

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 07			
TITLE (4) Technician Wore Contaminated Clothing Off-Site Due to Failure to Follow 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)				
									N/A				0 5 0 0 0				
0 1	2 2	8 7	8 7	0 0 3	0 0	0 2	2 3	8 7	N/A				0 5 0 0 0				
OPERATING MODE (9)		THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)															
5		20.402(b)				20.405(c)				50.73(a)(2)(iv)				73.71(b)			
POWER LEVEL (10)		20.405(a)(1)(i)				50.36(c)(1)				50.73(a)(2)(v)				73.71(c)			
1 0		20.405(a)(1)(ii)				50.36(c)(2)				50.73(a)(2)(vii)				OTHER (Specify in Abstract below and in Text, NRC Form 365A)			
		20.405(a)(1)(iii)				50.73(a)(2)(i)				50.73(a)(2)(viii)(A)							
		20.405(a)(1)(iv)				50.73(a)(2)(ii)				50.73(a)(2)(viii)(B)							
		X 20.405(a)(1)(v)				50.73(a)(2)(iii)				50.73(a)(2)(x)							
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 NPD		CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPD							
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 fifteen single-space typewritten lines) (16)

ABSTRACT

At approximately 1200 hours on January 22, 1987, a Waterford Steam Electric Station Unit 3 Primary Access Point (PAP) portal radiation monitor alarmed due to a contaminated contract Instrument and Controls (I&C) Technician. Subsequent investigation determined he had become contaminated during the previous day due to improper radiological controls. He subsequently frisked improperly while exiting and wore contaminated clothing home. The PAP portal monitor was inoperable due to a power transfer when he exited the site on January 21, 1987.

The root cause of the event was that a contract Health Physics (H.P.) Technician improperly downgraded the Radiation Work Permit (RWP) requirements. A secondary cause was the failure of the I&C Technician to properly perform, and the H.P. Technician at the control point to properly supervise, a whole body frisk.

The I&C Technician completed a radiation protection retraining course. Waterford 3 personnel that work inside the protected area were briefed on the contamination incident. A visual indicator was installed to indicate the loss of power to a portal monitor. Procedures have been revised and training conducted to ensure that personnel do not exit the protected area without frisking when the portal monitors are inoperable.

8702260177 870223
PDR ADOCK 05000382
S PDR

1022 11

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

APPROVED OMB NO. 3150-0104

EXPIRES: 8/31/88

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)		
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
Waterford Steam Electric Station Unit 3	0 5 0 0 0 3 8 2	8 7	— 0 0 3	— 0 0	0 2	OF	0 7

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

NARRATIVE

On January 21, 1987, a contract Instrument and Control Technician (I&C) was assigned to inspect the limit switch for a valve located in the North Letdown Heat Exchanger Valve Gallery. The Radiation Work Permit (RWP) governing the job was signed by the I&C Technician and required full anticontamination clothing (anti-c's) for entry.

The Health Physics (H.P.) computer records indicate that the I&C Technician or the Junior H.P. Technician assigned to the H.P. Control Point failed to properly log him into or out of the Radiation Controlled Area (RCA) when he passed through the -4 ft. H.P. Control Point. Consequently, the technician's name, RWP number, task classification and entering and exiting dosimeter readings were not recorded. It was determined by the Security Computer Key Card Access Log that he entered the RCA at 14:29 hours.

When the I&C Technician arrived at the valve gallery, a contract H.P. Technician down graded the protective clothing requirements to shoe covers and gloves, unlocked the cell door and allowed the I&C Technician entry into a posted High Contamination Area (>100,000 dpm/100 cm²) and a High Radiation Area (<1000 mR/hr). The H.P. Technician then left the area without performing a survey of the radiation levels in the room.

The I&C Technician entered the valve gallery and performed a hands-off visual inspection in shoe covers and gloves. Valve CVC-125B was leaking and was located above and to the right side of the valve being inspected (CVC-123B). A catch container had been installed under valve CVC-125B to collect the leaking fluid and direct it to the floor drain. The catch container is in very close proximity to where valve CVC-123B is located and is considered as the probable source of the I&C Technician's clothing contamination. The contamination level on the outside of the drain sleeving for the CVC-125B catch container was 25,000 to 65,000 dpm/100cm² (wet) as noted on the area survey.

The I&C Technician bent over to view the limit switch and during this evolution either brushed up against the catch container or a droplet of fluid fell on him and contaminated his blue flannel shirt.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

FACILITY NAME (1) Waterford Steam Electric Station Unit 3	DOCKET NUMBER (2) 0 5 0 0 0 3 8 2	LER NUMBER (6)			PAGE (3)		
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
		8 7 —	0 0 3	— 0 0	0 3	OF	0 7

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

The I&C Technician exited the valve gallery and went to the nearest frisker and completed a whole body frisk. Later, it was determined that he had contamination on the right shoulder area of his shirt at that time and it was not detected by him during his whole body frisk.

