

WOLF CREEK

NUCLEAR OPERATING CORPORATION

Clay C. Warren
Vice President & Chief Operating Officer

DEC 28 1999

WO 99-0109

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

- Reference: 1) Letter WO 99-0032, dated April 10, 1999, from C. C. Warren, WCNO, to USNRC
2) Letter WO 99-0061, dated October 15, 1999, from B. T. McKinney, WCNO, to USNRC

Subject: Docket No. 50-482: Licensee Event Report 1999-002-02

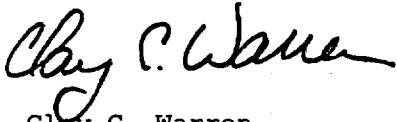
Gentlemen:

Reference 1 submitted Licensee Event Report (LER) 1999-002-00, pursuant to 10 CFR 50.73(a)(2)(i)(B), regarding Wolf Creek Nuclear Operating Corporation's identification of surveillances performed in Modes other than those required by Technical Specification Surveillance Requirement 4.6.3.2.a. Reference 2 submitted LER 1999-002-01 to update the root cause and corrective actions sections of this LER. In addition, Reference 2 provided a revised date for completion of procedure revisions. The enclosed supplement provides a revised date for completion of procedure revisions. The date provided in Reference 2 did not accurately reflect the final version of the corrective action plan.

Attachment I to this letter identifies actions committed to by Wolf Creek Nuclear Operating Corporation in this LER.

If you should have any questions regarding this submittal, please contact me at (316) 364-4048, or Mr. Michael J. Angus at (316) 364-4077.

Very truly yours,


Clay C. Warren

CCW/rlr

Enclosure

Attachment

cc: J. N. Donohew (NRC), w/e, w/a
W. D. Johnson (NRC), w/e, w/a
E. W. Merschoff (NRC), w/e, w/a
Senior Resident Inspector (NRC), w/e, w/a

IE22

LICENSEE EVENT REPORT (LER)

(See reverse for required number of digits/characters for each block)

Estimated burden per response to comply with this mandatory information collection request: 50 hrs. Reported lessons learned are incorporated into the licensing process and fed back to industry. Forward comments regarding burden estimate to the Records Management Branch (T-6 F33), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, and to the Paperwork Reduction Project (3150-0104), Office of Management and Budget, Washington, DC 20503. If an information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.

FACILITY NAME (1) WOLF CREEK GENERATING STATION	DOCKET NUMBER (2) 05000482	PAGE (3) 1 OF 5
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TITLE (4)
Testing of Phase "A" (CISA) CTMT Isolation Valves Performed in the Wrong Mode Because the Surveillance Procedure Was not Properly Developed

EVENT DATE (5)			LER NUMBER (6)			REPORT DATE (7)			OTHER FACILITIES INVOLVED (8)	
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REV. NUMBER	MONTH	DAY	YEAR	FACILITY NAME	DOCKET NUMBER
03	12	1999	1999	002	02	12	28	1999	FACILITY NAME	DOCKET NUMBER

OPERATING MODE (9)	MODE 1	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more) (11)											
POWER LEVEL (10)	100%	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)	OTHER
		20.405(a)(1)(iii)	X	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)		TELEPHONE NUMBER (Include Area Code)
NAME Michael J. Angus Manager Licensing and Corrective Action		(316) 364-4077

COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)										
CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPX	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPX	

SUPPLEMENTAL REPORT EXPECTED (14)					EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR
YES	X	NO						

ABSTRACT (16):
On March 12, 1999, Wolf Creek Nuclear Operating Corporation (WCNOC) personnel identified that the Surveillance Test Master Cross Reference identified STS KJ-001A/B, "Integrated D/G Safeguards Actuation Test," as the only procedures that satisfy the testing requirements specified in Technical Specification Surveillance Requirement 4.6.3.2.a. However, procedures STS KJ-001A/B only verify satisfactory movement of a small portion (approximately 10 percent) of the valves associated with a Phase "A" isolation signal. The failure to correctly develop STS KJ-001A/B to support Technical Specification Surveillance Requirement 4.6.3.2.a has resulted in WCNOC not fully meeting technical specification testing requirements. This failure resulted in portions of the testing being performed in Modes other than those specified in the technical specification. For example, during the 18 month testing cycle, five (5) Phase "A" slave relay test procedures (affecting 21 valves) were performed in Modes other than 5 or 6.

Corrective action for this event includes revision of the applicable procedures. The safety significance of this event was minimal because operability testing on all of the containment isolation valves was successfully completed during the required 18 month cycle.

Supplement 1 information: On June 25, 1999, WCNOC identified that three valves which were anticipated to have been tested during the recently completed refuel outage had not been tested. The root cause and corrective action sections of the LER have been updated to reflect this information.

Supplement 2 corrects the implementation date of procedure revisions to match the WCNOC corrective action plan.

