

LICENSEE EVENT REPORT (LER)

(See reverse for required number of digits/characters for each block)

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE INFORMATION AND RECORDS MANAGEMENT BRANCH (MNBB 7714), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555-0001, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

FACILITY NAME (1)

Catawba Nuclear Station, Unit 1

DOCKET NUMBER (2)

05000413

PAGE (3)

1 OF 5

TITLE (4)

Tech. Spec. 3.0.3 Entry Due to Both Trains of Control Room Ventilation Being Inoperable

EVENT DATE (5)			LER NUMBER (6)			REPORT NUMBER (7)			OTHER FACILITIES INVOLVED (8)	
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	MONTH	DAY	YEAR	FACILITY NAME	DOCKET NUMBER
04	20	95	95	001	00	05	22	95	N/A	05000
OPERATING MODE (9)			THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more) (11)							
1			20.402(b)			20.405(c)			50.73(a)(2)(iv)	
POWER LEVEL (10)			20.405(a)(1)(i)			50.36(c)(1)			50.73(a)(2)(v)	
100			20.405(a)(1)(ii)			50.36(c)(2)			50.73(a)(2)(vii)	
			20.405(a)(1)(iii)			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)(x)	

LICENSEE CONTACT FOR THIS LER (12)

NAME

D.P. Kimball, Safety Review Group Manager

TELEPHONE NUMBER (Include Area Code)

(803)831-3743

COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPDOS	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPDOS

SUPPLEMENTAL REPORT EXPECTED (14)

YES (If yes, complete EXPECTED SUBMISSION DATE)	X	NO	EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR
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ABSTRACT (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines) (16)

On April 20, 1995, at 0029 hours, with Units 1 and 2 in Mode 1, Power Operation, at 100% power, Technical Specification (T/S) 3.0.3 was entered due to both trains of the Control Room Ventilation (VC) and Chilled Water (YC) Systems being inoperable. Train 'A' of the VC/YC System was declared inoperable on April 18, 1995, at 0240 hours for preplanned preventive maintenance. On April 20, at 0029 hours, T/S 3.0.3 was entered when YC chiller 'B' tripped due to Nuclear Service Water (RN) discharge flow from 'B' YC chiller being isolated for about 32 seconds. The RN system discharge was being realigned from the Standby Nuclear Service Water Pond to the lake. Immediate corrective action was to open valve 1RN-54A, Station RN Discharge Header Cross-Over Valve, to re-establish the isolated RN discharge flow path from 'B' YC chiller. The chiller was restarted at 0035 hours and T/S 3.0.3 was exited. This event is attributed to system alignment, tagout, restoration not verified by the Unit 1 Senior Reactor Operator (SRO). Corrective actions include Operations Management communicating the expectations for human performance improvement to all Operations work groups, the individual was counseled, and a requirement was added to provide for a second check by an SRO on all tagouts for technical accuracy.

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REQUIRED NUMBER OF DIGITS/CHARACTERS
FOR EACH BLOCK

BLOCK NUMBER	NUMBER OF DIGITS/CHARACTERS	TITLE
1	UP TO 46	FACILITY NAME
2	8 TOTAL 3 IN ADDITION TO 05000	DOCKET NUMBER
3	VARIES	PAGE NUMBER
4	UP TO 76	TITLE
5	6 TOTAL 2 PER BLOCK	EVENT DATE
6	7 TOTAL 2 FOR YEAR 3 FOR SEQUENTIAL NUMBER 2 FOR REVISION NUMBER	LER NUMBER
7	6 TOTAL 2 PER BLOCK	REPORT DATE
8	UP TO 18 -- FACILITY NAME 8 TOTAL -- DOCKET NUMBER 3 IN ADDITION TO 05000	OTHER FACILITIES INVOLVED
9	1	OPERATING MODE
10	3	POWER LEVEL
11	1 CHECK BOX THAT APPLIES	REQUIREMENTS OF 10 CFR
12	UP TO 50 FOR NAME 14 FOR TELEPHONE	LICENSEE CONTACT
13	CAUSE VARIES 2 FOR SYSTEM 4 FOR COMPONENT 4 FOR MANUFACTURER NPRDS VARIES	EACH COMPONENT FAILURE
14	1 CHECK BOX THAT APPLIES	SUPPLEMENTAL REPORT EXPECTED
15	6 TOTAL 2 PER BLOCK	EXPECTED SUBMISSION DATE

