Dominion Energy Kewaunee, Inc.
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OCT 0 2 2006

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

Serial No. 06-871
KPS/LIC/RS: RO
Docket No. 50-305
License No. DPR-43

DOMINION ENERGY KEWAUNEE, INC.
KEWAUNEE POWER STATION
LICENSEE EVENT REPORT 2006-010-00

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. 50-305/2006-010-00

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. Richard Sattler at (920) 388-8121.

Very truly yours,

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

Director, Office of Inspection and Enforcement
U.S. Nuclear Regulatory Commission
Washington, D. C. 20555

NRC FORM 366 (6-2004) U.S. NUCLEAR REGULATORY COMMISSION

APPROVED BY OMB NO. 3150-0104 EXPIRES 6-30-2007

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.

LICENSEE EVENT REPORT (LER)

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

FACILITY NAME (1)	DOCKET NUMBER (2)	PAGE (3)
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TITLE (4)

Inadequate calibration of Radiation Monitor R-19

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
08	01	2006	2006	010	00	10	02	2006	FACILITY NAME	DOCKET NUMBER

OPERATING MODE (9)	N
POWER LEVEL (10)	100

THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR : (Check all that apply) (11)

	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)	X	OTHER
	20.2203(a)(2)(iii)		50.46(a)(3)(ii)		50.73(a)(2)(v)(C)		Specify in Abstract below or in NRC Form 366A
	20.2203(a)(2)(iv)		50.73(a)(2)(i)(A)		50.73(a)(2)(v)(D)		
	20.2203(a)(2)(v)	X	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	TELEPHONE NUMBER (Include Area Code)
Rich Sattler	(920) 388-8121

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
	YES (If yes, complete EXPECTED SUBMISSION DATE).	X	NO				

ABSTRACT

On 8/1/2006, it was determined that Kewanee was not meeting the definition of Channel Calibration for radiation monitoring channel R-19, Steam Generator Blowdown System.

The sources used to calibrate radiation monitoring channel R-19 were incapable of producing sufficient counts to test detector response above the High Level alarm (trip) setpoint. As part of the calibration, the setpoints were functionally tested by exposing the detector tube to a flashing LED, which simulates radiation. The limited frequency of the LEDs required the setpoints to be lowered for this functional test and then restored to their desired value after the test. KPS believed that the detectors had a linear response up to 1E+7 cps (which encompasses the Alert and High Alarm setpoints). Therefore, since digital setpoints do not drift, this method was considered acceptable for functional testing.

Due to NRC concerns with the above calibration method, sources of sufficient strength to calibrate the detector above the Alert and High Level alarm setpoints were recently obtained. The calibration using these new sources discovered that R-19 responds linearly up to 5.68E+5 cpm but non-linearly at 1E+7.

Therefore, this detector has not been properly calibrated and has been inoperable. However, channel counts never exceeded the highest known linear level (5.68E+5 cpm), and the detectors were reading accurately below this level. Thus, this event has a low safety significance.

This event is being reported under § 50.73(a)(2)(i)(B) as an operation which was prohibited by the plant's Technical Specifications (TS), and also as a Special Report required per TS Section 6.9.b.3 and Step 3.0.3 of the Off-Site Dose Calculation Manual (ODCM).

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TEXT CONTINUATION

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

EVENT DESCRIPTION

On an 18 month frequency, radiation monitoring [IL] channel R-19 has been previously calibrated using three Cesium sources. However, the three previous sources were incapable of producing sufficient counts to test detector response above the High Level alarm (trip) setpoint. As part of this calibration, the set points were functionally tested by exposing the detector tube to a flashing LED, which simulates radiation. The functional portion of the calibration tests the entire channel from the detector through the electronics to the output relays and alarms. The limited frequency of the LEDs required the setpoints to be lowered for the functional test and then returned to their desired value after the test. KPS assumed, from vendor information, that the detectors had a linear response up to 1E+7 cps (which encompasses the Alert and High Alarm setpoints). Therefore, since digital setpoints do not drift, this method was considered acceptable for functional testing.

Due to NRC concerns with the above calibration method, Cesium sources of sufficient strength to calibrate the detector above the High Level alarm setpoint were recently obtained. The calibration using these new sources discovered that R-19 responds linearly up to 5.68E+5 cpm, but non-linearly at 1E+7. The monitor response is approximately 25% low at approximately 1E+7 cpm. Subsequent consultation with the original vendor of the radiation monitor detector confirmed that non-linearity occurs above approximately 1E+6 cpm.

Current setpoints for R-19 are as follows:
ALERT is 1.30E+4 cpm
ALARM is 1.29E+6 cpm

Therefore, for the purposes of determining reportability, for the past three years this detector has not been properly calibrated and has been inoperable. However, during that time, channel counts never exceeded the highest known linear level (5.68E+5 cpm), and the detector was reading accurately below this level. Thus, this event has a low safety significance.

EVENT ANALYSIS

R-19 monitors the liquid phase of the secondary side of the steam generator for radiation, which would indicate a primary-to-secondary system leak, providing backup information to the condenser air ejector gas monitor. Samples from the bottom of each of the two steam generators are mixed in a common header and the common sample is continuously monitored by a scintillation counter and sample volume chamber assembly. Upon indication of a high radiation level, each steam generator is individually sampled in order to determine the source. This sequence is achieved by manually selecting the desired steam generator to be monitored. The steam generator blowdown [WI] and air ejector [SH] radiation monitors are interconnected, such that either monitor isolates the blowdown and reroutes the air ejector exhaust. A high radiation signal closes the isolation valves in the blowdown lines and sample lines.

The requirements for R-19 were relocated from the Technical Specifications (TS) to the Off Site Dose Calculation Manual (ODCM), but the minimum frequency for its functional check and calibration were retained in Item 19 of TS Table 4.1.1. Item 19 was left in this table for those radiation channels in which automatic actions occur or immediate operator actions are required to assure plant safety.

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TEXT CONTINUATION

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Kewaunee Power Station	**05000305**	**2006**	**-- 010 --**	**00**	3 of 3

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

This event is being reported under § 50.73(a)(2)(i)(B) as an operation which was prohibited by the plant's Technical Specifications, and also as a Special Report required per TS Section 6.9.b.3 and Step 3.0.3 of the ODCM.

SAFETY SIGNIFICANCE

For the last three years, channel counts never reached the highest known linear level (5.68E+5 cpm), and the detectors were reading accurately in the range below this level. Thus, this event is has a low safety significance.

CAUSE

The apparent causes are:
- o An inaccurate interpretation of the requirements of a radiation monitor channel calibration,
- o A reliance on conforming to common industry practices, and
- o A failure to validate that the channel responds linearly up to 1E+7 cpm

CORRECTIVE ACTIONS

Immediate corrective action was to declare this radiation monitor channel inoperable and initiate compensatory measures as directed by Table 3.1 of the ODCM.

Long term corrective actions are to operate and calibrate the channel (including the setpoints) within it's known linear range.

PREVIOUS SIMILAR EVENTS

None