



April 15, 2013

A. J. Camp, Jr.  
Plant Manager

WO 13-0027

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

Subject: Docket No. 50-482: Licensee Event Report 2013-003-00, "Movement of Irradiated Fuel Progressed After Non-Conservative Decision Making Resulted in Removal of One Source Range Monitor From Service"

Gentlemen:

The enclosed Licensee Event Report (LER) is submitted in accordance with 10 CFR 50.73, "Licensee event report system," paragraph (a)(2)(i)(B) as a condition prohibited by the Technical Specification 3.9.3, "Nuclear Instrumentation."

This letter contains no commitments. If you have any questions concerning this matter, please contact me at (620) 364-4110, or Mr. Michael J. Westman at (620) 364-8831 ext. 4009.

Sincerely,



A. J. Camp, Jr.

AJC/rlt

Enclosure

cc: A. T. Howell (NRC), w/e  
C. F. Lyon (NRC), w/e  
N. F. O'Keefe (NRC), w/e  
Senior Resident Inspector (NRC), w/e

IE22  
MPR

NRC FORM 366 (10-2010)		U.S. NUCLEAR REGULATORY COMMISSION			APPROVED BY OMB: NO. 3150-0104		EXPIRES: 10/31/2013												
<b>LICENSEE EVENT REPORT (LER)</b>  (See reverse for required number of digits/characters for each block)										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 FOIA/Privacy Service Branch (T-5 F53), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet 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 <b>WOLF CREEK GENERATING STATION</b>					2. DOCKET NUMBER <b>05000 482</b>			3. PAGE <b>1 OF 4</b>											
4. TITLE <b>Movement of Irradiated Fuel Progressed After Non-Conservative Decision Making Resulted in Removal of One Source Range Monitor From Service</b>																			
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									
02	16	2013	2013	003	00	04	15	2013	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)																	
6		<input type="checkbox"/> 20.2201(b)			<input type="checkbox"/> 20.2203(a)(3)(i)			<input type="checkbox"/> 50.73(a)(2)(i)(C)			<input type="checkbox"/> 50.73(a)(2)(vii)								
		<input type="checkbox"/> 20.2201(d)			<input type="checkbox"/> 20.2203(a)(3)(ii)			<input type="checkbox"/> 50.73(a)(2)(ii)(A)			<input type="checkbox"/> 50.73(a)(2)(viii)(A)								
10. POWER LEVEL		<input type="checkbox"/> 20.2203(a)(1)			<input type="checkbox"/> 20.2203(a)(4)			<input type="checkbox"/> 50.73(a)(2)(ii)(B)			<input type="checkbox"/> 50.73(a)(2)(viii)(B)								
		<input type="checkbox"/> 20.2203(a)(2)(i)			<input type="checkbox"/> 50.36(c)(1)(i)(A)			<input type="checkbox"/> 50.73(a)(2)(iii)			<input type="checkbox"/> 50.73(a)(2)(ix)(A)								
		<input type="checkbox"/> 20.2203(a)(2)(ii)			<input type="checkbox"/> 50.36(c)(1)(ii)(A)			<input type="checkbox"/> 50.73(a)(2)(iv)(A)			<input type="checkbox"/> 50.73(a)(2)(x)								
		<input type="checkbox"/> 20.2203(a)(2)(iii)			<input type="checkbox"/> 50.36(c)(2)			<input type="checkbox"/> 50.73(a)(2)(v)(A)			<input type="checkbox"/> 73.71(a)(4)								
		<input type="checkbox"/> 20.2203(a)(2)(iv)			<input type="checkbox"/> 50.46(a)(3)(ii)			<input type="checkbox"/> 50.73(a)(2)(v)(B)			<input type="checkbox"/> 73.71(a)(5)								
		<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)(C)			<input type="checkbox"/> OTHER								
<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)(v)(D)			Specify in Abstract below or in NRC Form 366A										
12. LICENSEE CONTACT FOR THIS LER																			
FACILITY NAME <b>Michael Westman, Manager Regulatory Affairs</b>										TELEPHONE NUMBER (Include Area Code) <b>(620) 364-8831 ext. 4009</b>									
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										15. EXPECTED SUBMISSION DATE		MONTH	DAY	YEAR					
<input type="checkbox"/> YES (If yes, complete 15. EXPECTED SUBMISSION DATE) <input checked="" type="checkbox"/> NO																			
ABSTRACT (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines)  At 1500 hours Central Standard Time on February 16, 2013, Limiting Condition for Operation (LCO) 3.9.3 was declared not met when it was determined that the source range monitors SENI0060A and SENI0061A were not both coupled to the core and source range neutron flux monitor SENI0031 was inoperable. On February 15, 2013, fuel offload had been delayed for approximately the previous 48 hours with 85 of 193 fuel assemblies offloaded. On February 15, 2013, at 2134 hours, SENI0031 was declared inoperable for performance of maintenance activities. On February 16, 2013, fuel offload occurred from 0426 hours to 0933 hours and 1137 hours to 1500 hours.  Condition A of Technical Specification 3.9.3 was entered and core alterations were suspended and operations that would cause positive reactivity additions were suspended per Required Action A.1 and Required Action A.2. On February 16, 2013, at 1620 hours, cabinet SE054A and monitor SENI0031 were returned to service. At 1633 hours, fuel offload was recommenced. The cause of the event was non-conservative decision making by an Instrument and Control Supervisor and the Work Controls Senior Reactor Operator to perform work on nuclear instrumentation cabinet SE054A and source range monitor SENI031 when fuel offload had not been completed.																			

