

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) Catawba Nuclear Station, Unit 2	DOCKET NUMBER (2) 0 5 0 0 0 4 1 1 4	PAGE (3) 1 OF 0 4
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TITLE (4)
Safety Injection Due To Personnel Error

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)																																										
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<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td>OPERATING MODE (9)</td> <td>5</td> <td>20.402(b)</td> <td>20.406(e)</td> <td><input checked="" type="checkbox"/></td> <td>50.73(a)(2)(iv)</td> <td>73.71(b)</td> </tr> <tr> <td>POWER LEVEL (10)</td> <td>0 1 0 0</td> <td>20.406(a)(1)(i)</td> <td>50.36(e)(1)</td> <td></td> <td>50.73(a)(2)(v)</td> <td>73.71(e)</td> </tr> <tr> <td></td> <td></td> <td>20.406(a)(1)(ii)</td> <td>50.36(c)(2)</td> <td></td> <td>50.73(a)(2)(vii)</td> <td><input checked="" type="checkbox"/> OTHER (Specify in Abstract below and in Text, NRC Form 366A)</td> </tr> <tr> <td></td> <td></td> <td>20.406(a)(1)(iii)</td> <td>50.73(a)(2)(i)</td> <td></td> <td>50.73(a)(2)(viii)(A)</td> <td>Technical Specifications 3.5.2 and 6.9.2</td> </tr> <tr> <td></td> <td></td> <td>20.406(a)(1)(iv)</td> <td>50.73(a)(2)(ii)</td> <td></td> <td>50.73(a)(2)(viii)(B)</td> <td></td> </tr> <tr> <td></td> <td></td> <td>20.406(a)(1)(v)</td> <td>50.73(a)(2)(iii)</td> <td></td> <td>50.73(a)(2)(ix)</td> <td></td> </tr> </table>												OPERATING MODE (9)	5	20.402(b)	20.406(e)	<input checked="" type="checkbox"/>	50.73(a)(2)(iv)	73.71(b)	POWER LEVEL (10)	0 1 0 0	20.406(a)(1)(i)	50.36(e)(1)		50.73(a)(2)(v)	73.71(e)			20.406(a)(1)(ii)	50.36(c)(2)		50.73(a)(2)(vii)	<input checked="" type="checkbox"/> OTHER (Specify in Abstract below and in Text, NRC Form 366A)			20.406(a)(1)(iii)	50.73(a)(2)(i)		50.73(a)(2)(viii)(A)	Technical Specifications 3.5.2 and 6.9.2			20.406(a)(1)(iv)	50.73(a)(2)(ii)		50.73(a)(2)(viii)(B)				20.406(a)(1)(v)	50.73(a)(2)(iii)		50.73(a)(2)(ix)	
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THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)

LICENSEE CONTACT FOR THIS LER (12)

NAME	TELEPHONE NUMBER
Julio G. Torre, Associate Engineer - Licensing	710 4 317 13 1-18 1 0 2 1 9

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)

YES (If yes, complete EXPECTED SUBMISSION DATE)	<input checked="" type="checkbox"/> NO	EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR

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

On February 9, 1988, at 0929 hours, Safety Injection (S/I) Train A actuated due to low pressurizer pressure when Solid State Protection System Train A was placed in OPERATE by a Nuclear Equipment Operator. Two Operators were in the process of clearing tags to support reactor trip breaker response time testing. The Unit Supervisor intended for the tags to be removed by the Operators and the switches then operated by Duke Power Instrumentation and Electric personnel. The Unit was in Mode 5, Cold Shutdown, at the time of the incident.

This incident is attributed to a personnel error. The Operator removed the tag and repositioned the switch without having the signed tag stub in possession as required by Station Directives. Also, the Tagout Sheet had not been signed by the Supervisor to allow tag removal. During the pre-task briefing, the instructions were adequately communicated and understood by Operations personnel. As the activities progressed, certain aspects of the task were not well communicated by the Supervisor and both Operators. The tagout removal sheet did not indicate a Return Position for the switch, and the Supervisor did not intend for the switch to be repositioned until he signed the Tagout Sheet. Control Room personnel utilized the appropriate Emergency Procedure, reset S/I and the Diesel Generator Load Sequencer, and secured the Emergency Core Cooling System. The incident was reviewed with involved personnel and with all Shift Supervisors. This is the fourth actuation of Safety Injection on the Unit. This LER meets Technical Specifications 3.5.2 and 6.9.2 requirements to submit a Special Report within 90 days of the safety injection actuation. The health and safety of public were unaffected by this event.

