UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION IV
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April 16, 2003

R. T. Ridenoure
Division Manager - Nuclear Operations
Omaha Public Power District
Fort Calhoun Station FC-2-4 Adm.
P.O. Box 550
Fort Calhoun, Nebraska 68023-0550

SUBJECT: FORT CALHOUN STATION - NRC INTEGRATED INSPECTION REPORT 50-285/03-03

Dear Mr. Ridenoure:

On March 22, 2003, the NRC completed an inspection at your Fort Calhoun Station. The enclosed report documents the inspection findings which were discussed on March 25, 2003, with Mr. Gary Gates, Vice President, Nuclear, and other members of your staff.

This inspection examined activities conducted under your license as they relate to safety and compliance with the Commission's rules and regulations and with the conditions of your license. Within these areas, the inspection consisted of selected examination of procedures and representative records, observations of activities, and interviews with personnel.

Based on the results of this inspection, the NRC has identified one issue that was evaluated under the Risk Significance Determination process as having very low safety significance (Green). The NRC has also determined that a violation is associated with this issue. The violation is being treated as a noncited violation (NCV), consistent with Section VI.A of the Enforcement Policy. The NCV is described in the subject inspection report. If you contest the violation or significance of the NCV, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, D.C. 20555-0001, with copies to the Regional Administrator, U.S. Nuclear Regulatory Commission, Region IV, 611 Ryan Plaza Drive, Suite 400, Arlington, Texas 76011; the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555-0001; and the NRC Resident Inspector at the Fort Calhoun Station facility.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter, and its enclosure, will be made available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's document system (ADAMS). ADAMS is accessible from the NRC Web site at http://www.nrc.gov/reading-rm/adams.html (the Public Electronic Reading Room).

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

Sincerely,

/RA/

Claude E. Johnson
Project Branch C
Division of Reactor Projects

Docket: 50-285
License: DPR-40

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NRC Inspection Report
50-285/03-03

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ENCLOSURE

U.S. NUCLEAR REGULATORY COMMISSION
REGION IV

Docket:	50-285
License:	DPR-40
Report No.:	50-285/03-03
Licensee:	Omaha Public Power District
Facility:	Fort Calhoun Station
Location:	Fort Calhoun Station FC-2-4 Adm. P.O. Box 399, Hwy. 75 - North of Fort Calhoun Fort Calhoun, Nebraska
Dates:	December 29, 2002, through March 22, 2003
Inspectors:	J. Kramer, Senior Resident Inspector L. Willoughby, Resident Inspector R. Lantz, Senior Emergency Preparedness Inspector J. Mateychick, Reactor Inspector R. Mullikin, Senior Reactor Inspector W. Walker, Senior Project Engineer
Approved By:	Claude E. Johnson, Chief, Project Branch C Division of Reactor Projects

SUMMARY OF FINDINGS

Fort Calhoun Station
NRC Inspection Report 50-285/03-03

IR 0500285-03-03; Omaha Public Power District; 12/29/2002-03/22/2003; Fort Calhoun Station, Integrated Resident and Regional Report, Adverse Weather

The inspection was conducted by Resident and Regional office inspectors. There was one finding of significance identified during this inspection period. The significance of the issue is indicated by its color (Green, White, Yellow, Red) and was determined by the Significance Determination Process in Inspection Manual Chapter 0609. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG 1649, "Reactor Oversight Process," Revision 3, dated July 2000.

A. NRC-Identified Findings

- Green. The licensee did not have documented instructions that addressed the acts-of-nature condition of frazil ice that can occur during the winter months. Frazil ice buildup on intake structure components may cause a degradation of the ultimate heat sink.

  This is a noncited violation of Technical Specification 5.8.1.a and was determined to be a finding of very low safety significance because no actual degradation of the ultimate heat sink occurred (Section 1R01).

Report Details

Summary of Plant Status

The unit began this inspection period at approximately 100 percent power. On March 14, 2003, power was reduced to approximately 30 percent for main condenser inspection and cleaning. On March 21, power was raised to approximately 50 percent and the unit operated at that level throughout the remainder of this inspection period.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity, Emergency Preparedness

1R01 Adverse Weather Protection (71111.01)

a. Inspection Scope

During January 2003 the inspectors reviewed Procedure AOP-1, "Acts of Nature," Revision 12, and Procedure OI-EW-1, "Extreme Weather," Revision 7, for responding to extreme weather, specifically cold weather preparations. The inspectors evaluated the design features and implementation of the procedures to protect mitigating systems from the effects of adverse weather. The inspectors reviewed United States Army Corps of Engineers' Cold Regions Technical Digest No.91-1, March 1991, "Frazil Ice Blockage of Intake Trash Racks."

b. Findings

Introduction

The inspectors identified that the licensee did not have documented instructions that addressed the acts-of-nature condition of frazil ice that can occur during the winter months. Frazil ice buildup on intake structure components may cause a degradation of the ultimate heat sink. The finding is being documented as a noncited violation with very low safety significance (Green).