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TEXT CONTINUATION

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FACILITY NAME (1)		DOCKET NUMBER (2)	LER NUMBER (4)			PAGE (3)
Catawba Nuclear Station, Unit 1		05000413	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	2 OF 5
			95	001	00	

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

BACKGROUND

The Control Room [EIS:NB] (C/R) Area Ventilation [EIS:VI] (VC) System operates in conjunction with the Control Room Chilled Water [EIS:KM] (YC) System to maintain conditions in the C/R area that are suitable for personnel and equipment. The VC/YC System is also designed to maintain a suitable environment in the following areas of the plant at all times: Cable [EIS:CBL] Room, Battery [EIS:BT] Rooms, Switchgear [EIS:SWGR] Rooms, Motor Control Center [EIS:MCC] (MCC) Rooms, and the Electrical Penetration [EIS:PEN] Rooms at elevation 594+0.

The VC/YC System is shared between both Units and consists of two 100% redundant trains of equipment. Each train is capable of being powered by Unit 1 or Unit 2 4.16 KV Essential Auxiliary Power [EIS:EB] (EPC), but under normal conditions both trains are aligned to Unit 1. Two diesel generators [EIS:DG] (D/Gs) are provided per Unit to energize the Essential Auxiliary Power buses [EIS:BU] during emergency conditions. The VC/YC System operates prior to, during, and after a Loss of Coolant Accident (LOCA) or Blackout (B/O).

The YC portion of the VC/YC System supplies chilled water to all of the air handling units [EIS:AHU] (AHU) serving the C/R, C/R area, and Switchgear Rooms. It consists of two 100% capacity chillers [EIS:CHU] and two 100% capacity chilled water pumps [EIS:P]. Train separation provides that one chiller and associated pump be designated Train 'A' and the other Train 'B', with each serving their respective VC air handling unit.

The discharge valve [EIS:V] that was closed and is the subject of this report is in the Nuclear Service Water [EIS:BI] (RN) system.

The Nuclear Service Water System (RN) provides essential auxiliary support functions to Engineered Safety Features (ESF) of the station. The system is designed to supply cooling water to various heat loads in both the safety and non-safety portions of each unit. Provisions are made to ensure a continuous flow of cooling water to those systems and components necessary for plant safety during normal operation and under accident conditions. Sufficient redundancy of piping and components is provided to ensure that cooling is maintained to essential loads at all times.

EVENT DESCRIPTION

April 18, 1995

0240

With Units 1 and 2 in Mode 1, Power Operation, at 100% power, Train 'A' VC/YC was made inoperable for routine

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

CORRECTIVE ACTION**IMMEDIATE**

- 1RN-54A was opened and the RN discharge flow path was established.

SUBSEQUENT

- Management expectations for human performance improvement was communicated to all OSMs.
- The Operations Superintendent has held "time out" sessions with all Operations work groups to reinforce management expectations for human performance improvement.
- The individual involved was counseled

PLANNED

- OMP 2-18 will be revised to require all tagouts to receive a second check by an SRO for technical accuracy.

SAFETY ANALYSIS

The YC chillers function to remove heat from the Control Room and the Control Room Area by supplying chilled water to the respective VC air handling units in order to maintain a habitable environment for the operators and to maintain temperature within the environmental qualifications for the equipment located in the area.

The VC System supplies filtered air to the Control Room at a slight positive pressure in order to prevent in-leakage of unfiltered air into the area, thus reducing thyroid and skin doses in the Control Room.

During this event the 'B' YC chiller was not in operation for approximately 6 minutes (0029:39 hours through 0035:24 hours). The 90 degree F control room temperature limit in T/S 3.7.6 was not approached.

