UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION IV
611 RYAN PLAZA DRIVE, SUITE 400
ARLINGTON, TEXAS 76011-8064

January 20, 2000

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

SUBJECT: NRC INSPECTION REPORT NO. 50-298/99-16

Dear Mr. Swailes:

This refers to the inspection conducted on November 21, 1999, through January 1, 2000, 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 a violation of NRC requirements occurred. This violation is being treated as a noncited violation (NCV), consistent with the Interim Enforcement Policy for pilot plants. This NCV is described in the subject inspection report. If you contest the 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 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,

/RA/

Charles S. Marschall, Chief
Project Branch C
Division of Reactor Projects

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

Enclosure:
NRC Inspection Report No.
50-298/99-16

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E-Mail report to J. D. Wilcox (JDW)
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.:	50-298/99-16
Licensee:	Nebraska Public Power District
Facility:	Cooper Nuclear Station
Location:	P.O. Box 98 Brownville, Nebraska
Dates:	November 21, 1999, through January 1, 2000
Inspectors:	J. Clark, Senior Resident Inspector M. Hay, Resident Inspector
Approved By:	Charles S. Marschall, Chief, Project Branch C Division of Reactor Projects

ATTACHMENTS: 1. Supplemental Information

2. NRC's Revised Reactor Oversight Process

SUMMARY OF FINDINGS

Cooper Nuclear Station
NRC Inspection Report 50-298/99-16 (DRP)

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

The significance of issues is indicated by their color (green, white, yellow, red) and was determined by the Significance Determination Process in draft Inspection Manual Chapter 0609. The body of the report is organized under the broad categories of Reactor Safety and Other Activities as reflected in the summary below.

Cornerstone: Mitigating Systems

Green. Operations and maintenance procedures were inadequate to ensure proper closure of environmentally qualified equipment panels.

This issue was characterized as having low safety significance based upon the significance determination process. Various electrical and equipment control panels throughout the facility require closure and proper fastening to ensure environmental qualification (EQ). The inspectors found a number of EQ designated panels for high pressure coolant injection subsystems not properly fastened. Subsequent review by engineers provided evidence that the identified panels provided environmental qualification only for high radiation. As a result, they were not required to be sealed. The inspectors and engineers also determined, however, that the existing procedures did not differentiate between EQ actions for high radiation panels and actions for other harsh environment panels. Plant staff did not find any inoperable equipment in the high pressure coolant injection panels. The lack of procedural control over EQ panel configuration created a possibility, however, that workers would not properly restore panels that require a seal from steam intrusion. The inspectors concluded that operating and maintenance procedures did not ensure personnel knew when to address EQ requirements. The inadequacy of these procedures is considered a violation of Technical Specification 5.4.1(a). This violation is being treated as a noncited violation, consistent with the Interim Enforcement Policy for pilot plants. Licensing personnel documented this in their corrective action process as Repetitive Condition Report 99-0824 (Section 1R04).

Report Details

During this inspection period, the plant operated at 100 percent power, with the exception of minor power reductions for control valve testing and control rod pattern adjustments.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity

1R01 Adverse Weather

a. Inspection Scope

The inspectors reviewed or observed implementation of the following procedures pertaining to the licensee's response to adverse weather:

- General Operating Procedure 2.1.11 Attachment 7, "Station Operator Ice and Snow Inspection," Revision 89C1
- Emergency Procedure 5.1.2, "Operation During Tornado Watch," Revision 11.1 C2

b. Observations and Findings

The inspectors did not identify any findings.

1R03 Emergent Work

a. Inspection Scope

On December 10, 1999, the inspectors observed replacement of a hydraulic control unit accumulator for Control Rod 22-35. Maintenance craftsmen replaced the accumulator due to evidence of leakage between the water and nitrogen seal.

On December 29, 1999, the inspectors reviewed emergent work associated with load oscillation problems with Diesel Generator 2. The inspectors reviewed the work package, monitored troubleshooting, and attended on-site safety review committee meetings for this issue.

b. Observations and Findings

The inspectors did not identify any findings.