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LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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

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

BACKGROUND:

The Solid State Protection System (EIIS:JC) (SSPS) provides logic to ensure that critical parameters are monitored and that protection functions will be automatically actuated in the event certain limits are exceeded. One of the protection functions is the initiation of Safety Injection (EIIS:BQ) (S/I), which will actuate the Emergency Core Cooling System (ECCS). The ECCS is comprised of portions of the Safety Injection (NI) System, Residual Heat Removal (EIIS:BP) (ND) System, Chemical Volume and Control (EIIS:CB) (NV) System, and Refueling Water (FW) System. Components of these systems function to provide high pressure borated injection flow to the reactor (EIIS:RCT).

DESCRIPTION OF INCIDENT:

On the morning of February 9, 1988, the Unit was in Mode 5, Cold Shutdown, following End of Cycle 1 refueling outage. Reactor Coolant level in the reactor vessel was about 6.5% (approximately to the center of the hot legs) and Steam Generator (EIIS:SG) (S/G) eddy current testing was in progress. ND Pump (EIIS:P) 2B was in service. Controls for both trains of SSPS had been placed in TEST while the Unit was being refueled so that unexpected actuations of SSPS would not occur.

In preparation for reactor trip breaker (EIIS:BRK) response time testing, Operations was required to hang new tags on the control rod drive (EIIS:AA) motor generator (EIIS:GEN) sets, clear existing tags on the reactor trip breakers and rack-in the breakers, and clear existing tags on the SSPS TEST-OPERATE switch. The Unit Supervisor held a pre-task briefing in the supervisor's office with Nuclear Equipment Operators (NEOs) A and B to discuss these activities. The NEOs repeated back their understanding of the tasks and equipment locations. The Unit Supervisor gave the tag stubs and tagout sheet for the existing tags to the NEOs for verification following the briefing.

The NEOs proceeded to originate a new tagout for the motor generator sets while the Unit Supervisor contacted Instrumentation and Electrical (IAE) personnel about positioning of the SSPS switches. The Supervisor found that Operations would be required only to remove the tags and IAE would place the switches in OPERATE.

The NEOs completed the new tagout for the motor generator sets and verified the tag stubs against the SSPS tags. They proceeded to the Control Room horseshoe area to have the new tagout acknowledged by the Control Room Operator (CRO). NEO A entered the horseshoe area while NEO B stayed in the rear of the area to limit traffic.

NEO A met the Unit Supervisor in the horseshoe area, and the Supervisor signed the new motor generator tags and returned them to the NEO. He kept the SSPS tag stubs which the NEO had also handed to him. During this time, the Unit Supervisor told NEO A that the SSPS return position was OPERATE but the NEOs were not to reposition the switches. Following NEO A's conversation with the Supervisor, NEO B was not made aware of the conversation's content by NEO A.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

FACILITY NAME (1) Catawba Nuclear Station, Unit 2	DOCKET NUMBER (2) 0500041488-003-0000304	LER NUMBER (6)			PAGE (3)	
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER		

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

Neither the Supervisor nor NEO A added the additional information to the tagout sheet. The NEOs proceeded to and tagged OPEN the feeder breakers to the motor generators. On their way to rack-in reactor trip breakers, the NEOs passed through the Control Room. NEO B stopped and talked with the Unit Supervisor about the return positions of the components. The Unit Supervisor told the NEO that the return position of the SSPS switch was OPERATE, but he apparently did not provide additional information concerning IAE's manipulation of the switches. The Supervisor was not aware that NEO A had not updated NEO B after his initial conversation with the Supervisor.

The NEOs proceeded to and racked-in the reactor trip breakers. The NEOs then proceeded to the SSPS cabinets. Under the impression that they should have the tag stubs in hand, NEO A went to the horseshoe to locate the stubs. NEO B stayed at the SSPS cabinets. Since he thought the tag was to be removed and the switch repositioned, NEO B performed both actions on SSPS Train A, initiating S/I due to low pressurizer pressure at 0929:28 hours. Load Sequencer A was actuated. Containment Isolation was initiated automatically. Main Steam Isolation Valves (EIIIS:V) were already closed. Diesel Generator A started and Feedwater Isolation was initiated automatically. The ECCS Train A Pumps (NV and ND) started and provided injection flow through valve 2NI9A, Charging Pump Discharge to Cold Leg Isolation valve. Charging suction flow swapped automatically to the Refueling Water Storage Tank (EIIIS:TK). Safety Injection Pump 2A was out of service and did not start. Motor Driven Auxiliary Feedwater Pump 2A, Component Cooling Pumps 2A1 and 2A2, and Nuclear Service Water Pump 2 also started following the sequencer actuation.

