

APPENDIX

U. S. NUCLEAR REGULATORY COMMISSION
REGION IV

NRC Inspection Report: 50-298/88-14

License: DPR-46

Docket: 50-298

Licensee: Nebraska Public Power District (NPPD)
P. O. Box 499
Columbus, NE 68601

Facility Name: Cooper Nuclear Station (CNS)

Inspection At: Cooper Nuclear Station, Nemaha County, Nebraska

Inspection Conducted: April 16-May 31, 1988

Inspectors: *E. Holler for* *6/17/88*
E. A. Plettner, Resident Inspector Date

W. R. Bennett for *6/2/88*
R. E. Farrell, Senior Resident Inspector, Fort St.
Vrain Station Date

W. R. Bennett *6/2/88*
W. R. Bennett, Senior Resident Inspector Date

Approved: *E. Holler* *6/21/88*
E. J. Holler, Chief, Project C, Division of
Reactor Projects Date

Inspection Summary

Inspection Conducted April 16 through May 31, 1988 (Report 50-298/88-14)

Areas Inspected: Routine, unannounced inspection of allegations followup, seismic supports, operational safety verification, monthly surveillance and maintenance observations, ESF walkdown, refueling, radiological protection, and security.

Results: Within the areas inspected, two violations were identified (failure to issue a temporary procedure change, paragraph 8, and failure to have adequate drawings, paragraph 9).

DETAILS

1. Persons Contacted

Principal Licensee Employees

- *G. R. Horn, Division Manager of Nuclear Operations
- *J. M. Meacham, Technical Support, Senior Manager
- *D. M. Norvell, Maintenance Manager
- *D. R. Robinson, Quality Assurance, Acting Manager
- *E. M. Mace, Engineering Manager
- *Y. Armstrong, Administrative Secretary I
- *G. R. Smith, Licensing Supervisor
- *R. Brungardt, Operations Manager

The NRC inspectors also interviewed other licensee employees during the inspection period.

*Denotes those present during the exit interview conducted on June 1, 1988.

2. Plant Status

The plant was in Cycle 12 refueling outage throughout this inspection period. Major work items included refueling, ATWS modifications, detailed control room design review upgrades, and diesel generator maintenance.

3. Licensee Action on Previous Inspection Findings (92701 and 92702)

(Closed) Violation 298/8728-01: Failure to Follow Procedures - This item involved operating plant personnel failure to issue a work item (WI) and identify the abnormal position of a valve which was discovered leaking during normal plant tours of the area.

Corrective actions taken by the licensee were to issue a WI Tracking Request to fix the valve, and to issue an Equipment, Clearance, and Release Order to appropriately tag the valve. In addition, the operations supervisor would discuss the event with all operating crew personnel during scheduled weekly operations supervisor meetings, specifically stressing the requirements of CNS Procedure 0.9, "Equipment Clearance and Release Orders," and Maintenance Procedure 7.0.1, "Work Item Tracking." The RI reviewed the operations supervisor meeting attendance sheets for the period January 19 through February 22, 1988, to verify that all required personnel had attended the meetings. Interviews with selected operations personnel verified that the specified information had been discussed.

This item is closed.

(Closed) Open Item 298/8731-02: RHR Pump Motor Breakers Maintenance/Nonstarting - This item involved the malfunction of residual heat removal (RHR) pump motor breakers due to inadequate lubrication on parts of the mechanical linkage. The licensee's preventative maintenance schedule for performing lubrication on the breakers had been changed from annual to biannual on July 22, 1983. This requirement appeared to be in conflict with the vendor manual. The licensee conducted a detailed review of the vendor manual recommendations for maintenance on the circuit breaker with no definitive result regarding lubrication frequency. Results of that review are documented in CNS Letter CNSS883037. The licensee will gather further operational data on the lubricant used on the breakers and conduct an annual inspection for the next 2 years. The data will be reviewed and evaluated to determine the inspection frequency.

This item is closed.

4. Allegation Followup (99014)

Allegation 4-87-A-0093 concerned reporting occupational safety concerns on nonconformance reports (NCRs) and licensee practices regarding the voiding of NCRs.

The NRC inspectors reviewed the licensee's program for handling NCRs with emphasis on the licensee's method for voiding NCRs. Additionally, the NRC inspectors verified that the licensee has a program for handling occupational safety concerns.