1R04 Equipment Alignments

a. Inspection Scope

The inspectors performed a partial walkdown of the high pressure coolant injection (HPCI) system. The inspection included a review of the component alignments designated in System Operating Procedure 2.2.33A, "High Pressure Coolant Injection System Component Checklist," Revision 13.

b. Observations and Findings

On November 30, 1999, the inspectors noted that several electrical and controls equipment panels for the HPCI system were designated as environmentally qualified (EQ), but did not have their covers securely closed against the gaskets. The inspectors noted that most panels had 11 fastener clips. They also observed that many panels did not have more than two or three clips fastening the cover against the gasket. In at least two cases, they observed no clips fastening the cover in place.

The inspectors discussed their observations with operations personnel. Operations personnel were unable to give the inspectors the administrative requirements for maintaining the HPCI panels EQ status. The inspectors had subsequent discussions with engineering, maintenance, and licensing personnel. Engineering personnel demonstrated to the inspectors that the HPCI panels were EQ for high radiation only and did not need to be sealed against potential steam intrusion. The inspectors asked the engineering and maintenance personnel how various EQ requirements were maintained. The inspectors noted that administrative procedures did not differentiate between high radiation only and other EQ requirements. The procedures called for all EQ panels to be properly fastened, with a minimum of the upper and lower clips opposite the panel hinge fastened.

The inspectors asked engineering, maintenance, and operations personnel how an operator or technician knew that EQ requirements were different for various panels. Plant personnel responded that workers could not readily determine this, and that it was being controlled such that all EQ panels were to be treated the same. The inspectors were informed by maintenance supervision that only certain maintenance procedures, such as the 18-month cycle inspection, check the closure of these panels. Other workers, such as technicians performing corrective maintenance activities, could be unaware of the requirements to maintain EQ status. While no specific equipment was inoperable based on the condition of the HPCI panels, the observations and subsequent discussions demonstrated a potential for similar occurrences for panels that did require a seal from steam intrusion. The inspectors discussed their generic concern with operations, maintenance, and engineering personnel.

Technical Specification 5.4.1(a) requires, in part, that written procedures be established, implemented, and maintained covering applicable procedures recommended in Regulatory Guide 1.33, Revision 2, Appendix A, February 1978. Operating and maintenance procedures, for returning equipment to prescribed status, are referenced in Appendix A.

The lack of operations and maintenance procedures to adequately ensure proper closure of environmentally qualified equipment panels is considered a violation of Technical Specification 5.4.1(a). We are treating this violation as a noncited violation, consistent with the Interim Enforcement Policy for pilot plants (50-298/9916-01). Licensing personnel documented the procedure inadequacies, and generic nature of the issue, in their corrective action process as Problem Identification Report 04-05727.

1R05 Fire Protection

.1 Monthly Routine Inspection

a. Inspection Scope

The inspectors performed fire protection walkdowns to assess the material condition of plant fire protection equipment and proper control of transient combustibles. Specific risk-significant areas included the emergency core cooling system areas of the reactor building.

b. Observations and Findings

The inspectors did not identify any findings.

1R09 Inservice Testing

a. Inspection Scope

The inspectors observed significant portions, or reviewed the performance of, the following in-service test procedures:

- Surveillance Procedure 6.2CS.101, “Core Spray Test Mode Surveillance Operation (IST) (Div 2),” Revision 11C1
- Surveillance Procedure 6.RCIC.102, “RCIC IST and 92 Day Test,” Revision 9
- Surveillance Procedure 6.HPCI.103,” HPCI IST and 92 Day Test Mode Surveillance Operation,” Revision 13
- Surveillance Procedure 6.HPCI.204, “HPCI-SOV-SSV64 and HPCI-SOV87 IST Closure Test,” Revision 3

b. Observations and Findings

The inspectors did not identify any findings.

1R12 Maintenance Rule Implementation

a. Inspection Scope

The inspectors reviewed the maintenance rule data for the core spray (CS), diesel generators (DG), and residual heat removal (RHR) systems. The inspectors reviewed maintenance history of these systems, and conducted interviews with system engineers, to assess the accuracy of availability, functional failure, and goal-setting data. The inspectors also discussed reporting relationships between maintenance rule data and baseline inspection performance indicators (PIs) with the applicable system engineers.

b. Observations and Findings

The inspectors did not identify any findings.