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PLANT CONDITIONS AT THE TIME OF THE EVENT

Mode 6

0 percent power

Reactor Coolant System (RCS) pressure: the reactor vessel head was removed and RCS pressure was equivalent to the static head pressure of the refueling pool

RCS temperature: approximately 90 degrees Fahrenheit

There were no structures, components or systems that were inoperable and contributed to the initiation or limited mitigation of the event, other than source range neutron flux monitor SENI0031.

DESCRIPTION OF THE EVENT

On February 10, 2013 at 0900 hours Central Standard Time (CST), fuel offload was started as part of Refueling Outage 19. The approved fuel offload pattern assumed source range monitors SENI0031 [EIIS:IG-DET] and SENI0032 [EIIS:IG-DET] would remain operable during fuel movement. Source range monitors SENI0060A [EIIS:IG-DET] and SENI0061A [EIIS:IG-DET] were not credited for meeting Technical Specification (TS) Limiting Condition for Operation (LCO) 3.9.3, "Nuclear Instrumentation," as the fuel offload pattern would eventually uncouple these detectors from the core. The fuel offload activity was delayed at various times due to problems with the transfer cart and the refueling machine. These delays resulted in the fuel offload extending past the scheduled February 15, 2013, start time for maintenance on nuclear instrumentation cabinet SE054A [EIIS:IG-CAB] under Work Order (WO) 11-347036-000.

WO 11-347036-000 was previously initiated to replace the resistor-capacitor suppressors in the nuclear instrumentation cabinet SE054A. There were six sub-work orders associated with this maintenance activity. Scheduling of five of the six sub-work orders had been moved due to the delays with fuel offload. One of the sub-work orders was still on the outage schedule to be worked on February 15, 2013. The performance of this work would require taking source range monitor SENI0031 out of service making the monitor inoperable.

On February 15, 2013, fuel offload had been delayed for approximately the previous 48 hours with 85 of 193 fuel assemblies offloaded. On February 15, 2013, Instrumentation and Control personnel requested permission from the Operations Work Controls Senior Reactor Operator to perform WO 11-347036-000. At 2134 hours, SENI0031 was declared inoperable for performance of WO 11-347036-000.

On February 16, 2013, at 0426 hours, fuel offload was recommenced. At 0933 hours, fuel movement was suspended due to the refueling machine hoist joystick sticking. At 1137 hours, fuel offload was recommenced. At 1500 hours on February 16, 2013, LCO 3.9.3 was declared not met when it was determined that the source range monitors SENI0060A and SENI0061A were not both coupled to the core and source range neutron flux monitor SENI0031 was inoperable. Condition A of TS 3.9.3 was entered and core alterations were suspended and operations that would cause positive reactivity additions were suspended per Required Action A.1 and Required Action A.2.

