

Dominion Energy Kewaunee, Inc.  
N490 Highway 42, Kewaunee, WI 54216-9511



NOV 20 2007

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

Serial No. 07-0176A  
KPS/LIC/JG: RO  
Docket No. 50-305  
License No. DPR-43

**DOMINION ENERGY KEWAUNEE, INC.**  
**KEWAUNEE POWER STATION**  
**LICENSEE EVENT REPORT 2007-001-01**

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. 50-305/2007-001-01

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. Jack Gadzala at (920) 388-8604.

Very truly yours,

Stephen E. Scace *for*  
Site Vice President, Kewaunee Power Station

Attachment

Commitments made by this letter: NONE

*IE22*  
*NRR*

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

Mr. P. D. Milano  
Project Manager  
U.S. Nuclear Regulatory Commission  
Mail Stop O-8-H-4a  
Washington, DC 20555-0001

NRC Senior Resident Inspector  
Kewaunee Power Station

**LICENSEE EVENT REPORT (LER)**

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

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, (3150-0066), 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.

FACILITY NAME (1)

**Kewaunee Power Station**

DOCKET NUMBER (2)

**05000305**

PAGE (3)

**1 of 3**

TITLE (4)

**Reactor Trip During Turbine Trip Mechanism Testing**

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
1	12	2007	2007	-- 001	-- 01	11	20	2007	FACILITY NAME	DOCKET NUMBER
OPERATING MODE (9)		N		THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR : (Check all that apply) (11)						
POWER LEVEL (10)		93.7%		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)		X 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)		OTHER 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)		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)**

NAME

**Stewart Yuen**

TELEPHONE NUMBER (Include Area Code)

**(920) 388- 8497**

**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)**

YES (If yes, complete EXPECTED SUBMISSION DATE).	X	NO	EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR
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**ABSTRACT**

At 10:39 on 1/12/2007, with the reactor at 1660MWt (93.7%), while performing a turbine mechanical trip test, the turbine and reactor tripped due to low auto stop oil pressure. MS-201B1, Reheat Steam to MSR B1, failed to close, which resulted in additional RCS cooldown to 536 degrees F. Per contingency procedures, action was taken to isolate the reheat steam, which halted the cooldown, and Tave was restored to 547 degrees F. The additional cooldown resulted in letdown isolation on low pressurizer level. Feedwater isolated and auxiliary feedwater initiated, as designed, due to low-low level in the steam generators. No other safeguards systems actuated during the transient.

The direct cause was a loss of auto stop oil pressure to the interface valve that resulted in a turbine-reactor trip. The probable cause of this pressure loss was either the overspeed trip test valve linkage out of adjustment, undetected test valve lever movement on the part of the operator, or a combination of the two.

This event is being reported under 10 CFR 50.73(a)(2)(iv)(A) as an event or condition that resulted in automatic actuation of the reactor protection system and the auxiliary feedwater system.

This event was originally reported in LER 2007-001-00. This supplemental report updates the cause and corrective action.

## LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)
<b>Kewaunee Power Station</b>	<b>05000305</b>	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	2 of 3
		2007	-- 001	-- 01	

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

**Event Description:**

Kewaunee Power Station (KPS) was operating at approximately 93.7% steady state power. At 10:15, station operators began performance of SP-54-063, Turbine Trip Mechanism Tests, at the main turbine [TRB] pedestal. During performance of this task auto stop oil pressure was lost resulting in a turbine-reactor trip at 10:39. Both reactor trip breakers [BKR] opened.

Following the trip, MS-201B1, Reheat Steam to MSR B1, [ISV] did not close, (a repeat valve failure), which resulted in additional cooldown to 536 degrees F RCS Tave. The additional cooldown resulted in letdown isolation due to low pressurizer level. Feedwater [SJ] isolated and auxiliary feedwater [BA] initiated, as designed, due to low-low level in the steam generators. No other safeguards systems actuated during the transient.

