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

June 16, 1999

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

SUBJECT: NRC INSPECTION REPORT NO. 50-298/99-05

Dear Mr. Horn:

This refers to the inspection conducted on May 2-29, 1999, at the Cooper Nuclear Station facility.

Based on the results of this inspection, the NRC has determined that two violations of NRC requirements occurred. These violations are being treated as noncited violations (NCVs), consistent with Appendix C of the Enforcement Policy. These NCVs are described in the subject inspection report. If you contest the violation or severity level of these NCVs, 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 copy to the Regional Administrator, Region IV, and the Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington, DC 20555-0001.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter and its enclosure 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
Division of Reactor Projects

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

Enclosure:
NRC Inspection Report No.
50-298/99-05

cc w/enclosure:
John R. McPhail, General Counsel
Nebraska Public Power District
P.O. Box 499
Columbus, Nebraska 68602-0499

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

B. L. Houston, Nuclear Licensing
and Safety Manager
Nebraska Public Power District
P.O. Box 98
Brownville, Nebraska 68321

Dr. William D. Leech
MidAmerican Energy
907 Walnut Street
P.O. Box 657
Des Moines, Iowa 50303-0657

Mr. Ron Stoddard
Lincoln Electric System
1040 O Street
P.O. Box 80869
Lincoln, Nebraska 68501-0869

Michael J. Linder, Director
Nebraska Department of Environmental
Quality
P.O. Box 98922
Lincoln, Nebraska 68509-8922

Chairman
Nemaha County Board of Commissioners
Nemaha County Courthouse
1824 N Street
Auburn, Nebraska 68305

Cheryl Rogers, Program Manager
Public Health Assurance
Consumer Service Section
Nebraska Health and Human Services
301 Centennial Mall, South
P.O. Box 95007
Lincoln, Nebraska 68509-5007

R. A. Kucera, Department Director
of Intergovernmental Cooperation
Department of Natural Resources
P.O. Box 176
Jefferson City, Missouri 65102

Jerry Uhlmann, Director
State Emergency Management Agency
P.O. Box 116
Jefferson City, Missouri 65101

Kansas Radiation Control Program Director

E-Mail report to T. Frye (TJF)
E-mail report to D. Lange (DJL)
E-Mail report to NRR Event Tracking System (IPAS)
E-Mail report to Document Control Desk (DOCDESK)
E-Mail report to Richard Correia (RPC)
E-Mail report to Frank Talbot (FXT)

bcc to DCD (IE01)

bcc distrib. by RIV:
Regional Administrator
DRP Director
DRS Director
Branch Chief (DRP/C)
Branch Chief (DRP/TSS)
Project Engineer (DRP/C)
Resident Inspector
DRS-PSB
MIS System
RIV File

DOCUMENT NAME: R:_CNS\CN905RP.DRP.wpd
To receive copy of document, indicate in box: "C" = Copy without enclosures **"E"** = Copy with enclosures **"N"** = No copy

RIV:SRI		RI/EB		RI/EB		RI/MB		C:DRP/PE	
MHMiller		WMMcNeill		CAClark		CJPaulk		GAPick	
unavailable		6/16/99 (E)		6/16/99 (E)		6/16/99 (E)		unavailable	

RIV:RI		C:DRP/C							
JESpets		CSMarschall							
6/16/99 (T)		6/16/99							

OFFICIAL RECORD COPY

ENCLOSURE

U.S. NUCLEAR REGULATORY COMMISSION
REGION IV

Docket No.:	50-298
License No.:	DPR 46
Report No.:	50-298/99-05
Licensee:	Nebraska Public Power District
Facility:	Cooper Nuclear Station
Location:	P.O. Box 98 Brownville, Nebraska
Dates:	May 2-29, 1999
Inspectors:	M. Miller, Senior Resident Inspector W. McNeill, Reactor Inspector, Engineering and Maintenance Branch C. Clark, Reactor Inspector, Engineering and Maintenance Branch G. Pick, Senior Project Engineer, Branch E J. Spets, Resident Inspector, Washington Nuclear Project C. Paulk, Regional Inspector, Maintenance Branch
Approved By:	C. Marschall, Chief, Project Branch C

