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December 27, 1990

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

Subject: Catawba Nuclear Station
Docket No. 50-413
LER 413/90-27

Gentlemen:

Attached is Licensee Event Report 413/90-27, concerning TECHNICAL SPECIFICATION VIOLATION DUE TO MISSED VALVE RETEST AND FAILURE TO RECOGNIZE REPORTABILITY.

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

Very truly yours,

J. W. Hampton
Station Manager

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NRC Form 366
(9-83)

U.S. NUCLEAR REGULATORY COMMISSION
APPROVED OMB NO. 3150-0104
EXPIRES: 8/31/88

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1)	DOCKET NUMBER (2)	PAGE (3)
Catawba Nuclear Station, Unit 1	0 5 0 0 0 4 1 3	1 OF 0 6

TITLE (4): Technical Specification Violation Due to Missed Valve Retest and Failure to Recognize Reportability

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 7	9 0	9 0	0 2 7	0 0	1 2	1 9	9 0	CNS, Unit 2	0 5 0 0 0 4 1 4
										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)	1 0 0	20.402(b)	20.405(c)	50.73(a)(2)(iv)	73.71(b)
		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 (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)(x)	

LICENSEE CONTACT FOR THIS LER (12)

NAME	TELEPHONE NUMBER
C. L. Hartzell, Compliance Manager	AREA CODE 8 0 3 — 8 3 1 - 3 6 6 5

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

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS		CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS	

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 April 23, 1987, Design Engineering recommended the addition of 1&2CA173, Discharge of RC check valves, to the Pump and Valve Inservice Test (IST) Program. The valves were incorporated into the IST Program on July 31, 1989, following all required approvals. At 0800 hours, on December 1, 1989, with Units 1 and 2 in Mode 1, Power Operation, it was found that the subject valves were not being retested as required by the IST Program following their removal in support of monthly clam flush activities. Problem Investigation Report (PIR) 0-C89-0359 was initiated at that time to investigate this incident. During the Compliance evaluation, it was determined that the PIR was not reportable since these valves were not containment isolation valves as listed in Technical Specification (T/S) 3/4.6.3. On November 27, 1990, at 1600 hours, during an NRC audit, it was determined that the PIR was reportable based on T/S 4.0.5. The failure to retest valves as required and determination of the PIR's non-reportability are both attributed to Inappropriate Actions. Corrective Actions included discussions between management and the personnel involved and program improvements to ensure implementation of IWV testing as required.

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

BACKGROUND

The Catawba Nuclear Service Water [EIIS:BI] (RN) System, including Lake Wylie and the Standby Nuclear Service Water Pond (SNSWP), is the ultimate heat sink for various QA Condition 1 heat loads during normal operation and postulated accidents. The RN System also supplies emergency makeup water to various QA Condition 1 systems during postulated accidents and cooling flow and flush water for Non-QA heat loads and functions during normal operation. Each RN essential header provides flow to a redundant set of safety related components and systems. The Auxiliary Feedwater [EIIS:BA] (CA) System utilizes the RN System as an assured source of water to the CA Pumps [EIIS:P]. The CA System assures sufficient feedwater supply to the Steam Generators [EIIS:HX] in the event of loss of the Condensate [EIIS:SD] (CM) and Feedwater [EIIS:SJ] (CF) Systems, to remove primary coolant stored and residual core energy.

Technical Specification (T/S) 3/4.6.3 specifies containment isolation valves [EIIS:V] in Tables 3.6-2a and 3.6.2b which are required to be operable in Mode 1, Power Operation, Mode 2, Startup, Mode 3, Hot Standby, and Mode 4, Hot Shutdown. Compliance references this section for applicable valves in determining a PIR's reportability to the NRC. T/S 4.0.5 also addresses surveillance requirements for inservice inspections and testing of ASME Code Class 1, 2, and 3 valves. These are valves which require testing in accordance with Section XI of the ASME Boiler and Pressure Vessel Code and Addenda. This section should also be considered in determining a PIR's reportability.

The Inservice Testing Program for Pumps and Valves (IST) provides a comprehensive testing plan as required by 10CFR50.55a(g). The subject valves are ASME Class 3 valves and are included within the IST Program. These valves require a retest after all maintenance activities. During clam flushing activities, these valves are removed from the line and replaced with screens. After completion of the flush, they are reinstalled within the system. At that time the valves should be retested per the IST Program.

