

## LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) Catawba Nuclear Station, Unit 1										DOCKET NUMBER (2) 0 5 0 0 0 4 1 1 3					PAGE (3) 1 OF 4								
TITLE (4) Inoperable Steam Generator Channel Not Tripped Within One Hour																							
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	7	8	5	8	5	0	1	9	0	0	0	4	0	5	8	5	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)				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)									
01310		20.405(a)(1)(ii)				50.36(c)(2)				50.73(a)(2)(vi)				OTHER (Specify in Abstract below and in Text, NRC Form 365A)									
		20.405(a)(1)(iii)				X 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													
Roger W. Quелlette, Assistant Engineer - Licensing										AREA CODE		710 4 317 131-17 15 13 10											
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	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 March 7, 1985, at 1630 hours, while Unit 1 was in Mode 1 at 30% Reactor Power, Steam Generator C Level Channel 4 was found to be inoperable during the performance of the Analog Channel Operational Test Channel 4. Per Technical Specifications, power operation can proceed provided the inoperable channel is placed in the trip condition within one hour of the discovery of its inoperability. Power operation continued, but the channel was not tripped until March 8, 1985, at 0700 hours.

This incident is classified as a Personnel Error. The technician performing the test and his Supervisor failed to recognize the inoperable channel as a potential Technical Specification violation, and did not immediately notify the appropriate personnel so that corrective action could be taken.

This incident is reportable pursuant to 10 CFR 50.73, Section (a)(2)(i)(B).

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## LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

APPROVED OMB NO. 3150-0104  
EXPIRES: 8/31/85

FACILITY NAME (1)  Catawba Nuclear Station, Unit 1	DOCKET NUMBER (2)  0   5   0   0   0   4   1   3   8   5   -   0   1   9   -   0   0   0   2   OF   0   4	LER NUMBER (6)			PAGE (3)		
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			

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

The Auxiliary Feedwater (CA) System instrumentation and controls are designed to provide reliable monitoring and control of the Auxiliary Feedwater System so that adequate feedwater is provided to the Steam Generators (S/G's) in the event the main feedwater and condensate systems are not available. The Auxiliary Feedwater System instrumentation and control pertinent to this incident is the S/G Low-Low level. Each of the four S/G's have four channels of Low-Low level instrumentation. If two out of four channels in any steam generator detect a level of less than 17% narrow range, the motor driven auxiliary feedwater pumps are automatically started to feed the steam generators. Also, if two out of four channels in any two steam generators detect a water level of less than 17% narrow range, the turbine driven auxiliary feedwater pump is automatically started to feed the steam generators.

Since the CA System is necessary for Reactor Safety, the operability of its instrumentation is governed by Catawba Technical Specifications. Technical Specification Table 3.3-3, item 8.c, Action 19 states:

- With the number of operable channels one less than the total number of channels, Startup and/or Power Operation may proceed provided the following condition is satisfied:
- The inoperable channel is placed in the tripped condition within 1 hour.

To ensure that the channels are operable, the response time of each channel is demonstrated to be within the limit per Technical Specification Surveillance Requirement 4.3.2.2.

On March 7, 1985, Procedure IP/1/A/3222/00D (Analog Channel Operational Test Channel 4) was begun in order to satisfy Technical Specification Surveillance Requirement 4.3.2.2. At 1630 hours, the technician found that the bistable on circuit card LB537B would not function when the test input signals were applied. The bistable on card LB537B is used for S/G Low-Low Level Channel 4. Thus, the inoperable bistable rendered the entire channel inoperable.

The technician reported to his Supervisor that S/G C Low-Low Level Channel 4 would not function. The Supervisor instructed the technician to complete the test for the remainder of the S/G Low-Low Level Channel 4 instrumentation. The Supervisor told the technician that a work request to repair the inoperable channel would be generated the next morning. The test was completed on March 7, 1985, with the exception of the inoperable channel.

## LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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

At approximately 0700 hours on March 8, 1985, the Supervisor reviewed the test. Upon his review, he realized that S/G Low-Low Level Channel 4 instrumentation should have been tripped within an hour of the discovery of its inoperability if Power Operation was to proceed per Technical Specification Table 3.3-3, item 8.c, Action 19. The Supervisor immediately notified the Shift Supervisor and the Licensing Engineer, and had the technician trip the channel. Work Request 3529 IAE was written to replace and recalibrate circuit card LB537B.

