



JUL 31 2006

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

Serial No. 06-661  
KPS/LIC/RS: RO  
Docket No. 50-305  
License No. DPR-43

**DOMINION ENERGY KEWAUNEE, INC.**  
**KEWAUNEE POWER STATION**  
**LICENSEE EVENT REPORT 2006-005-00**

Dear Sirs:

Pursuant to 10 CFR 50.73, Dominion Energy Kewaunee, Inc., hereby submits the following Licensee Event Report applicable to Kewaunee Power Station.

Report No. 50-305/2006-005-00

This report has been reviewed by the Plant Operating Review Committee and will be forwarded to the Management Safety Review Committee for its review.

If you have any further questions, please contact Mr. Rick Repshas at (920) 388-8217.

Very truly yours,

*Kevin K. Swamin*  
*for*

Leslie N. Hartz  
Site Vice President, Kewaunee Power Station

Attachment

Commitments made by this letter: NONE

*IE22*

cc: Regional Administrator, Region III  
U.S. Nuclear Regulatory Commission  
2443 Warrenville Road  
Suite 210  
Lisle, IL 60532-4352

Mr. D. H. Jaffe  
Project Manager  
U.S. Nuclear Regulatory Commission  
Mail Stop O-7-D-1  
Washington, D. C. 20555

NRC Senior Resident Inspector  
Kewaunee Power Station

<b>NRC FORM 366</b> <b>U.S. NUCLEAR REGULATORY COMMISSION</b> (6-2004)	<b>APPROVED BY OMB NO. 3150-0104</b> <b>EXPIRES 6-30-2007</b>  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 (7-5 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, (3150-0066), 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.
<b>LICENSEE EVENT REPORT (LER)</b>  (See reverse for required number of digits/characters for each block)	

<b>FACILITY NAME (1)</b> <b>Kewaunee Power Station</b>	<b>DOCKET NUMBER (2)</b> <b>05000305</b>	<b>PAGE (3)</b> <b>1 of 3</b>
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<b>TITLE (4)</b> <b>Seal Water Flow to the Service Water Pump Bearings Found Degraded</b>
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EVENT DATE (5)			LER NUMBER (6)			REPORT DATE (7)			OTHER FACILITIES INVOLVED (8)	
MO	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REV NO	MO	DAY	YEAR	FACILITY NAME	DOCKET NUMBER
05	30	2006	2006	-- 005 --	00	07	31	2006	FACILITY NAME	DOCKET NUMBER
<b>OPERATING MODE (9)</b>		<b>N</b>	<b>THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR .: (Check all that apply) (11)</b>							
<b>POWER LEVEL (10)</b>		<b>100</b>	20.2201(b)			20.2203(a)(3)(ii)			50.73(a)(2)(ii)(B)	50.73(a)(2)(ix)(A)
			20.2201(d)			20.2203(a)(4)			50.73(a)(2)(iii)	50.73(a)(2)(x)
			20.2203(a)(1)			50.36(c)(1)(i)(A)			50.73(a)(2)(iv)(A)	73.71(a)(4)
			20.2203(a)(2)(i)			50.36(c)(1)(ii)(A)			50.73(a)(2)(v)(A)	73.71(a)(5)
			20.2203(a)(2)(ii)			50.36(c)(2)			50.73(a)(2)(v)(B)	<b>OTHER</b> Specify in Abstract below or in NRC Form 366A
			20.2203(a)(2)(iii)			50.46(a)(3)(ii)			50.73(a)(2)(v)(C)	
			20.2203(a)(2)(iv)			50.73(a)(2)(i)(A)		X	50.73(a)(2)(v)(D)	
			20.2203(a)(2)(v)			50.73(a)(2)(i)(B)			50.73(a)(2)(vii)	
			20.2203(a)(2)(vi)			50.73(a)(2)(i)(C)			50.73(a)(2)(viii)(A)	
			20.2203(a)(3)(i)			50.73(a)(2)(ii)(A)			50.73(a)(2)(viii)(B)	

LICENSEE CONTACT FOR THIS LER (12)	
<b>NAME</b> <b>Richard Repshas</b>	<b>TELEPHONE NUMBER (Include Area Code)</b> <b>(920) 388-8217</b>

COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)									
CAUSE	SYSTEM	COMPONENT	MANU-FACTURER	REPORTABLE TO EPIX	CAUSE	SYSTEM	COMPONENT	MANU-FACTURER	REPORTABLE TO EPIX

SUPPLEMENTAL REPORT EXPECTED (14)					EXPECTED SUBMISSION DATE (15)		MONTH	DAY	YEAR
X	YES (If yes, complete EXPECTED SUBMISSION DATE).						10	30	2006