Per contingency procedures, manual action was taken to isolate the reheat steam [SB], which halted the cooldown, and Tave was restored to 547 degrees F. Charging [CB] was taken to manual to restore pressurizer level and letdown flow. LD-10 was taken to manual during the restoration of letdown flow.

**Event Analysis:**

This event is being reported under 10 CFR 50.73(a)(2)(iv)(A) as an event or condition that resulted in automatic actuation of the reactor protection system and the auxiliary feedwater system.

In the Main Turbine [TA] steam admission system, any steam path has two valves in series which are controlled by independent systems. The high-pressure oil [TG] system that actuates the steam valves is completely independent of the low-pressure lubrication oil [TD]. Any loss of oil pressure or power supply causes closure of the steam valves [V]. The auto-stop oil is dumped to drain when any one of the protective trip devices is actuated. Independent reactor trip signals [JC] will actuate the solenoid trip in the emergency trip device and dump auto-stop oil to drain.

MS-201B1 failed to close following this trip. It had also failed to close following the reactor trips on 10/30/2006 and 11/10/2006. This valve is not a safety-related component and has no safety-related support functions.

Following the 10/30 trip, the cause of MS-201B1 failing to close was determined to be a galled valve plug, showing the bottom bonnet was not installed squarely. The valve stem was replaced, the valve plug was polished, and the packing was replaced.

Following the 11/10 trip, the cause of MS-201B1 failing to close was determined to be replacement bushings which eliminated the recessed area of the bushing and extended its length from 1.5 inches to 2 inches. MS-201B1 was reassembled with the old style bushings.

During troubleshooting following this trip, AOV diagnostics testing was performed on MS-201B1 (and MS-201A1 for comparison), but the results were inconclusive. Maintenance was performed to shorten the stroke length of MS-201B1 by 1/4 inch. Several other courses of action were considered; but, after comparing the AOV diagnostic testing of MS-201A1 and MS-201B1, a determination was made to forgo any additional

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FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)
<b>Kewaunee Power Station</b>	<b>05000305</b>	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	3 of 3
		2007	-- 001	-- 01	

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

maintenance on MS-201B1 during the forced outage. The issue was made into an Operator Work Around and procedure changes were made to address the possibility of MS-201B1 not closing on future trips.

A post-trip event review was performed and, following troubleshooting, the plant was restarted at 17:36 on 1/14/07.

*The direct cause* was a loss of auto stop oil pressure to the interface valve that resulted in a turbine-reactor trip. The probable cause of this pressure loss was either the overspeed trip test valve linkage out of adjustment, undetected test valve lever movement on the part of the operator, or a combination of the two.

### Safety Significance

This event did not create any plant safety issues or personnel injury/safety issues. The control room operating crew responded appropriately to the plant trip addressing all unexpected plant responses to the transient. Although MS-201B1 failed to close when required, compensatory actions were taken and the plant was successfully shut down.

### Cause:

No root cause could be conclusively identified. Foreign material on a valve-seating surface was evaluated; however, due to the extensive filtration of the oil system, this was considered a low probability. The probable cause of this pressure loss was either the overspeed trip test valve linkage out of adjustment, undetected test valve lever movement on the part of the operator, or a combination of the two.

### Corrective Actions:

The control room operating crew responded appropriately to the plant trip addressing all unexpected plant responses. Immediately following the trip, the DNAP-2000 Troubleshooting Plan was initiated for the auto stop oil problem. The stroke length of MS-201B1 was shortened by 1/4 inch.

The following corrective actions are being implemented in accordance with the corrective action process.

- Implementation of a modification to the Overspeed Mechanism Test Lever to provide a grip in the Test position that will minimize the probability of future test valve lever unintentional movement while testing.
- Inspecting the test valve linkage alignment and throw.
- Evaluation of the results of the test valve linkage alignment and throw inspection and determination of whether this should be a continuing periodic maintenance item.

### Similar Events:

LER 84-009-01, Turbine and Reactor Trip Due to Improperly Wired Switch