through approximately 1730 CST on March 29, 1992, and from approximately 1900 CDT on April 22, 1992, through approximately 0500 CDT on April 23, 1992, the 30-minute monitoring and logging of the indicated Axial Flux Difference (AFD) for each operable excore channel was not performed as required by Technical Specification (T/S) Surveillance Requirement 4.2.1.1.b for periods when the AFD Monitor Alarm [IB-MON] has been inoperable for greater than 24 hours. During both of these time periods, Control Room operators had declared the AFD Monitor Alarm inoperable when they became uncertain of its operability. Subsequent evaluation has determined that the AFD Monitor Alarm was operable during both of these periods. These failures to satisfy T/S Surveillance Requirement 4.2.1.1.b during these periods could have resulted in a violation of the plant's T/S had the AFD Monitor Alarm been inoperable during these periods. Although these events did not result in T/S violations since the AFD Monitor Alarm was operable, a voluntary Licensee Event Report (LER) is being submitted.

DESCRIPTION OF EVENTS

Technical Specification 3.2.1, applicable in Mode 1, Power Operation above 50 percent rated thermal power (RTP), requires the indicated AFD to be maintained within the allowed operational limits provided in Figure 3.2-1. Technical Specification Surveillance Requirement 4.2.1.1.b requires the indicated AFD to be determined to be within its limits during power operation above 50 percent of RTP by monitoring and logging the indicated AFD for each operable excore channel at least once per hour for the first 24 hours and at least once per 30 minutes thereafter, when the AFD Monitor Alarm is inoperable. Annunciator 79D, "DELTA FLUX OUT OF BAND" [IB-ANN], is the AFD Monitor Alarm. The T/S Surveillance Requirement states that the logged values of the indicated AFD shall be assumed to exist during the interval preceding each logging.

On February 20, 1992, at approximately 0100 CST, spurious alarms from Annunciator 79D were received following a reactor trip. Subsequently, Control Room operators declared Annunciator 79D inoperable since they could not be certain of the AFD Monitor Alarm operability. In accordance with plant procedures, the appropriate information was entered in the Equipment Out of Service Log. The plant was in Mode 3, Hot Standby, when Annunciator 79D was declared inoperable; therefore T/S 3.2.1 was not applicable.

On March 27, 1992, at 2257 CST, Control Room operators commenced surveillance test procedure STS SF-002, "Core Axial Flux Difference," as the plant was being stabilized at 50 percent RTP. Surveillance test procedure

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STS SF-002 is used to monitor and log AFD as required by T/S Surveillance Requirement 4.2.1.1.b. Surveillance test procedure STS SF-002 includes the Axial Flux Difference Log as an attached data sheet for recording the reactor power level and logging the values of the indicated AFD. The on-duty Reactor Operator completed and initialled the initial conditions of surveillance test procedure STS SF-002, and began hourly monitoring and logging of the AFD in the Axial Flux Difference Log at 2310 CST.

On March 29, 1992, at 1737 CST, the on-duty Supervising Operator discovered that the AFD monitoring and logging interval had not been changed to 30 minutes on March 28, 1992, at approximately 2300 CST, as required by T/S Surveillance Requirement 4.2.1.1.b following the completion of the first 24 hours of monitoring and logging at one hour intervals. The plant was in Mode 1, Power Operation, at 100 percent RTP at the time the interval should have changed to 30 minutes. Following discovery of this error, Control Room operators initiated 30-minute monitoring and logging of AFD in the Axial Flux Difference Log.

Instrumentation and Controls (I&C) computer group personnel identified and corrected a programming logic error between the Nuclear Plant Information System (NPIS) computer [ID-CPU] points and the calculation used in determining an alarm condition for Annunciator 79D. This error resulted in an inability of the programming logic to recognize a tripped condition of the reactor trip breakers [AA-BKR] which resulted in the spurious alarming of Annunciator 79D following the reactor trip. This inability to recognize the tripped condition of the reactor trip breakers did not affect the monitor's ability to recognize a change in axial flux and process the condition to Annunciator 79D. On April 1, 1992, at approximately 1430 CST, Control Room operators declared Annunciator 79D operable. Monitoring and logging of the indicated AFD for each operable excore channel was performed at least once per hour for the first 24 hours as required by T/S Surveillance Requirement 4.2.1.1.a.2 following restoration of the AFD Monitor Alarm to operable status. On April 3, 1992, at approximately 1525 CST, surveillance test procedure STS SF-002 was completed.

