UNITED STATES

November 5, 1999

J. H. Swailes, Vice President of
Nuclear Energy
Nebraska Public Power District
P.O. Box 98
Brownville, Nebraska 68321

SUBJECT: NRC INSPECTION REPORT NO. 50-298/99-13

Dear Mr. Swailes:

This refers to the inspection conducted on August 29 through October 9 at the Cooper Nuclear Station facility. The enclosed report presents the results of this inspection.

The inspectors examined activities conducted under your license as they relate to safety and to compliance with the Commission's rules and regulations and with the conditions of your license. Within these areas, the inspectors examined a selection of procedures and representative records, observed activities, and conducted interviews with personnel.

Based on the results of this inspection, the NRC has determined that one violation of NRC requirements occurred. This violation is being treated as a noncited violation (NCV), consistent with the Interim Enforcement Policy for pilot plants. The NCV is described in the subject inspection report. If you contest this violation, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001; with a copies to the Regional Administrator, Region IV; the Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington, DC 20555-0001; and the NRC Resident Inspector at the Cooper facility.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter, its enclosure, and your response, if requested, will be placed in the NRC Public Document Room (PDR).

Should you have any questions concerning this inspection, we will be pleased to discuss them with you.

Sincerely,

/s/

Charles S. Marschall, Chief
Project Branch C

Docket No.: 50-298
License No.: DPR-46

Enclosure:
NRC Inspection Report No.
50-298/99-13

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E-mail report to D. Lange (DJL)
E-Mail report to Richard Correia (RPC)
E-Mail report to Frank Talbot (FXT)
E-Mail report to NRR Event Tracking System (IPAS)
E-Mail report to Document Control Desk (DOCDESK)
E-Mail all documents to Jim Isom for Pilot Plant Program (JAI)
E-Mail all documents to Sampath Malur for Pilot Plant Program (SKM)

bcc to DCD (IE01)

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ENCLOSURE

U.S. NUCLEAR REGULATORY COMMISSION
REGION IV

Docket No.:	50-298
License No.:	DPR 46
Report No.:	50-298/99-13
Licensee:	Nebraska Public Power District
Facility:	Cooper Nuclear Station
Location:	P.O. Box 98 Brownville, Nebraska
Dates:	August 29 through October 9
Inspectors:	J. Clark, Senior Resident Inspector M. Hay, Resident Inspector W. Sifre, Resident Inspector, South Texas Project R. Azua, Project Engineer, Branch B
Approved By:	Charles S. Marschall, Chief, Project Branch C Division of Reactor Projects

ATTACHMENT: Supplemental Information

SUMMARY OF FINDINGS

Cooper Nuclear Station
NRC Inspection Report 50-298/99-13 (DRP)

The report covers a 6-week period of baseline resident inspection.

The body of the report is organized under the broad categories of Reactor Safety and Other Activities as listed in the summaries below.

In order to assess these findings against fundamental cornerstones of performance these findings were evaluated within the seven cornerstones listed below. Adequate or superior performance is not recognized in these reports. Findings are assessed according to their potential risk significance and are assigned colors of green, white, or yellow. Green findings are indicative of issues that, while they may not be desirable, represent little or no risk to safety. White findings indicate issues with some increased risk to safety, which may require additional inspection resources. Yellow findings are more serious issues with higher potential risk to safe performance. No individual finding is indicative of either acceptable or unsafe performance. The findings are considered in total with other inspection findings and performance indicators to determine overall plant performance.

Barrier Integrity

! Green. 10 CFR Part 50, Appendix B, Criteria XI, requires that licensees have available and use adequate test instrumentation. The failure to use a instrument that provided adequate repeatability for low pressure testing of the primary containment drywell airlock is a violation. We are treating this violation as noncited, consistent with the Interim Enforcement Policy for pilot plants. The licensee placed this issue in the corrective action program as Problem Identification Report 4-04709.

  Since the subsequent airlock leak test at accident pressure proved that the airlock continuously met the Technical Specification 3.6.1.2 requirements for operability, the inspectors concluded that this problem had minimal risk significance (Section 1R22).

Report Details

During this inspection period, the plant operated at 100 percent power, with the exception of a forced outage and minor power reductions for rod pattern adjustments. Operators conducted a forced shutdown on September 17, 1999, following the failure of standby gas treatment system support equipment. They restarted the plant on September 24, 1999, and returned it to full power on September 27, 1999. The plant remained at 100 percent power for the remainder of the period.

