WOLF CREEK
NUCLEAR OPERATING CORPORATION

Matthew W. Sunseri
Vice President Operations and Plant Manager

July 10, 2008

WO 08-0017

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

Subject: Docket No. 50-482: Licensee Event Report 2008-007-00, Two Residual Heat Removal Trains Inoperable in Mode 3 due to Check Valve Leakage

Gentlemen,

The enclosed Licensee Event Report (LER) 2008-007-00 is being submitted pursuant to 10 CFR 50.73(a)(2)(v)(B) regarding an event or condition that could have prevented fulfillment of a safety function needed to remove residual heat at Wolf Creek Generating Station.

Commitments made by Wolf Creek Nuclear Operating Corporation in the enclosed LER are identified in the Attachment to this letter.

If you have any questions concerning this matter, please contact me at (620) 364-4008, or Mr. Richard D. Flannigan, Manager Regulatory Affairs at (620) 364-4117.

Sincerely,

M W Sunseri

Matthew W. Sunseri

MWS/rlt

Attachment

Enclosure

cc: E. E. Collins (NRC), w/a, w/e
V. G. Gaddy (NRC), w/a, w/e
B. K. Singal (NRC), w/a, w/e
Senior Resident Inspector (NRC), w/a, w/e

IE22
NRR

LIST OF COMMITMENTS

The following table identifies those actions committed to by Wolf Creek Nuclear Operating Corporation in this document. Any other statements in this letter are provided for information purposes and are not considered regulatory commitments. Please direct questions regarding these commitments to Mr. Richard Flannigan, Manager Regulatory Affairs at Wolf Creek Generating Station, (620) 364-4117.

REGULATORY COMMITMENT	DUE DATE
The valve EPV8818D will be reworked.	Prior to plant startup following Refueling Outage 17.

NRC FORM 366 (6-2004) U.S. NUCLEAR REGULATORY COMMISSION

APPROVED BY OMB: NO. 3150-0104 EXPIRES: 06/30/2007

Estimated burden per response to comply with this mandatory collection request: 50 hours. Reported lessons learned are incorporated into the licensing process and fed back to industry. Send comments regarding burden estimate to the Records and FOIA/Privacy Service Branch (T-5 F52), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to infocollects@nrc.gov, and to the Desk Officer, Office of Information and Regulatory Affairs, NEOB-10202, (3150-0104), Office of Management and Budget, Washington, DC 20503. If a means used to impose 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.

LICENSEE EVENT REPORT (LER)

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

1. FACILITY NAME	2. DOCKET NUMBER	3. PAGE
WOLF CREEK GENERATING STATION	05000 482	1 OF 3

4. TITLE

Two Residual Heat Removal Trains Inoperable in Mode 3 due to Check Valve Leakage

5. EVENT DATE			6. LER NUMBER			7. REPORT DATE			8. OTHER FACILITIES INVOLVED	
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REV NO.	MONTH	DAY	YEAR	FACILITY NAME	DOCKET NUMBER
										05000
05	11	2008	2008	- 007 -	00	07	10	2008	FACILITY NAME	DOCKET NUMBER
										05000

9. OPERATING MODE

3

10. POWER LEVEL

000

11. THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR§: *(Check all that apply)*

- ☐ 20.2201(b)
- ☒ 20.2201(d)
- ☒ 20.2203(a)(1)
- ☐ 20.2203(a)(2)(i)
- ☐ 20.2203(a)(2)(ii)
- ☐ 20.2203(a)(2)(iii)
- ☐ 20.2203(a)(2)(iv)
- ☐ 20.2203(a)(2)(v)
- ☐ 20.2203(a)(2)(vi)
- ☐ 20.2203(a)(3)(i)
- ☐ 20.2203(a)(3)(ii)
- ☐ 20.2203(a)(4)
- ☐ 50.36(c)(1)(i)(A)
- ☐ 50.36(c)(1)(ii)(A)
- ☐ 50.36(c)(2)
- ☐ 50.46(a)(3)(ii)
- ☐ 50.73(a)(2)(i)(A)
- ☐ 50.73(a)(2)(i)(B)
- ☒ 50.73(a)(2)(i)(C)
- ☐ 50.73(a)(2)(ii)(A)
- ☐ 50.73(a)(2)(ii)(B)
- ☐ 50.73(a)(2)(iii)
- ☐ 50.73(a)(2)(iv)(A)
- ☐ 50.73(a)(2)(v)(A)
- ☑ 50.73(a)(2)(v)(B)
- ☐ 50.73(a)(2)(v)(C)
- ☐ 50.73(a)(2)(v)(D)
- ☐ 50.73(a)(2)(vii)
- ☒ 50.73(a)(2)(viii)(A)
- ☐ 50.73(a)(2)(viii)(B)
- ☐ 50.73(a)(2)(ix)(A)
- ☐ 50.73(a)(2)(x)
- ☐ 73.71(a)(4)
- ☐ 73.71(a)(5)
- ☐ OTHER

Specify in Abstract below or in NRC Form 366A

12. LICENSEE CONTACT FOR THIS LER

FACILITY NAME	TELEPHONE NUMBER *(Include Area Code)*
Richard D Flannigan, Manager Regulatory Affairs	(620) 364-4117

13. COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REORT

CAUSE	SYSTEM	COMPONENT	MANU-FACTURER	REPORTABLE TO EPIX	CAUSE	SYSTEM	COMPONENT	MANU-FACTURER	REPORTABLE TO EPIX

14. SUPPLEMENTAL REPORT EXPECTED

☐ YES *(If yes, complete 15. EXPECTED SUBMISSION DATE)* ◉ NO

15. EXPECTED SUBMISSION DATE

MONTH	DAY	YEAR

ABSTRACT *(Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines)*

On 5/11/2008, Wolf Creek Generating Station was in Mode 3 coming up in power at the end of Refueling Outage 16. At 0300 on 5/11/2008, leakage was identified from a relief valve located on the Residual Heat Removal (RHR) discharge header. This line is a common injection line for both trains of RHR to the Reactor Coolant System (RCS) Loop 2 and 3 Hot Legs. The leakage from the relief valve was due to a failure of the bellows, which made the valve inoperable. Both trains of RHR were declared inoperable. Technical Specification 3.0.3. was entered and actions were taken to cool down to Mode 4. Mode 4 was entered at 0725 on 5/11/2008.

The failure of the RHR relief valve was caused by back leakage from the 'D' Safety Injection Accumulator through an RHR check valve. The RHR relief valve was replaced on 5/11/2008 at 2153. The check valve was flushed and successfully seated on 5/13/2008.

The event was of low safety significance. Both RHR trains were available and could have provided flow to the RCS in the event of an accident.

LICENSEE EVENT REPORT (LER)

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WOLF CREEK GENERATING STATION	05000 482	2008	-- 007	-- 00	2 OF 3

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

PLANT CONDITIONS PRIOR TO EVENT:

MODE – 3
Power – 000

BACKGROUND:

Each Residual Heat Removal (RHR) system [EIIS Code: BP] can provide flow to all four Reactor Coolant System (RCS) [EIIS Code: AB] Cold Leg lines. Both RHR systems can be lined up, via cross connect valves, to a common discharge header and provide flow to RCS Hot Legs Loop 2 and 3.

EVENT DESCRIPTION:

On 5/10/2008, Wolf Creek was in Mode 3 returning to power operation at the end of Refueling Outage 16. At 2248 on 5/10/2008, the control room operators became aware that the 'D' Safety Injection Accumulator [EIIS Code: BQ-ACC] was not maintaining level and attempts at seating check valves were unsuccessful at stopping the leakage from the accumulator. Intially, leakage through the safety injection test lines was suspected. Actions were taken to identify the source of the leakage.

At 0123 on 5/11/2008, a potential leakage path through check valve EPV8818D, 'B' RHR to RCS Cold Leg Loop 4 Check Valve [EIIS Code: BP-V] was identified. Leakage past this check valve would explain the accumulator level decrease and the recently observed pressure increase on the 'B' RHR discharge header. Other check valves continued to be investigated for potential leakage paths.

At 0300 on 5/11/2008, the control room was notified that relief valve EJ8842, RHR To Safety Injection System (SIS) Relief Valve [EIIS Code: BP-RV], which provides flow to the RCS Hot Leg loops 2 and 3, had a leak of approximately 200 drops/minute. Both trains of RHR were declared inoperable and Technical Specification 3.5.2 was entered with an action to be in Mode 4 within 6 hours.

At 0409 on 5/11/2008, the leakage from the relief valve was determined to be due to a failure of the bellows. The RHR cross connect valves, to the common RHR discharge header, were closed to depressurize the header and to reduce the leakage. Technical Specification 3.0.3. was entered, with 0300 as the starting time, and actions taken to commence cool down to Mode 4. Mode 4 was entered at 0725 on 5/11/2008.

Relief valve EJ8842 was replaced at approximately 1330 on 5/11/2008.

Efforts to seat the check valve EPV8818D were made through 5/13/2008. The check valve was successfully seated on 5/13/2008.

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WOLF CREEK GENERATING STATION	05000 482	2008	-- 007	-- 00	3 OF 3

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

BASIS FOR REPORTABILITY:

Both trains of RHR were declared inoperable. This event is reportable under 10 CFR 50.73(a)(2)(v)(B) as an event or condition that could have prevented fulfillment of a safety function needed to remove residual heat.

This event was also reported on 5/11/2008 under 10 CFR 50.72(b)(3)(v)(B) as an event or condition that could have prevented fulfillment of a safety function needed to remove residual heat, as an 8 hour report.

ROOT CAUSE:

The over-pressurization which lead to leakage from EJ8842, RHR TO SIS Relief Valve, was caused by excessive check valve leakage from 'D' Safety Injection Accumulator through RHR Check Valve EPV8818D into the RHR Train Discharge Header.

CORRECTIVE ACTIONS:

The corrective action to address this issue is to rework valve EPV8818D. Work orders have been written to conduct this work. The action will be completed prior to restart at the end of Refueling Outage 17.

SAFETY SIGNIFICANCE:

The event was of low safety significance. Both RHR trains were available and could have provided flow to the RCS in the event of an accident. The leakage through the relief valve wasn't sufficent to prevent flow from the RHR to the RCS Hot Legs. After the cross connect valves were closed, isolating the line with the leaking relief valve, both RHR trains could still provide flow to the RCS through the RCS Cold Legs.

OPERATING EXPERIENCE/PREVIOUS EVENTS:

Events occurring at Wolf Creek since 2000 were examined. Wolf Creek has experienced leakage through check valves and failures in relief valves in this time period. However, these failures have not led to their associated safety systems being declared inoperable.