1R13 Maintenance Work Prioritization

a. Inspection Scope

Throughout the inspection period, the inspectors reviewed weekly and daily work schedules to determine when risk significant activities were scheduled. The inspectors discussed selected activities with operations and work control personnel regarding risk evaluations and overall plant configuration control. The inspectors discussed emergent work issues with work control center personnel and reviewed the prioritization of scheduled activities when scheduling conflicts occurred. Specific items reviewed during this period included DG 2 load oscillations and Service Water Booster Pump B discharge piping repairs.

b. Observations and Findings

The inspectors did not identify any findings.

1R14 Nonroutine Plant Evolutions

a. Inspection Scope

The inspectors monitored the activities associated with the transitions of automated systems to the year 2000 (Y2K). The inspectors reviewed the Y2K checklists and contingency plans. The inspectors also conducted control room observations during the transition period.

b. Observations and Findings

The inspectors did not identify any findings.

1R15 Operability Evaluations

a. Inspection Scope

The inspectors reviewed the following operability evaluations for technical adequacy, applicable compensatory measures, and impact on continued plant operation:

- Operability determination for Pressure Switch NBI-PS-51D after repeat failure (PIR 4-050020)
- Operability determinations associated with multiple security equipment problems in Zone 18 (PIR 4-05004)
- Operability determination for DG 2 jacket water bypass pump main fuses leaking sand (PIR 4-05349)

b. Observations and Findings

The inspectors did not identify any findings.

1R19 Postmaintenance Testing

a. Inspection Scope

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

- Surveillance Procedure 6.1DG.101, “Diesel Generator 31 Day Operability Test (IST) (DIV 1),” Revision 15
- Surveillance Procedure 6.2DG.101, “Diesel Generator 31 Day Operability Test (IST) (DIV2),” Revision 16
- Work Order 99-3587 for repairs to DG 2 governor after load oscillation problems

b. Observations and Findings

The inspectors did not identify any findings.

1R22 Surveillance Testing

a. Inspection Scope

The inspectors observed or reviewed the following surveillance tests:

- Surveillance Procedure 6.1CSCS.304, “CS and RHR Pump Discharge Permissive

Channel Calibration (DIV 1)," Revision 3.

- Surveillance Procedure 6.2 RPS.306, "Turbine Control Valve Fast Closure Channel Calibration (Div 2)," Revision 4

- Surveillance Procedure 6.2 RPS.304, "RPS High Reactor Pressure Channel Calibration (Div 2)," Revision 7

b. Observations and Findings

The inspectors did not identify any findings.

OTHER ACTIVITIES

4OA1 PI Verification

a. Inspection Scope

The inspectors reviewed the submitted PI data for the third calendar quarter of 1999. The inspectors evaluated the data for completeness and accuracy through review of official logs and documents.

During the inspection period, the inspectors reviewed two errors in previously identified PI data submitted to the NRC. One error was the inaccurate reporting of unplanned power reductions, previously identified as an unresolved item (URI-1999006-01). Another error was in the methodology to report containment leakage, from the second quarter of 1999.

b. Observations and Findings

The inspectors discussed the PI errors with the plant's pilot inspection process manager. The inspectors determined that there had been some confusion with the PI terminology used by personnel reporting the data. The inspectors noted that changes were made to reporting guidelines and that current data was correct. The inspectors also determined that, although errors were made in the reporting process, neither error would cause the PI's to change color from green. Therefore, because these errors were not significant, in that no change in the NRC's action would have resulted from this data, and the errors were not willful, this is considered a minor violation not subject to formal enforcement action. The unresolved item, URI-1999006-01, is closed.

