

WOLF CREEK

NUCLEAR OPERATING CORPORATION

Otto L. Maynard
Vice President Plant Operations

April 9, 1993

WO 93-0073

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

Subject: Docket No. 50-482: Licensee Event Report 93-003-00

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,



Otto L. Maynard
Vice President
Plant Operations

OLM/jan

Attachment

cc: W. D. Johnson (NRC), w/a
J. L. Milhoan (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										PAGE (3) 1 OF 0 6									
TITLE (4) Personnel Error By Licensed Operators Results In A Direct Flow Path Between The Containment Atmosphere And The Auxiliary Building During Fuel Movement																													
EVENT DATE (5)			LER NUMBER (6)			REPORT DATE (7)			OTHER FACILITIES INVOLVED (8)																				
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	DIVISION NUMBER	MONTH	DAY	YEAR	FACILITY NAMES					DOCKET NUMBER(S)															
0 3	1 3	9 3	9 3	0 0 3	0 0 0 4 0 9 9 3									0 5 0 0 0 0															
OPERATING MODE (9) 6			THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR 5. (Check one or more of the following) (17)																										
POWER LEVEL (10) 0 0 0			20.402(e)			20.405(c)			50.73(a)(2)(iv)			73.71(b)																	
			20.405(a)(1)(i)			50.38(a)(1)			50.73(a)(2)(v)			73.71(c)																	
			20.405(a)(1)(ii)			50.38(a)(2)			50.73(a)(2)(vi)			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)(vii)(A)																				
			20.405(a)(1)(iv)			50.73(a)(2)(ii)			50.73(a)(2)(vii)(B)																				
			20.405(a)(1)(v)			50.73(a)(2)(iii)			50.73(a)(2)(viii)																				
			20.405(a)(1)(vi)			50.73(a)(2)(iv)			50.73(a)(2)(ix)																				
LICENSEE CONTACT FOR THIS LER (12)																													
NAME Kevin J. Moles - Manager Regulatory Services										TELEPHONE NUMBER 3 1 6 3 6 4 - 1 8 8 3 1																			
COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)																													
CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRRDS	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRRDS																				
SUPPLEMENTAL REPORT EXPECTED (14)										EXPECTED SUBMISSION DATE (15)			MONTH	DAY	YEAR														
YES (If yes, complete EXPECTED SUBMISSION DATE)										X NO																			

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

On March 14, 1993, at 1645 CST, with the plant in Mode 6, Refueling, it was discovered that a direct flow path had been created between the Containment atmosphere and the Auxiliary Building during fuel movement in violation of Technical Specification 3.9.4. The direct flow path was created during the performance of procedure SYS EF-420, which is used to drain Train "3" of the Essential Service Water System while in Mode 6. The procedure was originally required to be performed during Mode 5 or No Mode. The direct flow path existed for approximately 19 hours and Containment integrity was immediately restored upon discovery.

This event occurred as a result of cognitive personnel error by licensed operators who failed to review procedure SYS EF-420 to ensure compliance with the requirements of Technical Specification 3.9.4 prior to revising the procedure to allow its performance during Mode 6. The individuals involved will make presentations to the Operating Crews and to Wolf Creek Nuclear Operating Corporation management emphasizing the "STAR" (Stop, Think, Act, Review) program and explain how self-checking techniques could have been used during this event. Also, a permanent revision to procedure SYS EF-420 will be made to clearly address the requirements of Technical Specification 3.9.4 during the draining of Trains "A" and "B" of the Essential Service Water system.

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 70.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (P-530), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20585 AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

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TEXT (If more space is required, use additional NRC Form 366A's) (57)

PLANT CONDITIONS AT TIME OF EVENT

Mode 6, Refueling

Reactor Coolant System Pressure - 0 pounds per square inch gauge

Reactor Coolant System Temperature - less than 100 degrees Fahrenheit

Reactor Coolant System Level - 23 feet above the Reactor Vessel Flange

DESCRIPTION OF EVENT

On March 14, 1993, at 1645 CST, it was discovered that a direct flow path existed between the Containment atmosphere and the Auxiliary Building [NF] during fuel movement in violation of Technical Specification 3.9.4. Technical Specification 3.9.4 requires, in part, that each penetration providing direct access from the Containment atmosphere to the outside atmosphere be closed by an isolation valve, blind flange, manual valve, or be capable of being closed by an operable automatic containment purge isolation valve during core alterations or movement of irradiated fuel within the containment. All operations involving core alterations or movement of irradiated fuel in the containment building must be suspended with the requirements of Technical Specification 3.9.4 not satisfied. The flow path was created during the draining of Train "B" of the Essential Service Water (ESW) System [BI]. This event is being reported pursuant to 10 CFR 50.73(a)(2)(i)(B) as a condition prohibited by the plant's Technical Specifications.

On March 13, 1993, at 0606 CST, with the unit in Mode 6, Refueling, Train "B" of the ESW System was declared inoperable in order to perform planned maintenance during the sixth refueling outage. During preparations for the draining of Train "B" of the ESW System, it was noted that Step 2.2 in the Precautions and Limitations section of procedure SYS EF-420, "ESW A (B) Train Drain," Revision 0, stated that it was intended for use in Mode 5, Cold Shutdown or No Mode. A review was conducted by the Control Room to determine the reason that the procedure could not be performed during Mode 6. The review focused on the effects of the performance of the procedure on the operability of Train "A" of the ESW system. But since only one train of the ESW system is required to be operable during Mode 6 and the draining of Train "B" would have no affect on Train "A", it was concluded that there was no reason for not performing the procedure during Mode 6. However, the procedure was not reviewed to ensure compliance with the requirements of Technical Specification 3.9.4. Therefore, procedure SYS EF-420 was revised to allow performance during Mode 6, on March 13, 1993.