<b>ABSTRACT</b> <p>On May 30, 2006, with Kewaunee Power Station at 100 percent power, the potential existed for the service water system to be inoperable due to pump inoperability. Normal service water pump bearing lube water is supplied from a well water source. A safety-related backup supply is from the discharge of the service water pumps. On May 30, the normal supply of pump bearing lube water was isolated for maintenance. The backup seal water regulator did not provide any seal water pressure or flow for B1 service water pump operation. Flow was immediately reestablished from the normal supply and the pump was declared inoperable at 0934 hours. If bearing lube water flow is 0.0 gpm or lube water pressure is 0.0 psig, the affected service water pump is stopped and declared inoperable. Maintenance was performed and the pump was returned to service at 1531 hours. Later on May 30 at 2309 hours, the normal supply of pump bearing lube water was again isolated and the A2 service water pump was subsequently removed from service at 2338 hours in support of maintenance due to the backup pump bearing lube water pressure having decreased to 0.0 psig while maintaining 0.3 gpm flow. Maintenance was performed on the A2 service water pump and it was declared operable on June 1 at 0104 hours. The preliminary cause of the degradation to the service water pump bearing lube water supply was the backup pressure regulator stem sticking due to contaminants in the normal well water supply.</p> <p>This is being reported in accordance with 10 CFR 50.73(a)(2)(v)(D), "Any event or condition that could have prevented the fulfillment of the safety function of structures or systems that are needed to mitigate the consequences of an accident."</p> <p>This is being reported as a safety system functional failure.</p>
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**LICENSEE EVENT REPORT (LER)**  
TEXT CONTINUATION

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)
Kewaunee Power Station	05000305	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	2 of 3
		2006	-- 005	-- 00	

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

**Event Description:**

On May 30, 2006, with Kewaunee Power Station at 100 percent power, the potential existed for the service water system to be inoperable due to service water pump [P] inoperability. The system consists of two trains with two pumps per train. The service water system is designed to provide redundant cooling water supplies to: the containment fan coil units [FCU], emergency diesel generators [DG], air compressors [CMP], component cooling heat exchangers [HX], safety injection pump stuffing boxes and coolers [CLR], and control room air conditioners [ACU]. The service water system also provides a backup supply source to Auxiliary Feedwater Water and other safety related systems. Normal service water pump bearing lube water is from a non safety-related well water source (plant equipment water) through a filter media (cartridge filters) [FLT] and single pressure regulator [RG] set at 28 psig to all four service water pumps downstream of the safety-related backup pressure regulators. A standby backup safety-related supply is from the discharge of each service water pump through a filter media (Cuno filters) and pressure regulator set at 10 psig to the pump bearings. When the normal supply is lost, the safety-related backup supply automatically provides the supply.

On May 30, the normal supply of pump bearing lube water was being isolated for regulator maintenance. The backup seal water regulator failed to provide any seal water pressure or flow for B1 service water pump operation. Flow was immediately reestablished from the normal supply and the pump was declared inoperable at 0934 hours. The normal bearing lube water supply was realigned to all the service water pumps. If the pump bearing lube water flow is 0.0 gpm or lube water pressure is 0.0 psig, the affected service water pump is stopped and declared inoperable in accordance with the procedure. Maintenance was performed by replacing the regulator and the B1 service water pump was declared operable on May 30 at 1531 hours.

The service water pump technical manual states that positive flow must be maintained at all times when the pump is operating. The vendor has stated that any flow is sufficient to meet this requirement.

Later on May 30 at 2309 hours, the normal supply of pump bearing lube water was again isolated for planned maintenance. This time, a decrease in pressure and flow was identified with the A2 service water pump backup lube water. The A2 service water pump was subsequently removed from service at 2338 hours due to the backup pump bearing lube water pressure having decreased to 0.0 psig while maintaining 0.3 gpm flow. The backup regulator was replaced, the downstream piping was cleaned and the pump was declared operable on June 1 at 0104 hours.

An evaluation is in progress to determine if the conditions observed establish a common mode failure mechanism.

**Event Analysis and Safety Significance:**

This is being reported in accordance with 10 CFR 50.73(a)(2)(v)(D), "Any event or condition that could have prevented the fulfillment of the safety function of structures or systems that are needed to mitigate the consequences of an accident."

The degradation of the service water pump bearing lube water supply is being attributed to the plant equipment water. Inspection of the plant equipment water cartridge filters in the system found the filter tanks severely corroded allowing water to bypass the filters.

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The safety-related backup service water pressure regulator stem could stick in the stem guide bushing as a result of iron contaminants from the normal plant equipment water adhering to the stem causing the regulator not to operate. This could result in little or no flow from the safety-related backup bearing lube water supply. Another possible failure scenario is rust debris breaking free from the cartridge filters. This debris would have an unfiltered pathway to all four of the service water pumps and could be large enough to partially block entry in the service water pump stuffing box and thereby obstruct flow to the bearings.

The total Incremental Core Damage Probability is currently being evaluated. The risk assessment will be provided via a Supplement to this LER.

This is being reported as a safety system functional failure since it was an event or condition that could have prevented fulfillment of the safety function of structures or systems that are needed to shutdown the reactor and maintain it in a safe shutdown condition, remove residual heat, control the release of radioactive material, or mitigate the consequences of an accident.

**Cause:**

The preliminary cause identified for the bearing cooling water flow disruption on May 30, 2006 for both the A2 and B1 service water pumps is the service water backup lube water supply pressure regulator stem sticking in the stem guide bushing as a result of contaminants in the plant equipment water adhering to the stem. The preliminary cause for the contaminants in the plant equipment water system is inadequate maintenance of the system filter vessels. The final cause will be provided via a Supplement to this LER.

An evaluation is in progress to determine if the conditions observed establish a common mode failure mechanism.

**Corrective Actions:****Short Term:**

1. The plant equipment water source of pump bearing lube water supply has been isolated from the service water pumps.

**Long Term:**

1. Long term corrective actions will be based on the results of the on-going investigation and will be provided as a Supplement to this LER.

**Similar Events:**

None.