ATTACHMENT: Supplemental Information

EXECUTIVE SUMMARY

Cooper Nuclear Station
NRC Inspection Report No. 50-298/99-05

Operations

- Control room operators identified a faulted main turbine pressure controller. They successfully demanded that maintenance and engineering evaluate, troubleshoot, and repair the problem while online. The simulator staff trained four operations crews on manual control of turbine pressure, prior to taking their watches. Operators manually controlled reactor pressure when technicians removed the faulted transmitter and when they replaced it (Section O1.1).

- In response to REC system leakage, engineers identified and corrected some of the leak paths. Engineers developed inventory calculations that effectively supported system operability (Section O2.1).

Maintenance

- Technicians performed work in a step-by-step fashion as required by procedures. They coordinated their activities with the control room staff, and operators followed procedures as required. Equipment met procedural acceptance criteria (Section M1.1).

- Utility and mechanical maintenance technicians initiated over 40 well focused problem identification reports during the past 2 months. For example, a mechanical maintenance technician initiated a problem report when maintenance technicians were instructed to elongate bolt holes, but engineers had not evaluated the change to the plant. This is an improvement in self-critical and insightful problem identification by mechanical and utility maintenance staff (Section M7.1).

  Inspectors will close Licensee Event Report 99-03 regarding the failure to test a service water valve after maintenance. This licensee identified Severity Level IV violation meets the noncited violation enforcement criteria (Followed by SCR 99-0284)(Section M8.1).

Engineering

- The licensee actions to address Year 2000 issues are in process. The inspector reviewed selective samples of these activities and found no significant concerns (Section E2.1).

- Inspectors reviewed the engineering activities to evaluate and correct plant vulnerabilities similar to those that caused flooding at a similar plant. For the sample inspected, the evaluations and modifications appeared appropriate (Section E7.1).

- During concurrent suppression pool cooling and torus water transfer, the residual heat removal system would not have been able to perform its low pressure injection function. Prior to implementation of the Improved Technical Specifications, the operating procedures for transferring torus water to the radwaste system concurrent with suppression pool cooling had not required that the affected residual heat removal system be declared inoperable. This condition was a violation of 10 CFR Part 50, Appendix B, Criterion V, which is being treated as a noncited violation, consistent with Appendix C of the NRC enforcement policy (Section E8.3).

Report Details

Summary of Plant Status

The plant was at 100 percent power at the beginning of this report period. On May 19, 1999, power was reduced to 68 percent to troubleshoot and test inboard Main Steam Isolation Valve A. The valve operated satisfactorily and the plant was returned to full power. On April 27 and May 8, power was reduced to 97 percent. Operators placed the main turbine digital electrohydraulic control system in manual control for about 45 minutes. Operators removed a failing pressure controller transmitter from service during the April 27 evolution and installed a new transmitter in it's place during the May 4 evolution.

I. Operations

O1 Conduct of Operations

O1.1 Control Room Crew Problem Solving Effectiveness

a. Inspection Scope (71707)

The inspector observed operator identification, assessment, and intervention of turbine pressure control anomalies and other concerns. The inspector observed multiple plant discussions, meetings, and control room activities to diagnose and correct the controller problem and other problems.

b. Observations and Findings

In several cases, the operators observed plant indications closely, resulting in identification of equipment problems before they impacted operations. In resolving the issues, operators demanded coordination and assistance from plant organizations. Managers met with plant and engineering staff members to prioritize and address the concerns.