To further enhance the testing program, the Catawba Nuclear Station Post Maintenance Retest Manual has been developed. When fully implemented, the Retest Manual will include all information that is contained within the IST Manual and will also provide additional information. Items such as pertinent Station Work Requests (SWRs), equipment ID numbers, procedures, and responsible groups will be included. The Retest Manual was available for use on December 1, 1990. As a result of the new Retest Manual, Planning now references this document for all pertinent retest information.

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

EVENT DESCRIPTION

The Catawba Testing Review Committee discovered that a failure of 1&2CA173, Discharge of RC check valves could render both trains of the Nuclear Service Water (RN) System to the Auxiliary Feedwater (CA) System inoperable, and initiated Problem Investigation Report (PIR) 0-C87-0087 on April 4, 1987. As an immediate action, the committee requested Design Engineering to evaluate the operability of the RN and CA Systems. Design Engineering evaluated the operability of the systems and determined that they would remain operable should valves 1&2CA173 fail open. Along with the operability determination, on April 23, 1987, Design recommended that 1&2CA173 be added to the Pump and Valve Inservice Testing Program (IST). In response to this recommendation, Catawba Technical Services presented General Office Compliance with a proposed revision to the IST. (Revision 15 for Unit 1 and Revision 6 for Unit 2). Compliance in turn reviewed the proposed revisions and forwarded this information to the NRC for review and approval on July 13, 1988. On May 12, 1989, the NRC determined the revisions requested were acceptable. On July 31, 1989, Revisions 16 (Unit 1) and 7 (Unit 2) were transmitted to all holders of the IST Manual. Revisions 15 and 6 for Units 1 and 2 respectively were incorporated within Revisions 16 and 7 and required that valves 1&2CA173 be tested following maintenance work.

During the time period from July 31, 1989 through December 27, 1989, 1CA173 (Unit 1) missed four required retests, and 2CA173 (Unit 2) missed five required retests following clam flush activities. This is the time period from IST revision until the Standing Work Requests were revised to reflect the new information.

On December 1, 1989, at 0800 hours, with Units 1 and 2 in Mode 1, during a Maintenance review of the IST Manual, it was discovered that valves 1&2CA173 had been incorporated into the IST Manual; however, they were not being retested as specified. PIR 0-C89-0359 was initiated and transmitted to Catawba Compliance to begin an investigation on the problem. Compliance evaluation for PIR 0-C89-0359 determined that the incident was not reportable to the NRC based on T/S 3/4.6.3. This determination was based on the fact that valves 1&2CA173 were not containment isolation valves and not listed in the T/S Tables 3.6-2a & 2b. The PIR was then transmitted to the appropriate plant personnel for the problem resolution. On April 23, 1990, the PIR was completed with all corrective actions accomplished. In response to PIR 0-C89-0359, Maintenance revised standing work requests 8935SWR and 8936SWR to indicate a retest is required each time valves 1&2CA173 are removed from service in support of the Auxiliary Feedwater (CA) System clam flush activities. The Check Valve Maintenance Program was also revised to reflect this information. These document revisions help to insure valves 1&2CA173 will receive the proper retests as prescribed by the IST Program.

*U.S. GPO: 1989-520-589 00070

On November 27, 1990, at 1600 hours, during an NRC Maintenance Inspection Team review of PIRs, it was determined that PIR 0-C89-0359 was reportable to the NRC. Even though valves 1&2CA173 were not containment isolation valves and not listed in T/S Tables 3.6-2a & 2b, they were required to be retested following maintenance in compliance with T/S 4.0.5. As a result of this finding, Compliance initiated PIR 0-C90-0340.

CONCLUSION

This event report is addressing two incidents. The first incident is the failure to perform the required valve retests as prescribed in the Pump and Valve Inservice Test (IST) manual. The second incident is the failure to recognize the reportability of PIR 0-C89-0359. Each event is discussed separately below.

FAILURE TO PERFORM RETESTS AS DIRECTED BY THE IST PROGRAM

This incident is attributed to Inappropriate Action. Specifically, no action was taken by the Maintenance Planner when required due to a lack of attention to detail.

The revision process to the IST Manual proceeded as required and subsequent revisions were in place beginning on July 31, 1989. A breakdown in the valve retests occurred when Planning failed to recognize the new revisions to the IST Manual. Each time the Work Requests were planned for the monthly clam flush activities, which involved valves 1&2CA173, the IST Manual was not reviewed for their applicability.

