UNITED STATES

August 9, 1999

G. R. Horn, Senior Vice President
of Energy Supply
Nebraska Public Power District
1414 15th Street
Columbus, Nebraska 68601

SUBJECT: COOPER NUCLEAR STATION INSPECTION REPORT 50-298/99-06

Dear Mr. Horn:

This refers to the inspection conducted May 30 through July 17, 1999, at the Cooper Nuclear Station. 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. Specifically, the inspectors focused on the implementation of your reactor safety and occupational radiation safety programs. During this inspection, the inspectors identified two issues that were categorized as being of low risk significance and within your response band. You have entered these issues into your corrective action program.

In accordance with 10 CFR 2.790 of the NRC=s ARules of Practice,@ a copy of this letter, its enclosures, and your response will be placed in the NRC Public Document Room.

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
Division of Reactor Projects

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

Enclosure:
NRC Inspection Report No.
50-298/99-06

cc w/enclosure:
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ENCLOSURE

U.S. NUCLEAR REGULATORY COMMISSION
REGION IV

Docket No.:	50-298
License No.:	DPR-46
Report No.:	50-298/99-06
Licensee:	Nebraska Public Power District
Facility:	Cooper Nuclear Station
Location:	P.O. Box 98 Brownville, Nebraska
Dates:	May 30 through July 17, 1999
Inspectors:	M. Miller, Senior Resident Inspector D. Loveless, Senior Project Engineer J. Melfi, Project Engineer, Project Branch E
Accompanying Personnel:	L. Willoughby, Reactor Engineer, Technical Support Section M. Hay, Resident Inspector
Approved By:	Charles S. Marschall, Chief, Project Branch C

ATTACHMENT: Supplemental Information

SUMMARY OF FINDINGS

Cooper Nuclear Station
NRC Inspection Report 50-298/99-06

The report covers a 7-week period of baseline resident inspection.

The body of the report is organized under the broad categories of Reactor Safety and Other Activities.

Findings are assessed according to their potential risk significance and are assigned colors of green, white, yellow, or red. Green findings are indicative of issues that, while they may not be desirable, represent little 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. Red findings represent an unacceptable loss of margin to safety and would result in the NRC taking significant actions that could include ordering the plant to be shut down. The findings are considered in total with other inspection findings and performance indicators to determine overall plant performance.

Initiating Events

$ No Significant Findings

Mitigating Systems

$ No Significant Findings

Other

$ No color. The inspectors identified three power changes that the licensee should have reported as part of the performance indicator, Unplanned Power Changes per 7,000 Critical Hours, and did not. Following discussions of these events with licensee representatives, the Nuclear Projects Manager initiated Problem Identification Report 4-02841 to address the problem. The inspectors determined that despite the three additional unplanned power changes, the performance indicator remained green (Section 4OA2).

$ Green. On June 4, 1999, approximately 5,000 gallons of water with 3 to 4 cubic feet of condensate demineralizer resin spilled onto the radioactive waste building basement floor. The inspectors determined that no significant radiation exposure nor potential overexposure had occurred. The inspectors determined that, because no significant radiation exposure nor potential overexposure had occurred, the spill remained within the licensee=s response band (green). Operators documented the event in Problem Identification Report 4-02417 (Section 4OA3).

Report Details

1. REACTOR SAFETY

1R04 Equipment Alignments

2. Inspection Scope

The inspectors performed a partial walkdown of the high-pressure coolant injection system, including all components located in the system pump room. The inspectors reviewed the component alignments designated in Operations Procedure 2.2.33A, AHigh Pressure Coolant Injection System Component Checklist, Revision 13.@ They verified correct component alignments during the inspection using Piping and Instrumentation Drawing 2044, AHigh Pressure Coolant Injection and Reactor Feed Systems.@

3. Observations and Findings

The inspectors did not identify any findings during this inspection.

