NRC-03-116 10 CFR 50.73

December 1, 2003

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

KEWAUNEE NUCLEAR POWER PLANT
DOCKET 50-305
LICENSE No. DPR-43
REPORTABLE OCCURRENCE 2003-005-00

In accordance with the requirements of 10 CFR 50.73, "Licensee Event Report System," the attached Licensee Event Report (LER) for reportable occurrence 2003-005-00 is being submitted.

This letter contains no new commitments and no revisions to existing commitments.

for

Thomas Coutu
Site Vice-President, Kewaunee Nuclear Power Plant

LFG

cc INPO Records Center
US NRC Senior Resident Inspector
US NRC, Region III

Attachment

IE22

NRC FORM 366 (1-2001) U.S. NUCLEAR REGULATORY COMMISSION

APPROVED BY OMB NO. 3150-0104 EXPIRES 7-31-2004

Estimated burden per response to comply with this mandatory information 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 Management Branch (T-6 E6), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to bjs1@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 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)

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TITLE (4)

Failure to Perform Quarterly Surveillance Testing on Portable Radiation Survey Instruments as Required by Technical Specification Table 4.1-1 Item 25

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
10	01	2003	2003	-- 005 --	00	12	01	2003	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)		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)
Michael Gagnon	(920) 388-8179

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 October 1, 2003, with the plant operating at 100% power, Nuclear Management Company (NMC) Nuclear Oversight personnel discovered that the Technical Specification Table 4.1-1 Item 25 requirement for the Quarterly Test of Radiation Protection Portable Survey Instruments was not met for several instruments in July 2003. This test consists of exposing the survey instrument detector to a source of known strength, and verifying the proper response for each range / scale of the instrument. Initially, five instruments were found to have missed the quarterly test in the previous three months.

The Radiation Protection (RP) Department promptly tested all portable survey instruments that were left in-use, that had not been tested or calibrated within the previous quarter. Of the instruments initially tested, 3 did not meet performance acceptance requirements. They indicated higher readings than expected, and were subsequently removed from use. The root cause of this event was the failure of the existing process to properly control the performance of required Technical Specification surveillance requirements. A contributing cause of this event is procedural deficiency. The instruments that were not tested or calibrated in July, August, and September 2003 were removed from service until the quarterly tests were performed or verified current. Those instruments that were not in-use were quarantined.

This report does not describe a safety system functional failure, since no plant safety systems were involved with this occurrence.

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

DESCRIPTION

On October 1, 2003, with the plant operating at 100% power, Nuclear Management Company (NMC) Nuclear Oversight personnel were performing a corrective action assessment. It was discovered that the Technical Specification Table 4.1-1 Item 25 requirement for the Quarterly Test of Radiation Protection Portable Survey Instruments was not met for several portable instruments in July 2003. This quarterly test consists of exposing the survey instrument detector to a source of known strength, and verifying the proper response for each range / scale of the instrument. The quarterly tests are documented in procedure SP-80-60. Initially, five instruments were found to have missed the quarterly test in the previous three months.

The Radiation Protection (RP) Department promptly tested all portable survey instruments that were left in-use, that had not been tested or calibrated within the previous quarter. Some instruments were not in-use at the time. Of the 23 instruments initially tested, 3 did not meet performance acceptance requirements. They indicated higher readings than expected, and therefore failed in the conservative direction. These instruments were subsequently removed from use.

A review of RP instrument records revealed that the quarterly tests had been periodically missed for certain instruments dating back to August 1995. The RP instrument program was organized such that a particular instrument was assigned certain months for calibration, and three months later for quarterly tests. The system was set up such that an instrument would be either calibrated or tested in alternate quarters. Instruments were calibrated on a 6-month frequency and credit was taken for a quarterly test during the calibration. Six lists were created that contained instruments scheduled for quarterly testing and each list was created for use in two months of the year at six-month intervals (i.e. January & July, February & August, etc.). The list of instruments requiring quarterly tests did not include those that were scheduled for calibration. When a particular instrument had its calibration frequency changed to annually (per Technical Specification Table 4.1-1), the quarterly test instrument list was not revised. The instruments that missed the tests were generally on a 12-month calibration frequency. Therefore, the quarterly test was missed when an instrument was due for a quarterly test during a month that it was formerly scheduled for a calibration, but did not need one due to having been calibrated six months prior.