The most significant example occurred when control room operators noted that the backup controller for the main turbine pressure control had drifted up in pressure setting to the point where it took over control from the primary controller. After slowly drifting upward approximately 4 pounds from its initial setting, the drifting controller took over pressure control, stabilized, and maintained pressure control satisfactorily. The former primary controller remained stable in a backup mode. Engineers, maintenance technicians, and operators reviewed the behavior of the controllers and determined that immediate contingency planning was necessary should the faulted controller demonstrate further anomalous behavior. Operations, maintenance, and engineering management addressed various contingencies associated with the potential failure of the controller and the need to place the turbine controller in manual.

The existing procedure for turbine control required that for one faulted or disabled controller operators reduce power to 25 percent. Cooper based the requirement on a General Electric Service Information Letter (SIL) that described a problem that occurred at another nuclear plant. The SIL stated that analysis had determined that thermal limits

might be exceeded for loss of pressure control. Consistent with this SIL, Cooper procedures required reduction of power to 25 percent or less if one of the two control channels failed. Since the channel had not failed, but was behaving in an unusual way, the licensee discussed this with General Electric and found that they had provided a revision of the SIL. This revision concluded that the licensee could have operated the plant with only one controller in service between 90 and 100 percent power or between zero and 25 percent power. General Electric had not analyzed the range between 25 and 90 percent power for the transient associated with a single controller failure. Cooper changed the procedure to allow operation consistent with the SIL.

The contingencies provided in the procedure gave operating bands where the controller would not be considered faulted. It also provided that, outside of the bands, operators should consider the controller faulted. For this condition, the operators should disable the controller by placing pressure control in manual and removing the faulted transmitter from service. Several operating crews trained in the simulator to review and practice operation of manual pressure control before taking the watch with the potentially faulted controller. The operators changed turbine control from automatic to manual: to remove the transmitter from service and to return the transmitter to service after it had been replaced. Manual turbine pressure control was successful and operators returned control to the automatic system within approximately 40 minutes on both occasions. The licensee sent the faulted transmitter to the vendor for diagnosis.

c. Conclusions

Control room operators identified a faulted main turbine pressure controller. They successfully demanded that maintenance and engineering evaluate, troubleshoot, and repair the problem while online. The simulator staff trained four operations crews on manual control of turbine pressure, prior to taking their watches. Operators manually controlled reactor pressure when technicians removed the faulted transmitter and when they replaced it.

O2 Operational Status of Facilities and Equipment

O2.1 Operability Evaluation of Reactor Equipment Cooling (REC) System Leakage

a. Inspection Scope (71707)

Inspectors reviewed the basis for operability for the REC system with higher than anticipated leakage. Inspectors also reviewed actions to reduce the leakage.

b. Observations and Findings

Operators noted that the REC surge tank level had dropped and asked engineering to determine the source of leakage. The engineers found some of the leakage and restored normal surge tank operation.

The REC system is a closed loop cooling system for essential equipment. The inspectors reviewed (PIR) 4-01668 on abnormally high leakage from the system. The leakage of the REC system was 0.875 inch of surge tank water level per day (6-7 gallons per day). The licensee had established in calculation NEDC 98-002 that leakage of up to 1.32 inches per day could be tolerated and that with such leakage the REC system would remain operable for the designed postaccident mission time of 30 days. The inspectors reviewed the calculation and verified the pump net positive suction head, line losses, and instrument errors were properly accounted for in the calculation. The inspectors concluded that the engineers satisfactorily supported operability of the REC system.

c. Conclusions

In response to REC system leakage, engineers identified and corrected some of the leak paths. Engineers developed inventory calculations that effectively supported system operability.

O8 Miscellaneous Operations Issues

O8.1 (Closed) Unresolved Item 98022-02: Performance of special tests without a documented safety evaluation. Inspectors found a program vulnerability but no significant performance based examples. Therefore, this item is closed based on it's low significance and it's inclusion in the licensee's corrective action program as PIR 3-40340.