1R09 Inservice Testing

4. Inspection Scope

The inspectors observed a test conducted using Attachments 1, AHPCI Test Data Sheet,@ and 2 AHPCI IST Data Sheet,@ of Procedure 6.HPCI.103, AHPCI IST and 92 Day Test Mode Surveillance Operation,@ Revision 12. The inspectors performed an evaluation of the system equipment response to the testing to determine the equipment availability and reliability.

b. Observations and Findings

The inspectors did not identify any findings during this inspection.

1R14 Nonroutine Plant Evolutions

5. Inspection Scope

The inspectors reviewed Licensee Event Reports 50-298/99-01 and 50-298/98-01, focusing on operator performance, to determine if operator errors occurred. For those operator errors identified, the inspectors evaluated whether: (1) the operators followed procedures and training, (2) the licensee identified the errors and initiated corrective action, and (3) the corrective action had been effective in preventing recurrence.

6. Observations and Findings

The inspectors did not identify any findings during this inspection.

1R22 Surveillances

a. Inspection Scope

The inspectors observed the following test and reviewed the completed data packages:

$ Surveillance Procedure 6.2DG.101, ADiesel Generator 31 Day Operability Test (IST)@

The inspectors evaluated whether operators and maintenance personnel had performed the testing in an adequate manner to verify compliance with the associated Technical Specification surveillance requirements. They also determined if system components met the acceptance criteria.

b. Observations and Findings

The inspectors did not identify any findings during this inspection.

1R23 Temporary Plant Modifications

1. Inspection Scope

The inspectors reviewed Temporary Modification PTM-96-33, AFP-P-D, Disabling of Remote Stop Capability." In accordance with the modification documents, maintenance personnel had installed a jumper in the diesel-driven fire pump local control cabinet. Engineers had designed the jumper to disable the circuit that allowed operators to stop the pump from the main control room. The engineers had determined that a fire in the cable spreading room or main control room could spuriously energize the remote stop relay. This could have prevented the operation of the fire pump in response to the postulated fire.

The inspectors evaluated the documentation to determine if the modification had resulted in a departure from the design basis or the system success criteria. Additionally, the inspectors evaluated the modification to determine if it had resulted in any temporary or unrecognized risk changes.

2. Observations and Findings

The inspectors did not identify any findings during this inspection.

4. OTHER ACTIVITIES

4OA2 Performance Indicator Verification

1. Inspection Scope

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

$ Unplanned Power Changes per 7,000 Critical Hours
$ Safety System Functional Failures

The inspectors reviewed operating logs for the previous year to identify reactor criticality and power changes. The logs also provided indication of prior planning for the power reductions. The inspectors evaluated a sample of licensee event reports to identify safety system failures and determine if they involved functional failures.

2. Observations and Findings

The draft Nuclear Energy Institute document, NEI 99-02, ARegulatory Assessment Performance Indicator Guideline,@ Revision B, defined the performance indicator, "Unplanned Power Changes per 7,000 Critical Hours," as:

> The number of unplanned changes in reactor power of greater than 20% full-power, per 7000 hours of critical operation excluding manual and automatic scrams.
>
> Unplanned changes in power are defined as changes in reactor power that are initiated less than 72 hours following the discovery of an off-normal condition, and that result in, or require a change in power level of greater than 20% full power to resolve.

During the review of control room logs, the inspectors identified the following three power changes that should have been reported but were not:

1. On May 8, 1999, at 8:46 p.m., with the reactor at 100 percent power, Cooper Nuclear Station operators performed partial stroke surveillance testing of main steam isolation valves. Following the test, one of the valves failed to indicate full open, and the relays failed to reset. At 10:36 a.m. on May 9, operators lowered reactor power to approximately 65 percent to troubleshoot the problem with the valve.

   During the performance indicator verification inspection, the inspectors found that the licensee had not reported this as an unplanned power change. Licensee representatives indicated that the engineer responsible for the indicator did not understand the definition of the performance indicator and that management had not reviewed the supporting documentation prior to reporting the indicator data. Following the inspection, operations department managers stated that they had

anticipated the failure of the main steam isolation valve relays to reset because of similar results seen during a test conducted on March 20, 1999. As a contingency to the relay failure, plant managers had discussed the possibility of reducing power much more than 72 hours prior to the reduction. The operations manager stated that the discussion satisfied the licensee=s criteria used to establish an event as planned. As a result, the licensee did not consider the May 9 power reduction unplanned.