The NRC inspectors reviewed two licensee procedures in detail:

- . Procedure 0.5.1, "Nonconformance and Corrective Action," Revision 1, dated December 21, 1987.
- . Procedure 0.6, "Personnel Safety," Revision 5, dated December 23, 1987.

Between January 1 and October 26, 1987, the licensee processed 183 NCRs. Of these, 14 were voided. The NRC inspectors reviewed the justification for voiding each of these NCRs. When applicable, operations manual procedures and Technical Specifications (TS) were reviewed to determine if they were appropriately referenced as justification for voiding the NCRs. In each case the documented reason for voiding the NCR appeared appropriate and sufficient.

The licensee does not consider the nonconformance and corrective action program the appropriate program for reporting occupational safety concerns. Some NCRs were voided because the subject was occupational safety rather than nuclear safety. In these cases the occupational safety concern was referred back to the originator for processing through other procedures.

The licensee does have a safety concern system by which employees can identify occupational safety concerns to management. The licensee's safety concern program is described in Procedure 0.6. To reject an expressed safety concern in this system as invalid requires the signature of the division manager of nuclear operations. The NRC inspectors did not identify any additional concerns regarding this allegation. Allegation 4-87-A-0093 is closed.

The SRI received an allegation (4-88-A-038) that unqualified laborers were performing pipefitter functions on safety-related piping systems. The pipefitter functions specified in the allegation were not activities regulated by the NRC. The SRI determined that, for the system specified in the allegation, all safety-related piping system welding, an activity regulated by the NRC, was performed by qualified welders and inspected by qualified quality control personnel. This allegation was not substantiated regarding regulated activities.

In addition, the allegor stated that, after his termination as a contractor employee, he had not been allowed to talk to the NRC while he was still within the protected area (PA). Instead, he had been escorted outside the PA and then allowed to call the SRI. The SRI discussed this with licensee personnel and verified that the terminated employee was allowed to call the NRC after being escorted outside the PA. This is not a violation. Allegation 4-88-A-038 is closed.

5. Seismic Supports

On January 19, 1988, the licensee issued NCR 80-019 to document that Reactor Feedwater Pipe Support RF-H53 did not meet the requirements of ANSI B31.1, "Power Piping." During the operability evaluation of RF-H53, the licensee determined that certain other pipe supports on the pump discharge side of the High Pressure Coolant Injection (HPCI) System did not meet code requirements. This was documented in NCR 88-119, on April 28, 1988. The licensee contracted with CYGNA Energy Services to perform operability evaluations of the HPCI pump discharge and other essential piping systems. A meeting at NRC headquarters among the licensee, CYGNA, and Nuclear Reactor Regulation (NRR) personnel, was held on May 18, 1988, to discuss these evaluations. The evaluations indicated that the seismic supports for several systems do not meet ASME Code allowable stress under seismic loading, but that essential systems would remain operable during a design basis event. NRR and Region IV representatives visited the site from May 23-26, 1988, to further discuss the methodology and review calculations used in the CYGNA evaluations. A followup meeting at NRC headquarters was held on May 31, 1988. The licensee has committed to submit to NRR for approval, prior to startup, an evaluation regarding the status and planned actions for essential system seismic supports at CNS.

6. Operational Safety Verification (71707)

The NRC inspectors observed operational activities throughout the inspection period. Control room activities and conduct were observed to be well controlled. Proper control room staffing was maintained. The NRC inspectors observed selected shift turnover meetings and noted that information concerning plant status was communicated to the oncoming operators. Discussions with operators determined that they were cognizant of plant status. Limiting Conditions for Operations (LCOs) were properly entered when equipment was declared inoperable for maintenance, and acceptance testing was properly performed and reviewed prior to declaring equipment operable.

Tours of accessible areas at the facility were conducted to confirm operability of plant equipment including the fire suppression systems and other emergency equipment. The SRI performed a walkdown of the Standby Liquid Control (SLC) System. Results of this walkdown are documented in paragraph 9 of this report.

No violations or deviations were identified in this area.

