

ACCELERATED DISTRIBUTION DEMONSTRATION SYSTEM

REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR: 9104120346 DOC. DATE: 91/04/08 NOTARIZED: NO DOCKET #
FACIL: 50-315 Donald C. Cook Nuclear Power Plant, Unit 1, Indiana & 05000315
AUTH. NAME AUTHOR AFFILIATION
WOJCIK, J.T. Indiana Michigan Power Co. (formerly Indiana & Michigan Ele
BLIND, A.A. Indiana Michigan Power Co. (formerly Indiana & Michigan Ele
RECIP. NAME RECIPIENT AFFILIATION

SUBJECT: LER 91-003-00: on 910308, liquid release to unrestricted area
in violation of tech spec. Caused by failure of Hi Fail
status of RRS-1000 to produce trip. Operations procedure 12
OHP revised. W/910408 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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INTERNAL:	ACNW	2 2	AEOD/DOA	1 1
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	NRR/DET/ECMB 9H	1 1	NRR/DET/EMEB 7E	1 1
	NRR/DLPQ/LHFB11	1 1	NRR/DLPQ/LPEB10	1 1
	NRR/DOEA/OEAB	1 1	NRR/DREP/PRPB11	2 2
	NRR/DST/SELB 8D	1 1	NRR/DST/SICB 7E	1 1
	NRR/DST/SPLB8D1	1 1	NRR/DST/SRXB 8E	1 1
	REG FILE 02	1 1	RES/DSIR/EIB	1 1
	RGN3 FILE 01	1 1		
EXTERNAL:	EG&G BRYCE, J.H	3 3	L ST LOBBY WARD	1 1
	NRC PDR	1 1	NSIC MAYS, G	1 1
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April 8, 1991

United States Nuclear Regulatory Commission
Document Control Desk
Rockville, Maryland 20852

Operating Licenses DPR-58
Docket No. 50-315

Document Control Manager:

In accordance with the criteria established by
10 CFR 50.73 entitled Licensee Event Reporting System,
the following report is being submitted:

91-003-00

Sincerely,

A handwritten signature in cursive script, appearing to read 'A. A. Blind'.

A.A. Blind
Plant Manager

AAB:sb

Attachment

c: D.H. Williams, Jr.
A.B. Davis, Region III
M.P. Alexich
P.A. Barrett
B.F. Henderson
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B. Walters - Ft. Wayne
NRC Resident Inspector
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1E22

LICENSEE EVENT REPORT (LER)

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 60.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (P-530), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

FACILITY NAME (1)
D. C. COOK NUCLEAR PLANT UNIT 1

DOCKET NUMBER (2)
0 5 0 0 0 3 1 5

PAGE (3)
1 OF 0 4

TITLE (4)
LIQUID RELEASE TO UNRESTRICTED AREA IN VIOLATION OF TECHNICAL SPECIFICATION 3/4.3.3

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	0	8	9	1	9	1	0	0	3	1	5
									D.C. COOK PLANT UNIT 2		0 5 0 0 0 3 1 6	
											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)	20.402(b)	20.405(c)	60.73(a)(2)(iv)	73.71(b)
1	20.405(a)(1)(i)	60.38(c)(1)	60.73(a)(2)(v)	73.71(c)
POWER LEVEL (10) 1 0 0	20.405(a)(1)(ii)	60.38(c)(2)	60.73(a)(2)(vi)	OTHER (Specify in Abstract below and in Text, NRC Form 366A)
	20.405(a)(1)(iii)	X 60.73(a)(2)(i)	60.73(a)(2)(vii)	
	20.405(a)(1)(iv)	60.73(a)(2)(ii)	60.73(a)(2)(viii)(A)	
	20.405(a)(1)(v)	60.73(a)(2)(iii)	60.73(a)(2)(viii)(B)	
		60.73(a)(2)(iv)	60.73(a)(2)(ix)	

LICENSEE CONTACT FOR THIS LER (12)

NAME
J. T. WOJCIK -- TECHNICAL PHYSICAL SCIENCES
DEPARTMENT SUPERINTENDENT

TELEPHONE NUMBER
AREA CODE 6 1 6 4 6 5 - 5 9 0 1

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

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRC	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRC
X	ITM	MON	E	07					

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)

On March 8, 1991 at approximately 0245 hours, a sampled but unmonitored liquid release occurred when a liquid waste release was restarted and completed while the liquid waste discharge monitor (RRS-1000) was inoperable. This is a violation of Technical Specification 3/4.3.3, Radiation Monitoring Instrumentation, LCO 3.3.3.9, Radiation Liquid Effluent Instrumentation. Review of the radioanalytical results of the monitor tank contents indicate that while the maximum permissible concentration (MPC) was at 3.58E+0 MPC (including Tritium), the actual concentration discharged to Lake Michigan was 3.70E-4 MPC when considering monitor tank flow rate (1.24E+2 gpm) and dilution water flow rate (1.20E+6 gpm). Therefore, 10CFR20 limits were not challenged.

