

WOLF CREEK

NUCLEAR OPERATING CORPORATION

Robert J. Bayer
Plant Manager

October 4, 2018

WO 18-0041

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

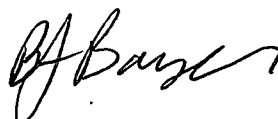
Subject: Docket No. 50-482: Licensee Event Report 2018-001-00, "Inappropriate Use of Blind Flange for Containment Isolation Valve Results in Condition Prohibited by Technical Specifications"

To Whom It May Concern:

The enclosed Licensee Event Report (LER) 2018-001-00 is being submitted pursuant to 10 CFR 50.73(a)(2)(i)(B) as a condition prohibited by Technical Specifications.

This letter contains no commitments. If you have any questions concerning this matter, please contact me at (620) 364-4015, or Cynthia R. Hafenstine at (620) 364-4204.

Sincerely,



Robert J. Bayer

RJB/rit

Enclosure: LER 2018-001-00

cc: K. M. Kennedy (NRC), w/e
B. K. Singal (NRC), w/e
N. H. Taylor (NRC), w/e
Senior Resident Inspector (NRC), w/e

JEZZ
NRC



LICENSEE EVENT REPORT (LER)

(See Page 2 for required number of digits/characters for each block)

(See NUREG-1022, R.3 for instruction and guidance for completing this form
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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 Information Services Branch (T-2 F43), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by e-mail to Infocollects.Resource@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.

1. Facility Name Wolf Creek Generating Station	2. Docket Number 05000 482	3. Page 1 OF 4
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4. Title
Inappropriate Use of Blind Flange for Containment Isolation Valve Results in Condition Prohibited by Technical Specifications

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
05	15	2018	2018	001	00	10	04	2018	Facility Name	Docket Number
										05000
										05000

9. Operating Mode	11. This Report is Submitted Pursuant to the Requirements of 10 CFR §: (Check all that apply)									
4	<input type="checkbox"/> 20.2201(b)	<input type="checkbox"/> 20.2203(a)(3)(i)	<input type="checkbox"/> 50.73(a)(2)(ii)(A)	<input type="checkbox"/> 50.73(a)(2)(viii)(A)						
	<input type="checkbox"/> 20.2201(d)	<input type="checkbox"/> 20.2203(a)(3)(ii)	<input type="checkbox"/> 50.73(a)(2)(ii)(B)	<input type="checkbox"/> 50.73(a)(2)(viii)(B)						
	<input type="checkbox"/> 20.2203(a)(1)	<input type="checkbox"/> 20.2203(a)(4)	<input type="checkbox"/> 50.73(a)(2)(iii)	<input type="checkbox"/> 50.73(a)(2)(ix)(A)						
	<input type="checkbox"/> 20.2203(a)(2)(i)	<input type="checkbox"/> 50.36(c)(1)(i)(A)	<input type="checkbox"/> 50.73(a)(2)(iv)(A)	<input type="checkbox"/> 50.73(a)(2)(x)						
10. Power Level	<input type="checkbox"/> 20.2203(a)(2)(ii)	<input type="checkbox"/> 50.36(c)(1)(ii)(A)	<input type="checkbox"/> 50.73(a)(2)(v)(A)	<input type="checkbox"/> 73.71(a)(4)						
N/A	<input type="checkbox"/> 20.2203(a)(2)(iii)	<input type="checkbox"/> 50.36(c)(2)	<input type="checkbox"/> 50.73(a)(2)(v)(B)	<input type="checkbox"/> 73.71(a)(5)						
	<input type="checkbox"/> 20.2203(a)(2)(iv)	<input type="checkbox"/> 50.46(a)(3)(ii)	<input type="checkbox"/> 50.73(a)(2)(v)(C)	<input type="checkbox"/> 73.77(a)(1)						
	<input type="checkbox"/> 20.2203(a)(2)(v)	<input type="checkbox"/> 50.73(a)(2)(i)(A)	<input type="checkbox"/> 50.73(a)(2)(v)(D)	<input type="checkbox"/> 73.77(a)(2)(i)						
	<input type="checkbox"/> 20.2203(a)(2)(vi)	<input checked="" type="checkbox"/> 50.73(a)(2)(i)(B)	<input type="checkbox"/> 50.73(a)(2)(vii)	<input type="checkbox"/> 73.77(a)(2)(ii)						
		<input type="checkbox"/> 50.73(a)(2)(i)(C)	<input type="checkbox"/> Other (Specify in Abstract below or in NRC Form 366A)							

