

REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR:9407180003 DOC.DATE: 94/07/08 NOTARIZED: NO DOCKET # 05000389
FACIL:50-389 St. Lucie Plant, Unit 2, Florida Power & Light Co.
AUTH.NAME AUTHOR AFFILIATION
LYONS,E.E. Florida Power & Light Co.
SAGER,D.A. Florida Power & Light Co.
RECIP.NAME RECIPIENT AFFILIATION

SUBJECT: LER 94-004-00:on 940628,discovered that low & high range sample lines were disconnected.Caused by personnel error. Plant vent WRGM was placed back in service & ICM personnel will review other monitoring instrumentation.W/940708 ltr.

DISTRIBUTION CODE: IE22T COPIES RECEIVED:LTR 1 ENCL 1 SIZE: 5
TITLE: 50.73/50.9 Licensee Event Report (LER), Incident Rpt, etc.

NOTES:

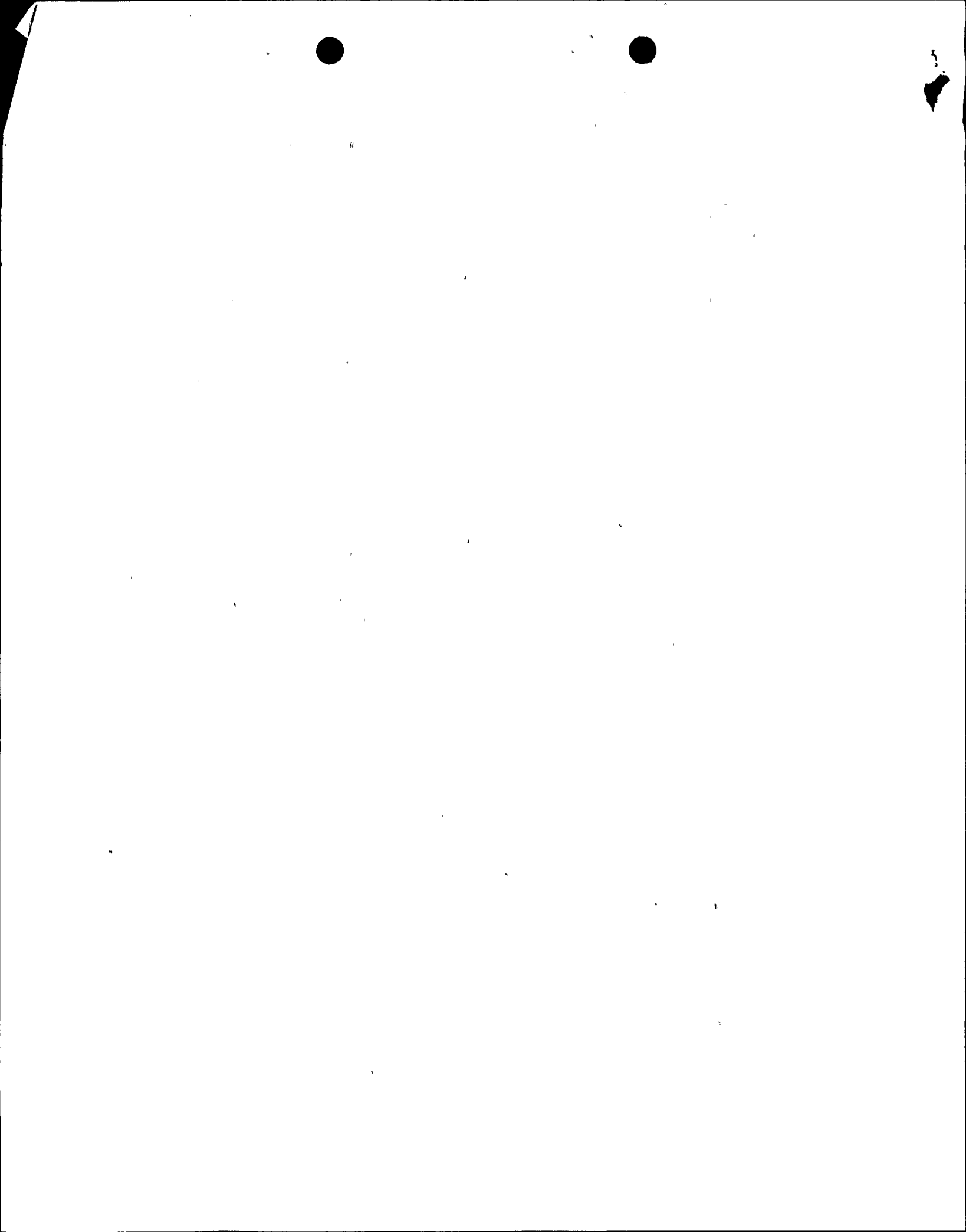
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P.O. Box 128, Ft. Pierce, FL 34954-0128

July 8, 1994

L-94-179
10 CFR 50.73

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

Re: St. Lucie Unit 2
Docket No. 50-389
Reportable Event: 94-004
Date of Event: June 28, 1994
Plant Vent Wide Range Monitor Out of Service
due to Personnel Error

The attached Licensee Event Report is being submitted pursuant to the requirements of 10 CFR 50.73 to provide notification of the subject event.