There were no incidents during the time frame that T/S 3.0.3 was entered which would have required pressurization of the Control Room. Even though the VC portion of the system is declared inoperable when its associated YC chiller is declared inoperable, the VC System is still functional and can supply filtered air to pressurize the Control Room. Train 'B' of the VC System remained functional and in operation during this T/S 3.0.3 entry.

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

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~0029:39 The 'B' YC chiller tripped on low RN flow to the chiller condenser [EIS:COND]. The OATC responded to the low flow alarm and immediately (in about 32 seconds) recognized that 1RN-54A was closed. The OATC opened 1RN-54A, reestablishing RN flow through the 'B' YC chiller. A Non Licensed Operator (NLO) was dispatched to restart the 'B' YC chiller.

~0035 The chiller was reset and restarted.

0035:24 T/S 3.0.3 was exited.

CONCLUSION

The root cause of this event is attributed to system alignment, tagout, restoration not verified by the Unit 1 SRO to prevent tripping the 'B' YC chiller when aligning the RN discharge from the SNSWP back to the lake.

When completing the restoration portion of the R&R to align RN from the SNSWP to the lake, the Unit 1 SRO failed to verify that all valves on the R&R were listed in the procedure. Valve 1RN-54A was not listed in the procedure to be realigned. As a result, the Unit 1 SRO failed to sequence the R&R such that 1RN-54A was opened prior to completing the procedure. With valve 1RN-54A closed and RN discharge flow aligned to the lake there was no RN discharge flow path and the 'B' YC chiller tripped on low flow to the condenser.

Due to this event, as well as other recent events that involved less than adequate Work Practices, Station and Operations management met with all Operations Shift Managers (OSMs) on May 8, 1995. During this meeting, these events were reviewed and specific expectations for human performance improvements were discussed. Following this meeting, the Operations Superintendent held group "time outs" with all Operations work groups to reinforce expectations for human performance improvement.

A review of reportable events which have occurred during the 24 months prior to this event indicated that entry into T/S 3.0.3 due to both trains of VC/YC being inoperable is a recurring problem. Licensee Event Report (LER) 413/93-009 involved a failure to apply self-checking to ensure the correct component in that a technician cut the wrong wire after first identifying the correct one and LER 413/94-006 involved an NLO selecting the wrong tagged position for a damper [EIS: DMP].

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maintenance on both the ventilation and chilled water portions of the system. Appropriate entries were made in the Technical Specification Action Item Log (TSAIL) for the planned activities.

April 19, 1995

- ~0600 Operations completed removal and restoration (R&R) tagout 15-1322 to maintain RN/VC operability while 1EMXG, 1EMXO, and 1EMXQ MCCs were de-energized by aligning RN from the lake to the SNSWP. Valve 1RN-54A, RN Discharge Header Cross-Over Valve, was closed by the R&R.
- ~1600 Maintenance personnel completed the breaker [EIS:52] work and notified Operations that the R&Rs associated with MCC 1EMXG, 1EMXO and 1EMXQ could be closed and the MCCs re-energized.
- ~2300 Operations began the restoration process using the R&Rs and OP/0/A/6400/06C, Nuclear Service Water System, to energize the motor control centers and re-align the RN discharge from the SNSWP to the lake. The Operations Shift Manager (OSM), Unit 1 SRO, Control Room SRO, and the Operator At The Controls (OATC) discussed how to complete the restoration portion of the R&R and align RN from the SNSWP to the lake. The plan was to restore power to affected valves on the R&R, realign RN from the SNSWP to the lake per procedure, and restore the remaining items on the R&R. The Unit 1 SRO was assigned to implement the plan. Valve 1RN-54A had been closed by the R&R and was closed when the shift aligned RN back to the lake per the procedure. With 1RN-54A closed there was no RN flow path through the 'B' YC chiller to the RN discharge.

April 20, 1995

- ~0029 Valve 1RN-54A had been closed by the R&R and was closed when the shift aligned RN back to the lake per the procedure. With 1RN-54A closed there was no RN flow path through the 'B' YC chiller to the RN discharge.