WOLF CREEK
NUCLEAR OPERATING CORPORATION

Matthew W. Sunseri
Vice President Oversight

December 21, 2006
WM 06-0052

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

Subject: Docket No. 50-482: Licensee Event Report 2006-004-00, Failure to Maintain Closure of Containment Penetrations During Fuel Movement

Gentlemen:

On October 24, 2006, with the plant in Mode 6, Refueling, Wolf Creek Nuclear Operating Corporation (WCNOC) personnel discovered a condition where containment closure, per Technical Specification 3.9.4 was not met. The enclosed Licensee Event Report (LER) 2006-004-00 is being submitted pursuant to 10 CFR 50.73(a)(2)(i)(B), to document this condition as any operation or condition which was prohibited by Technical Specifications.

The attachment to this letter identifies the commitments made in this LER.

If you have any questions concerning this matter, please contact me at (620) 364-4008, or Mr. Kevin Moles at (620) 364-4126.

Sincerely,

M W Sunseri

Matthew W. Sunseri

MWS/rlt

Attachment
Enclosure

cc: J. N. Donohew (NRC), w/a, w/e
B. S. Mallett (NRC), w/a, w/e
G. B. Miller (NRC), w/a, w/e
Senior Resident Inspector (NRC), w/a, w/e

IE22

Summary of Regulatory Commitments

The following table identifies those actions committed to by 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. Kevin Moles at (620) 364-4126.

COMMITMENT	Due Date/Event
Revise STS GP-006, 'CTMT Closure Verification', to provide instruction to the Containment Penetration Trackers that tracking of work associated with Containment Penetration Isolations (even if the position of the component is not expected to change) is a requirement during a Refueling Outage. This will ensure all Containment Penetration work will be administratively tracked.	April 13, 2007

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)

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WOLF CREEK GENERATING STATION	05000 482	1 OF 4

4. TITLE

Failure to Maintain Closure of Containment Penetrations During Fuel Movement

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
10	24	2006	2006	- 004 -	00	12	21	2006	FACILITY NAME	DOCKET NUMBER
										05000

9. OPERATING MODE

6

10. POWER LEVEL

0

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

☐ 20.2201(b)	☐ 20.2203(a)(3)(i)	☐ 50.73(a)(2)(i)(C)	☐ 50.73(a)(2)(vii)
☐ 20.2201(d)	☐ 20.2203(a)(3)(ii)	☐ 50.73(a)(2)(ii)(A)	☐ 50.73(a)(2)(viii)(A)
☐ 20.2203(a)(1)	☐ 20.2203(a)(4)	☐ 50.73(a)(2)(ii)(B)	☐ 50.73(a)(2)(viii)(B)
☐ 20.2203(a)(2)(i)	☐ 50.36(c)(1)(i)(A)	☐ 50.73(a)(2)(iii)	☐ 50.73(a)(2)(ix)(A)
☐ 20.2203(a)(2)(ii)	☐ 50.36(c)(1)(ii)(A)	☐ 50.73(a)(2)(iv)(A)	☐ 50.73(a)(2)(x)
☐ 20.2203(a)(2)(iii)	☐ 50.36(c)(2)	☐ 50.73(a)(2)(v)(A)	☐ 73.71(a)(4)
☐ 20.2203(a)(2)(iv)	☐ 50.46(a)(3)(ii)	☐ 50.73(a)(2)(v)(B)	☐ 73.71(a)(5)
☐ 20.2203(a)(2)(v)	☐ 50.73(a)(2)(i)(A)	☐ 50.73(a)(2)(v)(C)	☐ OTHER
☐ 20.2203(a)(2)(vi)	☑ 50.73(a)(2)(i)(B)	☐ 50.73(a)(2)(v)(D)	Specify in Abstract below or in NRC Form 366A

12. LICENSEE CONTACT FOR THIS LER

FACILITY NAME	TELEPHONE NUMBER *(Include Area Code)*
Kevin J. Moles, Manager Regulatory Affairs	(620) 364-4126

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 October 24, 2006 with the plant in Mode 6, Refueling, Wolf Creek Nuclear Operating Corporation (WCNOC) personnel discovered a condition where containment closure, per Technical Specification 3.9.4 was not met. An air-to-air pathway existed from the containment recirculation sumps through the containment spray system to the auxiliary building. The containment recirculation sump suction for the containment spray pump 'B' valve was stroked open while valves ENV0068 and ENV0095 were uncapped and open under a clearance order. Upon discovery, the penetration was immediately placed under administrative control.

LICENSEE EVENT REPORT (LER)

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

PLANT CONDITIONS PRIOR TO EVENT
MODE – 6
Power – 0
Refueling operations in progress

EVENT DESCRIPTION:

Clearance Order R-EN-B-003B was placed at 4:36 PM on 10/20/06. Clearance Order R-EN-B-003B was in place to support work on containment recirculation sump suction for the containment spray pump 'B' valve ENHV0007, to provide flow path isolation. This Clearance Order tagged vent valve ENV0095 and drain valve ENV0068 open to drain the 'B' containment spray system. These two containment spray system valves are located outside of Containment in the Auxiliary Building. At the time this Clearance Order was placed fuel movement was not in progress.

