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May 4, 1994

10 CFR Part 50
Section 50.73

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

PRAIRIE ISLAND NUCLEAR GENERATING PLANT
Docket Nos. 50-282 License Nos. DPR-42
50-306 DPR-60

Inoperability of RadWaste Building Ventilation System Radiation Monitor R-35 Went Undetected Because of Component Failure

The Licensee Event Report for this occurrence is attached. In the report, we made the following new NRC commitment:

> Functional testing of the downscale failure feature for this type of monitor will be added to the annual calibration procedure.

Please contact us if you require additional information related to this event.

Michael D Wadley for Roger O Anderson.

Roger O Anderson
Director
Licensing and Management Issues

c: Regional Administrator - Region III, NRC
NRR Project Manager, NRC
Senior Resident Inspector, NRC
Kris Sanda, State of Minnesota

Attachment

IE22

NRC FORM 366 (5-92) U.S. NUCLEAR REGULATORY COMMISSION

APPROVED BY OMB NO. 3150-0104
EXPIRES 5/31/95

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE INFORMATION AND RECORDS MANAGEMENT BRANCH (MNBB 7714), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555-0001, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

LICENSEE EVENT REPORT (LER)

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

FACILITY NAME (1)	DOCKET NUMBER (2)	PAGE (3)
Prairie Island Nuclear Generating Plant U1	05000 282	1 OF 3

TITLE (4) Inoperability of Radwaste Building Ventilation System Radiation Monitor R-35 Went Undetected Because of Component Failure

EVENT DATE (5)			LER NUMBER (6)			REPORT DATE (7)			OTHER FACILITIES INVOLVED (8)	
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	MONTH	DAY	YEAR	FACILITY NAME	DOCKET NUMBER
									Prairie Island U2	05000 306
03	03	94	94	-- 02 --	00	05	04	94	FACILITY NAME	DOCKET NUMBER 05000

OPERATING MODE (9)	N	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more) (11)					
		20.402(b)		20.405(c)		50.73(a)(2)(iv)	73.71(b)
POWER LEVEL (10)	100%	20.405(a)(1)(i)		50.36(c)(1)		50.73(a)(2)(v)	73.71(c)
		20.405(a)(1)(ii)		50.36(c)(2)		50.73(a)(2)(vii)	OTHER
		20.405(a)(1)(iii)	X	50.73(a)(2)(i)		50.73(a)(2)(viii)(A)	(Specify in Abstract below and in Text, NRC Form 366A)
		20.405(a)(1)(iv)		50.73(a)(2)(ii)		50.73(a)(2)(viii)(B)	
		20.405(a)(1)(v)		50.73(a)(2)(iii)		50.73(a)(2)(x)	

LICENSEE CONTACT FOR THIS LER (12)

NAME	TELEPHONE NUMBER (Include Area Code)
Arne A Hunstad	612-388-1121

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

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS		CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS

SUPPLEMENTAL REPORT EXPECTED (14)			EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR
YES (If yes, complete EXPECTED SUBMISSION DATE).	X	NO				

ABSTRACT (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines) (16)

On February 7, 1994, radiation monitor R-35, RadWaste Building Ventilation System Monitor, was removed from service for modification of its sampling system. The modification was completed and the monitor was returned to service on February 11. On March 3, the noble gas monitor in R-35 did not respond when source-checked during the routine radiation monitor surveillance. The RadWaste Building Ventilation System was secured OFF until the monitor could again be made operable. During investigation of the failure on March 4, a broken detector signal lead was discovered. Further investigation led to the conclusion that the lead had probably been broken during the modification done in February, and that the monitor had been inoperable since that time. The monitor was repaired, source-checked and returned to service on March 9. Based on weekly grab samples and historical monitoring data, it was shown that no releases via the RadWaste Building Ventilation System took place during the event.

EVENT DESCRIPTION

On February 7, 1994, radiation monitor R-35, RadWaste Building Ventilation System Monitor (EIIS Component Identifier MON), was removed from service for modification of its sampling system. The modification was completed and the monitor was returned to service on February 11. On March 3, the noble gas monitor in R-35 did not respond when source-checked during the routine radiation monitor surveillance. The RadWaste Building Ventilation System was secured OFF until the monitor could again be made operable. During investigation of the failure on March 4, a broken detector signal lead was discovered. Further investigation led to the conclusion that the lead had probably been broken during the modification done in February, and that the monitor had been inoperable since that time. The monitor was repaired, source-checked and returned to service on March 9. Based on weekly grab samples and historical monitoring data, it was shown that no releases via the RadWaste Building Ventilation System took place during the period R-35 was inoperable.

CAUSE OF THE EVENT

Cause of the monitor inoperability discovered on March 4 was component failure. Post-modification testing of the monitor in February did not detect its inoperability. The testing did not include source checking. Inoperability of the monitor's detector circuitry should have been seen as a downscale failure of the monitor's indicating meter. Degradation of a capacitor in the monitor electronics had defeated the downscale failure feature.

ANALYSIS OF THE EVENT

Technical Specification 3.9.F requires the RadWaste Building Ventilation Radiation Monitor to be operable with its alarm setpoint set to insure that release limits are not exceeded. The monitor provides no other automatic actions. If it is not operable, effluents may continue to be released if grab samples are taken every 8 hours. Since ventilation flow was occurring during the time the monitor was inoperable, a discharge above allowable limits would not have been alarmed, and grab samples would not have been taken. This event is being reported pursuant to 10CFR50.73(a)(2)(i)(B). No release occurred via the RadWaste Building Ventilation System during the event; therefore, public health and safety were not affected.

The event date (the day the inoperability was discovered) was March 3, 1994. Discussions within the plant staff and, later, discussions with the resident inspectors resulted in the conclusion that the monitor inoperability may not be reportable because no releases took place.

Further discussion with the resident inspectors and a Region III-based NRC inspector, on April 4, 1994, led to the conclusion that the event is reportable. Therefore, the 30-day clock for reporting started on April 4.

CORRECTIVE ACTION

When the monitor failed to respond during its routine surveillance on March 3, the RadWaste Building Ventilation System was shut down, and investigation of the failure was begun.

The broken detector signal lead was repaired, the monitor source-checked and returned to service on March 9.

The degraded capacitor was replaced. The downscale failure feature of similar monitors was tested; one other monitor had to be adjusted to attain the desired response. Functional testing of the downscale failure feature for this type of monitor will be added to the annual calibration procedure.

The installed check source in this type of monitor is not useful for operability testing because of its low strength. Therefore, source-checking is done with an external source. For this reason, from an ALARA standpoint it is not prudent to source check the monitor after each maintenance activity. The monitor would be source-checked only after detector replacement or other work involving the detector or its cabling. Source-checking is done monthly and at the annual calibration.

FAILED COMPONENT IDENTIFICATION

Nuclear Measurements Corporation Gas Monitor Model APM-G25.

PREVIOUS SIMILAR EVENTS

A previous event regarding inoperability of R-35 was reported as Unit 1 LER 91-006.