2. REACTOR SAFETY
Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity

1R03 Emergent Work

1. Inspection Scope

On September 1, the inspectors observed emergent work to replace Reactor Equipment Cooling Heat Exchanger A Service Water Outlet Valve SW-MOV-650MV. Maintenance craftsmen replaced the valve because the elastomer seat had partially separated from the valve body, causing the motor actuator thermal overloads to trip during valve testing on August 20.

2. Observations and Findings

The inspectors did not identify any findings during this inspection.

1R04 Equipment Alignments

3. Inspection Scope

The inspectors performed a partial walkdown of both divisions of the reactor equipment cooling system. The inspection included a review of the component alignments designated in System Operating Procedure 2.2.65A, AReactor Equipment Cooling Water System Component Checklist,@ Revision 19. The inspectors verified correct component alignments during the inspection using the procedure checklist.

4. Observations and Findings

The inspectors did not identify any findings during this inspection.

1R05 Fire Protection

5. Inspection Scope

Inspectors performed a fire protection walkdown in the service water pump room and critical switchgear Rooms 1F and 1G.

6. Observations and Findings

The inspectors did not identify any findings during this inspection.

1R06 Flood Protection

7. Inspection Scope

Inspectors reviewed the Updated Safety Analysis Report sections pertaining to the plant flooding analysis and compared the commitments with Emergency Procedure 5.1.3, AFlood,@ Revision 27.

8. Observations and Findings

The inspectors did not identify any findings during this inspection.

1R09 Inservice Testing

9. Inspection Scope

The inspectors reviewed the performance of the following in service test procedures:

$ Procedure 6.SUMP.101, AZ Sump and Air Ejector Holdup Line Drain Operability Test@
$ Procedure 6.PAM.601, APrimary Containment Isolation Valve Channel Check@

2. Observations and Findings

The inspectors did not identify any findings during this inspection.

1R10 Large Containment Valves

1. Inspection Scope

The inspectors reviewed local leak rate testing of the drywell airlock, conducted with the reactor in Mode 4, on September 24, 1999. The licensee had performed the test in preparation for a reactor startup following an unplanned reactor shutdown on September 17, 1999.

2. Observations and Findings

On September 22, 1999, the shift technical engineer performed a local leak rate test on the drywell airlock as required by Technical Specification 3.6.1.1.1 and 10 CFR Part 50, Appendix J, Option A. The Type B test results indicated a leak rate of 0.219 standard cubic feet per hour (scfh) meeting the procedural acceptance criteria of 0.23 scfh.

Following completion of the test, licensee personnel performed emergent work inside the drywell, delaying the scheduled plant startup. The work required drywell entry and exit through the airlock. After craftsmen completed the repairs, operators placed the plant in Mode 2 on September 24, 1999, at 3:12 p.m. and commenced reactor startup. At 4:28 p.m., the reactor became critical. Technical Specification 3.6, AContainment Systems,@ requires primary containment integrity in Modes 1, 2, and 3. At 6:46 p.m. the shift technical engineer performed a second local leak rate test on the drywell airlock. The engineer measured an airlock leak rate of 1.18 scfh. This failed to meet the acceptance criteria. Licensed operators appropriately entered Technical Specification 3.6.1.2.C, declaring the primary containment drywell air lock inoperable. Engineers evaluated the primary containment overall leak rate and determined that primary containment remained operable since combined penetration leakage remained less than the limit. Testing after replacement of the outer door seal demonstrated that the inner door remained operable at all times.

10 CFR Part 50, Appendix J, Option A, Section III.D.2(b)(ii), requires that air locks opened during periods when containment integrity is not required by the plant=s Technical Specifications shall be tested at the end of such periods. The licensee stated that the drywell air lock local leak rate test performed on September 22, 1999, satisfied this requirement. Licensee management stated that the containment was administratively declared operable while in Mode 4 at 9:12 p.m. on September 23, 1999. Therefore, the testing requirements of 10 CFR Part 50, Appendix J, Section III.D.2(b)(iii), were applicable. Section III.D.2(b)(iii) requires that air locks opened during periods when containment integrity is required by the plant=s Technical Specifications shall be tested within 3 days after being opened. Licensee management stated that the test conducted on September 24 met this requirement; therefore, they were always in compliance.