7. Monthly Surveillance Observations (61726)

The NRC inspectors observed and reviewed the performance of Instrumentation and Control (I&C) Procedure 7.5.2.7, "APRM Averaging Circuitry Functional Test"; I&C Procedure 14.2.17, "RBM Select Matrix Test"; Surveillance Procedure (SP) 6.3.3.2A, "HPCI Motor Operated Valve Operability Test from ASD-HPCI Panel"; and Special Test Procedure (STP) 87-011, "Post-LOCA Service Water System Flow Test."

I&C Procedure 7.5.2.7, "APRM Averaging Circuitry Functional Test," Revision 6, dated July 16, 1987: The surveillance was performed on April 22, 1988, to verify the proper operation and accuracy of the neutron monitoring system; in particular, the average power range monitor (APRM). A qualified I&C technician performed the procedure in a professional manner and was cognizant of all procedural requirements. All data was properly reviewed and verified to be acceptable per the procedure. Test equipment used to perform the procedure was properly operated.

I&C Procedure 14.2.17, "RBM Select Matrix Test," Revision 0, dated March 28, 1988: The test was performed on April 29, 1988, to meet rod block monitor operability required by TSs. The RI observed the performance of APRM "B" and LPRM "A" of the procedure. The testing was performed by I&C personnel in a professional manner. Test results for APRM "B" and LPRM "A" were reviewed and verified to be acceptable per the procedure and TS. Test equipment used in the performance of the procedure was properly calibrated.

SP 6.3.3.2A, "HPCI Motor Operated Valve Operability Test from ASD-HPCI Panel," Revision 4, dated September 17, 1987: This test was

performed on May 17, 1988, to verify that HPCI motor operated valves can be operated from the alternate shutdown (ASD) HPCI Panel. This test was performed by qualified personnel in accordance with the procedure. All prerequisites and precautions were properly followed. Test results were reviewed and verified to be acceptable per the procedure.

STP 87-011, "Post-LOCA Service Water System Flow Test," dated August 12, 1987: This test was commenced on May 21, 1988, to determine Service Water System performance when supplying essential components in the post-LOCA alignment. This special test was developed to address a concern identified by the NRC Safety System Functional Inspection team (NRC Inspection Report 50-298/87-10). The SRI observed that the test was performed in accordance with applicable procedures by qualified personnel. On-the-spot changes were properly administered to reflect existing plant conditions and system status. The test engineers were cognizant of all precautions and limitations associated with the test. Frequent discussions were held between the test engineers and control room personnel concerning the test and how it would effect operations and indications in the control room.

No violations or deviations were identified in this area.

8. Monthly Maintenance Observation (62703)

The NRC inspectors observed maintenance personnel perform SP 6.3.12.6, "Diesel Generator Annual Inspection," Revision 20, dated June 12, 1986, and associated Maintenance Work Request (MWR) 88-0893 for Diesel Generator (DG) No. 1. This procedure was performed to satisfy TS requirements regarding inspection of the diesel generator in accordance with instructions based on the manufacturer's recommendations. The NRC inspectors observed that maintenance personnel were aware of the requirements for the inspection, and performed the inspection in accordance with the procedure. All 16 heads were replaced on No. 1 DG during this annual inspection. The heads were replaced because the old heads were found to be susceptible to cracking; however, no cracks were found in the 16 heads which were replaced. The SRI reviewed the completed SP 6.3.12.6 for both diesel generators. All steps were properly signed off as performed and all data taken was within the required specifications. Step B.8.6 on page 8 of the procedure signoff sheet requires the polarization index at 2000V be recorded. A note was on both signoff sheets stating that readings were taken and recorded at 2500V. CNS Procedure 0.4, "Preparation, Review, and Approval of Procedures," Revision 11, dated February 18, 1988, requires that a temporary change be issued to a procedure to fulfill the requirements of a special situation. While taking the readings at a higher voltage may be more conservative, a temporary procedure change was not issued as required. The failure to issue a temporary procedure change is an apparent violation. (298/8814-01)

The RI reviewed MWR 88-0609, dated January 26, 1988, which concerned Drywell Hydraulic Snubbers. NCR 87-175, dated December 21, 1987, identified that poppet valves had been installed incorrectly in 2 of 3 spare snubbers located in the warehouse. The problem was identified when the spare snubbers were being decontaminated in preparation for shipping to an independent test facility. The licensee radiographed 64 of the 66 snubbers located onsite to determine the poppet valve position. The licensee and the RI viewed all 64 radiographs which indicated that the poppet valves of the 64 snubbers were installed correctly. The two snubbers not radiographed are located in an inaccessible part of the plant. Because 64 of the 66 snubbers radiographed had correctly installed poppet valves, the licensee determined that sufficient statistical evidence exists to conclude that the two unradiographed snubbers have correctly installed poppet valves.

