

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) Waterford 3 Steam Electric Station										DOCKET NUMBER (2) 0 5 0 0 0 3 1 8 2				PAGE (3) 1 OF 0 3									
TITLE (4) Reactor Trip Due To Failure of FWCS Steam Flow Square Root Extractor																							
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										
1	0	2	8	5	8	5	0	4	1	0	0	1	1	0	1	8	5	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)																					
1		20.402(b)				20.405(c)				<input checked="" type="checkbox"/> 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		20.405(a)(1)(ii)				50.36(c)(2)				50.73(a)(2)(vi)				OTHER (Specify in Abstract below and in Text, NRC Form 366A)									
		20.405(a)(1)(iii)				50.73(a)(2)(i)				50.73(a)(2)(vii)(A)													
		20.405(a)(1)(iv)				50.73(a)(2)(ii)				50.73(a)(2)(vii)(B)													
		20.405(a)(1)(v)				50.73(a)(2)(iii)				50.73(a)(2)(ix)													
LICENSEE CONTACT FOR THIS LER (12)																							
NAME										TELEPHONE NUMBER													
L. Myers, Operations Superintendent										5 0 4 4 6 4 - 1 3 1 1 8													
COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)																							
CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPDOS		CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPDOS													
X	J	B	L	C	C 4 9 0	Y																	
SUPPLEMENTAL REPORT EXPECTED (14)												EXPECTED SUBMISSION DATE (15)		MONTH	DAY	YEAR							
<input type="checkbox"/> YES (If yes, complete EXPECTED SUBMISSION DATE)												<input checked="" type="checkbox"/> NO											

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

ABSTRACT

At 0912 hours on October 2, 1985, Waterford 3 Steam Electric Station was at 100% reactor power when an uncomplicated reactor trip occurred due to low water level in Steam Generator number 2. The low water level occurred when the steam flow square root extractor failed low causing a Steam Flow/Feed Flow mismatch resulting in both a reduction in speed of Main Feedwater Pump B and closure of Main Feedwater Regulating Valve FW-173B. Plant conditions were subsequently stabilized in mode 3 (Hot Standby).

Maintenance personnel inspected the square root extractor module but could not determine the failure mechanism. The module has been replaced.

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LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

APPROVED OMB NO. 3150-0104

EXPIRES: 8/31/85

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

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

NARRATIVE

At 0912 hours on October 2, 1985, Waterford 3 Steam Electric Station was at 100% reactor power when the water level in Steam Generator number 2, decreased to the low level reactor trip and Emergency Feedwater Actuation Signal setpoint (27.4% narrow range). Upon receiving the reactor trip, Operations personnel immediately entered procedure OP-902-000, "Emergency Entry Procedure," and OP-902-001, "Uncomplicated Reactor Trip Recovery". Plant conditions were subsequently stabilized in mode 3 (hot standby).

An investigation by Plant personnel attributed the reactor trip to the failure of the steam flow square root extractor in the Feedwater Control System for Steam Generator number 2. When the square root extractor failed low an indicated Steam Flow/Feed Flow mismatch occurred. With an indicated high feedwater flow, the bias input to the indicated level resulted in a rapid increase in compensated level. When the compensated level increase was compared to the normal setpoint, a demand decrease in feedwater flow resulted in Steam Generator number 2. This in turn caused the Main Feedwater Regulating Valve (FW-173B) to travel to the closed position. Since both feedwater pumps were being controlled from Steam Generator number 1 Feedwater Control System, the closing of FW-173B caused a momentary increase in feedwater flow to Steam Generator number 1. Because of this, a demand signal from Steam Generator number 1 Feedwater Control System was issued to reduce feedwater flow. As a result, both feedwater pumps began to decrease speed. The decrease in speed of Main Feedwater Pump B exacerbated the low flow condition which already existed as a result of the closure of FW-173B. The combination of the above events, therefore, decreased the water level in Steam Generator number 2 to the low level reactor trip setpoint.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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

SAFETY CONSEQUENCES AND IMPLICATIONS

The above event resulted in an uncomplicated reactor trip in which no primary system parameters were exceeded. Since the Control Element Assemblies and the Reactor Protective System functioned as designed, the subject event in no way placed Waterford 3 in a degraded safety condition.

CORRECTIVE ACTION

Maintenance personnel inspected the square root extractor module but could not determine the failure mechanism. The subject module was replaced before Waterford 3 returned to power.

SIMILAR EVENTS

None

PLANT CONTACT

L. Myers, Operations Superintendent, 504/464-3118



LOUISIANA
POWER & LIGHT

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November 1, 1985

W3P85-3258
A4.05
QA

Director, Office of Nuclear Reactor Regulation
ATTENTION: Document Control Desk
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

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

Dear Sirs:

Attached is Licensee Event Report Number LER-85-041-00 for the Waterford 3 Steam Electric Station. This Licensee Event Report is submitted per 10CFR50.73(a)(2)(iv).

Very truly yours,

K.W. Cook *for*
Nuclear Support & Licensing Manager

KWC:GEW:sms

Attachment

cc: R.D. Martin, G.W. Knighton, J.H. Wilson, NRC Resident Inspectors
Office, INPO Records Center (J.T. Wheelock), B.W. Churchill,
W.M. Stevenson

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