II. Maintenance

M1 Conduct of Maintenance

M1.1 Maintenance and Testing Observation

a. Inspection Scope (61726)

The inspectors observed portions of the following maintenance and surveillance activities:

Procedure 6.2DG.101 Diesel Generator 31-Day Operability Test, Revision 14 C5

Procedure 6.2ARI.701 ARI/ATWS/RPT Low-Low and PCIS Low-Low-Low Reactor Water Level Channel Functional Test (DIV 2), Revision 0

Procedure 6.PAM.302, Postaccident Monitoring Drywell Pressure Instrumentation Calibration Test, Revision 3

b. Observations and Findings

Technicians performed work instructions step by step with only minor errors. Packages for the work were complete and provided requirements for plant configuration, health physics,

postmaintenance testing, operability, and system restoration. Acceptance criteria were consistent with Technical Specifications and were met during the activities. Technicians observed quality assurance requirements and followed quality control observations when required. Supervisors were present for portions of the activities. Operators performed surveillance tests consistent with procedural requirements with good communications and few minor errors.

c. Conclusions

Technicians performed work in a step-by-step fashion as required by procedures. They coordinated their activities with the control room staff, and operators followed procedures as required. Equipment met procedural acceptance criteria.

M7 Quality Assurance in Maintenance Activities

M7.1 Initiation of Strong PIRs

a. Scope (61707)

Inspectors reviewed daily PIRs and held discussions with maintenance technicians and supervisors.

b. Observations and Findings

Utility and mechanical maintenance technicians had not initiated many PIRs prior to March 1999. Of those they initiated, most involved documentation of self-revealing equipment failures and process problems which stopped work. In these cases, work could not be continued unless a report was generated. Most reports were not self- critical or insightful. Since March 1999, mechanical and utility maintenance technicians and supervisors have initiated over 50 problem reports identifying many problems of a self-critical or probing nature. About 40 have been initiated over the past 2 months. An example of an improved PIR documented a lack of an engineering analysis to support a work package that allowed technicians to elongate bolt holes on a flange. As a result of the improved problem identification reporting, the technicians identified several engineering issues and maintenance process weaknesses. Interviews with maintenance staff and supervisors indicated that supervisory expectations for problem identification and questioning attitude had been strongly reinforced.

c. Conclusion

Utility and mechanical maintenance technicians initiated over 40 well focused PIRs during the past 2 months. For example, a mechanical maintenance technician initiated a PIR when technicians were instructed to elongate bolt holes, but engineers had not evaluated the change to the plant. This is an improvement in self-critical and insightful problem identification by mechanical and utility maintenance staff.

M8 Miscellaneous Maintenance Issues (92902)

M8.1 (Closed) Licensee Event Report 50/298-99003-00: Missed Postmaintenance Test of Air-Operated Service Water Valve. The work instructions failed to require an appropriate test to return the valve to operability. Failure to provide instructions appropriate to the circumstances is a violation of 10 CFR Part 50, Appendix B, Criterion V (50-298/99005-01). This licensee event report documents a violation of NRC requirements and is entered in the licensee's corrective action program as SCR 99-0284. This Severity Level IV violation is being treated as a noncited violation consistent with Appendix C of the NRC Enforcement Policy.

M8.2 (Closed) Inspection Followup Item 50-298/9716-01: problems encountered in erosion/corrosion monitoring program. During a previous inspection, the NRC found that the licensee experienced problems implementing the long-term erosion/corrosion monitoring program as a result of frequent program staffing turnovers. The NRC observed similar problems, erroneous calculations, and incomplete engineering component evaluation forms during review of the Refueling Outage 17 erosion/corrosion activities performed in 1997.

The licensee documented and evaluated some of these identified erosion/corrosion problems in PIR 2-12-12489, PIR 2-15918, PIR 2-13389, Significant Condition Adverse to Quality 97-0803, and Condition Adverse to Quality 97-0681. All Refueling Outage 17 erosion/corrosion inspection and evaluation packages were reviewed for errors and corrective actions were implemented. The inspector reviewed the identified corrective and preventive actions, along with the associated documents, and considered these actions satisfactory to address the erosion/corrosion problems identified during Refueling Outage 17.