Very truly yours,

A handwritten signature in dark ink, appearing to read 'D. A. Sager', is written over the typed name.

D. A. Sager
Vice President
St. Lucie Plant

DAS/JWH/kw

Attachment

cc: Stewart D. Ebnetter, Regional Administrator, USNRC Region II
Senior Resident Inspector, USNRC, St. Lucie Plant

DAS/PSL #1158-94

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LICENSEE EVENT REPORT (LER)

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

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 (MNB 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.

FACILITY NAME (1) St. Lucie Unit 2	DOCKET NUMBER (2) 05000389	PAGE (3) 1 OF 4
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TITLE (4) **Plant Vent Wide Range Gas Monitor Out of Service 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 NAME	DOCKET NUMBER
6	28	94	94	--004--	0	7	8	94	N/A	
									N/A	

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

LICENSEE CONTACT FOR THIS LER (12)	
NAME Edward E. Lyons, Shift Technical Advisor	TELEPHONE NUMBER (Include Area Code) (407) 465-3550 x3151

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
N/A	----	----	---	---					

SUPPLEMENTAL REPORT EXPECTED (14)				EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR
YES (If yes, complete EXPECTED SUBMISSION DATE).	<input checked="" type="checkbox"/> NO						

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

On 6/28/94 at 0800, with Unit 2 at 100% power, utility Instrumentation and Control Maintenance (ICM) personnel began calibration of the Plant Vent Wide Range Gas Monitor (WRGM) flow meters and discovered that the low and high range sample lines were disconnected. The discrepancy was documented and the calibration procedure was completed. The Plant Vent WRGM was placed back in service at 2115 on 6/28/94. After extensive data review, it was determined that the WRGM had apparently been out of service since Unit 2 entered mode 4, Hot Shutdown, on 4/13/94.

The root cause of this event is personnel error. ICM technicians, who last performed the calibration of the WRGM flow meters on 4/6/94, apparently did not reconnect the low and high range sample lines per the calibration procedure. This error was undetected since the WRGM normally indicates background radiation levels. In addition, disconnecting the sample inlet would cause the WRGM to take atmospheric samples and not change its normal indicated output. Functional test results of the monitoring circuitry would not detect the abnormal condition.

Corrective Actions include: 1) The Plant Vent WRGM was placed back in service. 2) Utility chemistry personnel checked all other process radiation monitors, on both units, to ensure all sample lines were properly connected. 3) ICM added a restoration signoff and an Independent Verification check to the existing restoration steps of ICM procedures to ensure that the radiation monitor low and high range sample lines are reconnected. 4) Operations has revised OP 1 & 2-0530021, Controlled Gaseous Batch Release to Atmosphere, to include a channel check of plant vent radiation monitor channels during all planned releases. 5) ICM and Chemistry will review other monitoring instrumentation work control processes, on both units, for procedural enhancements where restoration steps for disconnected equipment are necessary.

NRC FORM 366A (5-92)

**LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION**

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.

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)
St. Lucie Unit 2	05000389	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	2 OF 4
		94	--004--	0	

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

DESCRIPTION OF THE EVENT:

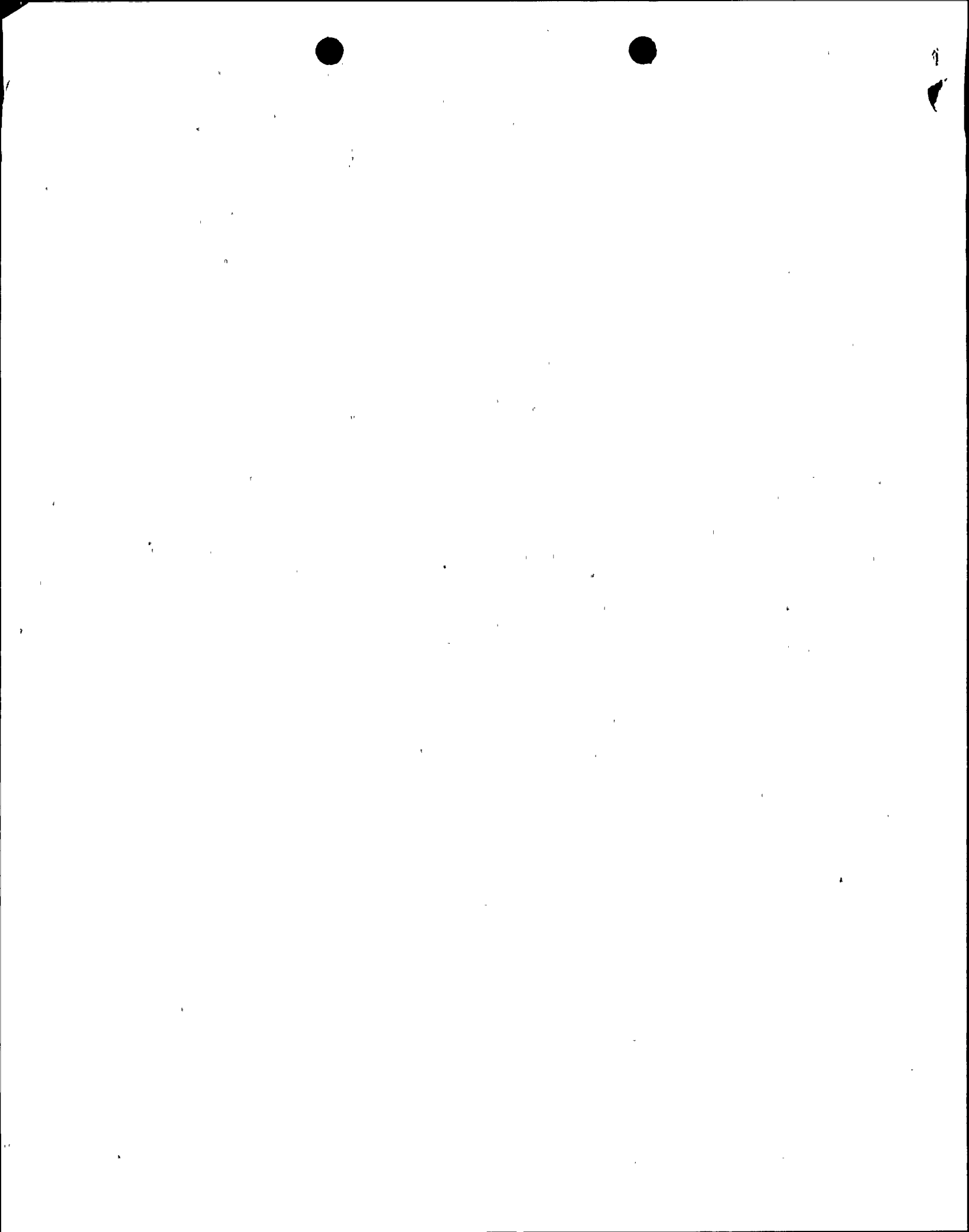
On 4/6/94, with Unit 2 in mode 5 during a refueling outage, utility Instrumentation and Control Maintenance (ICM) personnel performed ICM Procedure 2-1400189, Calibration of the Unit 2 Radiation Monitoring Sample Flow Meters, for both low and high range sample flow meters of the Plant Vent Wide Range Gas Monitor (WRGM)(EIS:IL). This calibration requires that the low and high range sample lines be disconnected from the WRGM. The calibration was completed on 4/6/94.

An Out of Calibration Report was issued 6/22/94 on the Maintenance and Test Equipment (M&TE) used to calibrate the Plant Vent WRGM flow meters mentioned above. As per the plant procedures, an evaluation was performed on the calibration of the WRGM. Although the assessment did not indicate that the WRGM was out of service, a recalibration was scheduled to ensure that the WRGM was calibrated to its optimum tolerance.

On 6/28/94, with Unit 2 at 100% power, utility ICM personnel began to work the preplanned recalibration of the Plant Vent WRGM flow meters. At approximately 0800, two utility ICM technician performing ICM Procedure 2-1400189 discovered that the low and high range sample lines were already disconnected. The utility ICM technicians contacted their supervisor to inform him that the low and high range sample lines had been disconnected, documented the discrepancy and continued with the calibration of the low and high range sample flow meters. The calibration was completed and the Plant Vent WRGM was placed back in service at 2115, 6/28/94. After extensive data review, it was determined that the WRGM had apparently been out of service since Unit 2 entered mode 4, Hot Shutdown, on 4/13/94.

CAUSE OF THE EVENT:

The root cause of this event is personnel error. The utility ICM technicians, who performed the calibration of the Plant Vent WRGM flow meters on 4/6/94, apparently did not reconnect the low and high range sample lines per ICM Procedure 2-1400189, Calibration of the Unit 2 Radiation Monitoring Sample Flow Meters. This procedure contains steps to disconnect the sample lines to install a flow calibration device. A separate restoration step is included, but the procedure did not have a restoration signoff nor did it provide an Independent Verification check for the steps involving the reconnection of these sample lines. There are no adverse environmental conditions at the location of the Plant Vent WRGM where the low and high range sample lines are connected.



