

Duke Power Company
Catawba Nuclear Station
4800 Concord Road
York, SC 29745

(803)831-3000



DUKE POWER

September 29, 1994

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

Subject: Catawba Nuclear Station
Docket No. 50-414
LER 414/94-004

Gentlemen:

Attached is Licensee Event Report 414/94-004 concerning MISSED IWV STROKE TIME TESTS DUE TO WRITTEN COMMUNICATION.

This event was considered to be of no significance with respect to the health and safety of the public.

Very truly yours,

A handwritten signature in dark ink, appearing to read 'D. L. Rehn'.

D. L. Rehn

xc: Mr. S. D. Ebnetter
Regional Administrator, Region II
U. S. Nuclear Regulatory Commission
101 Marietta Street, NW, Suite 2900
Atlanta, GA 30323

Marsh & McLennan Nuclear
1166 Avenue of the Americas
New York, NY 10036-2774

Mr. R. E. Martin
U. S. Nuclear Regulatory Commission
Office of Nuclear Reactor Regulation
Washington, D.C. 20555

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

Mr. R. J. Freudenberger
NRC Resident Inspector
Catawba Nuclear Station

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NRC FORM 366 <small>(5-82)</small>			U.S. NUCLEAR REGULATORY COMMISSION			APPROVED BY OMB NO. 3150-0104 EXPIRES 5/31/95 <small>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 (MNBR 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.</small>					
<h2 style="margin: 0;">LICENSEE EVENT REPORT (LER)</h2> <p style="margin: 5px 0 0 0;"><small>(See reverse for required number of digits/characters for each block)</small></p>											
FACILITY NAME (1) Catawba Nuclear Station, Unit 2						DOCKET NUMBER (2) 05000 414		PAGE (3) 1 OF 6			
TITLE (4) Missed IWV Stroke Time Tests Due to Written Communication											
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	
08	30	94	94	004	00	09	29	94	N/A	05000	
									FACILITY NAME	DOCKET NUMBER	
										05000	
OPERATING MODE (9) 1		THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more) (11)									
		20.402(b)			20.405(c)			50.73(a)(2)(iv)			73.71(b)
POWER LEVEL (10) 100		20.405(a)(1)(i)			50.36(c)(1)			50.73(a)(2)(v)			73.71(c)
		20.405(a)(1)(ii)			50.36(c)(2)			50.73(a)(2)(vii)			OTHER
		20.405(a)(1)(iii)			X 50.73(a)(2)(i)			50.73(a)(2)(viii)(A)			(Specify in Abstract below and in Text, NRC Form 366A)
		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 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 <small>(If yes, complete EXPECTED SUBMISSION DATE)</small>					X NO		EXPECTED SUBMISSION DATE (15)		MONTH	DAY	YEAR
ABSTRACT (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines) (16)											
<p>On August 30, 1994, with Unit 2 in Mode 1, Power Operation, at 100% power, missed inservice valve (IWV) stroke time tests for valves 2KC82B and 2NM200B were discovered during an Engineering self assessment. These valves received quarterly IWV stroke time tests on June 12, 1994, and were identified as having an increase in stroke times greater than the allowable limit specified in the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code, Section XI, Subsection IWV-3417. The use of this code is specified in Technical Specification 4.0.5. Per the requirements of Subsection IWV-3417, the test frequency of these valves shall be increased to monthly until corrective action is successfully completed. The test frequency of these valves was not increased. Due to a procedure revision, the normal expectations of which Station group was responsible for initiating the increase in test frequency was changed. This event is attributed to Written Communication, omission of relevant information. This event has also been assigned a contributing cause of Work Practices, required verification not performed, due to untimely review of the IWV stroke time documentation. Corrective action included IWV stroke time testing of the valves and increasing the test frequency of the valves to monthly. Planned corrective action includes revising the affected procedures, additional training for System Engineers concerning Management's expectations for timely reviews of completed test documentation, and an industry review to identify improvements for Catawba's T/S surveillance program.</p>											

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

LICENSEE EVENT REPORT (LER) **TEXT CONTINUATION**

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)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)
Catawba Nuclear Station, Unit 2	05000 414	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	2 OF 6
		94	- 004 -	00	

