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SEP 14 2012

ATTN: Document Control Desk  
U. S. Nuclear Regulatory Commission  
Washington, DC 20555-0001

Serial No. 12-570  
LIC/NW/R0  
Docket No.: 50-305  
License No.: DPR-43

**DOMINION ENERGY KEWAUNEE, INC.**  
**KEWAUNEE POWER STATION**  
**LICENSEE EVENT REPORT 2012-006-00**

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

Report No. 50-305/2012-006-00

This report has been reviewed by the Facility Safety 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,

A handwritten signature in black ink, appearing to read "A. J. Jordan", with a small "Fol" written to the right.

A. J. Jordan  
Site Vice President, Kewaunee Power Station

Attachment(s)

Commitments made by this letter: NONE

IEZZ  
NRR

cc: Regional Administrator, Region III  
U.S. Nuclear Regulatory Commission  
2443 Warrenville Road  
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Mr. K. D. Feintuch  
Project Manager  
U.S. Nuclear Regulatory Commission  
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NRC Senior Resident Inspector  
Kewaunee Power Station

<b>NRC FORM 366</b> (10-2010) <p style="text-align: center;"><b>U.S. NUCLEAR REGULATORY COMMISSION</b></p> <p style="text-align: center;"><b>LICENSEE EVENT REPORT (LER)</b> (See reverse for required number of digits/characters for each block)</p>	APPROVED BY OMB: NO. 3150-0104      EXPIRES: 10/31/2013  Estimated burden per response to comply with this mandatory collection request: 80 hrs. Reported lessons learned are incorporated into the licensing process and fed back to industry. Send comments regarding burden estimate to the FOIA/Privacy Service (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.
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<b>1. FACILITY NAME</b> Kewaunee Power Station	<b>2. DOCKET NUMBER</b> 05000305	<b>3. PAGE</b> 1 OF 4
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**4. TITLE**  
Train A Special Ventilation Inoperable for Longer Period than Allowed due to Charcoal Filter Efficiency

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
07	18	2012	2012	-- 006 --	00	09	14	2012	FACILITY NAME	05000
									FACILITY NAME	05000

<b>9. OPERATING MODE</b> 1	<b>11. THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check all that apply)</b>			
<b>10. POWER LEVEL</b> 100%	<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)
	<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 Brian O'Connell	TELEPHONE NUMBER (include Area Code) (920) 388-8174
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**13. COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT**

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX

<b>14. SUPPLEMENTAL REPORT EXPECTED</b> <input type="checkbox"/> YES (If yes, complete 15. EXPECTED SUBMISSION DATE) <input checked="" type="checkbox"/> NO	<b>15. EXPECTED SUBMISSION DATE</b>	MONTH	DAY	YEAR
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**ABSTRACT** (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines)

At 1555 CDT on July 18, 2012, while in Mode 1, Technical Specification (TS) Limiting Condition for Operation (LCO) 3.7.12, Auxiliary Building Special Ventilation (ASV) System, was discovered not met for Train A. This was due to the ASV Train A charcoal sample failing its efficiency test. The test sample was less than the minimum efficiency of 97.5% required by the criteria in TS 5.5.9; Ventilation Filter Testing Program (tested efficiency was 97.13%). With the Train A charcoal filter media efficiency below the test criteria, the associated train of ASV did not meet its TS Surveillance Requirement (SR). Per SR 3.0.1, failure to meet a Surveillance shall be failure to meet the TS Limiting Condition for Operation (LCO). Therefore, LCO 3.7.12, ASV System, was not met for Train A.

The SR was considered to have not been met from the time that the charcoal sample was removed for testing (July 11, 2012) until the charcoal filter was replaced (July 21, 2012). With the charcoal filter not meeting its SR for this period, LCO 3.7.12 was also not met for ASV Train A for a longer period than allowed by Technical Specifications. Thus, this event is being reported pursuant to 10 CFR 50.73(a)(2)(i)(B) for any operation or condition prohibited by the plant's Technical Specifications. Earlier on July 18, 2012, ASV Train B had been removed from service for routine maintenance and was inoperable for about six hours.

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

1. FACILITY NAME	2. DOCKET	6. LER NUMBER			3. PAGE
Kewaunee Power Station	05000305	YEAR	SEQUENTIAL NUMBER	REV NO.	2 OF 4
		2012	-- 006	- 00	

**NARRATIVE**

**Event Description**

At 1555 CDT on July 18, 2012, while in Mode 1, Technical Specification (TS) Limiting Condition for Operation (LCO) 3.7.12, Auxiliary Building Special Ventilation (ASV) System [VF], was discovered not met for Train A. This was due to the ASV Train A charcoal [ABS] sample failing its 18-month filter efficiency test. The ASV Train A charcoal filter [FLT] bed had last been replaced December 16, 2010. The charcoal failure was considered premature.

The acceptance criteria specified by TS 5.5.9, Ventilation Filter Testing Program, is  $\leq 2.5\%$  penetration ( $\geq 97.5\%$  efficiency). Test data showed that actual penetration of the charcoal sample was 2.87% (97.13% efficiency), which is less than the minimum efficiency required by TS 5.5.9. With the Train A charcoal filter media efficiency below the test criteria, the associated train of ASV did not meet its TS Surveillance Requirement (SR). Per SR 3.0.1, failure to meet a Surveillance shall be failure to meet the TS Limiting Condition for Operation (LCO). Therefore, LCO 3.7.12, ASV System, was not met for Train A.

The SR was considered to have not been met from the time that the charcoal sample was removed for testing (July 11, 2012) until the charcoal filter was replaced (July 21, 2012). With the charcoal filter not meeting its SR for this period, LCO 3.7.12 was also not met for ASV Train A for a longer period than allowed by Technical Specifications. Thus, this event is being reported pursuant to 10 CFR 50.73(a)(2)(i)(B) for any operation or condition prohibited by the plant's Technical Specifications.