The inspectors informed the licensee that the May 9, 1999, power reduction should have been classified as an unplanned power change. The NRC does not consider such contingency actions as planned events as defined by the performance indicator. Consequently, the inspectors determined that the May 9 event met the definition of an unplanned power change.

2. On April 13, 1998, the lubricating oil pump for Reactor Feedwater Pump B seized, causing a momentary feedwater pump trip signal and brief reduction of the feedwater pump flow. Operators reduced power to 75 percent for troubleshooting and repairs.

3. Also on September 7, 1998, operators reduced reactor power to approximately 70 percent to remove a feedwater pump from service as a result of speed control problems.

Following discussions of these events with licensee representatives, the plant staff initiated Problem Identification Report 4-02841 to address the problem. The inspectors determined that, despite the three additional unplanned power changes, the performance indicator remained green. In addition, inspectors identified an Unresolved Item to determine what, if any, enforcement action the NRC should take in response to incorrect reporting of Performance Indicator data (50-298/99006-01).

The inspectors did not identify any findings related to the Safety System Functional Failures performance indicator.

4OA3 Event Followup

1. Inspection Scope

The inspectors reviewed the licensee=s actions following a June 4, 1999, spill of low-level radioactive condensate demineralizer resin to assess the significance.

2. Observations and Findings

On June 4, 1999, plant operators did a routine backwash of Condensate Demineralizer G. The backwash system's automatic sequencer controlled the evolution. During the evolution, the demineralizer vent valve failed to return to its required closed position. Operators did not observe that the valve remained open. The automatic sequencer had closed a common demineralizer vent header valve, preventing a discharge at that time.

Later that day, operators performed a backwash of Condensate Demineralizer C. When the automatic sequencer opened the common vent header valve, about 20,000 gallons of water flowed out of the open Demineralizer G vent valve. Water and resin overflowed the backwash tank into the radioactive waste building basement sump. The rate of flow caused the drains to back up onto the radioactive waste building floor. Curbs protected the electrical equipment and tanks in the spill area from rising water levels. The licensee estimated that about 3 to 5 cubic feet of resin and 5,000 gallons of water accumulated on the basement floor. The licensee documented the event in Problem Identification Report 4-02417 and dispositioned the concerns as Significant Condition Report 99-0406.

Plant radiation protection personnel observed that general area radiation levels increased from a maximum of 20 mr/hr to a maximum of 60 mr/hr as a result of the spill. Technicians documented radiation levels ranging from 20 to 80 mr/hr in contact with the resin and surveys indicated contamination levels of 250,000 dpm/100 cm^2.

The inspectors determined that, since no significant radiation exposure nor potential overexposure had occurred, the spill remained within the licensee=s area of responsibility for corrective action. It did not require additional NRC involvement (green).

4OA5 Exit Meeting Summary

The inspectors presented the inspection results to members of the licensee=s management at the conclusion of the inspection on July 15, 1999. The NRC conducted additional meetings to discuss the findings on August 3 and 5, 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

W. Baruth, Operations Support
D. Billesbach, Maintenance
T. Borgan, Operations Supervisor
J. Burton, Performance Assessment Manager
T. Chard, Radiation Protection Manager
L. Dewhirst, Licensing Engineer
P. Donahue, Engineering Support Manager
L. Dugger, Acting Manager of Engineering Support
M. Gillan, Outage Manager
J. Long, Nuclear Project Manager
S. Minahan, Acting Plant Manager
J. Peters, Licensing Secretary
B. Rash, Engineering Manager
A. Shiever, Operations Manager
J. Swailes, Vice-President of Operations

ITEMS OPENED, REVIEWED, AND CLOSED

Opened

298/99006-01 URI	Inspectors found that the licensee inaccurately reported the number for the Unplanned Power Reductions Performance Indicator (Section 4OA2).