

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) Waterford Steam Electric Station Unit 3	DOCKET NUMBER (2) 0 5 0 0 0 3 8 2	PAGE (3) 1 OF 04
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TITLE (4)
Effluent Radiation Monitor Setpoint Higher Than Required Due to Personnel Error

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 NAMES		DOCKET NUMBER(S)
0	3	3	0	8	7	0	4	2	N/A		0 5 0 0 0
0	3	0	8	7	8	7	0	1	N/A		0 5 0 0 0

OPERATING MODE (9) 1	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)																				
	POWER LEVEL (10) 1 0 0	<input type="checkbox"/> 20.402(b)	<input type="checkbox"/> 20.405(a)(1)(i)	<input type="checkbox"/> 20.405(a)(1)(ii)	<input type="checkbox"/> 20.405(a)(1)(iii)	<input type="checkbox"/> 20.405(a)(1)(iv)	<input type="checkbox"/> 20.405(a)(1)(v)	<input type="checkbox"/> 20.406(c)	<input type="checkbox"/> 50.36(c)(1)	<input type="checkbox"/> 50.36(c)(2)	<input checked="" type="checkbox"/> 50.73(a)(2)(i)	<input type="checkbox"/> 50.73(a)(2)(ii)	<input type="checkbox"/> 50.73(a)(2)(iii)	<input type="checkbox"/> 50.73(a)(2)(iv)	<input type="checkbox"/> 50.73(a)(2)(v)	<input type="checkbox"/> 50.73(a)(2)(vii)	<input type="checkbox"/> 50.73(a)(2)(viii)(A)	<input type="checkbox"/> 50.73(a)(2)(viii)(B)	<input type="checkbox"/> 50.73(a)(2)(x)	<input type="checkbox"/> 73.71(b)	<input type="checkbox"/> 73.71(c)

LICENSEE CONTACT FOR THIS LER (12)

NAME W.T. LaBonte, Radiation Protection Superintendent	TELEPHONE NUMBER
	AREA CODE: 5 0 4 4 6 4 - 3 1 4 9

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)

<input type="checkbox"/> YES (If yes, complete EXPECTED SUBMISSION DATE)	<input checked="" type="checkbox"/> NO	EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR

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

On March 30, 1987, Waterford Steam Electric Station Unit 3 was at 100% power when Health Physics personnel discovered the Gaseous Waste Management Effluent Radiation Monitor alarm/trip setpoint had been set a factor of 10 too high since plant startup. The setpoint was immediately changed as required by Technical Specification 3.3.3.11.

The root cause of this event was an error in calculating the Radiation Monitoring System (RMS) Data Base $\mu\text{Ci/cc}$ to counts per minute conversion factor for the radiation monitor. The RMS, its data base, and the data base change methodology are under review to ensure no similar problems exist in the system. To increase the controls on the RMS Data Base Manual and its revisions, the manual will be reviewed by the Plant Operations Review Committee. The above corrective action will be completed by December 30, 1987.

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LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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

At 1432 on March 24, 1987, Waterford Steam Electric Station Unit 3 was at 100% power when plant personnel commenced a batch release of Waste Gas Tank B (EIIS Component Code TK). At 1439 a radiation alert alarm was received from the Plant Stack Effluent Radiation Monitor (EIIS Component Code MON) and the batch release was stopped. The local Gaseous Waste Management (GWM) Effluent Radiation Monitor (PRM-IRE-0648), also monitoring the release, did not alarm. Since there are numerous other sources of activity which may vent to the plant stack and add to the activity due to a batch release, this was not a definite indication of a problem with the GWM Radiation Monitor, but an investigation was begun to verify that the calculations used to determine its setpoint were correct. Because the documentation associated with these calculations was not well organized, the personnel who originally performed the calculations were not available, and the implementation had to be checked in various plant procedures, this investigation took several days. On March 26, radiation monitor PRM-IRE-0648 was declared inoperable due to a "locked in" alert alarm. This condition was unrelated to the setpoint problem. On March 30, Plant personnel discovered the radiation monitor (PRM-IRE-0648) alarm/trip setpoint had been set a factor of 10 too high since plant startup. The setpoint was immediately changed so it was acceptably conservative as required by Technical Specification 3.3.3.11. Radiation Monitor PRM-IRE-0648 was calibrated and returned to service on April 20.