Later that day, the original circuit card containing the inoperable bistable was replaced with a new card. However, the new card also failed to function. The original card was placed back into the process racks. The original card then began to function properly at this time. It was believed that either dust or corrosion on the card connector prevented the bistable from operating. At that time, IP/1/A/3222/00D was completed for S/G Low-Low Level Channel 4 instrumentation with satisfactory results. The new card that had been placed in the process racks was returned to Westinghouse for warranty repair. S/G Low-Low Level Channel 4 was returned to service at approximately 1600 hours on March 8, 1985.

Per IP/1/A/3222/00D, the technician performing the procedure is responsible for reviewing the applicable Technical Specifications. The technician is also responsible for notifying the Supervisor when out of tolerance readings are obtained, since the readings may be reportable as Technical Specification violations. The Supervisor is responsible for reporting Technical Specification violations or possible Technical Specification violations to the Shift Supervisor and the Licensing Engineer.

In practice, the technician and the Shift Supervisor generally review the applicable Technical Specification together. However, since IP/1/A/3222/00D involved most of Chapter 3 (Instrumentation) of Technical Specifications, the review was not performed due to time consideration. The Shift Supervisor asked the technician to inform him when an instrument loop was to be removed from service.

Since the technician did not review the applicable Technical Specification when he found the inoperable channel, he was unaware that a violation would occur if the channel was not tripped within 1 hour. When the technician informed the Supervisor that the channel was inoperable, the IAE Supervisor did not immediately report the event as a possible Technical Specification violation because he also did not question the significance of the inoperable channel at the time. Since the technician and the Supervisor should have recognized a possible Technical Specification violation, this incident is classified as a Personnel Error on the Supervisor and the technician.

## LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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EXPIRES: 8/31/85

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

CORRECTIVE ACTION

1. After the Supervisor realized the mistake, he notified the Shift Supervisor and the Licensing Engineer of the Technical Specification violation.
2. The technician tripped S/G Low-Low Level Channel 4.
3. Work Request 3529 IAE was written to replace and recalibrate circuit card LB537B.
4. The technician removed and then replaced circuit, and it functioned properly at this time.
5. S/G Low-Low Level Channel 4 was then declared operable.
6. This incident will be reviewed with the appropriate personnel.

SAFETY ANALYSIS

The safety related instrumentation and controls, which monitor steam generator levels and which automatically start the auxiliary feedwater pumps, meet system requirements for redundancy and separation. It is designed such that a single failure of the CA System instrumentation and controls cannot prevent the system from supplying feedwater to fewer than two steam generators. Steam Generator C Low-Low Level instrumentation has four channels of which actuation of two of the channels initiates the start of the auxiliary feedwater pumps and a Reactor Trip. Since three other channels were operable, as was proven by IP/1/A/3222/00D, these three could have served to satisfy the 2-out-of-4 logic to automatically start the auxiliary feedwater pumps if S/G Low-Low Level had occurred.

The health and safety of the public were not affected by this incident.

**DUKE POWER COMPANY**

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

HAL B. TUCKER  
VICE PRESIDENT  
NUCLEAR PRODUCTION

April 5, 1985

TELEPHONE  
(704) 373-4531

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 413/85-19 concerning an inoperable steam generator channel not being tripped within one hour. This event was considered to be of no significance with respect to the health and safety of the public.

Very truly yours,

*H.B. Tucker*

Hal B. Tucker

RWO:slb

Attachment

cc: Dr. J. Nelson Grace, Regional Administrator  
U. S. Nuclear Regulatory Commission  
Region II  
101 Marietta Street, NW, Suite 2900  
Atlanta, Georgia 30323

Palmetto Alliance  
2135½ Devine Street  
Columbia, South Carolina 29205

Mr. Jesse L. Riley  
Carolina Environmental Study Group  
854 Henley Place  
Charlotte, North Carolina 28207

Robert Guild, Esq.  
P. O. Box 12097  
Charleston, South Carolina 29412

American Nuclear Insurers  
c/o Dottie Sherman, ANI Library  
The Exchange, Suite 245  
270 Farmington Avenue  
Farmington, CT 06032

M&M Nuclear Consultants  
1221 Avenue of the Americas  
New York, New York 10020

INPO Records Center  
Suite 1500  
1100 Circle 75 Parkway  
Atlanta, Georgia 30339

Catawba Nuclear Station  
NRC Resident Inspector

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