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DUKE POWER

August 3, 1992

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

Subject: Catawba Nuclear Station
Docket No. 50-413
LER 413/92-007

Gentlemen:

Attached is Licensee Event Report 413/92-007 concerning TECHNICAL SPECIFICATION VIOLATION DUE TO MISSED SURVEILLANCE ON THE UPPER CONTAINMENT PERSONNEL AIR LOCK.

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

Very truly yours,

M. S. Tuckman

cc: Mr. S. D. Ebner
Regional Administrator, Region II
U. S. Nuclear Regulatory Commission
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EXPIRES 4/30/92

LICENSEE EVENT REPORT (LER)

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 500 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (P-530) U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

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| FACILITY NAME (1) Catawba Nuclear Station, Unit 1 | | | | | | | | | | DOCKET NUMBER (2) 0 5 0 0 0 4 1 3 | | | | | | | | | | PAGE (3) 1 OF 0 6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TITLE (4) TECHNICAL SPECIFICATION VIOLATION DUE TO MISSED SURVEILLANCE ON THE UPPER CONTAINMENT PERSONNEL AIR LOCK | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 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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| OPERATING MODE (9) 1 | | | | | | | | | | THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR 5. Check one or more of the following: (11) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| POWER LEVEL (10) 1913 | | | | | | | | | | 20.402(b) | | | | | | | | | | 20.405(c) | | | | | | | | | | 50.73(a)(2)(iv) | | | | | | | | | | 73.71(b) | | | | | | | | | | | | | | | |
| | | | | | | | | | | 20.405(a)(1)(ii) | | | | | | | | | | 50.36(a)(1) | | | | | | | | | | 50.73(a)(2)(v) | | | | | | | | | | 73.71(c) | | | | | | | | | | | | | | | |
| | | | | | | | | | | 20.405(a)(1)(iii) | | | | | | | | | | 50.36(a)(2) | | | | | | | | | | 50.73(a)(2)(vi) | | | | | | | | | | OTHER (Specify in Abstract below and in Text, NRC Reg. 366A) | | | | | | | | | | | | | | | |
| | | | | | | | | | | 20.405(a)(1)(iv) | | | | | | | | | | X 50.73(a)(2)(i) | | | | | | | | | | 50.73(a)(2)(vii)(A) | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | 20.405(a)(1)(v) | | | | | | | | | | 50.73(a)(2)(ii) | | | | | | | | | | 50.73(a)(2)(viii)(B) | | | | | | | | | | | | | | | | | | | | | | | | | |
| 20.405(a)(1)(vi) | | | | | | | | | | 50.73(a)(2)(iii) | | | | | | | | | | 50.73(a)(2)(ix) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| LICENSEE CONTACT FOR THIS LER (12) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| NAME R. C. Futrell, Compliance Manager | | | | | | | | | | | | | | | | | | | | TELEPHONE NUMBER AREA CODE 8 0 3 3 1 1 - 3 6 6 5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT: 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CAUSE | | | | | SYSTEM | | | | | COMPONENT | | | | | MANUFACTURER | | | | | REPORTABLE TO NRC | | | | | CAUSE | | | | | SYSTEM | | | | | COMPONENT | | | | | MANUFACTURER | | | | | REPORTABLE TO NRC | | | | | | | | | | |
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| 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 July 3, 1992, Unit 1 was in Mode 1 Power Operation, at 93% power. Operations Support personnel were preparing to perform the 72 hour Personnel Air Lock Door Annulus Seal Leak Rate Test for the Unit 1 Upper Containment Personnel Air Lock. During test preparation, the Operations Support technician discovered that the previous 72 hour leak rate test had not been performed on the Unit 1 Air Lock as required by Technical Specification Surveillance Requirement (T/S) 4.6.1.3a. On July 3, 1992, at 0940 hours the technician successfully completed the Air Lock Door Annulus Seal Leak Rate Test and the Unit 1 Upper Air Lock was verified operable. However, test completion was not within the required surveillance time frame. This incident is attributed to an Inappropriate Action due to a lack of communication concerning the turnover of test performance responsibility. Contributing to this incident was the lack of a formal verification method to assure test performance and completion. Corrective actions include training of the Operations Support Group concerning communications of turnover responsibility and the development of a formal verification method to assure test completion.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION: REQUEST: 500 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (P-530), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

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BACKGROUND

The Containment Personnel Air Lock System [EHS:NH] (IAE) provides safe access to and from the containment building during plant operation and testing without breaching containment integrity. There are two Personnel Air Locks per unit. The Upper Personnel Air Lock allows access to the upper containment building area and the Lower Personnel Air Lock allows access to the lower containment building area.

Each Personnel Air Lock is designed to provide a continuous seal against any containment pressure which might be developed. Each Air Lock has inner and outer doors which when closed are sealed by two inflatable seals against a stainless steel sealing surface on the bulkhead door frames. Each seal is inflated by a built-in air system with source air provided by the Instrument Air [EHS:LD] (VI) system. A test connection is provided between the inflatable seals to monitor the leak rate during testing. The area between the inflatable seals is called the door seal annulus.