The Radiation Monitoring System (RMS) (EIIS System Code IL) for the Waste Gas System (EIIS System Code WE) is a complex system of components from two different suppliers. Nuclear Measurement Corporation (NMC) supplied the detector and its microprocessor, which reads out in counts per minute (cpm). General Atomics (GA) supplied the display CRT and its associated microprocessor, which calculates $\mu\text{Ci/cc}$ based on the cpm value input from NMC system. Due to the hardware configurations, the GA system requires a correction factor of 10 to be applied to inputs from the NMC GWM monitor.

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

The root cause of this event was an error in calculating the RMS database $\mu\text{Ci}/\text{cc}$ to cpm conversion factor for the Gaseous Waste Radiation Monitor. This was a cognitive personnel error on the part of a utility Health Physics Engineer who performed these calculations. The direct result of this error was that the factor of 10 was not applied to the NMC system input to the GA display system, therefore, the activity indicated by the GA system was a factor of 10 low. Therefore its alarm setpoint, although correct was never reached. Since the same individual also wrote the procedure for calculating the setpoint for the NMC monitor which performs the automatic isolation function, he used the inverse of the same conversion factor, to calculate the cpm value to be entered as the NMC setpoint based on the $\mu\text{Ci}/\text{cc}$ limit of the Technical Specifications. This error was not detected during technical review of the procedure for calculating the setpoint, and resulted in the setpoint being a factor of 10 high.

Although they do not involve a similar factor of ten conversion, the setpoints for the Liquid Waste and Boric Acid Condensate Radiation Monitors are being reviewed to ensure no calculational errors exist in their automatic isolation setpoints. To increase the controls on the RMS Data Base Manual and its revisions, the manual will be reviewed by the Plant Operations Review Committee. The RMS system, its data base, and the data base change methodology are under review to ensure that no similar problems exist in the system. The above corrective action will be completed by December 30, 1987.

The Technical Specification limits for activity releases from the plant are measured and controlled based on the Plant Stack radiation monitors. The high alarm on these monitors have been set less than or equal to the instantaneous release rate limits of the Technical Specifications and plant operators are trained to secure Waste Gas Decay Tank releases in accordance with Off-Normal Procedure, OP-901-019, High Airborne Activity in Reactor Auxiliary Building, if this level is approached. There is therefore a high level of confidence that no Gaseous Waste System discharges have exceeded the applicable instantaneous release limits. Since information available from Semiannual Radioactive Effluent Release Reports shows that no other gaseous discharge limits were exceeded, there was no impact on the health and safety of the public or plant personnel as a result of this event.

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		87	0111	00	04	OF	04

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

SIMILAR EVENTS

NONE

PLANT CONTACT

W.T. LaBonte, Radiation Protection Superintendent, 504/464-3149



LOUISIANA
POWER & LIGHT

WATERFORD 3 SES • P. O. BOX B • KILLONA, LA 70066

April 29, 1987

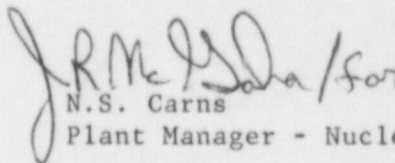
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U.S. Nuclear Regulatory Commission
ATTENTION: Document Control Desk
Washington, D.C. 20555

SUBJECT: Waterford 3 SES
Docket No. 50-382
License No. NPF-38
Reporting of Licensee Event Report

Attached is Licensee Event Report Number LER-87-011-00 for Waterford 3.
This report is submitted pursuant to 10CFR50.73(a)(2)(i).

Very truly yours,


N.S. Carns
Plant Manager - Nuclear

NSC/LJR:rk

Attachment

cc: R.M. Martin, NRC Resident Inspectors Office, INPO Records Center
(J.T. Wheelock), E.L. Blake, W.M. Stevenson, J.H. Wilson

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