From the time of discovery on July 18, 2012, the filter was replaced within the required TS Completion Time of seven days as required by LCO 3.0.2 (filter testing was performed at the laboratory on July 17, 2012, and the data provided to KPS staff the following day).

Technical Specification (TS) Limiting Condition for Operation (LCO) 3.7.12 states (in part):

Two ASV trains shall be OPERABLE.

TS LCO 3.7.12, Required Action A.1 states the following for one ASV train inoperable:

Restore ASV train to OPERABLE status.

The Completion Time for Required Action A.1 is 7 days.

SR 3.7.12.2 directs performance of required ASV System filter testing in accordance with the Ventilation Filter Testing Program (VFTP).

TS SR 3.0.1 states (in part):

Failure to meet a Surveillance, ...shall be failure to meet the LCO.

With the ASV charcoal filter not meeting its acceptance criteria, SR 3.7.12.2 was not met. As a result, TS LCO 3.7.12 was not met. Although the filter was replaced and thereby Required Action A.1 was performed within its Completion Time (from time of discovery), LCO 3.7.12 was not met prior to discovery of this condition, such that the total time that LCO 3.7.12 was not met exceeded the time allowed by TS. Therefore,

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

1. FACILITY NAME	2. DOCKET	6. LER NUMBER			3. PAGE
Kewaunee Power Station	05000305	YEAR	SEQUENTIAL NUMBER	REV NO.	3 OF 4
		2012	- 006 -	00	

this event is being reported pursuant to 10 CFR 50.73(a)(2)(i)(B) for any operation or condition prohibited by the plant's Technical Specifications.

Although LCO 3.7.12 was not met for ASV Train A during this period, this train nevertheless remained Operable (prior to removing the charcoal for replacement) because the definition of Operability, as stated in TS 1.1, Definitions, was met as discussed in the Event and Safety Consequence Analysis section below.

Earlier on July 18, 2012, ASV Train B had been removed from service for routine maintenance and was inoperable for about six hours. However, since ASV Train A remained Operable during this period, this inoperability of B Train ASV was within the allowance of TS.

**Event and Safety Consequence Analysis**

Although LCO 3.7.12 was not met for ASV Train A for a longer period than allowed by TS (from July 11 to July 21, 2012), the filter remained Operable (except during the period when it was removed from service to replace the charcoal media).

TS 1.1, Definitions, defines "Operable – Operability", in part as follows.

A system, subsystem, train, component, or device shall be OPERABLE or have OPERABILITY when it is capable of performing its specified safety function....

TS 5.5.9, Ventilation Filter Testing Program (VFTP), requires that the penetration (degradation of efficiency) of ASV system charcoal filters be limited to  $\leq 2.5\%$  when tested in accordance with ASTM D3803-1989. This method includes a safety factor of 2. This safety factor ensures that the efficiency credited in the accident analysis is still valid at the end of the surveillance interval. The accident analysis is based on a charcoal filter efficiency of 95% (i.e., penetration of 5%). Therefore, the safety function of the filter was met, since its efficiency remained above 95%. As such, the filter remained Operable.

Since the filter remained Operable, the safety significance of this event was minimal.

The guidance in NUREG-1022, Section 3.2.2 states that "technical specifications contain LCO statements that include action statements... to provide constraints on the length of time components or systems may remain inoperable or out of service before the plant must shut down or other compensatory measures must be taken." This guidance then states "An LER is required if a condition existed for a time longer than permitted by the technical specifications [i.e., greater than the allowed outage time (or completion time in ISTS)] even if the condition was not discovered until after the allowable time had elapsed and the condition was rectified immediately upon discovery."

Therefore, this condition is being conservatively reported in accordance with this guidance as a condition prohibited by TS.

**Cause**

LCO 3.7.12 was not met for ASV Train A for a longer period than allowed by TS (from July 11 to July 21, 2012), because the filter test results were not obtained until the allowed outage time (for one train being inoperable) had elapsed.

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

1. FACILITY NAME	2. DOCKET	6. LER NUMBER			3. PAGE
Kewaunee Power Station	05000305	YEAR	SEQUENTIAL NUMBER	REV NO.	4 OF 4
		2012	- 006 -	00	

The time to ship the charcoal sample to the testing laboratory, the time to analyze the sample, and the time to transmit the results, is typically expected to take longer than one week (up to 30 days). These combined process times resulted in the test results not being obtained until the allowed outage time had elapsed.

Additionally, incorporating a safety factor of 2 into the acceptance criteria in TS 5.5.9.c can result in a condition where LCO 3.7.12 is not met even when the ASV charcoal filter meets its safety analysis assumptions, and is therefore Operable.

No direct cause for the premature degradation of the charcoal was able to be identified.

**Corrective Actions**

1. As immediate corrective action, the ASV Train A charcoal media was replaced and the ASV system was restored to service.
2. A second (backup) sample from the filter that failed was subsequently sent to the lab for testing. The test showed satisfactory results of 98.09% efficiency. Three additional filter samples (obtained to further evaluate this condition) also showed satisfactory results. This indicates that only one section of the filter was adversely (prematurely) degraded, whereas the filter bank as a whole likely continued to meet the efficiency criteria.
3. In response to the disparity in tested efficiency of the various charcoal samples, actions were initiated to revise the process for testing charcoal filters to increase the number of samples that are obtained for initial testing.

**Similar Events**

A review of Licensee Event Reports covering the last three years identified the following similar event.

LER 2011-001-00      Auxiliary Building Special Ventilation Inoperability Results in Prohibited Technical Specification Condition