



February 16, 2010

L-PI-10-012
10 CFR 20.2201

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

Prairie Island Nuclear Generating Plant Units 1 and 2
Dockets 50-282 and 50-306
License Nos. DPR-42 and DPR-60

LER 1-09-09, Radioactive Source Inventory Discrepancy

Pursuant to the requirements of 10 CFR 20.2201(b), Northern States Power Company, a Minnesota corporation (NSPM), herewith encloses Licensee Event Report (LER) 1-09-09.

Summary of Commitments

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

A handwritten signature in black ink, appearing to read 'Mark A. Schimmel'.

Mark A. Schimmel
Site Vice President
Prairie Island Nuclear Generating Plant
Northern States Power Company - Minnesota

Enclosure

cc: Administrator, Region III, USNRC
Project Manager, Prairie Island, USNRC
Resident Inspector, Prairie Island, USNRC
Department of Commerce, State of Minnesota

ENCLOSURE

LICENSEE EVENT REPORT 1-09-09

3 Pages Follow

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: 80 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, NEOF-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.

1. FACILITY NAME

Prairie Island Nuclear Generating Plant Unit 1

2. DOCKET NUMBER

05000282

3. PAGE

1 of 3

4. TITLE

Radioactive Source Inventory Discrepancy

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
12	18	2009	2009	009	00	02	16	2010	Prairie Island Unit 2	05000306
									FACILITY NAME	DOCKET NUMBER

9. OPERATING MODE

Mode 1

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

- | | | | |
|--|---|---|---|
| <input checked="" 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 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 |

10. POWER LEVEL

100%

12. LICENSEE CONTACT FOR THIS LER

NAME
Kathryn Mews

TELEPHONE NUMBER (Include Area Code)
651.388.1121, extension 7384

13. COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT

CAUSE	SYSTEM	COMPONENT	MANU-FACTURER	REPORTABLE TO EPIX	CAUSE	SYSTEM	COMPONENT	MANU-FACTURER	REPORTABLE TO EPIX

14. SUPPLEMENTAL REPORT EXPECTED

YES (If yes, complete 15. EXPECTED SUBMISSION DATE).

NO

15. EXPECTED SUBMISSION DATE

MONTH	DAY	YEAR

ABSTRACT (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines)

During the 2009 radioactive source inventory at Prairie Island Nuclear Generating Plant (PINGP), station personnel determined that two sources were missing that are greater than 10 times the quantity specified in 10 CFR 20 Appendix C. These two sources included a 0.07 microcurie (uCi) U-234 source installed in a radiation monitor detector and a 2 uCi mixed gamma standard that contains 0.09 uCi of Am-241. A search for the sources was performed. The 2 uCi mixed gamma standard containing 0.09 uCi of Am-241 was found.

The cause of the issue was that the significance assigned to the source control program did not align with the potential impact associated with loss of control of radioactive sources. Procedure upgrades, increased supervisory oversight, and accountability for program ownership will improve administration of the radioactive source control program.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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Prairie Island Nuclear Generating Plant Unit 1	05000 282	09	-- 009 --	0	2 of 3

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

EVENT DESCRIPTION

During the 2009 radioactive source inventory at Prairie Island Nuclear Generating Plant (PINGP), radiation protection (RP) personnel determined that two sources were missing that are greater than 10 times the quantity specified in 10 CFR 20 Appendix C. These two sources included a 0.07 microcurie (uCi) U-234 source installed in a radiation monitor detector and a 2 uCi mixed gamma standard that contains 0.09 uCi of Am-241. Four additional sources that do not exceed ten times any quantity specified in 10 CFR 20 Appendix C were also determined to be missing. The NRC was notified of this inventory discrepancy via the event notification system (event number 45633) on January 18, 2010 with updates provided January 19 and 20, 2010.

The 2 uCi mixed gamma standard contains 0.09 uCi of Am-241. This source is held in a 60 milliliter (ml) vial and is normally stored in the Hot Chemistry Lab. After searching for the gamma standard, it was located in the Hot Chemistry Lab on January 19, 2010.

The 0.07 uCi U-234 source is a self checking source imbedded in a high range ion chamber detector. This detector is normally stored in the Hot Instrumentation and Control Shop. Prior to December 12, 2006, this detector was installed as an area radiation monitor. A thorough search of potential detector storage and disposal locations was conducted, RP personnel were interviewed, and related documentation was reviewed. This investigation concluded that the detector containing the missing U-234 source was most probably shipped offsite as low level radioactive waste in the period between September 2008 and September 2009.

EVENT ANALYSIS

Extensive effort to locate the missing sources resulted in the mixed gamma standard being accounted for and the determination that the U-234 source was lost. It is highly probable that the U-234 source was shipped offsite as low level radioactive waste.

This event did not affect the ability of plant equipment to perform its required safety functions. Thus, this event is not a Safety System Functional Failure.

SAFETY SIGNIFICANCE

The mixed gamma standard was accounted for in the lab where it is normally stored. No unregulated exposures occurred to persons in unrestricted areas due to this source.

The U-234 source is contained internal to the radiation detector. The probability for unregulated exposures to persons in unrestricted areas due to this source is considered low based on the high

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

probability that the source was disposed of via normal radwaste processes and preliminary dose reconstruction analysis.

CAUSE

The significance that PINGP had assigned to the source control program did not align with the potential impact associated with the loss of control of radioactive sources. Examples included weaknesses in process controls, lack of adequate communication between RP personnel and management, inconsistency between site and fleet procedures, and lack of supervisory oversight.

CORRECTIVE ACTION

Immediate corrective action was an extensive search for the missing sources which included further inventory review, personnel interviews and offsite searches. This search accounted for the 2 uCi mixed gamma standard.

Administration of the radioactive source control program will be improved by eliminating the site procedure and upgrading the fleet procedure. Procedure additions will include a source checkout log, a disposal form, and additional guidelines for completing the source inventory. Source inventories will be administered and reviewed by RP supervision. Additionally, source inventories will be conducted per plant work control processes.

PREVIOUS SIMILAR EVENTS

In 2003, a high range detector containing an internal U-234 source could not be located. The source met the threshold of being greater than ten times the quantity specified in 10 CFR 20 Appendix C. However, the source was located prior to making the thirty-day telephone report.