12. Licensee Contact for this LER

Licensee Contact Cynthia R. Hafenstine, Manager Nuclear and Regulatory Affairs	Telephone Number (Include Area Code) (620) 364-4204
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13. Complete One Line for each Component Failure Described in this Report

Cause	System	Component	Manufacturer	Reportable to ICES	Cause	System	Component	Manufacturer	Reportable to ICES

14. Supplemental Report Expected	15. Expected Submission Date	Month	Day	Year
<input type="checkbox"/> Yes (If yes, complete 15. Expected Submission Date) <input type="checkbox"/> No				

Abstract (Limit to 1400 spaces, i.e., approximately 14 single-spaced typewritten lines)

During Mode 5 of Refueling Outage 22 in May 2018, containment shutdown purge isolation valve GTHZ0006 was found to have leakage higher than allowed by Technical Specifications (TS). TS LCO 3.6.3 Condition D was entered at 0255 Central Daylight Time (CDT) on May 15, 2018. Blind flanges had been installed for individual valve testing. With the blind flange installed on GTHZ0006, WCGS considered TS LCO 3.6.3 Required Action D.1 met. Wolf Creek Generating Station subsequently entered Mode 4 at 0510 CDT on the same day.

On August 8, 2018, it was discovered that the use of the blind flange on GTHZ0006 would not meet Required Action D.1 of TS LCO 3.6.3. This is due to its being non-safety related and non-seismically qualified. At 1545 CDT on August 8, 2018, TS LCO 3.6.3 Condition D was re-entered to complete Required Action D.1. At 1611 CDT on August 8, 2018, Required Action D.1 was completed when both containment shutdown purge and minipurge inside containment isolation valves were verified as closed and de-energized.

The allowed completion time of LCO 3.6.3 Required Action D.1 to isolate the flow path is 24 hours. Since this action was not completed for approximately 85 days, this represents a condition prohibited by TS.



**LICENSEE EVENT REPORT (LER)
CONTINUATION SHEET**

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1. FACILITY NAME Wolf Creek Generating Station	2. DOCKET NUMBER 05000-482	3. LER NUMBER		
		YEAR 2018	SEQUENTIAL NUMBER 001	REV NO. 00

NARRATIVE

DESCRIPTION OF STRUCTURE(S), SYSTEM(S), AND COMPONENT(S)

In general, the containment isolation valves [EIS System: JM, Component: ISV] form part of the containment pressure boundary and provide a means for fluid penetration flow paths not serving accident consequence limiting systems to be provided with two isolation barriers that are closed on a containment isolation signal. These isolation devices are either passive or active. Manual valves, de-activated automatic valves secured in their closed position (including check valves with flow through the valve secured), blind flanges, and closed systems are considered passive devices. Check valves or other automatic valves that are designed to close without operator action following an accident are considered active devices.

Two barriers in series are provided for each penetration flow path so that no single credible failure or malfunction of an active component can result in a loss of isolation or leakage that exceeds limits assumed in the safety analyses. The containment isolation valves are subject to the requirements of Technical Specification (TS) Limiting Condition for Operation (LCO) 3.6.3, "Containment Isolation Valves." This LCO was derived from the assumptions related to minimizing the loss of reactor coolant inventory and establishing the containment boundary during a design basis accident (DBA).

The containment shutdown purge system operates during reactor outages (Mode 6 and Defueled) to supply outside air into the containment for ventilation and cooling or heating. This system may also be used when the reactor is in the cold shutdown mode (Mode 5) to reduce the concentration of noble gases within the containment prior to and during personnel access.

The containment shutdown purge system supply line has automatic containment isolation valves both inside and outside containment. Due to the size of the isolation valves (36"), it was determined that they were not qualified for automatic closure from their open position under accident conditions. Therefore during Modes 1, 2, 3, and 4 they are maintained sealed closed.

The containment minipurge system may be used during reactor power operations to reduce the concentration of noble gases within the containment prior to and during personnel access or to equalize internal and external pressures. The containment minipurge system lines are branch lines off the shutdown purge system between the shutdown purge system isolation valves. Therefore the minipurge supply line has its own containment isolation valves inside and outside containment. These valves are qualified for automatic closure during accident conditions.

PLANT CONDITIONS PRIOR TO EVENT

At the time the containment purge supply outside containment isolation valve was determined to be inoperable, on May 15, 2018, Wolf Creek Generating Station (WCGS) was in Mode 5, preparing to enter Mode 4 to come out of Refueling Outage 22 (RF22). No other systems, structures, or components were inoperable that contributed to this event.