III. Engineering

E2 Engineering Support of Facilities and Equipment

E2.1 Review of Activities Associated With Computer Systems and Components (TI 2515/141)

a. Inspection Scope (37551)

The inspector reviewed selective samples of licensee actions to address Y2K issues and found no significant concerns.

b. Observations and Findings

A region-based reviewer conducted an abbreviated review of activities and documentation associated with assuring the readiness of computer systems and components using Temporary Instruction (TI) 2515/141, “Review of Year 2000 (Y2K) Readiness of Computer Systems at Nuclear Power Plants.” The review addressed aspects of Y2K management

planning, documentation, implementation planning, initial assessment, detailed assessment, rededication activities, Y2K testing and validation, notification activities, and contingency planning. The reviewer used NEI/NUSMG 97-07, "Nuclear Utility Year 2000 Readiness," and NEI/NUSMG 98-07, "Nuclear Utility Year 2000 Readiness Contingency Planning," as the primary references for this review.

The results of this review will be combined with the results of the reviews conducted at the other plants in the nation in a summary report to be issued by July 31, 1999.

c. Conclusions

The licensee actions to address Y2K issues are in progress. The inspector reviewed selective samples of these activities and found no significant concerns.

E7 Quality Assurance in Engineering

E7.1 Operational Experience

a. Scope (37551)

Inspectors reviewed Resolve Condition Report (RCR) 2-24333 that addressed the potential for flooding the reactor building by exceeding fire protection system operational limits. The inspectors reviewed operational event reports and corrective action summaries associated with the concern and inspected systems associated with the concern.

b. Observations and Findings

During plant tours, the inspectors noted that the licensee had hung temporary test tags at the top of each of the fire protection header risers in the reactor building. The inspectors found that the licensee had initiated RCR 2-24333 in response to a flooding event at Washington Nuclear Project-2. The flooding event resulted from failure of a 12-inch fire protection riser isolation valve. The licensee recognized their system was similar, initiated the RCR, and initiated steps to mitigate this issue. The licensee implemented a temporary modification that placed nitrogen gas pockets at the top of each riser, which would absorb and dampen any pressure waves that occurred as a result of pump starts. Other corrective actions that the licensee implemented included monitoring the size of the gas pockets to determine whether they remained constant.

c. Conclusion

Inspectors reviewed the engineering efforts to evaluate and correct plant vulnerabilities similar to those that caused flooding at a similar plant. For the sample inspected, the evaluations and modifications were appropriate.

E8 Miscellaneous Engineering Issues (92903)

E8.1 (Closed) Inspection Followup Item 50-298/97201-29: Design basis for REC discharge header pressure and time delay setpoints. Inspectors evaluated the two issues for this item that were reviewed in NRC Inspection Report 50-298/98-15: (1) header low setpoint of 55 psig did not have a documented basis and (2) relay delay setpoint of 40 seconds was judged acceptable based on an incorrect criterion. NRC Inspection Report 50-298/97-201 documented that both of these issues were entered into the licensee's corrective action program as PIR 20638. NRC Inspection Report 50-298/98-15 documented the review of the planned corrective actions and found them acceptable. The licensee revised calculation NEDC 92-050AC, the last of the corrective actions to be implemented.

E8.2 (Closed) Licensee Event Report 50-298/96009-03: Appendix R Safe Shutdown Analysis vulnerabilities.

