

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1)		DOCKET NUMBER (2)	PAGE (3)
Catawba Nuclear Station, Unit 1		0 5 0 0 0 4 1 3 1	OF 0 13

TITLE (4)

Feedwater Isolation Due to Steam Generator High-High Level

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)		
1	1	4	8	4	0 2 1	0 0	1	2	1	4	8	4	0 5 0 0 0
OPERATING MODE (9)			THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR 5. (Check one or more of the following) (11)										
5			20.402(b) <input type="checkbox"/> 20.406(e) <input checked="" type="checkbox"/> 50.73(a)(2)(iv) <input type="checkbox"/> 73.71(b) <input type="checkbox"/>										
POWER LEVEL (10)			20.406(a)(1)(i) <input type="checkbox"/> 50.38(e)(1) <input type="checkbox"/> 50.73(a)(2)(v) <input type="checkbox"/> 73.71(e) <input type="checkbox"/>										
0 1 0 1 0			20.406(a)(1)(ii) <input type="checkbox"/> 50.38(e)(2) <input type="checkbox"/> 50.73(a)(2)(vii) <input type="checkbox"/> OTHER (Specify in Abstract below and in Text, NRC Form 366A) <input type="checkbox"/>										
			20.406(a)(1)(iii) <input type="checkbox"/> 50.73(a)(2)(i) <input type="checkbox"/> 50.73(a)(2)(viii)(A) <input type="checkbox"/>										
			20.406(a)(1)(iv) <input type="checkbox"/> 50.73(a)(2)(ii) <input type="checkbox"/> 50.73(a)(2)(viii)(B) <input type="checkbox"/>										
			20.406(a)(1)(v) <input type="checkbox"/> 50.73(a)(2)(iii) <input type="checkbox"/> 50.73(a)(2)(ix) <input type="checkbox"/>										

LICENSEE CONTACT FOR THIS LER (12)		TELEPHONE NUMBER	
NAME		AREA CODE	
Roger W. Ouellette, Assistant Engineer - Licensing		7 0 1 4 3 7 1 3 1 - 1 7 1 5 1 3 0	

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)		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)

On November 14, 1984, at 1029 hours, Catawba Unit 1 experienced a Feedwater Isolation due to a Steam Generator (S/G) C High-High Level Signal. Instrumentation Procedure IP/1/A/3222/00B, Analog Channel II Operational Test, was being conducted prior to the incident. S/G C Channel II Level Control had been placed in test, taking it out of service and actuating one out of four Solid State Protection System (SSPS) Bistables.

The signal was initiated when the S/G C Channel I SSPS Bistable actuated, satisfying the 2 out of 4 trip logic for High-High Level Signal. An actual S/G High-High Level did not occur. The cause of the Channel I Bistable Actuation could not be determined.

Catawba Unit 1 was in Mode 5, Cold Shutdown, at the time of the incident. This incident is reportable pursuant to 10 CFR 50.73.a.2.iv. and was previously reported pursuant to 10 CFR 50.72(b)(2)(ii).

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LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

U.S. NUCLEAR REGULATORY COMMISSION

APPROVED OMB NO. 3150-0104

EXPIRES 8/31/85

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

Associated with each Steam Generator (S/G) are eight level transmitters and related circuitry, four wide range and four narrow range. The wide range level transmitters provide input only for control room (C/R) indication, and do not provide input to feedwater control. The narrow range level instrumentation provides input for C/R indication, feedwater control, and safety interlocks. Channel I or II controls the feedwater regulating valves for its associated S/G, depending upon the position of the S/G level control selector switch on the main control board. All four channels of narrow range level instrumentation provide input to the Solid State Protection System (SSPS), actuating associated bistables and initiating safety interlocks when safety limits are reached. For example, the safety limit pertinent to this incident is S/G High-High Level (82%, narrow range), which initiates feedwater isolation, turbine trip, and feedwater pump trip.