EVENT DESCRIPTION

On May 12, 2018, while still in Mode 5, procedure STS PE-015, Containment Purge Valve Leakage Test was performed on the supply side containment isolation valves of the containment shutdown purge and minipurge lines. This test was performed in preparation for entering Mode 4. This test showed excessive leakage through the supply side penetration. Blank flanges were installed on the supply side valves, which allowed for each valve to be individually tested.



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		YEAR 2018	SEQUENTIAL NUMBER 001	REV NO. 00

NARRATIVE

The individual testing identified that valve GTHZ0006 (containment shutdown purge supply side outside containment isolation valve) had a leak rate above that allowed by TS. The valve was declared inoperable and TS LCO 3.6.3 Condition D was entered at 0255 Central Daylight Time (CDT) on May 15, 2018. With the blind flanges installed, all of the other containment shutdown purge and minipurge supply side valves successfully passed the leakage rate testing. Because this testing was performed close to the end of RF22, it was decided to leave the blind flanges installed in accordance with TS LCO 3.6.3, Required Action D.1 which requires that the affected flow path be isolated by use of at least one closed and de-activated automatic valve, closed manual valve, or blind flange. The plant was in Mode 5 at this point, but since LCO 3.6.3 is applicable in Modes 1, 2, 3, and 4, the completion of Required Action D.1 was necessary for the plant to enter Mode 4. The plant entered Mode 4 on May 15, 2018, at 0510 CDT.

On August 8, 2018, it was discovered that using a blind flange to meet the Required Actions for Condition D of TS LCO 3.6.3 is not allowed by Wolf Creek Nuclear Operating Corporation (WCNOC) procedure AI 26C-004, Technical Specification Application for Containment Isolation Valves. Step 6.2.2.6.c of this procedure states "Because they are non-safety related and non-seismic, the installed blind flanges cannot be used to satisfy LCO 3.6.3, Required Action D.1." So while TS LCO 3.6.3 would allow blind flanges to isolate the containment shutdown purge isolation valves, this would require the use of safety-related and seismically qualified flanges and piping. As such, on August 8, 2018, at 1545 CDT, WCGS re-entered TS LCO 3.6.3 Condition D to perform Required Action D.1. Required Action D.1 was completed at 1633 CDT on August 8 by ensuring that the inside containment shutdown purge and minipurge supply isolation valves were closed and de-energized.

REPORTABILITY

TS LCO 3.6.3 Condition D, Required Action D.1 has a Completion Time of 24 hours. However, since the containment minipurge supply inside containment valve was not de-energized upon entry into Mode 4, Condition D existed for approximately 85 days (from May 15 when WCGS entered Mode 4 until August 8). Since this is longer than the allowed Completion Time for Required Action D.1, this event is being reported in accordance with 10 CFR 50.73(a)(2)(i)(B) as an operation or condition prohibited by TS.

It may also be noted that a violation of LCO 3.0.4.a occurred in connection with the plant entering a mode of applicability of LCO 3.6.3. With an LCO not met, LCO 3.0.4.a only permits entry into a mode of applicability of that LCO when the associated Required Actions to be entered permit continued operation in the applicable mode for an unlimited period of time. With Required Action D.1 of LCO 3.6.3 not actually being met, entry into Mode 4 wouldn't have been allowed.

CAUSE

This is a legacy issue. TS Bases 3.6.3 for Required Action D.1 was never updated to reflect that the blind flange currently allowed to be installed per system design, could not be used to meet the Condition and Required Actions to isolate the penetration.

CORRECTIVE ACTIONS

Training was initiated for Operations personnel in both initial and requalification training to clarify that the blind flanges can not be used to meet Required Action D.1. A revision to the TS Bases B3.6.3 has been initiated to either remove the use of the currently designed blind flange, or add information that procedure AI 26C-004 needs to be reviewed. WCNOC is planning to submit a license amendment request at some point in the future to remove the use of a blind flange to meet TS LCO 3.6.3, Required Action D.1.



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NARRATIVE

SAFETY SIGNIFICANCE

The safety significance of the event was low. The containment isolation function was maintained by the containment purge and minipurge supply inside containment isolation valves remaining shut. The total containment "as-found" minimum pathway leak rate remained within the limits of TS 3.6.1 during the time when the blind flange was installed.

OPERATING EXPERIENCE/PREVIOUS EVENTS

None