As part of its 10 CFR Part 50, Appendix R, reevaluation effort, the licensee identified items that did not have acceptable coping strategies. The licensee issued Revision 0 of Licensee Event Report 96-009 on August 26, 1996, and the issues identified were reviewed in NRC Inspection Report 50-298/96-25. The inspectors reviewed the licensee's findings at that time, verified that corrective actions had been implemented to eliminate the vulnerabilities, and identified a noncited violation for the reported problems. Revision 0 of the licensee event report identified that the Appendix R reevaluation effort was continuing, additional licensee event report supplements would be submitted as necessary, and the root cause of these Appendix R issues was still under investigation. The report was submitted in abstract form only and did not contain a narrative description as required by 10 CFR 50.73(b)(2). This was acceptable at that time because the reevaluation effort was still in progress. The licensee also identified a commitment that it would submit a final, non-abstract supplement to the licensee event report following completion of its Appendix R re-analysis.

The licensee issued Revisions 1 and 2 of Licensee Event Report 96-009 in an abstract form and the issues identified in Revisions 0, 1, and 2 were reviewed and closed in NRC Inspection Report 50-298/98-15 as a licensee-identified and corrected violation. The licensee completed its Appendix R re-analysis and issued Revision 3 of Licensee Event Report 96-009 on June 1, 1998. The inspector reviewed Revision 3 of Licensee Event Report 96-009 and found the report contained a nonabstract, narrative description of the event, cause, and corrective actions. The inspector identified no additional violations.

E8.3 (Closed) Inspection Followup Item 50-298/97201-08: Suppression pool transfer to radwaste.

a. Observations

Licensee Memorandum NLS960208 provided that, for a transfer of torus water to radwaste while in the suppression pool cooling mode, that did not result in an extension of the

normal time in the suppression pool cooling mode, low pressure coolant injection (LPCI) could be assumed operable. However, Procedure 2.2.69.3, "Residual Heat Removal Suppression Pool Cooling and Containment Spray," and Procedure 2.2.69, "Residual Heat Removal System," did not include any such restriction on suppression pool water transfer for cleanup to ensure it is coincident with normal suppression pool cooling. Control room logs for the month of July 1997 indicate the residual heat removal system was in operation for approximately 4 hours to support torus cleanup activities with transfer of torus water to the radwaste system.

The inspector reviewed licensee Memorandum NLS960208, "Operability of LPCI During Suppression Pool Cooling Mode," dated October 2, 1996. The last paragraph of Memorandum NLS960208 noted that licensing planned to pursue the operability of LPCI during the suppression pool cooling mode further during its evaluation of Condition Adverse to Quality 96-0846 and with the development of the Improved Technical Specification position on this issue.

Operations personnel identified that as of January 7, 1999, in accordance with the Improved Technical Specification and Revision 18 of Procedure 2.2.69.3, they declared the LPCI system inoperable when they placed the residual heat removal system in the suppression pool cooling lineup. The inspector reviewed Procedure 2.2.69.3, "Residual Heat Removal Suppression Pool Cooling and Containment," Revision 18, and other associated documents and found appropriate measures were implemented to resolve this item.

Since the procedure for operating the residual heat removal system did not require the action statement to be entered when torus water transfer took place concurrent with operation in suppression pool cooling mode, the procedure was not appropriate to the circumstances. This is a violation of 10 CFR Part 50, Appendix B, Criterion V, which requires procedures to be appropriate to the circumstances (50-298/99005-02, closed). This Severity Level IV violation is being treated as a noncited violation, consistent with Appendix C of the NRC Enforcement Policy.

b. Conclusion

During concurrent suppression pool cooling and torus water transfer, the residual heat removal system would not have been able to perform its low pressure injection function. Prior to implementation of the Improved Technical Specifications, the operating procedures for transferring torus water to the radwaste system concurrent with suppression pool cooling had not required that the affected residual heat removal system be declared inoperable. This condition was a violation of 10 CFR Part 50, Appendix B, Criterion V, which is being treated as a noncited violation, consistent with Appendix C of the NRC enforcement policy.

E8.4 (Closed) Violation 50-298/9815-01: multiple examples of a failure to implement and follow procedures as required by 10 CFR Part 50, Criterion V.