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

BACKGROUND

Technical Specification (T/S) 4.0.5 states that the surveillance requirements for inservice inspection and testing of ASME Code Class 1, 2, and 3 components shall be applicable as follows:

Inservice inspection of ASME Code Class 1, 2, and 3 components and inservice testing of ASME Code Class 1, 2, and 3 pumps [EIIS:P] and valves [EIIS:V] shall be performed in accordance with Section XI of the ASME Boiler and Pressure Vessel Code and applicable Addenda as required by 10 CFR Part 50, Section 50.55a(g), except where specific written relief has been granted by the Commission pursuant to 10 CFR Part 50, Section 50.55a(g) (6) (i).

ASME Boiler and Pressure Vessel Code (1983), Section XI, Subsection IWV-3417, states that for power operated valves if an increase in stroke time of 25% or more from the previous test for valves with stroke times greater than 10 seconds or 50% or more for valves with a stroke time of less than or equal to 10 seconds is observed, test frequency shall be increased to once each month until corrective action is taken, at which time the original test frequency shall be resumed.

PT/2/A/4200/09, Engineered Safety Features (ESF) Actuation Periodic Test, is used to verify the Unit 2 ESF components actuate correctly to their safety position within the applicable time limits in response to a Safety Injection, Phase A Isolation, Phase B Isolation, and a Blackout. Additionally, the proper operation of the Unit's diesel generators [EIIS:DG] are verified. Change 92 to this procedure was approved on June 10, 1994. This change was written to include enclosures to the procedure to document IWV stroke time testing performed during ESF testing. Enclosures 13.26 and 13.27 involve Train A IWV stroke time tests and Enclosures 13.28 and 13.29 involve Train B IWV stroke time tests. This change provided an efficient method of documenting the IWV stroke times; previously, separate procedures were completed for each system tested (valves in nineteen systems are tested).

Valve 2KC82B is the Residual Heat Removal [EIIS:BP] (ND) System Heat Exchanger [EIIS:HX] B Outlet Flow Control valve [EIIS:FCV]. Quarterly IWV stroke time testing of this valve is performed per periodic test procedure PT/2/A/4200/21A, Component Cooling [EIIS:CC] (KC) System Valve Inservice Test, Enclosure 13.10. This valve also receives IWV stroke time testing during the performance of procedure PT/2/A/4200/09, Enclosure 13.28, Train B IWV Stroke Time Tests. Credit for performing the quarterly IWV stroke time test is taken when Enclosure 13.28 of PT/2/A/4200/09 is performed.

Valve 2NM200B is the Steam Generator [EIIS:SG] 2B Blowdown [EIIS:WI] Sample Containment Isolation valve [EIIS:ISV]. Quarterly IWV stroke time testing of this valve is per periodic test procedure PT/2/A/4200/25, Nuclear Sampling [EIIS:KN] (NM) System Valve Inservice Test, Enclosure 13.16. IWV stroke time testing of this valve is also performed during ESF testing per PT/2/A/4200/09, Enclosure 13.28. Credit for performing the quarterly IWV stroke test of this valve is taken following completion of Enclosure 13.28 of PT/2/A/4200/09.

LICENSEE EVENT REPORT (LER)

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FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)
Catawba Nuclear Station, Unit 2	05000 414	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	3 OF 6
		94	004	00	

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Nuclear System Directive (NSD) 703, Administrative Instructions for Station Procedures, Section 703.12, Procedure Use and Adherence (Includes Discrepancy/Deficiency), provides for use of the Procedure Discrepancy Process Record if a procedure problem does not affect acceptance criteria of the procedure or prevent satisfactory completion of the procedure. Provisions are provided for corrective actions to resolve the discrepancy.

T/S 4.0.2 states that each Surveillance Requirement shall be performed within the specified time interval with a maximum allowable extension not to exceed 25% of the surveillance interval.