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

Plant Conditions Prior to the Event:

Mode -- 1
Power -- 100 percent
Temperature -- 586.3 degrees Fahrenheit
Pressure -- 2239.3 pounds per square inch gauge

Basis for Reportability:

Technical Specification Surveillance Requirement 4.6.3.2.a requires that each power-operated or automatic containment isolation valve be demonstrated operable during COLD SHUTDOWN or REFUELING MODE (MODES 5 or 6) at least once per 18 months by verifying that on a Phase "A" isolation test signal, each Phase "A" isolation valve actuates to its isolation position.

On March 12, 1999, Wolf Creek Nuclear Operating Corporation (WCNOC) personnel identified numerous instances where the Phase A Containment isolation valves were not being fully tested in Modes 5 and 6. The failure to perform the testing in the modes required by Technical Specification Surveillance Requirement 4.3.6.2a is considered to be a violation to Technical Specifications. Technical Specification Surveillance Requirement 4.0.4 states, "Entry into an OPERATIONAL MODE or other specified condition shall not be made unless the Surveillance Requirement(s) associated with a Limiting Condition of Operation has been performed within the stated surveillance interval or as otherwise specified..." Because the testing required during Refuel IX had not been completed prior to entering Mode 4, Technical Specification Surveillance Requirement 4.0.4 was not satisfied. Therefore, this event is reportable in accordance with 10 CFR 50.73(a)(2)(i)(B).

Event Description:

Technical Specification 3.6.3, "CONTAINMENT ISOLATION VALVES," contains Surveillance Requirement 4.6.3.2 which states:

"Each power-operated containment isolation valve shall be demonstrated OPERABLE during the COLD SHUTDOWN or REFUELING MODE at least once per 18 months by:

a. Verifying that on a Phase "A" Isolation test signal, each Phase "A" isolation valve actuates to its isolation position...."

On March 12, 1999, during the procedure review process, WCNOC personnel identified that procedure AP 29-006 indicates surveillance procedures STS KJ-001A/B are the procedures which satisfy Surveillance Requirement 4.6.3.2.a, regarding the testing of Phase "A" (CISA) Containment Isolation Valves. However, procedures STS KJ-001A/B do not satisfy Technical Specification Surveillance Requirement 4.6.3.2.a for all Phase A Containment isolation valves.

A review of plant reference documents, including procedure STS GP-007, "CTMT Penetration Isolation Verification," found 58 containment isolation valves which are designed to close upon receipt of a Containment Isolation Signal - Phase "A". Of these, only three valves

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were found to be specifically verified in procedures STS KJ-001A/B. Therefore, procedures STS KJ-001A/B do not fully satisfy Technical Specification Surveillance Requirement 4.6.3.2.a as indicated in the Surveillance Test Master Cross Reference. Although not identified in the Surveillance Test Master Cross Reference, the specific testing required by Technical Specification Surveillance Requirement 4.6.3.2.a was satisfied through the performance of overlapping test procedures which, when considered together, test all required portions of the systems. Procedures STS IC-211A, "Analog Logic Test Train A Solid State Protection System," STS IC-211B, "Analog Logic Test Train B Solid State Protection System," and the associated slave relay test procedures provide adequate overlap testing. However, these procedures are not all performed in Modes 5 and 6, as required by this Technical Specification. Our review determined that all Phase "A" Containment Isolation valves were tested within the required surveillance intervals. A total of 37 of the 58 Phase "A" Containment Isolation valves were tested in Modes 5 and 6 and 21 were tested in other Modes.

These valves are tested by performance of STS IC-211B, "Train B Actuation Logic Test," and STS IC-623B, "Slave Relay Test K623 Train B Containment Isolation Phase A".

STS IC-211B was performed on May 1, 1999 during Mode 5. However, STS IC-623B was performed in Mode 1 prior to Refuel X (on February 23, 1999) and after Refuel X (on May 26, 1999). Since this procedure was not performed during Refuel X (specifically during COLD SHUTDOWN or REFUELING MODE), the surveillance requirement was not literally satisfied. All required testing has been accomplished.

Root Cause:

Performance Improvement Request (PIR) 99-0860 was initiated to investigate this issue and determine corrective actions. Investigation shows that the failure of procedures STS KJ001A/B to include all of the required Phase "A" Containment Isolation valves has existed since August of 1984 when the initial procedure was issued.

The root cause for the event appears to be personnel error during development of the original procedure in 1984:

- The developer of the STS KJ-001A/B, Revision 0, issuance date August, 1984, incorrectly indicated that the test procedures met the requirements of Technical Specification Surveillance Requirement 4.6.3.2.a.
- The individuals who reviewed and approved Revision 0 of the test procedures did not identify and correct the error prior to their issuance and use.
- The individual who added the procedure to the Surveillance Test Master Cross Reference Database failed to adequately review the procedure to ensure the technical specification testing requirements would be met.