Control Room personnel entered Abnormal Procedure AP/2/A/5000/05, ECCS Actuation During Shutdown. As directed by the Procedure, Control Room Operators reset S/I and the Load Sequencer at 0930:32 hours. The actuated ECCS Pumps, Auxiliary Feedwater Pumps, and other actuated equipment were secured and returned to previous status. D/G 2A was secured at 0946 hours. NEOs were dispatched to the S/Gs to determine if water had spilled into the S/G as vessel level increased to about 8.5% during the S/I. No water was found to have entered the S/Gs. As required by the Procedure, Operations declared an Unusual Event at 0950 hours. The Unusual Event was terminated at 0955 hours. Reactor vessel level was later returned to 6.5%.

CONCLUSION:

This incident is attributed to a personnel error. The Operator removed the tag and repositioned the switch without having the signed tag stub in possession as required by Station Directives. Also, the Tagout Sheet had not been signed by the Supervisor to allow tag removal. During the pre-task briefing, the expectations were adequately communicated and understood by Operations personnel. As the activities progressed, certain aspects of the task were not well communicated by the Supervisor and both Operators. The Tagout Removal Sheet did not indicate a Return Position for the switch, and the Supervisor did not intend for the switch to be repositioned until he signed the Tagout Sheet.

There have been several Engineered Safety Features (ESF) actuations due to failure to follow procedures (see LER 414/87-25, LER 414/87-27, LER 413/86-51, LER 413/85-48, and IER 413/85-43). Thus, this is considered a recurring event.

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FACILITY NAME (1) Catawba Nuclear Station, Unit 2	DOCKET NUMBER (2) 0 5 0 0 0 4 1 4 8 8 - 0 0 3 - 0 0 0 4 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)

CORRECTIVE ACTION:

SUBSEQUENT

- (1) Safety Injection, D/G Load Sequencer, and Containment Isolation signals were reset by the Control Room Operators.
- (2) The ECCS was reset and secured by the Control Room Operators.
- (3) The involved personnel were counseled by the Shift Supervisor, and the Supervisors were instructed to review the incident with their shift personnel.
- (4) The incident was reviewed in detail with all Shift Supervisors on February 12, 1988.

SAFETY ANALYSIS:

At the time of the Safety Injection, the reactor coolant (EIIIS:AB) level was approximately 6.5% with Residual Heat Removal Pump 2B in service. Reactor coolant was borated to 2111 ppm. Plant response to the Safety Injection was as expected. With the Unit in Cold Shutdown, many of the components which would be actuated by a Safety Injection at power had been previously removed from service. Reactor Coolant temperature remained at approximately 117 degrees F.

Reactor coolant level increased to approximately 8.5% as a result of the Safety Injection. No coolant was found to have flowed into the Steam Generators.

Control Room Operators reset the Safety Injection signal as soon as possible following the completion of the one minute time delay which prevents inadvertent reset. Total injection flow was estimated to be approximately 400 gallons.

This is the fourth actuation of Safety Injection on the Unit. The nozzle usage factor does not exceed 0.7.

This incident is reportable pursuant to 10 CFR 50.73, Section (a)(2)(iv). Additionally, this LER meets Technical Specifications 3.5.2 and 6.9.2 requirements to submit a Special Report within 90 days from the safety injection actuation.

The health and safety of the public were unaffected by this incident.

DUKE POWER COMPANY

P.O. BOX 53...9
CHARLOTTE, N.C. 28242

HAL B. TUCKER
VICE PRESIDENT
NUCLEAR PRODUCTION

TELEPHONE
(704) 373-4531

March 10, 1988

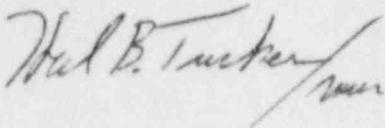
Document Control Desk
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Subject: Catawba Nuclear Station, Unit 2
Docket No. 50-414
LER 414/88-03

Gentlemen:

Pursuant to 10 CFR 50.73 Section (a) (1) and (d), attached is Licensee Event Report 414/88-03 concerning a safety injection due to a personnel error. 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

JGT/10000/sbn

Attachment

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