Work Order 05-277627-001, which allowed the stroking (opening/closing) of valve ENHV0007, had been authorized for work on 10/23/06 nightshift, by the nightshift Work Controls Senior Reactor Operator (SRO) to a nightshift Electrician. The nightshift Work Controls SRO informed the nightshift Containment Penetration Tracker, who acknowledged that work was commencing on ENHV0007. The nightshift Containment Penetration Tracker believed that the work on ENHV0007 included only actuator replacement and did not realize that the valve would be opened as part of the work. Because the nightshift Containment Penetration Tracker believed that ENHV0007 would not be stroked during this work no log entries were made and no turnover was provided to the dayshift Containment Penetration Tracker. The nightshift Containment Penetration Tracker has stated that the notification over the phone between the Work Controls SRO and the Electrician was very brief, and no specific facts were given concerning the work on ENHV0007.

On 10/24/06 dayshift (approximately 8:30 AM), a dayshift Electrician called the dayshift Work Controls SRO and asked for authorization of Local Control Clearance Order R15-0217, for deadman testing and set-up work for ENHV0007. The dayshift Work Controls SRO authorized the Local Control. The Local Control and tags were printed in the Maintenance Shop.

Fuel movement (from the Spent Fuel Pool to the Reactor Vessel) commenced at 8:52 AM on 10/24/06.

At approximately 3:00 PM on 10/24/06 the Operations Post-Maintenance Testing (PMT) Coordinator notified the Containment Penetration Tracker that Electrical Maintenance had released the Local Control (Clearance Order R15-0217) on valve ENHV0007. Valve ENHV0007 had been stroked for valve setup by Electrical Maintenance and the release of the Local Control indicated the work was complete. The PMT Coordinator was notifying the Containment Penetration Tracker of the status of ENHV0007 because the PMT could be performed for this valve. At this time it was recognized that ENHV0007 had not been under administrative control by the Operations Support Crew or the Control Room.

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

The Containment Penetration Tracker then notified the Work Controls SRO. At approximately 3:10 PM on 10/24/06 it was confirmed that intermittent direct air-to-air contact had been ongoing during fuel movement with an unisolated containment penetration not being tracked by procedure STS GP-006, 'Containment Closure Verification,' as required to ensure containment closure could be met. The air-to-air pathway existed several times (each time ENHV0007 was stroked to the open position) over the approximate six-hour period when administrative tracking was not occurring.

At approximately 3:27 PM on 10/24/06, the penetration was placed under administrative control

BASIS FOR REPORTABILITY:

The air-to-air pathway via the containment spray system from the containment building to the auxiliary building without administrative controls is contrary to Technical Specification (T/S) 3.9.4 which states, in part, 'An emergency personnel escape air lock temporary closure device is an acceptable replacement for an emergency air lock door' and 'Penetration flow path(s) providing direct access from the containment atmosphere to the outside atmosphere may be unisolated under administrative controls.' The events are reportable pursuant to 10 CFR 50.73(a)(2)(i)(B) for any operation or condition which was prohibited by the plant's T/S.

ROOT CAUSE:

The root cause for this event was a human performance error resulting from instructions that were less than adequate, provided vague guidance, and introduced an opportunity for interpretation of requirements.

CORRECTIVE ACTIONS:

Immediate

Commenced administratively tracking affected Penetration 13, per STS GP-006, 'Containment Closure Verification', until work on ENHV0007 was completed.

Maintenance commenced taking an extra step in verifying that both the Clearance Order and the Work Order had been given authorization from the Control Room, prior to commencing work, for each shift when work crossed over two or more shifts when the work involved containment penetrations.

Long Term

STS GP-006, 'Containment Closure Verification', will be revised to provide instruction to the Containment Penetration Trackers that tracking of work associated with Containment Penetration Isolations (even if the position of the component is not expected to change) is a requirement during a Refueling Outage. This will ensure all containment penetration work will be administratively tracked. This action will be completed by April 13, 2007.

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

SAFETY SIGNIFICANCE:

During movement of irradiated fuel assemblies within Containment, the most severe radiological consequences result from a fuel handling accident. The fuel handling accident is a postulated event that involves damage to irradiated fuel. Fuel handling accidents include dropping a single irradiated fuel assembly and handling tool or a heavy object onto other irradiated fuel assemblies. In Mode 6, the potential for Containment pressurization as a result of a fuel handling accident is minimal.

Therefore, it is highly unlikely that there will be any significant release of radioactive material through the leakage path as described above. If a release were to take place through this path, the quantity of radioactive materials released to the outside environment would be insignificant. Even though the rate of leakage can not be determined, based on engineering judgment, the consequences of this release will be bounded by the fuel handling accident analysis performed for Amendment 95 to the Wolf Creek Generating Station T/S. The analysis assumes that the gaseous effluents escaping from the damaged fuel rods are released directly to the environment within 2 hours through the open personnel airlock doors. The effluents do not mix with the surrounding air of the adjacent Auxiliary Building, and no credit is taken for any iodine removal by the atmosphere filtration system filters. The analysis results demonstrate that the potential dose consequences from a fuel handling accident with the personnel airlock doors remaining open will be well within the 10 CFR 100 limits.

OPERATING EXPERIENCE/PREVIOUS EVENTS:

LER 2005-003-00 reported two instances where containment closure was not met. In the first instance, an air-to-air pathway existed through the exterior equalizing valve of the auxiliary access hatch. In the second instance, the 'B' Steam Generator had an air-to-air pathway through containment to the auxiliary building. Both instances were caused by personnel errors.

LER 1999-004-00 reported a failure to maintain closure of containment penetrations during fuel movement. A direct flow path had been created between the Containment Building atmosphere and the Auxiliary Building during fuel movement. This event was caused by a series of personnel errors in the implementation of the work control process.