

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) Waterford Steam Electric Station Unit 3	DOCKET NUMBER (2) 0 5 0 0 0 3 1 8 2	PAGE (3) 1 OF 5
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TITLE (4)
Containment Purge Isolation
Radiation Monitors Inoperable Due to Inadequate Procedures

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	4	23	88	009		0	5	23	N/A		0 5 0 0 0
0	4	23	88	009		0	5	23	N/A		0 5 0 0 0

THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR § (Check one or more of the following) (11)

OPERATING MODE (9) 6	<input type="checkbox"/> 20.402(b)	<input type="checkbox"/> 20.405(e)	<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(e)(1)	<input type="checkbox"/> 50.73(a)(2)(v)	<input type="checkbox"/> 73.71(e)
	<input type="checkbox"/> 20.405(a)(1)(iv)	<input type="checkbox"/> 50.36(e)(2)	<input type="checkbox"/> 50.73(a)(2)(vii)	OTHER (Specify in Abstract below and in Text, NRC Form 366A)
	<input type="checkbox"/> 20.405(a)(1)(ii)	<input checked="" type="checkbox"/> 50.73(a)(2)(i)	<input type="checkbox"/> 50.73(a)(2)(viii)(A)	
	<input type="checkbox"/> 20.405(a)(1)(iii)	<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)(ix)		

LICENSEE CONTACT FOR THIS LER (12)

NAME W.T. LaBonte, Radiation Protection Superintendent	TELEPHONE NUMBER 5 0 4 4 6 4 - 3 1 4 9
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COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPROS	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPROS

SUPPLEMENTAL REPORT EXPECTED (14)

YES (If yes, complete EXPECTED SUBMISSION DATE)

NO

EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR

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

At 1045 hours on April 23, 1988, Waterford Steam Electric Station Unit 3 was shutdown in the refueling mode when a Health Physics (HP) Supervisor discovered that less than the required number of Containment Purge Isolation (CPI) Area Radiation Monitors (ARMs) had setpoints properly set per Technical Specification (TS) 3.3.3.1.a on April 19, 1988, and from April 21, 1988, to April 23, 1988. If both CPI ARMs become inoperable in one or both trains in modes one through four or during refueling, CPI valves must be shut. Since core alterations and Containment Purge were conducted at these times, the plant operated in a condition prohibited by TS.

The root cause of this event was inadequate procedures since adequate guidance was not provided to ensure proper setpoints were entered prior to conducting core alterations or returning the monitors to service. Applicable procedures are being revised. The plant stack monitors were operable and capable of automatically terminating containment purge throughout this period. There was no radiation release outside of normal limits during the period and the type of core alterations performed had a low potential for causing such releases. There was, therefore, no safety significance to this event.

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

From 0420 hours to 0543 hours on April 19, 1988, core alterations were conducted. At this time all four Containment Purge Isolation (CPI) Area Radiation Monitors (ARMs) (EIIS Identifier IL-MON) had high alarm setpoints in excess of two times current background radiation levels. The alert and high alarm setpoints should be set at 1.5 and 2 times background radiation levels respectively. The CPI ARM alert and high alarm setpoints had not been reset since plant shutdown, but background radiation levels had reduced significantly. A high alarm from any of four CPI ARMs or either of two Plant Stack Particulate, Iodine, and Gas Monitors (EIIS Identifier IL-MON) actuates Containment Purge Isolation (CPI) which will shut Containment Purge Isolation Valves (EIIS Identifier VA-ISV). Two of the CPI ARMs are powered from the 'A' safety train and two from the 'B' safety train.

On April 19, 1988, Maintenance personnel began the periodic calibration of CPI ARM 'A', ARM-IRE-5025S, per procedure MI-3-352, "Purge Isolation Area Radiation Monitor Safety Channel Calibration." The calibration procedure records the as-found alert and high alarm setpoints from its respective RM-23 microprocessor (EIIS Identifier IL-CPU) prior to calibrating the instrument and then reenters the same setpoint after the calibration. The RM-23 microprocessors are linked together to form the Radiation Monitoring System communication network which is monitored remotely by the two RM-11 Computers (EIIS Identifier IL-CPU). The RM-11 Computers provide control and display functions in the Control Room and Health Physics Count Room.

Health Physics (HP) personnel entered revised alert and high alarm setpoints in the CPI ARMs remotely from the Count Room at approximately 1730 hours on April 19, 1988. These revised setpoints were based on current background radiation levels which had significantly decreased since plant shutdown on April 2, 1988, and were entered when HP personnel realized they had not yet been revised to reflect the lower background levels. However, the revised setpoints were entered in ARM-IRE-5025S by HP personnel after Maintenance technicians had recorded the old setpoints in the calibration procedure.