On April 16, 1992, at 1718 CDT, Control Room operators declared the AFD Monitor Alarm inoperable when I&C computer group personnel removed the NPIS computer from service to correct a printer queuing problem which caused the alarm printers to not be operable. Control Room operators commenced surveillance test procedure STS SF-002 as required to satisfy T/S Surveillance Requirement 4.2.1.1.b.

I&C computer personnel were unsuccessful in their attempt to correct the printer queuing problem using a vendor-supplied programming correction. The programming logic error did not affect the monitor's ability to recognize a change in axial flux and process the condition to Annunciator 79D.

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Therefore, I&C computer group personnel restored the NPIS computer without correcting the printer queuing problem. On April 16, 1992, at 1822 CDT, Control Room operators declared the AFD Monitor Alarm operable. Hourly monitoring and logging of the indicated AFD continued as required by T/S Surveillance Requirement 4.2.1.1.a.2 following restoration of the AFD Monitor Alarm to operable status.

Subsequently, I&C computer group personnel made several attempts to correct the programming logic error and were unsuccessful. Control Room operators continued to monitor and log the indicated AFD as required by T/S Surveillance Requirement 4.2.1.1.b when the AFD Monitor Alarm was declared inoperable and T/S Surveillance Requirement 4.2.1.1.a.2 when the AFD Monitor Alarm was declared operable.

Because numerous NPIS computer evolutions had occurred in the previous days, on April 18, 1992, at approximately 1520 CDT, when another attempt to correct the programming logic error was initiated, the on-duty Shift Supervisor directed Control Room operators to continue performing surveillance test procedure STS SF-002 for monitoring and logging the indicated AFD until the printer queuing problem was corrected. I&C computer group personnel were again unsuccessful in their attempt to correct the printer queuing problem. Although the NPIS was returned to service at approximately 1540 CDT, Control Room operators did not declare the AFD Monitor Alarm operable and continued with the performance of surveillance test procedure STS SF-002 as a precautionary measure.

Several efforts to correct the programming logic errors were unsuccessfully attempted by I&C computer group personnel during the next several days. Control Room operators continued to monitor and log the indicated AFD as required by T/S Surveillance Requirement 4.2.1.1.b.

On April 23, 1992, at approximately 0445 CDT, the on-duty Supervising Operator reviewed the Axial Flux Difference Log. During this review, the Supervising Operator discovered that the on-duty Reactor Operator had been monitoring and logging the indicated AFD hourly rather than at 30-minute intervals since assuming the watch station on April 22, 1992, at approximately 1900 CDT. The plant was in Mode 1, Power Operation, at 100 percent RTP at the time of this discovery. Following the discovery of this error, at approximately 0500 CDT, Control Room operators initiated 30-minute monitoring and logging of the indicated AFD in the Axial Flux Difference Log.

With assistance provided by the vendor during a telephone conference, I&C computer group personnel corrected the programming logic errors which had resulted in the printer queuing problem and subsequent unsuccessful attempts in correcting the problem. Following the installation of the correction, Annunciator 79D was verified to be operating properly.

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On April 29, 1992, at 1334 CDT, Control Room operators declared the AFD Monitor Alarm operable. Monitoring and logging of the indicated AFD for each operable excore channel was performed at least once per hour for the first 24 hours as required by T/S Surveillance Requirement 4.2.1.1.a.2 following restoration of the AFD Monitor Alarm to operable status. On April 30, 1992, at 1420 CDT, Control Room operators secured the monitoring and logging of the indicated AFD in the Axial Flux Difference Log in accordance with surveillance test procedure STS SF-002.