4OA2 Closing of Open Items to the Corrective Action Process

a. Inspection Scope

The inspectors reviewed the NRC list of inspection report open items for the Cooper Nuclear Station. The open items were screened for consideration of closing. The inspectors utilized the guidance of inspection Procedure 71152, Problem Identification and

Resolution, and the significance determination process, to assess these issues.

b. Observations and Findings

The inspectors examined a number of the issues on the open items list for NRC concerns under the pilot or baseline inspection process. The inspectors determined these issues were characterized as having low safety significance based upon the significance determination process. The inspectors also observed that these items were not considered violations of NRC requirements. The inspectors concluded that the items were primarily opened to track, or further assess, the licensee's corrective action inputs. In most cases, inspection follow up items (IFIs) were used to designate areas for potential NRC inspection resources in future inspections. The inspectors noted that the plant's corrective action program is currently functioning properly, based upon recent inspections and PIs. Based upon this review process, the inspectors concluded that these issues represent items that are within the licensee control band. Although future NRC reviews of the overall corrective action program may include assessment of the final resolution from these items, current NRC inspection is not warranted. The following items are therefore closed:

Number	Title
50/298-1996006-01	Engineering self-assessment performance followup
50/298-1996019-03	Potential lack of design controls
50/298-1996026-06	Design basis for level indicator calibration
50/298-1997007-06	Program for assessing valve operability
50/298-1997007-08	10 CFR 50.59 safety evaluations performed
50/298-1997008-02	Weak maintenance documentation
50/298-1997010-02	Various containment issues
50/298-1997011-04	Air filled service water piping
50/298-1998001-01	Unexpected equipment actuations
50/298-1998012-02	Exercise weakness-failure of 1 crew to implement
50/298-1998002-01	Reactor equipment cooling heat exchanger oper
50/298-1998002-08	Inconsistent torus level controls
50/298-1998003-02	Reactor equipment cooling surveillance inadequate
50/298-1998004-01	No analysis for turbine building flooding
50/298-1998004-03	Problems associated w/sw booster pump vendor
50/298-1998005-03	Failure to specify testing requirements for relays
50/298-1998005-04	Past operability of primary containment isolation
50/298-1998006-01	Review repeat failures of ventilation isolation valves
50/298-1998006-02	Review REC instrument uncertainty
50/298-1998007-05	Review sw coal tar coating degradation
50/298-1998007-08	Review CA associated with faulty test instructions
50/298-1998015-05	Review fuel handling accident dose consequences
50/298-1998016-01	Failure to implement contamination controls

4OA3 Meetings

.1 Exit Meeting Summary

On December 29, 1999, the inspectors conducted a meeting with plant management and presented the inspection results. The plant management acknowledged the findings presented. Plant management also informed the inspectors that no proprietary material was examined during the inspection. On January 3, 2000, the inspectors informed the plant management of no noted findings during the Y2K transition monitoring.

ATTACHMENT 1

PARTIAL LIST OF PERSONS CONTACTED

Licensee

C. Behr, Assistant to the Plant Manager
R. Beilke, Senior Staff Health Physicist
M. Bergmeier, Control Room Supervisor
L. Dugger, Engineering Section Manager
J. Edom, Assistant to Operations Manager
M. Gillan, Outage Manager
W. Macecevic, Assistant to Plant Manager
E. McCutchen, Licensing Engineer
J. McMahan, Work Control Supervisor
J. Peters, Licensing Secretary
D. Van Der Kamp, Assistant Operations Manager