The I&C Technician, after leaving a contaminated area (and not properly frisking), went to the I&C Hot Shop where he had his clothes stored. He put his ski jacket on and carried his rain coat to the -4 ft. H.P. Control Point to exit the RCA. The time of exit, as indicated on the Security Computer Key Card access log through door #151 for 1-21-87, was 15:43 hours.

Upon exiting the RCA, the I&C Technician entered the Personnel Contamination Monitor (PCM-1) and alarmed the unit. The Junior H.P. Technician at the control point asked him to do a whole body frisk with the hand held frisker. The I&C Technician performed the frisk, which was not observed by H.P. personnel, found no contamination and was allowed to leave. Since the technician was wearing his ski jacket at this point, the contamination on his shirt would have been attenuated from 70,000 cpm to 6,000 cpm, but would have been detected by a proper frisk. The technician then proceeded to leave the site through the Primary Access Point (PAP).

The portal radiation monitors at the PAP are of a type which must be reset manually after a power loss. Such a loss occurred at 1631 hours when the plant "A/B" busses were transferred from the "A" to the "B" power supply. Since it takes 8-12 minutes for the H.P. Department to respond to such a power loss and 4-6 minutes for the reset operation, the monitor was not returned to service until approximately 1646 hours. The PAP portal monitors, therefore, failed to alarm when the technician exited the PAP at 1633 hours.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

APPROVED OMB NO. 3150-0104

EXPIRES: 8/31/88

FACILITY NAME (1) Waterford Steam Electric Station Unit 3	DOCKET NUMBER (2) 0 5 0 0 0 3 8 2	LER NUMBER (6)			PAGE (3)		
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
		8 7	— 0 0 3	— 0 0	0 4	OF	0 7

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

The Security Officers continued to allow personnel to exit the PAP because they had not been informed to restrict access or that the use of the hand held frisker was required if the portal monitors had a malfunction. The Security Officer reported the malfunction to the Health Physics Department and up to this time that was the extent of the response for a malfunction. The Security Officers at the PAP knew the proper response procedure if an alarm was sounded. The malfunction of the portal monitor was an area not addressed prior to this incident. This has been corrected.

The I&C Technician left the site and went to his apartment where after a period he showered, put his dirty clothing into a laundry hamper and went to bed. In the morning (January 22, 1987) he started out for work. After getting dressed he put his jacket on. When he arrived at work he got out of the car, put his raincoat on and entered the PAP. He picked up his security badge and entered the PAP, passing through the metal detector, bomb detector and portal monitor and none gave any alarm. He went to the Service Building, hung up his raincoat and proceeded to the RCA to work on a valve positioner under a different RWP. He went to the I&C Hot Shop inside the RCA, dropped off his belongings (ski jacket, purple shirt, pants) and put on green modesty clothing (pants). He put on full anti-c's as required by the RWP and an H.P. Technician opened the North Letdown Heat Exchanger Valve Gallery cell and he began work on the valve positioner.

Upon exiting, he removed his anti-c's and went to the nearest frisker and completed a frisk. The Senior H.P. Technician, using a frisker, noted a reading of approximately 200 cpm on the back of the I&C Technician's neck. He was instructed to go directly to the -4 ft. H.P. Control Point for decontamination. However, he went to the I&C Hot Shop and picked up his belongings (ski jacket, purple shirt and pants). Then he proceeded to the -4 ft. H.P. Control Point to remove the contamination from his neck. A Skin Decontamination Record was completed at approximately 1145 hours. The I&C Technician did not frisk his clothes which were previously in a Radioactive Materials Area and handled by him while he was contaminated. He then proceeded to exit the PAP in order to pick up lunch.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

FACILITY NAME (1) Waterford Steam Electric Station Unti 3	DOCKET NUMBER (2) 0 5 0 0 0 3 8 2	LER NUMBER (6)			PAGE (3)		
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
		8 7 —	0 0 3	— 0 0	0 5	OF	0 7

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

The I&C Technician alarmed the PAP portal monitor while exiting the protected area at approximately 1200 hours. A Security Officer stopped the individual and requested he walk back through the portal monitor and it alarmed again. The Security officer instructed the individual to stand away from the portal monitor and not to move until Health Physics arrived. The Security officer notified the Health Physics Department about the portal monitor alarm and that the I&C Technician was being detained until they could respond.

A Junior H.P. Technician, who was not dispatched in response to the portal monitor alarm, exiting through the PAP shortly thereafter, surveyed his jacket and found it to be contaminated. Not having the experience or background training to evaluate the incident properly, she told the I&C Technician he could leave and pickup his jacket at the -4 ft. Health Physics Control Point after lunch. The Junior H.P. Technician set the contaminated jacket down by the hand held frisker station and exited the PAP.

