

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) Grand Gulf Nuclear Station - Unit 1	DOCKET NUMBER (2) 0 5 0 0 0 4 1 6	PAGE (3) 1 OF 03
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TITLE (4)
Failed Level Recorder Contributes to Operational Error Causing a Reactor Scram

EVENT DATE (5)			LER NUMBER (6)		REPORT DATE (7)			OTHER FACILITIES INVOLVED (8)				
MONTH	DAY	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	MONTH	DAY	YEAR	FACILITY NAMES		DOCKET NUMBER(S)		
01	01	86	001	00	01	30	86	NA		0 5 0 0 0		
											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) 2	20.402(b)	20.405(c)	<input checked="" type="checkbox"/>	50.73(a)(2)(iv)	73.71(b)
POWER LEVEL (10) 01011	20.405(a)(1)(i)	50.38(c)(1)	<input type="checkbox"/>	50.73(a)(2)(v)	73.71(e)
	20.405(a)(1)(ii)	50.3d(c)(2)	<input type="checkbox"/>	50.73(a)(2)(vii)	OTHER (Specify in Abstract below and in Text, NRC Form 366A)
	20.405(a)(1)(iii)	50.73(a)(2)(i)	<input type="checkbox"/>	50.73(a)(2)(viii)(A)	
	20.405(a)(1)(iv)	50.73(a)(2)(ii)	<input type="checkbox"/>	50.73(a)(2)(viii)(B)	
	20.405(a)(1)(v)	50.73(a)(2)(iii)	<input type="checkbox"/>	50.73(a)(2)(x)	

LICENSEE CONTACT FOR THIS LER (12)

NAME Ronald Byrd/Licensing Engineer	TELEPHONE NUMBER 61011 41371-1211419
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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

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 January 1, 1986, the reactor automatically scrambled due to low reactor water level. An operator had raised the turbine steam pressure demand setpoint to 600 psig during a plant startup. The increased reactor pressure caused the feedwater flow to decrease because the feedwater system discharge pressure was not sufficient to overcome the reactor pressure. The reactor water level began to drop. However, the water level recorder was indicating a normal level due to a stuck recorder pen. The operator continued to withdraw control rods until an Automatic Depressurization System (ADS) level 3 confirmation signal annunciated. At this time the operator realized that the level indication on the recorder was wrong, but had no time to take corrective action to prevent the scram. Other water level instrumentation was operable and indicated actual level during the event, but was not used by the operator. Corrective actions include revisions to the Alarm Response Instructions, a memorandum issued to Licensed Operators concerning this event, and simulator training on the use of redundant instruments.

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NRC Form 388A
(9-83)

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

U.S. NUCLEAR REGULATORY COMMISSION

APPROVED OMB NO 3150-0104

EXPIRES 8/31/85

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)		
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
Grand Gulf Nuclear Station - Unit 1	0 5 0 0 0 4 1 6 8 6	-	0 0 1	-	0 0 0	2	OF 0 3

TEXT (if more space is required, use additional NRC Form 388A's) (17)

A. Reportable Occurrence

On January 1, 1986, the reactor automatically scrambled due to low vessel water level. The actuation of the Reactor Protection System (RPS) is reportable pursuant to 10CFR50.72(b)(2)(if) and 10CFR50.73(a)(2)(iv).

B. Initial Conditions

The reactor was in mode 2, Startup, and operating at less than 1.0 percent power. Prior to the scram, an operator raised the turbine steam pressure demand setpoint to 600 psig.

C. Description of Occurrence

On January 1, 1986 at 0912, the reactor automatically scrambled due to low vessel water level. The reactor was in the startup mode and operating at less than 1.0 percent power. Prior to the scram, an operator raised the turbine steam pressure demand setpoint to 600 psig. This limits the reactor pressure to 600 psig by the automatic opening of the turbine bypass valves. He then continued to pull control rods to increase power. As a result of the reactor pressure increase from raising the pressure setpoint earlier, the feedwater flow decreased because the feedwater system discharge pressure had not been raised sufficiently to overcome the reactor pressure. At this time the operator at the control saw the water level recorder (C34-R615) indicating about 36 inches and thus believed that the level was normal. He then proceeded to continue pulling the control rods. The reactor water level high/low alarm annunciated but the operator thought it was due to a high water level signal since a high level alarm would have been received at about 35.5". However, other water level instrumentation, C34-R606A, C34-R606B, and C34-R606C, actually indicated that the vessel water level was decreasing and continued to decrease until the Automatic Depressurization System (ADS) level 3 confirmatory signal annunciated. At this time the operator realized that the level indication on the recorder was wrong, but had no time to take corrective action to prevent the reactor scram.

NRC Form 388A
(9-83)

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

U.S. NUCLEAR REGULATORY COMMISSION

APPROVED OMB NO 3150-0104

EXPIRES 8/31/85

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (8)			PAGE (3)	
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER		
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TEXT (If more space is required, use additional NRC Form 388A's) (17)

D. Apparent Cause

The cause was due to an operational error contributed by the failed pen in the narrow range reactor level/pressure recorder on panel 1H13-P680. After observing the recorder and thinking the level was normal, the Licensed Operator continued pulling the control rods. The high/low water level annunciator was mistakenly considered to be a high water level signal, since the recorder indicated this condition. Other water level instrumentation actually indicated that the vessel water level was decreasing and continued to decrease until the ADS level 3 confirmatory signal annunciated. At this time the operator realized that the level indication on the recorder was wrong, but had no time to take corrective action.

E. Supplemental Corrective Action

The Reactor level/pressure recorder C34-R615 was reworked. The Alarm Response Instruction (ARI) for Hi/Lo level was revised to require operators to check redundant level indicators when the alarm is received. A memorandum was issued to all Licensed Operators concerning this event. All Licensed Operators are to receive simulator training on use of redundant instruments. In addition, the event was discussed with each shift by operation's management. The operator at the controls was also issued a letter of reprimand for this incident.

F. Safety Assessment

The RPS system functioned as required. The low water level 4 alarm annunciated. The ADS level 3 confirmatory signal annunciated. There were no safety limits exceeded. Due to the plant operating condition at the time of the scram, neither isolation signals nor other safety systems were activated. Plant restart commenced at 1250 on January 1, 1986.



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January 30, 1986

NUCLEAR LICENSING & SAFETY DEPARTMENT

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

Gentlemen:

SUBJECT: Grand Gulf Nuclear Station
Unit 1
Docket No. 50-416
License No. NPF-29
File: 0260/L-835.0
Failed Level Recorder
Contributes to Operational
Error Causing a Reactor Scram
LER 86-001-0
AECM-86/0028

Attached is Licensee Event Report (LER) 86-001-0 which is a final report.

Yours truly,

L. F. Dale
Director

JRM/SHH:vog
Attachment

cc: Mr. O. D. Kingsley, Jr. (w/a)
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Mr. R. B. McGehee (w/a)
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