WOLF CREEK
NUCLEAR OPERATING CORPORATION

Stephen E. Hedges
Site Vice President

September 17, 2010

WO 10-0062

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

Subject: Docket No. 50-482: Licensee Event Report 2010-009-00, "Pressurizer Level Higher Than Assumed in the Inadvertent Operation of ECCS Analysis"

Gentlemen:

The enclosed Licensee Event Report (LER) is being submitted pursuant to 10 CFR 50.73(a)(2)(ii)(B) regarding plant procedures, which allowed the plant to operate in a configuration that was outside the design bases.

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) 364-4190, or Mr. Richard D. Flannigan at (620) 364-4117.

Sincerely,

Stephen E. Hedges

SEH/rlt

Attachment

Enclosure

cc: E. E. Collins (NRC), w/a, w/e
G. B. Miller (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 REGULATORY 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 regulatory commitments. Please direct questions regarding these commitments to Mr. Richard Flannigan at (620) 364-4117.

REGULATORY COMMITMENT	DUE DATE/EVENT
WCNOC will review appropriate operating procedures to ensure that plant conditions specified in the procedures are enveloped by safety analysis assumptions and evaluations.	May 31, 2011

NRC FORM 366 (9-2007) U.S. NUCLEAR REGULATORY COMMISSION

APPROVED BY OMB: NO. 3150-0104 EXPIRES: 08/31/2010

Estimated burden per response to comply with this mandatory collection request: 80 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

Pressurizer Level Higher Than Assumed in the Inadvertent Operation of ECCS Analysis

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
07	21	2010	2010	- 009 -	00	09	17	2010	FACILITY NAME	DOCKET NUMBER
										05000

9. OPERATING MODE

Mode 1

10. POWER LEVEL

100%

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 REPORT

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)*

During a review of operating experience from another nuclear plant, Wolf Creek Nuclear Operating Corporation personnel identified that the pressurizer level at Wolf Creek Generating Station had exceeded the value in the Inadvertent Operation of Emergency Core Cooling System (IOECCS) analysis, during Mode 3. The IOECCS analysis assumes that initial reactor power is at 102% and initial pressurizer level is at a maximum level of 57%. Given these assumptions, operators must be able to terminate the IOECCS within eight minutes to prevent pressurizer overfill. Operation with pressurizer level above 57% is not bounded by the current analysis.

The cause of the event was that the information regarding the assumed pressurizer level for the IOECCS analysis was not identified during the procedure review process.

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PLANT CONDITIONS PRIOR TO EVENT

Mode 1
100% power

EVENT DESCRIPTION

During a review of operating experience from another nuclear plant, Wolf Creek Nuclear Operating Corporation (WCNOC) personnel identified that the pressurizer level [EIIS Code: PZR-LI] at Wolf Creek Generating Station (WCGS) had exceeded the value in the Inadvertent Operation of Emergency Core Cooling System (IOECCS) analysis, during Mode 3. The IOECCS analysis applies to Modes 1 through 3 and Mode 1 conditions are used for the worst-case conditions, which bounds the analysis for Mode 2 and 3. The IOECCS analysis assumes that reactor power is at 102% and pressurizer level is at a maximum indicated level of 57%. The upper limit for the pressurizer control band is 57%.

Early in 2002, procedure GEN 00-005, "Minimum Load to Hot Standby," and procedure GEN 00-006, "Hot Standby to Cold Shutdown," were revised to allow pressurizer level to be controlled between 30% and 65% in Mode 3. Procedure GEN 00-006 allowed pressurizer level to be controlled between 55 to 60% since 1994.

One criterion for the IOECCS analysis is that the pressurizer does not become water solid in order to prevent the event from becoming more serious (without other independent failures). The worst-case analysis includes conditions that maximize decay heat, reactor coolant system (RCS) [EIIS code: AB] water mass and swell following a reactor trip. The core is assumed to be at 102% power and pressurizer level is assumed to be at the maximum level control program band (57%) plus five percent due to instrument uncertainties. Given these assumptions, operators must be able to terminate the IOECCS within eight minutes to prevent pressurizer overfill.

A review of WCGS Mode 3 operation for the last three years was conducted to determine when pressurizer level was above 57%. Four instances were found:

1) January 14, 2008 during a forced outage – pressurizer level reached a maximum of 61%
2) March 20, 2008 during refueling outage 16 - pressurizer level reached a maximum of 83%,
3) October 10, 2009 during refueling outage 17 - pressurizer level reached a maximum of 73%
4) March 3-4, 2010 during a forced outage - pressurizer level reached a maximum of 67%

Allowing operation above the pressurizer normal program band level of 57% during Mode 3 changed the starting point of the pressurizer level assumed in the IOECCS analysis. Operation with pressurizer level above 57% is not bounded by the current analysis.

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BASIS FOR REPORTABILITY

It was determined that an increased pressurizer level could have led to a faster pressurizer overfill condition which would challenge the performance of the pressurizer power operated relief valves (PORVs) [EIIS Code: PZR-RV] or the pressurizer safety valves if an IOECCS had occurred. This condition was determined to constitute an unanalyzed condition and is reportable under 10 CFR 50.73(a)(2)(ii)(B).

ROOT CAUSE

Procedures GEN 00-005 and GEN 00-006 were revised to allow operation above 57% pressurizer level. The procedure review process only considered the information described in the Updated Safety Analysis Report (USAR) and did not refer to the actual IOECCS analysis. The USAR description did not discuss the complete IOECCS analysis. As a result, the procedure revision process did not identify the concern.

CORRECTIVE ACTIONS

Procedures GEN 00-005 and GEN 00-006 were revised to maintain pressurizer level below 57%.

WCNOC will review appropriate operating procedures to ensure that plant conditions specified in the procedure are enveloped by safety analysis assumptions and evaluations. This action will be completed by May 31, 2011.

SAFETY SIGNIFICANCE

Operating above the analyzed pressurizer level band may reduce the time operators have to respond to an IOECCS event. If the response to an IOECCS event is inadequate, the pressurizer will be overfilled, potentially resulting in damage to the pressurizer PORVs or the pressurizer safety valves. If the ECCS system is allowed to continue to inject into the RCS and adequate relief capacity is not available, RCS over pressurization could occur, leading to a breach of the RCS pressure boundary.

Operation outside the analyzed limits for pressurizer level occurred infrequently during plant shutdowns. Although these events placed the power plant in an unanalyzed condition with respect to pressurizer level, other plant parameters such as core average temperature and core power remained within the analysis assumptions. Based on the above, the brief time period the plant operated in such a configuration would not represent a condition that significantly degraded overall plant safety and thus did not pose a significant safety risk.

OPERATING EXPERIENCE/PREVIOUS EVENTS

None