The Senior H.P. Technician dispatched to evaluate the portal monitor alarm found the jacket lying on the floor in the PAP. He surveyed the item, then bagged it for transport to the -4 ft. H.P. Control Point. The ski jacket was surveyed and found to have a contamination level of 80,000 cpm maximum on the inside, top, right shoulder area. Since this indicated the need for a whole body frisk, the I&C Technician was paged and returned to the -4 ft. Health Physics Control Point. Upon completion of the whole body frisk, the I&C Technician's purple shirt was confiscated when contamination levels of 2000 cpm on the top right shoulder area were found.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

FACILITY NAME (1) Waterford Steam Electric Station Unit 3	DOCKET NUMBER (2) 0 5 0 0 0 3 8 2	LER NUMBER (6)			PAGE (3)		
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
		8 7	— 0 0 3	— 0 0	0 6	OF	0 7

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

On site and off site areas where the I&C Technician stated he had been during the day of 1-21-87 and 1-22-87 were surveyed. The work area, North Letdown Heat Exchanger Valve Gallery (-4 ft. elevation RAB), the I&C Hot Shop (-4 ft. elevation RAB), and the Service Building (top floor office areas) were surveyed. A raincoat was found and confiscated outside of the RCA in the Service Building with 8,000 cpm of contamination on the inside collar. All other areas of the Service Building were found to be radiologically clean. The I&C Technician's apartment and car were surveyed. The only item found to be contaminated was a blue flannel shirt which was located in the laundry hamper which was recovered and returned to the site. Contamination levels on the blue flannel shirt, which was the shirt worn on 1-21-87 while the I&C Technician completed the visual inspection, had contamination levels of 20,000 cpm. A later detailed survey found 70,000 cpm (outside area of shirt) and 19,500 cpm (inside area of shirt). An isotopic analysis was completed on all the items of clothing found to be contaminated. This analysis detected Co-57, Co-58, Co-60, Cr-51, Fe-59, Mn-54, Cs-137, Zn-65 and Zr-95 with a total activity of 0.488 μ ci.

Even though the I&C Technician was checked for skin contamination and none was found, it was determined that the clothing contamination levels and the length of time he wore the contaminated clothes warranted calculation of a total dose to the skin of the whole body of 142 mREM. This estimated exposure was incorporated into his exposure records.

The root cause of the Contamination Incident was a failure to comply with the Administrative Health Physics Procedures. It is apparent that if the contract H.P. Technician had not downgraded the RWP requirements, the incident would have not occurred and is considered as the primary root cause. The secondary causes are the failure of the I&C Technician to properly perform a whole body frisk on two occasions. Additionally, the Junior H.P. Technician at the control point failed to ensure all personnel exiting the RCA either performed a whole body frisk properly or passed through a PCM-1.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

APPROVED OMB NO. 3150-0104

EXPIRES: 8/31/88

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)		
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
Waterford Steam Electric Station Unit 3	0 5 0 0 0 3 8 2	8 7	— 0 0 3	— 0 0	0 7	OF	0 7

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

The I&C Technician was not allowed access into the radiologically controlled area until he successfully completed a radiation protection retraining course. Waterford 3 personnel that work inside the Protected Area were given a special training session which included a briefing on the Contamination Incident which occurred on 1-21-87, the importance of following the health physics requirements, and proper frisking methods when exiting the RCA. Active RWP's were evaluated to ensure that radiological controls have adequate protective requirements. Security personnel were directed during shift briefings to notify H.P. personnel on the loss of power to a portal radiation monitor and to ensure personnel, exiting the PAP, pass through an operable portal monitor. Procedure PS-11-102, Personnel Access and Exit, will be changed to indicate the actions of security personnel on loss of power to the PAP portal radiation monitor by March 20, 1987. Procedure OP-6-001, Plant Distribution Systems, has been revised to have H.P. personnel reset PAP portal monitors upon completion of an AB bus transfer. A visual indicator was installed to indicate a loss of power to a portal monitor.

The contamination levels on the I&C technician and his clothing were insufficient to cause measurable area radiation levels and careful surveys indicated there was no transfer of the contamination in uncontrolled areas. Therefore, there was no potential for exposures to the general public in excess of 10 CFR 20 limits. Due to the release of some measurable activity to uncontrolled areas for a short period, this event is reported pursuant to 10 CFR 20.405(a)(1)(v).

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

February 23, 1987

W3A87-0030

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-87-003-00 for Waterford 3.
This Licensee Event Report is submitted per Regulatory Guide 10CFR20.405
(a)(1)(v).

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

IE22
1/1