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

ANALYSIS OF THE EVENT:

This event is reportable under 10 CFR 50.73.a.2.i.B as "Any operation or condition prohibited by the plant's Technical Specifications." As per Technical Specification 3.3.3.1, Action 27, the required action to be taken with the Plant Vent WRGM inoperable is to either restore the Plant Vent WRGM to operable status within 72 hours or initiate the preplanned alternate method of monitoring and submit a Special Report to the NRC within 14 days. In this event, the WRGM was out of service for 2.5 months. This LER constitutes submittal of a Special Report on this condition.

The Plant Vent WRGM is a non-safety related monitor. The WRGM is designed to representatively sample, monitor, indicate and record the radioactivity level in the plant effluent gases being discharged. Two redundant Plant Vent Particulate/Iodine/Gas (PIG) monitors (EIS:IL) are designed for the same reason. The difference between monitor types is that the WRGM is designed for post accident monitoring of radioactive gas concentrations from 1×10^7 to 1×10^5 micro-curies per cubic centimeter and the two PIG monitors are for normal operation with a range of 1×10^7 to 1×10^2 micro-curies per cubic centimeter. A review of plant records indicates that from 4/6/94 to 6/29/94, there were no site releases which exceeded the monitoring ranges of the redundant PIG monitors.

Further investigation concluded that the Plant Vent WRGM was in service on 2/13/94, prior to the refueling outage, and out of service (low and high range sample lines not connected) on 4/29/94. This conclusion is based on comparing strip charts from the Plant Vent WRGM and the Plant Vent PIG monitor recorders. On 2/13/94 and 4/29/94 the plant conducted Volume Control Tank (EIS:CB) venting which sends actual radioactivity to the Plant Vent stack (EIS:VL). The strip charts for the WRGM and the PIG are identical for 2/13/94, but on 4/29/94 only the PIG monitor strip charts show the activity released from the venting evolution. Therefore, based on the strip chart data and the dates of the calibration on the Plant Vent WRGM, the most probable time the Plant Vent WRGM went out of service was 4/13/94, when Unit 2 entered mode 4, Hot Shutdown. The WRGM out of service condition was discovered on 6/28/94.

Daily channel checks involve a comparison of the WRGM and PIG monitor outputs to qualitatively assess agreement between these instruments. A monthly functional check involves a simulated signal into the monitor channel to verify the operability of alarm functions. A radioactive check source may also be applied to the WRGM or PIG monitor to verify the response of the detector. However, the WRGM and PIG monitors normally indicate background radiation levels. Therefore, disconnecting the WRGM sample lines would cause it to sample atmosphere and not change its normal indicated output or adversely affect its channel check, check source test, or functional test results.

During a postulated accident, if an Off-Site Dose Calculation is required per the Emergency Plan, by procedure the Site Release Rate must be determined. The Site Release Rate is used by the Emergency Coordinator to make Protective Action Recommendations to the public. The primary, and most accurate method for the Off-site Dose Calculation is to use a representative grab sample of the Plant Vent Stack effluent gases. During this event, the primary method was always available. The second method of determining Offsite Dose Calculations is to utilize the WRGM and PIG monitors. The PIG monitors measure only the low scale, and once they go off scale high the WRGM would be utilized. At this point the utility licensed operators and Chemistry personnel would have the opportunity to detect and repair the WRGM problem listed in this report. If that was not possible, a third and fourth proceduralized method of determining Offsite Dose Calculations is to utilize area radiation monitors located inside and outside of the Reactor Containment Building.

Therefore, the health and safety of the public were not affected during this event.

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				94	--004--	0	

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

CORRECTIVE ACTIONS:

- 1) Utility ICM personnel completed the calibration procedure of the low and high range sample flow meters on the Plant Vent WRGM.
- 2) Utility licensed operations personnel placed the Plant Vent WRGM back in service.
- 3) Utility chemistry personnel checked, with satisfactory results, all other process radiation monitors on both Unit 1 and Unit 2 to ensure that all of their sample lines were properly connected.
- 4) ICM has added a restoration signoff and an Independent Verification check to the existing restoration steps of ICM Procedure 2-1400189 to ensure that the low and high range sample lines are reconnected.
- 5) Operations has revised OP 1 & 2-0530021, Controlled Gaseous Batch Release to Atmosphere, to include a channel check of plant vent radiation monitor channels during all planned releases.
- 6) For generic implications, ICM and Chemistry departments will review other monitoring instrumentation work control processes on both units for procedural enhancements where restoration steps for disconnected equipment are necessary:

ADDITIONAL INFORMATION:

Failed Components:

None

Previous Similar Events:

Previous similar LERs involving a loss of process flow to radiation monitors are described in: LER 335-92-001 and LER 335-92-003.