On February 16, 2013, at 1620 hours, cabinet SE054A and monitor SENI0031 were returned to service. At 1633 hours, fuel offload was recommenced.

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**BASIS FOR REPORTABILITY**

Technical Specification LCO 3.9.3 requires two source range neutron flux monitors be operable in Mode 6 to ensure that redundant monitoring capability is available to detect changes in core reactivity. The TS 3.9.3 Bases indicates that the source range neutron flux monitors SENI0031 and SENI0032 (Westinghouse Boron trifluoride detectors) are the normal source range monitors used during refueling outages. The source range monitors SENI0060A or SENI0061A (Gamma-Metrics fission chambers) provide an acceptable equivalent control room visual indication with the complete fuel inventory set within the reactor vessel or with the monitors coupled to the core. Either the set of two Westinghouse source range neutron flux monitors or the set of two Gamma-Metrics source range monitors may be used to perform the reactivity monitoring function. A fuel assembly is "coupled" to another fuel assembly if the two fuel assemblies are face adjacent. If a path of face adjacent fuel assemblies can be drawn to a baffle location nearest to a source range detector, the fuel assembly is "coupled" to the source range detector.

With the core partially offloaded when SENI0031 was removed from service at 2134 hours CST on February 15, 2013, the core was not coupled with the Gamma-Metrics source range monitors. As such, LCO 3.9.3 was not met. Core offload activities were recommenced at 0426 hours on February 16, 2013 and suspended at 0933 due to problems with the refueling machine. Core offload activities were recommenced at 1137 hours. At 1500 hours, core offload activities were suspended when it was recognized that requirements of LCO 3.9.3 were not met. Condition A of TS 3.9.3 requires the immediate suspension of core alterations with one required source range neutron flux monitor inoperable. Therefore, this event is reportable in accordance with 10 CFR 50.73(a)(2)(i)(B) as an operation or condition prohibited by TSs.

**ROOT CAUSE**

The night shift Instrumentation and Control Supervisor made a non-conservative decision to perform work on nuclear instrumentation cabinet SE054A and source range monitor SENI0031 when fuel offload had not been completed. The night shift Instrumentation and Control Supervisor misunderstood the schedule logic ties in WO 11-347036-000 and did not verify that the WO predecessors were complete.

The Work Controls Senior Reactor Operator made a non-conservative decision to remove a source range monitor SENI0031 from service when fuel offload had not been completed. The Work Controls Senior Reactor Operator, with peer check from the Control Room Supervisor and the Shift Manager, reviewed the TSs and determined that source range monitors SENI0060A or SENI0061A would be operable, but failed to identify the requirement for these monitors to be coupled to the core.

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CORRECTIVE ACTIONS

LCO 3.9.3 was declared not met when it was determined that the source range monitors SENI0060A and SENI0061A were not both coupled to the core and source range neutron flux monitor SENI0031 was inoperable. Condition A of TS 3.9.3 was entered and core alterations were suspended and operations that would cause positive reactivity additions were suspended per Required Action A.1 and Required Action A.2.

The involved Instrumentation and Controls Supervisor was coached by the Instrumentation and Controls Superintendent on the importance of checking schedule predecessors prior to assigning work to be performed.

The involved Work Controls Senior Reactor Operator, Control Room Supervisor, and Shift Manager were coached by the Operations Management on the importance of checking schedule predecessors prior to approving work and the importance of understanding TS applicability for the given plant conditions and planned activities. Senior Reactor Operator stand-downs were performed to emphasize the failures in operator fundamentals that occurred in this event.

SAFETY SIGNIFICANCE

The source range neutron flux monitors provide a signal to alert the operators to unexpected changes in core reactivity, such as a boron dilution accident or an improperly loaded fuel assembly.

The safety significance is low for this event. At the time of this event, one source range neutron flux monitor (SENI0032) was operable with visible count rate indication, an audible high flux at shutdown alarm in the control room, and audible indication of count rate in the control room and containment. Both source range neutron flux monitor SENI0060A and SENI0061A were functioning with visible count rate indication, but these monitors could not be used to satisfy LCO 3.9.3 as only one monitor was coupled to the core.

OPERATING EXPERIENCE/PREVIOUS SIMILAR OCCURRENCES

None