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 500 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (P-530), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20545, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

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

On March 13, 1993, at approximately 1100 CST, procedure SYS EF-420 was commenced in order to drain Train "B" of the ESW system. In accordance with procedure SYS EF-420, Steps 4.2.2 and 4.2.3, Containment Isolation Valves EFHV32, EFHV34, EFHV46, and EFHV48 [BI-ISV] were opened and at approximately 1420 CST, "B" Containment Cooler Vent Valves GNV61, GNV62, GNV63, GNV64 [VA-VTV], and "D" Containment Cooler Vent Valves GNV69, GNV70, GNV71 and GNV72 [VA-VTV] were opened. Train "B" ESW to Containment Coolers Vent Valve EFV85 [BI-VTV] and Train "B" ESW Return Header Vent Valve EFV220 [BI-VTV] were opened at approximately 1700 CST, per Steps 4.2.12 and 4.2.14 of procedure SYS EF-420, which inadvertently established a direct pathway between the Containment atmosphere and the Auxiliary Building atmosphere (Reference Figure 1). At 2125 CST, the Shift Supervisor granted permission to commence fuel movement in order to off-load the reactor core.

On March 14, 1993, at 1645 CST, during restoration from Local Leak Rate Tests (LLRTs) on Containment Isolation Valves EFHV32 and EFHV34 [BI-ISV], questions arose concerning the correct position of valve EFV85. Surveillance Test Procedure STS PE-017-028, "Local Leak Rate Test for Containment Penetration 28," which is accomplished for the LLRT on valves EFHV32 and EFHV34, requires that valve EFV85 be closed and capped following performance of the procedure. However, since valve EFV85 was already open when Surveillance Test Procedure STS PE-017-028 was commenced, the Control Room was notified to determine if the valve should be left opened, as it was found, or closed and capped pursuant to the requirements of the procedure. During the investigation into the correct position of valve EFV85, it was discovered that a direct pathway between the Containment atmosphere and the Auxiliary building atmosphere existed. Upon discovery of the direct flow pathway, Containment Isolation Valves EFHV32, EFHV46, and EFHV50 [BI-ISV] were closed to restore Containment integrity. Fuel movement had been suspended at 1625 CST, due to unrelated circumstances. The direct flow pathway had existed for approximately 19 hours.

ROOT CAUSE

This event occurred as a result of cognitive personnel error by licensed operators who failed to review procedure SYS EF-420 to ensure compliance with the requirements of Technical Specification 3.9.4 prior to revising the procedure to allow its performance during Mode 6. This was accomplished even though Precautions and Limitations Step 2.1 of procedure SYS EF-420 states that "This procedure must be performed prior to establishing Containment Closure to allow draining of the affected Containment Coolers."

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 500 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (P-530), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

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YEAR	SEQUENTIAL NUMBER	REVISION NUMBER							

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

CORRECTIVE ACTIONS

1. In response to this event, the individuals involved will make presentations to the Operating Crews and to Wolf Creek Nuclear Operating Corporation management emphasizing the "STAR" (Stop, Think, Act, Review) program and explain how self-checking techniques could have been used during this event. In February 1993, Operations Senior Management initiated the "STAR" Self-Checking Program to provide an environment that encourages personnel to carry out their work activities in a thoughtful and deliberate manner. The program uses self-verification techniques to prevent or minimize the potential for human error.
2. A temporary-permanent procedure change was made to procedure SYS EF-420 on March 23, 1993, to ensure that the requirements of Technical Specification 3.9.4 were clearly defined for the corresponding draining of Train "A" of the ESW system during the sixth refueling outage. These changes involved adding cautions regarding Containment closure requirements at the appropriate procedure steps. A permanent revision to procedure SYS EF-420 will be made to clearly address the requirements of Technical Specification 3.9.4 during the draining of Trains "A" and "B" of the ESW System.
3. A review of SYS procedures utilized to drain systems which penetrate Containment will be conducted to ensure that potential similar situations could not occur or do not exist. This will address the potential generic implications of this event.

The corrective actions described above will be completed by July 30, 1993.

SAFETY ANALYSIS

The Containment Purge System was in operation during the approximately 19 hours in which a direct pathway between the Containment atmosphere and the Auxiliary Building atmosphere existed while fuel was being moved. This provided assurance that any air flow from containment to the environment would be directed through a monitored and filtered release pathway via the purge system. Fuel movement was not in progress when the condition was discovered. Therefore, the health and safety of the public and plant safety was assured during this condition.

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 600 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (PS35), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555 AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503

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PREVIOUS SIMILAR OCCURRENCES

Licensee Event Report (LER) 86-064-00 discusses a similar event in which passive Containment Isolation Valve ENHV01 was manually stroked open, and was maintained opened for approximately one hour while fuel movement was in progress. This was also due to cognitive personnel error by licensed operators. In response to LER 86-064-00, the report was incorporated into required reading for licensed personnel to emphasize the importance of attention to detail when authorizing work activities. These two events (LER 86-064-00 and 93-003-00) are similar in that a lack of operator awareness regarding Technical Specification requirements for maintaining Containment integrity during core alterations was evident in both cases.

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ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 500 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (P-530) U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

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