The primary factor of this event is the failure of the monitor to actuate the discharge isolation valve, RRV-285, while the radiation monitoring device (RRS-1001) was in a Hi Fail status. The root cause although not conclusive, is attributed to a shorted interrupt logic line which kept the monitor from alarm checking while in the High Fail status. A secondary factor is attributed to the failure of the operator to recognize the significance of a "Hi Fail" status.

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 RECORDS AND REPORTS MANAGEMENT BRANCH (P-530), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

FACILITY NAME (1) D. C. COOK NUCLEAR PLANT UNIT 1	DOCKET NUMBER (2) 0 5 0 0 0 3 1 5	LER NUMBER (6)			PAGE (3)		
		YEAR 9 1	SEQUENTIAL NUMBER 0 0 3	REVISION NUMBER 0 0			

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

Conditions Prior to Occurrence

Unit 1 and Unit 2 (EIIS/AB-RCT) at Mode 1 (Power Operations), 100% power.

Description of Event

On March 8, 1991, at approximately 0100 hours, Operations personnel began discharging liquid waste release number L91-035. The release was automatically terminated at 0131 hours on a sample flow trip (External Fail). The sample flow through the off-line radiation monitor (EIIS/IL-MON) exceeded the high flow setpoint (approximately 14 gpm) when the operator was attempting to balance the release flow rate and sample flow rate in accordance with the procedure 12 OHP 4021.006.004. In accordance with step 10.8 of the procedure, the individual called the Unit Supervisor (US) to request restart of the release. This step allows restart of the release if the termination was due to a sample flow adjustment problem. The US agreed to the restart. At approximately 0157 hours, while attempting to adjust sample flow, the release was once again automatically terminated due to sample flow out of limits. It was at this time the radiation monitor went not only into an External Fail status but also went into a Hi Fail status on channels 1 and 3. Channel 1 is the detector which views the effluent sample. Channel 3 is the local area radiation detector which is not associated with the actual release. It should also be recognized that the External Fail flow alarms are displayed using channel 1.

After the second trip, the US requested another operator to investigate the problems the shift was having with this release. The individual reviewed the Radiation Monitoring System (RMS) CRT and noted the Hi Fail status and the count rate exhibited by channel 1 which appeared normal. He deduced incorrectly that the Hi Fail was not valid since the detector response appeared normal and below the high alarm setpoint, therefore the problems existed in adjusting sample flow.

The release was restarted at 0245 hours and continued until completion at 0500 hours. During this time, the monitor was in a Hi Fail status with channel 1 ten-minute averages at negative count rates. A Hi Fail status provides a trip signal to the isolation valve and monitor tank pump and should not have allowed restart of the release.

The condition was discovered by Operations personnel when obtaining a ten-minute average history printout from the control terminal (CT) for the Eberline Radiation Monitoring System at the end of the release as required by 12 OHP 4021.006.004.

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 600 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (P-530), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

FACILITY NAME (1) D. C. COOK NUCLEAR PLANT UNIT 1	DOCKET NUMBER (2) 0 5 0 0 0 3 1 5	LER NUMBER (6)			PAGE (3)	
		YEAR 9 1	SEQUENTIAL NUMBER 0 0 3	REVISION NUMBER 0 0	0 3 OF 0 4	

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

Technical Specification 3/4.3.3 LCO 3.3.3.9 requires that with a required channel inoperable, releases may continue up to thirty days providing at least two independent samples are analyzed in accordance with Specification 4.11.1.1.1 and at least two qualified individuals verify discharge valving prior to initiating the release otherwise, suspended releases via this pathway. This specification was not complied with from approximately 0245 to 0500 hours for release L91-035.

Cause of Event

The event was caused by two factors. The primary factor is the failure of the H1 Fail status of RRS-1000 to produce a trip signal to terminate the release. The second factor is attributed to the failure of the operator to recognize the significance of a H1 Fail status.

Analysis of Event

A review of the release flow rate, the dilution water flow rate and the radioanalytical results of the Monitor Tank being release indicates that the actual total MPC value for the release was $3.70E-4$ when accounting for the Monitor Tank release flow rate ($1.24E+2$ gpm) and the dilution water flow rate ($1.20E+6$ gpm). This event did not have an impact on the health and safety of the public.

Batch liquid releases were ceased pending initial investigation. They have since continued under the requirements of LCO 3.3.3.9, Action Statement 23.

Corrective Action

Troubleshooting of the liquid discharge Monitor (RRS-1000) has verified trip signals and valve isolation due to a H1 Fail status. Operations procedure 12 OHP 4021.006.004 has been revised to require a channel check of the required channel before initiating the release and while the release is in progress. The change will also include acceptance criteria for the channel check.

LICENSEE EVENT REPORT (LER)
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FACILITY NAME (1) D. C. COOK NUCLEAR PLANT UNIT 1	DOCKET NUMBER (2) 0 5 0 0 0 3 1 5 9 1 —	LER NUMBER (6)			PAGE (3)		
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
		9 1 —	0 0 3 —	0 0	0 4	OF	0 4

TEXT (If more space is required, use additional NRC Form 368A's) (17)

Failed Component Identification

Liquid Waste Discharge Monitor

Plant Designation: RRS-1000

Manufacturer: Eberline

Installed Design: American Electric Power Service Corporation (AEPSC)

Previous Similar Events

None.