EVENT DESCRIPTION

June 12, 1994

Unit 2 was in Mode 5, Cold Shutdown. PT/2/A/4200/09, Enclosure 13.28, IWV Stroke Time Tests (Train B), was performed by the Operations Test Group (OTG). Stroke times for valves 2KC82B and 2NM200B were within their applicable acceptance criteria, but the percent increase in stroke times were 70.8% and 52.6% respectively. (Note: The test frequency for 2KC82B is required to be increased to monthly if the stroke time increase from the previous test is greater than or equal to 25%; the test frequency of 2NM200B is required to be increased to monthly if the stroke time increase is greater than or equal to 50%.)

OTG Specialist A recorded the percent increase in the IWV stroke times on a Procedure Discrepancy Process Record and forwarded this data to the System Engineer for resolution per Section 12.3.1 of PT/2/A/4200/09.

August 30, 1994

Unit 2 was in Mode 1 at 100% power. An Engineering self assessment identified valves 2KC82B and 2NM200B were required to receive IWV stroke time testing by July 20, 1994 (this date was derived by including the provisions set forth in T/S 4.0.2).

1445 hours

Technical Specification Operability Notification Sheets (TSONS) were written declaring valves 2KC82B and 2NM200B inoperable. OTG personnel began IWV stroke time testing of the valves.

1540 hours

Valve 2NM200B was declared operable following successful IWV stroke time testing.

1545 hours

Valve 2KC82B was declared operable following successful IWV stroke time testing.

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FACILITY NAME (1)		DOCKET NUMBER (2)		LER NUMBER (6)			PAGE (3)
Catawba Nuclear Station, Unit 2		05000414		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	4 OF 6
				94	004	00	

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

CONCLUSION

This event is attributed to Written Communication; Omission of relevant information.

Routine quarterly IWV stroke time testing at Catawba Nuclear Station is performed by the OTG using system specific periodic test procedures. These procedures specify that the OTG is to complete a Test Frequency Change Notification form and inform the Test Supervisor, increase the test frequency to once each month until corrective action is taken, and initiate a corrective action request if an increase in stroke time of 25% or more from previous test for valves with stroke times greater than 10 seconds, or 50% or more for valves with stroke times less than or equal to 10 seconds is observed.

Change 92 to PT/2/A/4200/09 was approved on June 10, 1994. This change provided enclosures in the ESF Actuation periodic test procedure to document stroke time testing performed during this activity. This provided a less time consuming method for documenting IWV stroke time testing and could be used to take credit for the quarterly IWV stroke time testing of the valves involved.

Step 12.3.1 to Enclosure 13.28 (and Enclosure 13.26 for Train A valves) of PT/2/A/4200/09 instructs the OTG technician to verify the percent change compared to the previous IWV stroke time test is acceptable. If an excessive change is noted the OTG technician is instructed to document the change on a Procedure Discrepancy Process Record to be resolved by the responsible System Engineer.

Even though the use of a Procedure Discrepancy Process Record is an acceptable method of documenting discrepancies per NSD 703, Change 92 to PT/2/A/4200/09 deviated from the routine methodology/expectations for documenting and initiating corrective action due to an excessive percentage change in IWV stroke time testing.

OTG Specialist A, during performance of Enclosure 13.28 to PT/2/A/4200/09, correctly followed the procedure by documenting the increase in IWV stroke times on a Procedure Discrepancy Process Record and forwarding this form to the System Engineer. The System Engineer, who was accustomed to the OTG updating the valve testing schedule and initiating corrective action when discrepancies in percent change in IWV stroke times were observed, did not identify that action was required on his part.

This event is also assigned a contributing factor of Work Practices; Other intended or required verification not performed. This cause code is being used due to the System Engineer not performing a timely review of the Procedure Discrepancy Process Record. This lack of timeliness can be attributed to the System Engineer's previous experience/expectations that the OTG had initiated the required corrective actions.

A review of the Operating Experience Program database for the 36 months prior to this event indicates exceeding T/S Surveillance periodic test intervals is a recurring problem. Nine previous events involved failure to perform surveillance testing within the applicable time interval.

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FACILITY NAME (1)		DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)
Catawba Nuclear Station, Unit 2		05000 414	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	5 OF 6
			94	- 004	- 00	

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Station Management is aware that missed T/S Surveillance intervals is a recurring problem. Analysis of these events has indicated that areas of concern include procedural deficiencies, use of multiple periodic test scheduling programs, and insufficient ownership/follow-through to ensure that scheduled periodic test surveillances are performed within the required time interval.