ITEMS OPENED, CLOSED, AND DISCUSSED

Opened and Closed

50-298/9916-01	NCV	Inadequate procedures to ensure EQ panel closure

Closed

50/298-96006-01	IFI	Engineering self-assessment performance followup
50/298-96019-03	IFI	Potential lack of design controls
50/298-96026-06	IFI	Design basis for level indicator calibration
50/298-97007-06	IFI	Program for assessing valve operability
50/298-97007-08	IFI	10 CFR 50.59 safety evaluations performed
50/298-97008-02	IFI	Weak maintenance documentation
50/298-97010-02	IFI	Various containment issues
50/298-97011-04	IFI	Air filled service water piping
50/298-98001-01	IFI	Unexpected equipment actuations
50/298-98012-02	IFI	Exercise weakness-failure of 1 crew to implement
50/298-98002-01	IFI	Reactor equipment cooling heat exchanger oper
50/298-98002-08	IFI	Inconsistent torus level controls
50/298-98003-02	IFI	Reactor equipment cooling surveillance inadequate
50/298-98004-01	IFI	No analysis for turbine building flooding
50/298-98004-03	IFI	Problems associated w/sw booster pump vendor
50/298-98005-03	IFI	Failure to specify testing requirements for relays
50/298-98005-04	IFI	Past operability of primary containment isolation
50/298-98006-01	IFI	Review repeat failures of ventilation isolation valves
50/298-98006-02	IFI	Review REC instrument uncertainty
50/298-98007-05	IFI	Review sw coal tar coating degradation
50/298-98007-08	IFI	Review CA associated with faulty test instructions
50/298-98015-05	IFI	Review fuel handling accident dose consequences

50/298-98016-01	IFI	Failure to implement contamination controls
50-298/99006-01	URI	Licensee inaccurately reported number for unplanned power reductions

LIST OF ACRONYMS AND INITIALISMS USED

CFR	Code of Federal Regulations
CS	core spray
DG	diesel generator
EQ	Environmental Qualifications
HPCI	high pressure coolant injection
IFI	inspection followup item
NCV	noncited violation
NRC	U.S. Nuclear Regulatory Commission
PI	performance indicator
RHR	residual heat removal
Y2K	year 2000

ATTACHMENT 2

NRC'S REVISED REACTOR OVERSIGHT PROCESS

The federal Nuclear Regulatory Commission (NRC) revamped its inspection, assessment, and enforcement programs for commercial nuclear power plants. The new process takes into account improvements in the performance of the nuclear industry over the past 25 years and improved approaches of inspecting safety performance at NRC licensed plants.

The new process monitors licensee performance in three broad areas (called strategic performance areas): reactor safety (avoiding accidents and reducing the consequences of accidents if they occur), radiation safety (protecting plant employees and the public during routine operations), and safeguards (protecting the plant against sabotage or other security threats). The process focuses on licensee performance within each of seven cornerstones of safety in the three areas:

Reactor Safety	Radiation Safety	Safeguards
•Initiating Events	•Occupational	•Physical Protection
•Mitigating Systems	•Public	
•Barrier Integrity		
•Emergency Preparedness		

To monitor these seven cornerstones of safety, the NRC used two processes that generate information about the safety significance of plant operations: inspections and performance indicators. Inspection findings will be evaluated according to their potential significance for safety, using the Significance Determination Process and assigned colors of GREEN, WHITE, YELLOW, OR RED. GREEN findings are indicative of issues that, while they may not be desirable, represent little effect on safety. WHITE findings indicate issues with some increased importance to safety, which may require additional NRC inspections. YELLOW findings are more serious issues with an even higher potential to effect safety and would require the NRC to take additional actions. RED findings represent an unacceptable loss of safety margin and would result in the NRC taking significant actions that could include ordering the plant shut down.

Performance indicator data will be compared to established criteria for measuring licensee performance in terms of potential safety. Based on prescribed thresholds, the indicators will be classified by color representing incremental degradation in safety: GREEN, WHITE, YELLOW, AND RED. The color for an indicator corresponds to levels of performance that may result in increased NRC oversight (WHITE); performance that results in definitive, required action by the NRC (YELLOW); and performance that is unacceptable but still provides adequate protection to public health and safety (RED). GREEN indicators represent performance at a level requiring no additional NRC oversight beyond the baseline inspections.

The assessment process integrates performance indicators and inspection so the agency can reach objective conclusions regarding overall plant performance. The agency will use an action matrix to determine in a systematic, predictable manner which regulatory actions should be taken based on a licensee's performance. As a licensee's safety performance degrades, the NRC will

take more and increasingly significant action as described in the matrix. The NRC's actions in response to the significance (as represented by the color) of issues will be the same for performance indicators as for inspection findings.

More information can be found at: http:\\www.nrc.gov\NRR\OVERSIGHT\index.html.