On November 14, 1984, at 1000 hours, Instrumentation Procedure IP/1/A/3222/00B, Analog Channel II Operability Test, was initiated. The procedure fulfills a Tech Spec requirement for a Monthly Operability Test, and was being performed under standing Work Request 3634SWR.

Per the procedure all S/G Channel Select Switches were to be placed in the Channel I position. This ensures that the S/G Level Channel in test does not control the feedwater regulating valves. The Channel Select Switches for S/G's A, B and D were placed in Channel I. An out-of-service sticker had been placed on the Channel Select Switch for S/G C and on the indicating gauge for Channel I. The out-of-service sticker had been placed per Work Request 12740PS, written to investigate previously encountered problems with Channel I. Because of miscommunication, this switch was left in the Channel II position.

Channel II Level Controls were then placed in test. When this is done, both the High-High and the Low-Low Level Solid State Protection System (SSPS) Bistables are actuated, because there is no longer a signal present to the bistables. Also, since Channel II was controlling S/G C Feedwater Flow, valve CF48, Feedwater Control Bypass, fully opened upon a simulated zero percent S/G C level. Further status light verification was then performed.

At this point, A S/G C High-High Level Signal occurred, initiating feedwater isolation, turbine trip, and feedwater pump trip. Only the C/R Alarms for Steam Generator C, Channels I and II were actuated in the Control Room. The other channels were in normal state.

During this time, it was believed that a S/G C High-High Level was actually occurring. The control for valve CF48 was switched from automatic to manual, and the valve was given a signal to close. The control for CF48 shows only demand, not actual valve position. Not knowing whether or not a feedwater isolation signal had closed CF48, the Nuclear Control Operator (NCO) ensured isolation of flow to S/G C. Also, the NCO isolated blowdown from S/G's A, B and D, and increased blowdown from S/G C. By this time

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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APPROVED OMB NO. 3150-0104

EXPIRES: 8/31/85

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

Channel II was placed back in operation. The S/G C High-High Level then cleared, and after closing the Reactor Trip Breaker, feedwater isolation was reset.

A S/G C High-High Level Signal was present for 7 minutes before being reset. During this time, all systems functioned as designed, with the exception of S/G C Channel I level instrumentation. Apparently, the S/G C Channel I SSPS Bistable became actuated. This, along with the Channel II controls which were in test, satisfied the 2 out of 4 logic for a S/G High-High Level Signal. The reason for this actuation is unknown. Previous problems had been encountered with this channel, and Work Request 127420PS was initiated to investigate and repair. However, a Chart Recorder was attached to the output of Channel I, and no problem was identified. Also, a review of Planning Work Logs showed no associated work taking place at the time of the incident.

CORRECTIVE ACTION

The NCO gave valve CF48 a signal to close and the Channel II Level Controls were returned from test back to normal.

Work Request 127420PS was completed, with no problem identified on Channel I.

Placing Channel II Level Controls back to normal proved to be adequate corrective action, as it cleared the S/G High-High Level Signal.

SAFETY ANALYSIS

Before, during, and after the incident, the plant was in a safe condition, with proper water levels maintained in the Steam Generators. The health and safety of the public was not affected by this incident.

DUKE POWER COMPANY

P.O. BOX 33189
CHARLOTTE, N.C. 28242

HAL B. TUCKER
VICE PRESIDENT
NUCLEAR PRODUCTION

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December 14, 1984

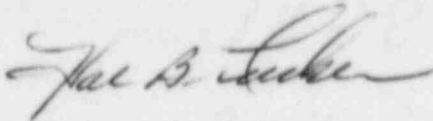
Document Control Desk
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Subject: Catawba Nuclear Station, Unit 1
Docket No. 50-413

Gentlemen:

Pursuant to 10 CFR 50.73 Section (a) (1) and (d), attached is Licensee Event Report 413/84-21 concerning a feedwater isolation due to Steam Generator High-High Level. This event was considered to be of no significance with respect to the health and safety of the public.

Very truly yours,



Hal B. Tucker

RWO:slb

Attachment

cc: Mr. James P. O'Reilly, Regional Administrator
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