A Volumetrics Autodoor Leak Rate Monitor is also provided on each air lock to detect mass flow rate between the seals and to facilitate testing.

Electrical interlocks are built into the system to only allow one door to be opened at a time. This ensures containment integrity is maintained during operation of the plant.

Technical Specification 4.6.1.3(a) requires that each containment air lock shall be demonstrated operable within 72 hours following each closing, except when the air lock is to be used for multiple entries. During multiple entries, the air lock shall be demonstrated operable at least once per 72 hours. Operability is determined by verifying that the seal leakage is less than 0.01 La when measured for at least 30 seconds with the volume between seals at a constant pressure of 14.68 psig. La (percent/24 hours) means the maximum allowable leakage rate at pressure Pa as specified for preoperational tests in the technical specifications or associated bases, and as specified for periodic tests in the operating license. The term .01 La is equal to 1383 standard cubic centimeters per minute (scm).

Catawba Nuclear Station Directive 3.2.2 (Periodic Testing Program) provides direction for the development and approval of the Periodic Testing program at Catawba. The purpose of this directive is to designate group and section responsibilities for identification, development, conduct and scheduling for periodic tests not performed by Quality Assurance. Section 8.0 details the scheduling of periodic testing and the use of the Catawba Periodic Test (CPT) computer program. The CPT is used to identify surveillance commitments, procedures identified to satisfy these commitments, and surveillance procedure responsibility assignments for Catawba Nuclear Station. The CPT includes all periodic testing, calibration

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or inspection required by regulatory requirements or licensing commitments which have a surveillance interval of once per month or longer. Periodic testing with a more frequent testing interval is not included on the CPT.

Periodic test procedures PT/1(2)/4200/01E (Upper Containment Personnel Air Lock Rate Test) and PT/1(2)/4200/01F (Lower Containment Personnel Air Lock Rate Test) were developed to satisfy the surveillance requirements of Technical Specification 4.1.6.3a. PT/1/A/4200/01E is used to perform the Upper Containment Personnel Air Lock Leak Rate Test. The procedure is divided into enclosures to encompass the specified air lock leak rate testing surveillance requirements of Technical Specification 4.6.1.3. During the performance of the Unit 1, 6 month Integrated Upper Containment Air Lock Leak Rate Test, all enclosures of PT/1/A/4200/01E are completed.

Performance of the Unit 1, Upper Containment 72 hour Door Seal Annulus Leak Rate Test is conducted per enclosure 13.8 which utilizes the Volumetrics Autodoor Monitor to facilitate testing. If the Volumetrics monitor is inoperable, Enclosures 13.9 and 13.10 are used to perform the leak rate test using alternate test instrumentation.

The Operations Support Group is responsible for performing periodic testing of various station equipment and components at Catawba. This Group is a self-directed work group divided into five areas of responsibility. The areas of responsibilities are as follows:

- Specialty Group
- HVAC Group
- Valve Group
- Pump Group
- Procedures Group

The Specialty Group is responsible for performing the required Personnel Air Lock leak rate testing surveillances.

EVENT DESCRIPTION

On Wednesday, July 1, 1992, the 72 hour Personnel Air Lock Door Seal Annulus Leak Rate Test was scheduled to be performed by the Operations Support Specialty Group. This test was to be performed on both the Unit 1 Upper and Lower Personnel Air Locks and the Unit 2 Upper and Lower Air Locks. This test is performed per procedures PT/1/A/4200/01E (Upper Containment) and PT/1/A/4200/01F (Lower Containment) for Unit 1 and PT/2/A/4200/01E (Upper Containment) and PT/2/A/4200/01F (Lower Containment) for Unit 2.

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In addition to the 72 hour Door Seal Annulus Leak Rate Test for both Units, the 6 month Integrated Leak Rate Test for the Unit 2 Lower Air Lock was also scheduled to be performed by the Specialty Group. This testing overlap occurs routinely and is normally performed without incident.

On July 1 1992 during the regularly scheduled Operations Support Group morning meeting, the Specialty group technicians indicated that due to the complexity of the scheduled 6 month Integrated Leak Rate test of the Unit 2 Lower Air Lock, they would require additional assistance in performing the 72 hour Door Seal Annulus Leak Rate Tests for the Unit 1 Upper and Lower Air Lock and the Unit 2 Upper Air Lock. The request for assistance was acknowledged by the other Operations Support Groups, however no formal turnover of responsibility was performed.

On July 1, 1992, at 0912 hours, the Unit 2 Lower Air Lock Seal Door Annulus Test was completed as part of the Unit 2 Lower Integrated Air Lock Leak Rate Test. This was performed by the Operations Support Specialty Group as scheduled. The Unit 2 Upper Air Lock 72 hour Door Seal Annulus Leak Rate Test was completed by the Operations Support HVAC Group on the same date at 1030 hours. The Unit 1 Upper and Lower Air Lock 72 hour Door Annulus Seal Leak Rate Tests were not performed.