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

ARM-IRE-5025S was therefore returned to service at 1410 hours on April 20, 1988, with the old setpoints reentered in the monitor by Maintenance personnel. The maintenance calibration procedure did not require Maintenance personnel to verify alarm setpoints with HP personnel. Thus, HP personnel were unaware Maintenance personnel were performing the calibration and would reenter the old setpoints, and Maintenance personnel were unaware that HP personnel had changed the alarm setpoints during the calibration. This lack of procedural interface resulted in the monitor being returned to service with improper setpoints following the calibration even though the proper setpoints had been previously entered by HP. At approximately 0730 hours on April 21, 1988, the periodic calibration for the other 'A' train CPI ARM, ARM-IRE-5026S, was begun. It was completed on May 2, 1988, with proper alarm setpoints entered.

Technical Specification (TS) 3.3.3.1 requires at least one CPI ARM per train to be operable in modes one through four and during core alterations. In order to be considered operable, the ARM's high alarm setpoint must be \leq two times background level. With one monitor out-of-service (OOS) and the other monitor's alarm setpoint > 2 times background, Action Requirement (b) requires complying with TS 3.9.9. This TS Action Requirement states the Containment Purge must be secured and Containment Purge Isolation Valves shut if the CPI System is inoperable and core alterations are in progress.

Core alterations conducted from 0420 hours to 0543 hours on April 19, 1988, consisted of disconnecting the ten Incore Nuclear Instrument (ICI) Bullet Noses (EIIS Identifier IG-CON) which are used to align the Reactor Vessel Head (EIIS Identifier RPV) with the ICI Guide Tube Cluster Assemblies (EIIS Identifier IG-CON). There were no reactivity changes involved in this evolution. Core alterations which commenced at approximately 1400 hours on April 21, 1988, consisted of uncoupling Control Element Assemblies (CEAs) (EIIS Identifier AA-ROD) from the CEA extension shafts in the Upper Guide Structure (UGS) of the Reactor Vessel, latching four-fingered CEAs to the UGS, and lifting the UGS out of the Reactor Vessel. No movement of spent fuel assemblies in the Reactor Vessel was conducted during those evolutions. Containment Purge was running continuously to improve containment habitability during these times.

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TEXT (If more space is required, use additional NRC Form 365A's) (17)

All four CPI ARMs were inoperable from 0420 hours to 0543 hours on April 19, 1988, and both 'A' train monitors were inoperable from 1400 hours on April 21, 1988, to 1045 hours on April 23, 1988. The monitors were inoperable only because their alarm setpoints were set higher than allowed for existing background levels. Thus, the plant operated in a condition prohibited by TS at these times. Core alterations were also conducted from approximately 1730 hours on April 19, 1988, until approximately 0400 hours on April 21, 1988, when ARM-IRE-5025S was inoperable. Since the other 'A' train and both 'B' train CPI ARMs were operable, there was no condition prohibited by TS during this time. At 1045 hours on April 23, 1988, Waterford Steam Electric Station Unit 3 was still in the refueling mode when an HP Supervisor discovered these events and entered the correct setpoints into ARM-IRE-5025S.

The root cause of these events was inadequate procedures since existing procedures did not provide adequate guidance to ensure the monitors had proper alarm setpoints during core alterations. MI-3-352 is being revised to require Maintenance technicians to verify alarm setpoints with HP personnel prior to returning the monitor to service. Procedures HP-1-232 and HP-1-234, "Gaseous Radioactive Waste Release Permit Procedures-Manual/Computer," are being revised to include precautionary steps to verify proper alarm setpoints on the CPI ARMs prior to approving the Gaseous Waste Release Permit required to perform a Containment Purge. HP-1-232 is also being revised to provide a minimum frequency to evaluate background radiation levels. Procedure OP-2-010, "Reactor Auxiliary Building HVAC and Containment Purge System," and procedure OP-8-002, "Containment Atmosphere Release," are being revised to add a precaution to verify alarm setpoints with HP prior to performing a containment purge.

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As a result of this event, the number of operable area radiation monitors available to automatically terminate containment purge was reduced from four to two for 44.75 hours and to zero for 83 minutes during core alterations. Both plant stack effluent monitors were operable and capable of automatically terminating containment purge during these periods. There was no actual radiation release outside normal limits during this period, and since the core alterations performed did not involve movement of fuel, there was a very low probability of an accident which could have caused such a release. There was, therefore, no significant effect on the level of protection of public health and safety as a result of this event.

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 70066-0751

Ref: 10CFR50.73(a)(2)(i)

May 23, 1988

W3A88-0057
A4.05
QA

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-88-009-00 for Waterford Steam Electric Station Unit 3. This Licensee Event Report is submitted pursuant to 10CFR50.73(a)(2)(i).

Very truly yours,

N.S. Carns
Plant Manager - Nuclear

NSC/WEM:rk

Attachment

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