The NRC previously identified six examples of instructions, procedures, or drawings without quantitative or qualitative acceptance criteria for determining that important activities had been satisfactorily accomplished. The violation noted that for three of the violations (A.1, A.2, and A.5) the NRC had concluded that information regarding the reason for violations, the corrective actions taken, and the date when full compliance would be achieved was already adequately addressed on the docket in NRC Inspection Report 50-298/98-15. The three remaining violations (or examples of violations) noted the following:

! Violation A.3 identified that as of November 1997, Procedure 13.17, “Residual Heat Removal Heat Exchanger Performance Evaluation,” failed to provide appropriate acceptance criteria for determining that heat exchanger performance was acceptable because it directed that a fouling factor calculated from as-measured data be compared to a fouling factor that was based on design basis accident conditions.

! Violation A.4 identified that as of December 4, 1997, Surveillance Procedure 6.OG.601, "Daily Surveillance Log,” Revision 9, did not include appropriate acceptance criteria in that the specified limit of 90EF did not include the instrument uncertainties of Temperature Indicator MI-TR-3020. As a result, the use of Temperature Indicator MI-TR-3020 could permit service water temperatures to exceed the specified limit.

! Violation A.6 identified that as of December 1997, the licensee implemented Surveillance Test Procedures 6.1SWBP.101, “RHR Service Water Booster Pump Flow Test and Valve Operability Test (DIV 1),” Revision 4, and 6.2SWBP.101, “RHR Service Water Booster Pump Flow Test and Valve Operability Test (DIV 2),” Revision 4, which were not appropriate for the circumstances. The procedures specified the use of gauges that did not have the proper range. Ashcroft Bulletin DU-1 recommended selecting a gauge with a full scale pressure range of approximately twice the normal system operating pressure being measured and that the maximum system operating pressure did not exceed 75 percent of the selected gauge full scale range. The full scale pressure range of the gauges selected for Pressure Gauges SW-PI-385A through 385D resulted in gauges that did not have over-ranged protection, which could have yielded inaccurate data.

During this inspection, the inspector reviewed the licensee’s January 27, 1999, reply to the Notice of Violation for Violations A.3, A.4, and A.6. In the reply the licensee identified a reason for each violation, identified corrective actions and noted they were in full compliance. The inspector reviewed the identified corrective actions implemented for Violations A.3, A.4, and A.6 along with the associated documents and found them satisfactory to address the specific examples cited in the violations.

E8.5 (Closed) Unresolved Item 50/298 96024-02: Implementation of Safety Guide 11 "Instrument Lines Penetrating Primary Reactor Containment Back-fitting Consideration"

The Inspectors found that the licensee's implementation of Safety Guide 11 to control valves in the instrument lines in containment was unclear. The safety guide requires a method of verification for each isolation valve. At the time of this finding, operators used

the original Technical Specifications. Since that time, the licensee has implemented Improved Technical Specifications.

For instrument lines penetrating containment with valves which are normally closed during plant operation, Technical Specification 3.6.1.3, "Primary Containment Isolation Valves (PCIVs)," requires that operators verify the closed position of these valves at least every 31 days. Procedure 6.2PC.602, Revision 0, "I&C Primary Containment Manual Valve Verification," lists instrument lines penetrating primary containment and requires verification that the respective isolation valves are verified closed by operators. This surveillance has been implemented successfully and fulfills the requirement to ensure the valve is closed. For normally open valves the operators set the position of the valves when restoring systems to operable status at the beginning of the cycle. After initial positioning, operators do not perform direct verification of the valve position.

The NRC inspectors sampled instrument line primary containment isolation valves that are required to be open in order for safety-related instruments to receive inputs from pressure and level sensors within the drywell or reactor coolant system. The inspectors verified that these valves were required to be open to support operation and that the expected indication was available. Therefore this item is closed.