ROOT CAUSES AND CORRECTIVE ACTIONS

The root cause of the first occurrence is inadequate procedural guidance in surveillance test procedure STS SF-002. Because the monitoring and logging activity is a repetitious process, a mindset concerning the interval is easily established after performing the activity hourly for 24 hours. Therefore, the surveillance test procedure should have been written recognizing the potential for the establishment of this mindset and procedural guidance to ensure successful completion of the surveillance test procedure should have been incorporated. Surveillance test procedure STS SF-002, step 3.3 of the initial conditions section states that if the test is being performed because the AFD Monitor Alarm is inoperable, perform the procedure steps for monitoring and logging at least once per hour for the first 24 hours and once per 30 minutes thereafter until the alarm is operable. This is the only reference to the change in the interval provided in the surveillance test procedure. As an initial condition to the procedure, step 3.3 is initialled and dated by the test performer when the surveillance test procedure is commenced. Once this step was initialled and dated as completed, it appeared that all T/S requirements had been satisfied. Therefore, the information provided in the step was easily overlooked by on-coming crews during their reviews prior to assuming the watch station with the surveillance test procedure in-progress. Although this step was included in the initial conditions section, it is not an initial condition: this step provides necessary direction for the proper performance of the T/S required monitoring and logging activities. Therefore, this direction should have been included in the procedure section that includes the steps to be performed for monitoring and logging the indicated AFD. To prevent recurrence of the first event, a note providing direction for determining the correct interval has been added to surveillance test procedure STS SF-002 in the section that include the steps to be completed for monitoring and logging indicated AFD. Because this section of the surveillance test procedure is not initialled and dated until the entire procedure is completed, Control Room operators are less likely to overlook the information provided in this section. The same note has been included in the Axial Flux Difference Log data sheet to provide a cue to Control Room operators while completing the logging activities. These

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revisions to surveillance test procedure STS SF-002 provide the necessary procedural guidance to prevent overlooking the interval change by on-coming crews when the surveillance test procedure is turned over in-progress.

The root cause of the second occurrence is inadequate review of the surveillance test procedure in-progress prior to assuming the Reactor Operator watch station by the licensed operator who failed to properly monitor and log the indicated AFD. Administrative procedure ADM 02-010, "Shift Relief And Turnover," states that during shift turn-over the on-coming and off-going Reactor Operators' should discuss inoperable equipment and T/S Limiting Condition of Operations including Surveillance Requirements. Administrative procedure ADM 02-010 also states each individual shall be responsible for reviewing and understanding the logs and checklists applicable to the position before assuming the shift. Because the above described revisions to surveillance test procedure STS SF-002 had been incorporated, the Reactor Operator has provided adequate procedural guidance in the proper performance of the monitoring and logging activity interval had an adequate review of the surveillance test procedure been performed. To prevent recurrence of the second event, Operations supervisory personnel have counseled the personnel involved to ensure adequate reviews of procedures in-progress are performed prior to assuming watch stations. Additionally, the details of these events have been placed in required reading to increase the sensitivity of all Operations personnel to the level of detail that may be necessary to ensure successful turn-over of activities in-progress.

ADDITIONAL INFORMATION

Although the 30-minute monitoring and logging of the indicated AFD for each operable excore channel was not performed as required by T/S Surveillance Requirement 4.2.1.1.b, the AFD was monitored and logged hourly during these periods. In addition, subsequent evaluation has determined that the AFD Monitor Alarm was operable during both of these periods. There is no indication that the AFD was outside the allowed operational limits during these periods. There was no damage to plant equipment or release of radioactivity as a result of these events. There was no threat to the health and safety of the public.

Licensee Event Report 482/87-007-00 describes a previous occurrence in which Control Room operators failed to satisfy the requirements of T/S Surveillance Requirement 4.2.1.1.b. As described in LER 482/87-007-00, Control Room operators failed to log AFD during a six-hour period in which the AFD Monitor Alarm was inoperable. The corrective actions taken in response to LER 482/87-007-00 included changing the applicable procedures to specifically address the need to log AFD data as required by T/S

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Surveillance Requirement 4.2.1.1.b. Although the applicable procedures were revised to address the need to log AFD data as required by T/S Surveillance Requirement 4.2.1.1.b, surveillance test procedure STS SP-002 did not provide procedural guidance necessary to ensure Control Room operators changed to 30-minute monitoring and logging when the AFD Monitor Alarm had been inoperable for greater than 24 hours.

Technical Specification 3.2.1 was amended on April 22, 1986 to implement the Relaxed Axial Offset Control power distribution control methodology in place of the Constant Axial Offset Control power distribution control methodology initially used at Wolf Creek Generating Station as the method to ensure peaking factors remained below the values assumed as input for the accident analyses during normal operation of the plant. This amendment to the plant's Technical Specifications did not result in a revision to T/S Surveillance Requirement 4.2.2.1.b to eliminate the interval change from one hour to 30 minutes. Based on these potential T/S violations and the T/S violation described in LER 482/87-007-00, a T/S amendment is being considered which would revise the surveillance requirement to be compatible with the existing limiting condition for operation.