On Friday, July 3, 1992, an Operations Support Valve Group technician performed the 72 hour Door Seal Annulus Leak Rate Test for the Unit 2 Upper and Lower and the Unit 1 Lower Air Locks utilizing the Volumetrics Autodoor Monitor provided on each Air Lock. All three air locks were tested successfully.

The technician then prepared to perform the Unit 1 72 hour Upper Air Lock Door Seal Annulus Leak Rate Test. As the technician interfaced with the Control Room, Control Room personnel indicated that there had been an alarm associated with the Volumetrics Autodoor Monitor. This alarm was the Unit 1 Leak Rate Monitor trouble alarm for the Upper Air Lock. The Valve Group technician then verified that the Volumetrics Monitor was inoperable and could not be used to perform the required test. The technician proceeded back to the Control Room to obtain additional procedures, equipment, and assistance in order to perform the Door Seal Annulus Leak Rate Test utilizing alternate test instrumentation. As the technician researched the recent test history of the Unit 1 Upper Containment Air Lock, it was discovered that the 72 hour Door Seal Annulus Leak Rate Test for the Unit 1 Upper and Unit 1 Lower Air Locks had not been performed as scheduled on Wednesday July 1, 1992.

The Unit 1 Upper Air Lock Door Seal Annulus Leak Rate Test was successfully completed by the technician on July 3, 1992 at 0940 hours.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

ESTIMATED BURDEN PER RESPONSE TO COMPL. WITH THIS INFORMATION COLLECTION REQUEST: 200 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (P-630), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20585, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

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The technician researched the Unit 1 Containment Entry Logs to establish entry/exit times for each Air Lock. The technician verified that no entries into Lower Containment had been made via the Unit 1 Lower Air Lock since the last documented test. Therefore, the Technical Specification Surveillance requirement had not been exceeded.

The technician then verified that entry had been made into the Upper Containment via the Upper Air Lock on 6/29/92 at 1015 hours. A comparison review of the documentation verified that the 72 hour Surveillance Requirement of Technical Specification 4.6.1.3a had been exceeded.

CONCLUSION

This incident has been attributed to Inappropriate Action due to a lack of communication concerning the turnover of the test performance responsibility. Contributing to this incident was the lack of a formal verification method to assure test performance and completion.

The failure of the Operations Support Specialty Group to adequately turnover the 72 hour leak rate test responsibility resulted in the missed Surveillance Requirement. Even though assistance to perform the 72 hour Door Annulus Seal Leak Rate Test was requested by the Specialty Group, effective communication was not established. Responsibility for the test was not adequately addressed to assure completion of the required surveillance.

In addition, there was no established verification method to assure completion of the 72 hour Leak Rate test. This is due in part to the lack of an established program to monitor more frequent test interval requirements, i.e. those not on the CPT computer program.

The Operations Support Group has received training to assure that effective communication is utilized when establishing turnover responsibility. In addition, turnover of responsibility is now documented on the affected Operations Support Daily Work List at the time of the turnover. Work List items are then verified complete daily.

To assure that tests with more frequent testing intervals (those not on the CPT) are completed as required, a formal control method of verification will be developed.

A review of the Operating Experience Program database for the previous 24 months indicates that T/S violations due to deficient communication are recurring at Catawba. LER 413/91-007 involved a similar communication problem which resulted in a failure to perform a required surveillance on the Reactor Trip System. Corrective action included Operations Team training with emphasis on improved communication.

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LER 413/91-12 was similar in that it resulted in a breach of containment integrity during core alterations due to deficient communication. Corrective action to ensure adequate communication and coordination during core alterations included training of personnel emphasizing the importance of procedure adherence and revision of the applicable procedure.

Efforts by Station Management to improve communication practices are ongoing. This includes training of plant personnel with emphasis on effective communication practices and the development of programs which encompass the aspects of effective communication and self verification.

CORRECTIVE ACTION

SUBSEQUENT

- 1) The Unit 1 Upper Personnel Air Lock was tested and verified operable.
- 2) The Operations Support Group has received training concerning this event and the importance of thorough communications in establishing turnover responsibility.

PLANNED

- 1) The Operations Support Group will develop a formal verification method to assure that periodic tests with disparate or frequent test intervals are performed and completed as required.

SAFETY ANALYSIS

Successful completion of the Unit 1 Upper Containment Personnel Air Lock Door Seal Annulus test on June 29, 1992, and the subsequent successful test on July 3, 1992, verified that the Upper Air Lock Doors were operational before and after this event. A review of the All Points Database (APD) for the period covered by this event indicated that the containment pressure remained within Technical Specification limits throughout the period. Containment integrity was not compromised as a result of this event.

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