Review of this event also revealed two portable survey instrument monthly source checks that were performed past the Technical Specification required interval of 31 days. One instance was 43 days (June 18, 1998 to July 31, 1998) and another was 50 days (April 5, 2003 to May 25, 2003)

CAUSE OF THE EVENT

The root cause of this event was the failure of the existing process to properly control the performance of required Technical Specification surveillance requirements. There was the long-standing use of a process that was designed only for a 6-month calibration frequency. This system did not account for a longer calibration frequency, or a calibration performed outside the anticipated time frame (e.g. calibration performed a month earlier than scheduled without a recalibration in the scheduled month).

A contributing cause of this event is procedural deficiency, specifically relative to the less than adequate degree of instructional details given in procedure SP-80-60 to document the results of the monthly checks and quarterly tests.

ANALYSIS OF THE EVENT

This event was determined to be reportable under 10CFR50.73(a)(2)(i)(B); any operation or condition prohibited by the plant's Technical Specifications. Technical Specification (TS) Table 4.1-1 Item 25 requires that the Radiation Protection Portable Survey Instruments be checked quarterly.

A review was conducted relative to the usage of the 3 portable survey instruments that did not initially meet their quarterly test performance acceptance requirements. Records indicated that:

- Instrument RO-20 #142 was available for use by the emergency response field teams. However, this instrument did not meet acceptance criteria on the low range (0 – 5mr/hr) scale only, and was not used for in-plant surveys.
- Instrument RO-2 #882 may have been used for in-plant surveys. It did not meet acceptance criteria on the low range (0 – 5mr/hr) scale only.
- Instrument RO-2 #3530 also may have been used for in-plant surveys. It did not meet acceptance criteria on the low range (0 – 5mr/hr) and mid-range (0 – 50mr/hr) scales.

Each of these instruments that failed the quarterly test gave indications higher than expected, and were therefore indicated conservatively.

There were no regulatory or administrative overexposures due to this event. A review of electronic dosimetry (ED) and thermoluminescent dosimetry (TLD) records show no evidence of any plant or contractor personnel receiving excessive doses due to potentially inoperable or defective RP instrumentation. There was no indication that this event resulted in any ALARA evaluation errors.

CORRECTIVE ACTIONS

Initial corrective actions that have been completed:

1. The Radiation Protection Portable Survey Instruments that were not tested or calibrated in July, August, and September 2003 were removed from service until the quarterly tests were performed or verified current.

2. The instruments that were not in-use were quarantined, pending completion of the required testing.

3. The portable instrument surveillance lists designating the quarterly tests have been combined, so that all instruments are listed in each quarter, regardless of whether or not they were calibrated that month.

4. A Root-Cause Evaluation (RCE) was initiated.

Corrective actions to be taken:

1. Quarterly tests on all in-use portable survey instruments will be performed in the 4th quarter of 2003.

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

2. A method will be developed to track the monthly checks and quarterly tests of the portable radiation survey instruments. This method will be independent of performing a calibration of the instrument at a set time.

3. Procedure revisions will be made relative to SP-80-60 (Portable Radiation Survey Instrument Checks and Tests) and SP-80-61 (Portable Radiation Survey Instrument Calibrations) to provide clearer direction and guidance for documentation of the test data. A mechanism will be provided to add and remove instruments to be included in the surveillance.

4. An effectiveness review of the corrective actions relative to this event will be performed.

SIMILAR EVENTS

None.