As a corrective action for PIR 0-C89-0359, Maintenance Engineering Services and Performance reviewed the IST Manual, to ensure that all other valves which required maintenance testing were adequately addressed in existing Maintenance Testing Programs. To ensure all documents affected by previous revisions to the IST Manual have been properly updated, responsible groups will perform further review of IST revisions. For future revisions to the IST Manual, Performance will issue a notification letter to Planning and all affected groups responsible for testing. This notification will prompt the group to revise all applicable documents which will be affected by the IST revision, prior to its implementation. Performance will also include a Memorandum with each IST manual revision to explain in detail all revisions which were incorporated by the revision.

Future plant modifications, CN-11146 and CN-20525, will alleviate the necessity of removing valves 1&2CA173 from service to perform monthly clam flushing activities. Upon completion of these modifications, the frequency of retests for the subject valves will be changed to every refueling outage or following any maintenance activity other than miscellaneous tightening and/or torquing.

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Planning Section management has discussed this event and emphasized to accountable Planners their responsibility to review the Retest Manual when planning Standing Work Requests.

FAILURE TO RECOGNIZE PIR REPORTABILITY

This incident is attributed to Inappropriate Action. Specifically, the response chosen by the responsible Compliance person was incorrect due to a lack of attention to detail.

Catawba Compliance evaluation for PIR 0-C89-0359 determined that the failure to recognize and retest valves 1&2CA173 per the IST Program was not reportable to the NRC. This conclusion was based upon review of Technical Specification (T/S) 3/4.6.3, Tables 3.6-2a & 2b, which did not list the subject CA valves as Containment Isolation Valves.

This determination was correct, however, the T/S required further review to properly determine reportability. Even though Tables 3.6-2a & 2b did not list these valves, T/S 4.0.5 did apply. This section addresses Surveillance Requirements for inservice inspection and testing of ASME Code Class 1, 2, and 3 Components.

Compliance personnel responsible for evaluating PIR's for reportability, have discussed this incident with management. In the future, PIR's which involve valves will be compared with T/S 3/4.6.3, Tables 3.6-2a & 2b as before. Also, Performance will be contacted by Compliance for the valve applicability within the IST Program.

A review of the OEP database for the past 24 months did not reveal any similar events to the two addressed within this report. Neither of the two incidents meet the Nuclear Safety Assurance definition as a recurring problem.

CORRECTIVE ACTION

SUBSEQUENT

1) Standing Work Requests 8935SWR and 8936SWR were revised to show retests required for valves 1&2CA173.

2) Check Valve Maintenance Program was revised to show retests required for valves 1&2CA173.

3) Maintenance and Performance reviewed IST Manual to insure that valves requiring testing by Maintenance were addressed in affected Maintenance Testing Programs.

4) Performance is now issuing a detailed Memorandum with each IST Manual revision.

5) Compliance will either contact Performance or reference the IST/Retest Manuals for future PIR's involving valves.

6) Planning Section management discussed with Planners the importance of reviewing the IST and/or the Retest Manual for retest requirements for all Work Requests and Standing Work Requests.

7) The incident was discussed with Compliance personnel involved.

PLANNED

1) Modifications CN-11146 and CN-20525 will install a by-pass line around valves 1&2CA173; thereafter they will no longer be involved with clam flush activities.

2) Responsible groups will review previous revisions to the IST Manual and update all affected documents as required.

3) Performance will issue a notification form to affected groups to prompt them to revise documents that will change as a result of the IST revision.

SAFETY ANALYSIS

The function of valves 1&2CA173 is to close and prevent flow of RN supplying the CA pumps [EIIS:P] from going into the Condenser Circulating Water [EIIS:SG] (RC) System. Design Engineering has calculated that the RN System and the CA System would remain operable even if valves 1&2CA173 failed open.

A review has shown that valves 1&2CA173 are normally closed unless all sources of CM and RN are lost, in which case these valves will open. Therefore, the chances of these valves failing open are remote.

A review of the Final Safety Analysis Report (FSAR) Chapter 15 reveals that check valves are not addressed while many other types of failures (e.g., motor-operated valves) are discussed. The failure to retest these valves following clam flushing activities in no way affected the operability or degradation of the RN or CA Systems.

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