The inspectors questioned whether 10 CFR Part 50, Appendix J, Section III.D.2(b)(iii), applied in Mode 4 because, irrespective of the licensee=s administrative procedures, primary containment integrity is not required by Technical Specifications while in Mode 4. Therefore, 10 CFR Part 50, Appendix J, Section III.D.2(b)(ii), may have been the applicable requirement.

Licensee personnel documented this issue in the licensee=s corrective action process as Problem Identification Report 4-04399. The NRC will further review the circumstances surrounding the air lock test failure specifically to determine the applicable requirements. This issue is considered unresolved (URI 298/99013-01).

1R12 Maintenance Rule Implementation

a. Inspection Scope

The inspectors reviewed the daily work schedules on September 16 and 29, 1999. The inspectors observed the reported status of out-of-service equipment and discussed maintenance rule tracking for equipment unavailability with operations and work control personnel.

b. Observations and Findings

The inspectors did not identify any findings during this inspection.

1R13 Maintenance Work Prioritization

10. Inspection Scope

Throughout the inspection period, the inspectors reviewed daily work schedules to observe risk determinations for the scheduled activities. The inspectors also questioned operations and work control personnel regarding risk evaluations for emergent work activities. During the forced outage, September 17-24, 1999, the inspectors reviewed maintenance activities for potential impacts on shutdown safety.

11. Observations and Findings

The inspectors did not identify any findings during this inspection.

1R14 Nonroutine Plant Evolutions

12. Inspection Scope

The inspectors reviewed the plant events and circumstances leading to the declaration of a Notice of Unusual Event on September 17, 1999. Licensed operators had determined that a hydrogen explosion occurred in a sump for the standby gas treatment system. The inspectors reviewed the notifications made by the licensee. The inspectors also discussed the decision process for the event declaration, and exiting the event, with operations staff and plant management.

13. Observations and Findings

The inspectors did not identify any findings during this inspection.

1R15 Operability Evaluations

14. Inspection Scope

The inspectors reviewed the following operability evaluations:

$ Problem Identification Report S/N 4-04146, OD Revision 0, AHV-AO-263AV Slow Stroke Time - Compensatory Actions@

$ Problem Identification Report S/N 3-50843, Revision 0, A125 and 250 VDC system fuses to small for holders@

- $ Problem Identification Report S/N 3-53577, AREV. NO. 0, AWater leaking from DG-1 left bank cylinder@

b. Observations and Findings

The inspectors did not identify any findings during this inspection.

1R16 Operator Work-Arounds

15. Inspection Scope

The inspectors reviewed three current operator work-arounds in the control room. The inspectors discussed the tracking and intended corrective actions with licensed operators in the control room. The inspectors also conducted a semiannual review of the active operator work-arounds for collective significance.

16. Observations and Findings

The inspectors did not identify any findings during this inspection.

1R19 Postmaintenance Testing

17. Inspection Scope

The inspectors observed or evaluated the following postmaintenance tests to determine whether the tests confirmed equipment operability:

- $ Visual inspection and timed stroke testing for Valve SW-MOV-650MV, the reactor equipment cooling Heat Exchanger A service water outlet valve;

- $ In service leak testing and timed stroke testing for Valve HV-AO-265AV, the recircualtion pump motor-generator ventilation secondary containment isolation valve; and

- $ Postmaintenance testing of Valve RW-AOV-AO83.

b. Observations and Findings

The inspectors did not identify any findings during this inspection.

1R22 Surveillance Testing

18. Inspection Scope

The inspectors reviewed the following surveillance tests, performed on the drywell personnel airlock between September 22 and 24, 1999, and compared the documentation to procedural requirements:

$ Procedure 6.2 DG.101, ADiesel Generator 31 Day Operability Test,@ Revision 14

$ Procedure 6.PC.524, APrimary containment Airlock Local Leak Rate Tests,@ Revision 3

b. Observations and Findings

The inspectors noted that technicians used a pressure instrument with a range of 0-100 pounds per square inch absolute (psia) and accurate to within plus or minus 0.01percent of the full range. The instrument also had a resolution of 0.0001 psia. Although the instrument met the procedure requirements, the inspectors concluded its accuracy did not provide repeatable test results at the test pressure of 3 psia. As a result of the insufficient repeatability, technicians might not identify a test failure.

