

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) Catawba Nuclear Station - Unit 1	DOCKET NUMBER (2) 0 5 0 0 0 4 1 3	PAGE (3) 1 OF 0 4
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TITLE (4)
Both Trains of Nuclear Service Water Inoperable Due to Low Torque Settings on Valves

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	2 5 8	5 8 5	0 6 8	0 0	1 2 2 3	8 5		N/A			0 5 0 0 0		
												0 5 0 0 0		

OPERATING MODE (9) 1	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR § (Check one or more of the following) (11)											
POWER LEVEL (10) 0 4 5	20.402(b)			20.405(c)			50.73(a)(2)(iv)			73.71(b)		
	20.405(a)(1)(i)			50.38(c)(1)			50.73(a)(2)(v)			73.71(c)		
	20.405(a)(1)(ii)			50.38(c)(2)			50.73(a)(2)(vii)			OTHER (Specify in Abstract below and in Text, NRC Form 366A)		
	20.405(a)(1)(iii)			X 50.73(a)(2)(i)			50.73(a)(2)(viii)(A)					
	20.405(a)(1)(iv)			50.73(a)(2)(ii)			50.73(a)(2)(viii)(B)					
20.405(a)(1)(v)			50.73(a)(2)(iii)			50.73(a)(2)(ix)						

LICENSEE CONTACT FOR THIS LER (12)									
NAME Roger W. Ouellette, Associate Engineer - Licensing							TELEPHONE NUMBER		
							AREA CODE 7 1 0 4 3 7 3 1 - 1 7 5 3 1 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	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPROS

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)

On November 25, 1985, the inservice test on the Nuclear Service Water (RN) Header 1B Supply Isolation Valve was performed. While stroking the valve, it stopped in the intermediate position. Train B of RN was declared inoperable and Train A of RN was placed in service. Upon starting RN Pump 1A, the discharge isolation valve also stopped in the intermediate position. Train A of RN was declared inoperable and Technical Specification 3.0.3 was entered due to the simultaneous inoperability of both trains of RN. Both trains of RN were inoperable for 73 minutes until the RN Header 1B Supply Isolation Valve was opened and Train B of RN was declared operable.

Investigation revealed that the torque switches for the valves were set at the low end of the allowable tolerance. These settings did not allow the valves to open completely. Therefore, this incident is classified as a Design Deficiency. Unit 1 was at 45% power. 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

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		8 5	0 6 8	0 0	0 2	OF	0 4

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

BACKGROUND

The Nuclear Service Water (RN) System (EIIS:BI) is a raw water cooling system which serves as the ultimate heat sink for essential and non-essential primary loads, as the assured source of suction for the Auxiliary Feedwater System and cooling for heat loads served by the Containment Chilled Water System (EIIS:CC). There are two independent and redundant trains of RN. Each train includes two RN Pumps with one RN Pump being capable of supplying Unit 1 and Unit 2 with ample cooling during normal operation, and one pump per unit required to supply ample cooling in emergency conditions.

The RN Pump's discharge isolation valves are interlocked with their corresponding pump motor starter to open after the pump starts, and close when the pump stops. They receive a safety injection signal to open indirectly from the pump motor circuit. The RN Header Supply Isolation Valves isolate the RN Essential headers from the main supply lines. They receive a safety injection signal to open and are also open during normal plant operation.

DESCRIPTION OF INCIDENT

At approximately 1030 hours on November 25, 1985, the inservice test on 1RN69B, RN Header 1B Supply Isolation was started. The inservice test is performed quarterly to verify stroke time under procedure PT/1/A/4200/13C, RN Valves Inservice Test (QU). At 1045 hours, while stroking the valve from the CLOSE to OPEN position, it stopped in the intermediate position. At that time, Train B of RN was declared inoperable and Train A of RN was to be placed in service. Upon starting RN Pump 1A, valve 1RN28A, RN Pump 1A Discharge Isolation also stopped in the intermediate position at 1100 hours. Train A of RN was declared inoperable and Technical Specification 3.0.3 was entered due to simultaneous inoperability of both trains of RN. Technical Specification 3.0.3 states that the caused inoperability must be corrected within one hour or initiate action to place the unit in Mode 5, Cold Shutdown, within 36 hours.

At 1143 hours, valve 1RN69B was manually opened with power removed from the valve motor. This placed the valve in the required position. The action statement of Technical Specification 3.0.3 was suspended, and Train B of RN was declared operable.

CONCLUSION

Work Requests were initiated to investigate and repair valves 1RN28A and 1RN69B. When personnel investigated the two valves, they found the valves cycling properly. The functional verification on the valves was successfully completed and the work requests were signed off. Another work request was initiated to verify and set the torque settings to the maximum allowable value on valves

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					OF	

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

1RN69B and 1RN28A. The torque settings for both valves were found to be set at 1 1/2, which is the low end of the allowable range specified by the manufacturer. The torque settings for the valves were re-adjusted to the maximum setting of 2 3/4, and the functional verification was successfully completed.

The torque settings for valves 1RN69B and 1RN28A being at the low end of the allowable range caused inconsistent operation of the valves, i.e., failure to completely cycle at times. The lower torque setting may not be sufficient to fully cycle the valves under all system alignments due to back pressure across the valves. Though at the low end of the allowable range as specified by the manufacturer, the torque settings were pre-set by the manufacturer and verified correct during initial setup of the valves. There was a failure to evaluate the total application of the valves to ensure that the torque settings were sufficient. Therefore, the incident is classified as Design Deficiency.

There has been one previous incident in which a torque setting at the low end of the allowable range caused the inconsistent operation of a valve (see LER 413/85-26).

CORRECTIVE ACTION

Immediate

Valve 1RN69B was manually opened with power removed from the valve motor.

Subsequent

The torque settings on valves 1RN69B and 1RN28B were re-adjusted to the maximum allowable setting.

Planned

The valve failures will be evaluated. Any necessary review of system application for valves with torque settings will be addressed.

SAFETY ANALYSIS

The failure of valve 1RN69B to fully open when required reduced the ability of the RN System to provide cooling to A and B Essential Headers, which cools the Component Cooling System and the Containment Spray A and B Trains' heat exchangers. Full RN flow would have been provided to Diesel Generator 1B, but flow would have been reduced to Diesel Generator 1A.

The failure of valve 1RN28A to fully open when required reduced the ability of RN System to provide cooling to Diesel Generator 1A, Diesel Generator 1B, and Essential Headers A and B.

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RN Pump 1B remained in service throughout this incident. Valve 1RN69B was promptly opened manually making RN Train B operable, assuring normal RN operation. Valve 1RN28A could have been manually opened if required for RN Train A operability.

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

DUKE POWER COMPANY

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

TELEPHONE
(704) 373-4531

HAL B. TUCKER
VICE PRESIDENT
NUCLEAR PRODUCTION

December 23, 1985

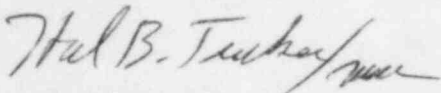
Document Control Desk
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Subject: Catawba Nuclear Station
Docket No. 50-413

Gentlemen:

Pursuant to 10 CFR 50.73 Section (a)(1) and (d), attached is Licensee Event Report 413/85-68 concerning both trains of Nuclear Service Water being inoperable due to low torque settings causing inconsistent valve operation. 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/hrp

Attachment

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

NRC Resident Inspector
Catawba Nuclear Station

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

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