X1 Exit Meeting Summary

The inspectors presented the inspection results to members of licensee management at the exit meeting on June 4, 1999. The licensee acknowledged the findings presented.

The inspectors asked the licensee whether any materials examined during the inspection should be considered proprietary. No proprietary information was identified.

ATTACHMENT

PARTIAL LIST OF PERSONS CONTACTED

Licensee

D. Buman, Acting Plant Engineering Department Manager
J. Burton, Performance Analysis Department
L. Dewhirst, Nuclear Licensing Specialist
C. Gaines, Maintenance Manager
M. Kaul, Operations Support Group
J. McMahan, Work Control Supervisor
L. Newman, Acting Licensing Manager
J. Peters, Nuclear Licensing and Safety Secretary
A. Shievier, Operations Manager
J. Swailes, Vice President, Nuclear Energy, NPPD

INSPECTION PROCEDURES USED

IP 37551: Onsite Engineering
IP 61726: Surveillance Observation
IP 62703: Maintenance Observation
IP 71707: Plant Operations
IP 92901: Followup - Plant Operations
IP 92902: Followup - Maintenance
IP 92903: Followup - Engineering
IP 92700: LER - Onsite Review

ITEMS OPENED, OPENED AND CLOSED, AND CLOSED

Opened and Closed

298/99005-01	NCV	**(Section *.1)**
298/99005-02	NCV	suppression pool transfer to radwaste (Section E8.2)

Closed

298/99-03-00	LER	Failure to test a service water valve after maintenance (Section M8.1)
298/97016-01	IFI	problems encountered in erosion/corrosion monitoring program (Section M8.2)
298/97201-29:	IFI	Design basis for reactor equipment cooling discharge header pressure and time delay setpoints (Section E8.1)
298/96009-03	LER	Appendix R Safe Shutdown Analysis vulnerabilities (Section E8.2)

298/97201-08	IFI	suppression pool transfer to radwaste (Section E8.3).
298/98015-01	VIO	multiple examples of a failure to implement and follow procedures as required by 10 CFR Part 50, Criterion V (Section E8.4)
298/96024-02	URI	Implementation of Safety Guide 11, "Instrument Lines Penetrating Primary Reactor Containment Back-fitting Consideration" (Section E8.5)

DOCUMENTS REVIEWED

Procedures

2.2.69.3	“Residual Heat Removal Suppression Pool Cooling and Containment,” Revision 18
6.OG.601	“Daily Surveillance Log,” Revision 14 C4
6.1SWPB.10I	“Residual Heat Removal (RHR) Service Water Booster Pump Flow Test and Valve Operability Test (DIV 1),” Revision 5
6.2SWPB.10I	“Residual Heat Removal (RHR) Service Water Booster Pump Flow Test and Valve Operability Test (DIV 2),” Revision 5

Reports

“Cooper Nuclear Station 1997 Erosion/Corrosion Summary Report,” March 24, 1998

Quality Assurance Audit No. 98-04, “Special Programs,” April 1, 1998

Quality Assurance Audit No. 97-06, “Outages,” June 10, 1997

NEDC-32513, “Suppression Pool Cooling and Water Hammer,” December 1995

Cooper Nuclear Station Probabilistic Risk Assessment Level 1, dated March 1993

Cooper Nuclear Station IST Basis Document, Revision 2

Problem Identification Reports

2-12489
2-13389
2-15918
2-20638

4-01668
4-01730
4-01731

Conditions Adverse to Quality

97-0681

Significant Condition Adverse to Quality

97-0803

Memorandums

NLS960208, “Operability of LPCI During Suppression Pool Cooling Mode,” dated October 2, 1996

NLS970210, “Operability of LPCI in Torus Cooling Mode,” dated November 21, 1997

Documents Reviewed

Calculations

NEDC 92-050X
NEDC 92-050AC
NEDC 97-004
NEDC 98-002