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Supplement 1 information: The initial concern was that many Phase "A" containment isolation valves were not being tested in Mode 5 or Mode 6, as required by Surveillance Requirement 4.6.3.2.a. During Refuel 10, it was intended that compliance with this surveillance requirement be re-established. However, procedures STS IC-623A and STS IC-623B were inadvertently omitted from the list of required procedures provided to personnel responsible for scheduling and performing surveillance procedures during Refuel 10, which was completed on May 9, 1999. This omission resulted in the following normally closed valves not being tested during Refuel 10:

- EM HV-8843, Safety Injection Test Line Inside Containment Isolation Valve
- EM HV-8888, Accumulator Fill Line Outside Containment Isolation Valve
- GS HV-4, Hydrogen Analyzer Sample Line Inside Containment Isolation Valve

While these valves were not tested during Refuel 10, they had been tested on February 23, 1999. Therefore, the surveillance has been performed within the required interval, and will remain in the interval until the Refuel 11 outage.

Corrective Action Taken:

WCNOC implemented a change to the Surveillance Test Master Cross Reference Database to ensure that the database correctly identifies the procedures utilized to meet the testing requirements of Technical Specification Surveillance Requirement 4.6.3.2.a. This action assures that Phase "A" Containment Isolation valves are tested in the correct Mode.

Supplement 1 information: An additional change was made to the Surveillance Test Master Cross Reference Database to identify the procedures which satisfy Technical Specification Surveillance Requirement 4.6.3.2.a as "contingent" (i.e. they must be performed in Modes 5 or 6).

Actions to Prevent Recurrence:

All of the actuation logic test and slave relay test procedures will be revised to identify that they are being utilized to meet the testing requirements of Technical Specification Surveillance Requirement 4.6.3.2.a (Improved Technical Specification Surveillance Requirement 3.6.3.8).

Supplement 2 information: This action will be completed by March 31, 2000.

PIR 99-0860 will be included in missed surveillance evaluation using common cause methodology that is discussed in LER 1999-001-00. This evaluation is complete.

Safety Significance:

Technical Specification Surveillance Requirement 4.6.3.2.a, calls for the testing to occur in Modes 5 and 6 to ensure the plant is in a configuration that will prevent undesirable plant perturbations. This restriction is most significant if all of the containment isolation valves are tested at one time. When the containment isolation valves are tested individually, the Modes 5 and 6 restrictions are not always relevant. Specifically, due to

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the systems configuration and/or design, some valves may be tested in Modes other than 5 or 6 without an undesired plant perturbation. This was found to be true in each case for the 21 Phase "A" valves that were successfully tested in Modes other than 5 or 6 during the last testing cycle.

Because operability testing on all of the containment isolation valves was successfully completed during the 18 month cycle, this concern is considered to have minimal safety significance.

Other Previous Occurrences:

WCNOC identified the similar occurrences in Licensee Event Report (LER) 1999-001-00. As part of the discovery process, LERs submitted to the NRC since January 1, 1997, were reviewed. This review identified 12 LERs associated with missed surveillances (LER 98-006-00, LER 97-022-00, LER 97-019-00, LER 97-017-00, LER 97-010-02, LER 97-010-01, LER 97-010-00, LER 97-001-03, LER 97-001-02, LER 97-001-00, LER 96-020-00, and LER 96-009-01). Of those twelve, eight were due to inadequate procedures. Of those eight, six were due to errors introduced in the initial procedure; one was due to a procedure revision in 1986, and one was indeterminate because of the time elapsed between when the error was made and when it was discovered. Of the remaining four LERs, three were due to personnel error and one was due to misalignment between organizational culture and the regulatory environment. Safety significance associated with the LERs in each case was identified as minimal or none.

Six of the twelve reportable events were discovered by WCNOC personnel during extensive Design Basis/Licensing Basis review efforts including Improved Technical Specification reviews, Safety System Functional Assessments, and reviews associated with NRC Generic Letter 96-01, "Testing of Safety-Related Logic Circuits." The remaining six were identified by WCNOC personnel during Industry Technical Information Program reviews, procedure reviews and Quality Evaluation reviews.

Since LER 1999-001-00 was submitted to the NRC, six additional LERs (LER 98-008-00, LER 98-003-00, LER 97-025-00, LER 97-021-00, LER 97-011-00, and LER 96-010-00) have been identified as being associated with missed surveillances. As a result of the missed surveillances identified in LER 1999-001-00, WCNOC committed to use common cause methodology to evaluate missed surveillances reported to the NRC since January 1, 1996, to determine whether additional actions are necessary.

Supplement 2 information: This action is complete.

LIST OF COMMITMENTS

The following table identifies those actions committed to by Wolf Creek Nuclear Operating Corporation (WCNOC) in this document. Any other statements in this submittal are provided for information purposes and are not considered to be commitments. Please direct questions regarding these commitments to Mr. Michael J. Angus, Manager Licensing and Corrective Action, at Wolf Creek Generating Station, (316) 364-4077.

COMMITMENT	Due Date/Event
All of the actuation logic test and slave relay test procedures will be revised to identify that they are being utilized to meet the testing requirements of Technical Specification Surveillance Requirement 4.6.3.2.a (Improved Technical Specification Surveillance Requirement 3.6.3.8).	March 31, 2000
PIR 99-0860 will be included in missed surveillance evaluation using common cause methodology that is discussed in LER 1999-001-00.	Complete