Corrective actions that are being implemented as a result of our previous recognition of this problem include the following:

Inclusion of T/S related periodic testing into the Work Management System (WMS). WMS provides a central methodology of scheduling and controlling T/S related periodic testing.

Site-wide training sessions have been held detailing Management's expectations regarding personal responsibility and procedure use and adherence.

Corrections to deficient procedures and reviews of similar procedures to ensure similar problems did not exist.

A new supervisor, dedicated to ensuring the T/S surveillance process is adequately monitored and continuously improved, has been assigned to the OTG.

The Operations Periodic Test Crew and the Unit Leads (Operations Test Coordinators) have been assigned the responsibility of ensuring assigned periodic tests are completed within the assigned surveillance interval.

Station Management will contact representatives of other nuclear utilities to identify stations which have demonstrated high standards with respect to the performance of T/S surveillances within the specified time intervals. The programs of these stations will be compared/contrasted with Catawba's T/S surveillance program to identify areas for improvement.

CORRECTIVE ACTIONS**SUBSEQUENT**

- 1) Valves 2KC82B and 2NM200B were declared inoperable, were IWV stroke time tested, and upon successful completion of testing were declared operable.
- 2) IWV stroke time periodic test frequency for valves 2KC82B and 2NM200B were increased to monthly.

PLANNED

- 1) Periodic test procedure PT/1(2)/A/4200/09, Enclosures 13.26 and 13.28, will be revised to clarify the expectations of OTG personnel observing an excessive increase in IWV stroke times. Also,

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FACILITY NAME (1)		DOCKET NUMBER (2)		LER NUMBER (6)			PAGE (3)
Catawba Nuclear Station, Unit 2		05000414		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	6 OF 6
				94	- 004	- 00	

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PT/1(2)/A/4200/09A, Auxiliary Safeguards Test Cabinet Periodic Test, Enclosure 13.56, has been identified as requiring this revision.

- 2) Periodic test procedures involving IWV stroke time testing will be reviewed and revised as necessary to document the expectations that OTG personnel increase the test frequency to monthly, initiate corrective action, and notify the responsible System Engineer upon observation of an excessive increase in stroke time.
- 3) An instructional package will be prepared and training will be provided to System Engineers to emphasize Management's expectations for timely review of test documentation.
- 4) Contact representatives of other utilities in the nuclear industry to identify nuclear stations which have demonstrated high standards with respect to the timely performance of T/S surveillances. Compare/contrast the T/S surveillance programs of these sites with Catawba's program to determine areas for improvement.

SAFETY ANALYSIS

Valve 2KC82B serves to regulate KC flow to the ND heat exchanger to support Unit shutdown operations. Since the ND system is also used to mitigate the consequences of a large break Loss of Coolant Accident (LOCA), this valve automatically opens to unisolate the outlet side of the ND heat exchanger "B" when an safety injection (Ss) signal is generated. Flow will commence only after valve 2KC81B is open, however. The Ss signal overrides all non-safety modulation control. In the non-safety configuration, this valve modulates to maintain a desired flow rate.

The required stroke time for 2KC82B is less than or equal to 30 seconds. The IWV stroke time for this valve on June 12, 1994, was 16.4 seconds (compared to the previous stroke time of 9.6 seconds, an increase of 70.8%) and 10.2 seconds on August 30, 1994. The IWV stroke time acceptance criteria for this valve was never exceeded; thus 2KC82B was, and remains, fully capable of performing its design safety function.

Valve 2NM200B is a containment isolation valve and closes on a Phase A containment isolation signal. The stroke time of this valve is controlled by T/S 3.6.3, Containment Isolation Valves, and is specified as less than or equal to 10 seconds. IWV stroke time on June 12, 1994, was 5.8 seconds (compared to the previous stroke time of 3.8 seconds, an increase of 52.6%) and 6.9 seconds on August 30, 1994. The IWV stroke time acceptance criteria for this valve was never exceeded; thus 2NM200B was, and remains, fully capable of performing its design safety function.

The health and safety of the public was not affected by this event.