In the most recent calibration data for the instrument, inspectors noted that, for some very minute changes in pressure, the readings were not repeatable to within 0.003 psia. The calibration documented repeatability (hysteresis) values as high as 0.01 psia. During the test on September 22, a drop in pressure of 0.003 psia on the test performed in 1999 resulted in a calculated 0.219 scfh. The procedure provided leakage acceptance criteria of 0.23 scfh. The inspectors calculated that a drop of less than 0.0034 psia would result in exceeding the acceptance criteria. Although the instrument could digitally display pressures as small as 0.0001 psia, it had not been calibrated to accurately respond to pressure changes smaller than 0.01 psia. As a result, the instrument might not indicate any change in pressure for a pressure drop of 0.0034 psia. The inspectors concluded that the licensee had not specified an adequate test instrument for the 3 psia test. The licensee initiated Problem Identification Report 4-04709 to evaluate and correct the problem.

The inspectors also discussed with the licensee the overall containment leakage, if worst case performance of the instrument was assumed. The inspectors concluded that, although airlock acceptance criteria could have been exceeded, overall containment leakage would not have exceeded Technical Specifications. A subsequent airlock test at 58 psia with adequate instrumentation demonstrated that at least one of the airlock doors remained operable at all times. Inspectors determined that the licensee remained in compliance with the Technical Specification 3.6.1.2 requirements for an operable airlock.

10 CFR Part 50, Appendix B, Criteria XI, requires that licensees have available and use adequate test instrumentation. The failure to use a instrument that provided adequate

repeatability for low pressure testing of the primary containment drywell airlock is a violation. We are treating this violation as noncited, consistent with the Interim Enforcement Policy for pilot plants. The licensee placed this issue in the corrective action program as Problem Identification Report 4-04709.

Since the subsequent airlock leak test at accident pressure proved that the airlock continuously met the Technical Specification 3.6.1.2 requirements for operability, the inspectors concluded that this problem had minimal risk significance.

3. OTHER ACTIVITIES

4OA2 Performance Indicator Verification

a. Inspection Scope

The inspectors reviewed a sampling of data and records to determine the validity of the following performance indicators:

$ Loss of Normal Heat Removal
$ Safety System Functional Failures
$ Unplanned Scrams

b. Observations and Findings

The inspectors did not identify any findings during this inspection.

4OA4 Other

19. Inspection Scope

The staff conducted an additional abbreviated review of Y2K activities and documentation using Temporary Instruction 2515/141, AReview of Year 2000 (Y2K) Readiness of Computer Systems at Nuclear Power Plants.@

20. Observations and Findings

The review addressed aspects of the licensee=s Y2K contingency planning and remediation activities. Specifically, the inspectors reviewed those actions the licensee took in response to questions raised by the NRC in a letter dated August 23, 1999, from Mr. L. J. Burkhart, Project Manager, Project Directorate IV & Decommissioning, Division of Licensing Project Management, Office of Nuclear Reactor Regulation, to Mr. J. H. Swailes, Vice President Nuclear Energy, Nebraska Public Power District. The reviewers used NEI/NUSMG 97-07, ANuclear Utility Year 2000 Readiness,@ and NEI/NUSMG 98-07, ANuclear Utility Year 2000 Readiness Contingency Planning,@ as the primary references for this review.

All items reviewed were found to be satisfactory. The results of this review will be incorporated in a summary status report that is updated on a monthly basis.

4OA5 Meetings

.1 Exit Meeting Summary

The inspectors presented the inspection results to members of the licensee's management at the conclusion of the inspection period, on October 14, 1999. The licensee acknowledged the findings presented. The licensee did not consider proprietary any material examined during the inspection.

ATTACHMENT

PARTIAL LIST OF PERSONS CONTACTED

Licensee

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P. Caudill, Technical Services Senior Manager
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J. Swailes, Vice President, Nuclear Energy
R. Wachowiak, Risk Management Supervisor
R. Zipfel, Emergency Preparedness Manager

LIST OF ACRONYMS AND INITIALISMS USED

AOV	air-operated valve
CFR	Code of Federal Regulations
MOV	motor-operated valve
psia	pounds per square inch absolute
scfh	standard cubic feet per hour
VDC	volts-direct current