No other violations or deviations were identified in this area.

9. Engineered Safety (ESF) Feature Walkdown (71710)

The SRI performed an independent walkdown of the SLC System. The inspection was performed to verify operability, to confirm that licensee system lineup procedures match plant drawings and the as-built configuration, and to identify equipment conditions or items that might degrade system performance. This system was chosen because it had been modified during this outage to meet ATWS requirements, and the design change to perform the modification had been recently completed.

The SRI utilized System Operating Procedure (SOP) 2.2.74, "Standby Liquid Control System," Revision 18, dated May 10, 1988, and SOP 2.2.74A, "Standby Liquid Control System Valve Checklist, Revision 0, dated May 10, 1988, in performing the system walkdown. During the walkdown, minor discrepancies involving missing labels were identified which did not affect system operability. In addition, Valve SLC-48, which was installed by the design change, was found to be properly sealed as required by the valve during system walkdown. However, a log sheet identifying that the valve was sealed was not in the control room seal log. The licensee was notified of these discrepancies and initiated actions to correct them.

The SRI compared the valve checklist to As-built Drawing -- Burns & Roe 2045, "Core Spray and SLC Systems" -- in the control room. The design change stamp on the control room drawing was highlighted indicating an interim drawing was on file reflecting as-built conditions of the system. The SRI found the interim drawing to be inadequate in that the changed portions of the system appeared to be blacked out and were unreadable. 10 CFR Part 50, Appendix B, Criterion V requires that drawings shall be of a type appropriate to the circumstances. Failure to have an adequate as-built drawing is an apparent violation. (298/8814-02)

Further review of control room drawings by the SRI showed that many drawings referenced three to five drawing revision notices (DRNs). To utilize the control room drawing, the operator would have to get all DRNs

referenced (there are five binders of DRNs in the control room) and compare all the referenced DRNs to the actual as-built configuration drawing of the system. The SRI considers this situation cumbersome at best. Discussions with licensee management revealed that they were aware of the large backlog of DRNs to be incorporated into the as-built drawings and were attempting to reduce the backlog. Management efforts to reduce this large backlog of DRNs is considered an open item. (298/8814-03)

No other violations or deviations were identified in this area.

10. Refueling (60710)

On April 16, 1988, the licensee determined, through friction testing, that bowed dummy fuel assemblies existed in the core. The licensee subsequently ordered new dummy fuel assemblies and replaced the bowed assemblies. The resident inspectors monitored the dummy fuel assembly replacement and subsequent friction test. Refueling was completed and the reactor vessel head reinstalled and torqued on May 12, 1988.

No violations or deviations were identified in this area.

11. Radiological Protection Observations (71709)

The NRC inspectors verified that selected activities of the licensee's radiological protection program were implemented in conformance with facility policies, procedures, and regulatory requirements. Radiation work permits contained appropriate information to ensure that work could be performed in a safe and controlled manner. Radiation and/or contaminated areas were properly posted and controlled. Radiation monitors were utilized to check for contamination. Health Physics personnel were observed monitoring activities closely during the outage.

No violations or deviations were identified in this area.

12. Security (71881)

The NRC inspectors observed security personnel perform their duties of vehicle, personnel, and package search. Vehicles were properly authorized and escorted or controlled within the PA. The PA barrier had adequate illumination and the isolation zones were free of transient material. Compensatory measures were implemented in a timely manner when equipment failed or when security doors were required to be open for work being performed during the outage. These observations verified that the physical security plan was being implemented in accordance with the requirements established in the CNS Operating License.

No violations or deviations were identified in this area.

13. Exit Interview

An exit interview was conducted on June 1, 1988, with licensee representatives (identified in paragraph 1). During this interview, the SRI reviewed the scope and findings of the inspection.