Description

Based on industry operating experience and information on frazil ice formation published by the United Stated Army Corps of Engineers, frazil ice (small ice crystals) forms when the water temperature is below its freezing temperature. The required supercooling is small and nearly impossible to detect. Climate conditions for forming frazil ice are low air temperatures, open water, and (usually) clear nights. The crystals first form on the river surface and their numbers grow quickly through the secondary nucleation process. These small crystals have little effective buoyancy and are easily carried to the bottom of the river along with the supercooled water due to the river's turbulent flow. The formation of frazil ice is unpredictable, but the formation of "pancake ice" or "pad ice" on the surface of the water indicates frazil ice conditions have occurred or are occurring.

When the frazil ice crystals come in contact with material at or below 32°F, such as trash racks bars on the intake structure, they will adhere to the bars. Eventually, the

crystals will build up and bridge the space between the trash rack bars, thus blocking flow. At first the blockage will not be noticed since there is very little head loss; however, the head loss will increase rapidly near the time of total blockage. Therefore, a considerable amount of frazil ice can accumulate before head loss becomes noticeable and disrupts system operation.

At Fort Calhoun Station, ice buildup at the entrance of the intake structure affects the raw water system, the fire suppression system, and the main circulating system. The raw water system is a safety-related system that is utilized to mitigate accidents by providing heat transfer to the ultimate heat sink. The fire suppression system, when actuated, uses river water to maintain fire main pressure in fighting fires. The main circulating system is required for condenser operations.

During normal plant operations, the water exiting the condenser is discharged to the Missouri River downstream of the intake structure. During the colder winter months, a portion of the warm discharge water is diverted upstream of the intake structure to warm the river water entering the intake structure. This diversion is called warm water recirculation and prevents the formation of ice at the entrance of the intake structure, according to the licensee's Updated Safety Analysis Report, Section 9.8, Revision 11, "Raw Water System."

The inspectors noted that, as long as steam is being dumped to the condenser, warm water recirculation would effectively prevent the blocking of the trash racks with frazil ice. When steam was not being dumped to the condenser, warm water recirculation would be ineffective and the blockage of the trash racks could occur if frazil ice conditions existed. The licensee indicated that warm water recirculation prevented the formation of frazil ice. The licensee also indicated that the plant had not experienced frazil ice in the past while shut down with cold outside temperatures. The inspectors determined that it was not conclusive that frazil ice will never block the trash racks. The inspectors reviewed the licensee's abnormal operating procedures and operating instructions to determine whether the licensee's procedures addressed the possibility of frazil ice affecting the intake structure; nothing could be found. Therefore, with no procedures to guide operators, loss of the raw water and the fire suppression systems due to frazil ice was possible.

Analysis

The inspectors evaluated the issue to determine if it was more than minor. The inspectors determined that the issue involved a performance deficiency. The finding was more than minor because it was associated with the protection against external factors attribute of the mitigating systems cornerstone. The blocking of the intake structure trash racks with frazil ice could lead to the loss of the ultimate heat sink. The ultimate heat sink is required to mitigate some accidents to prevent core damage.

The inspectors evaluated the significance of the finding using the Phase 1 Significance Determination Worksheet. The finding degraded the core decay heat removal function of the mitigating systems cornerstone due to the potential loss of the ultimate heat sink. The potential loss affects both the low pressure and high pressure safety injection

pumps' bearing lube oil cooling. In addition, the finding degraded the long-term heat removal function of the mitigating systems cornerstone due to the potential loss of cooling to the shutdown cooling heat exchangers.

The inspectors answered the five questions in the mitigating systems section of the worksheet. The finding did not represent an actual loss of a safety function or involve equipment whose function was specifically designed to mitigate an event. The finding did not involve the loss of any safety function identified through a licensee risk analysis. All five questions were answered no; therefore, the finding screened out as Green.

The inspectors evaluated the finding's effect on fire protection defense in depth. The finding would have affected fire suppression if it had actually occurred, but it was not considered valid since this would require postulating two accidents (frazil ice formation and fire) at one time. In addition, the licensee had identified compensatory measures for other situations that could be taken to minimize the impact on the fire suppression system.

Enforcement

The licensee failed to address frazil ice in Procedure AOP-1, "Acts of Nature," Revision 12, and in Procedure OI-EW-1, "Extreme Weather," Revision 7. Technical Specification 5.8.1.a requires, in part, that written procedures shall be established, implemented, and maintained covering the applicable procedures recommended in Regulatory Guide 1.33, Revision 2, Appendix A, 1978. Regulatory Guide 1.33 Appendix A, requires, in part, written procedures for combating acts of nature. Contrary to the above, the licensee did not have written procedures for combating frazil ice, an act of nature. This violation of Technical Specifications is being treated as a noncited violation, consistent with Section VI.A of the Enforcement Policy (NCV 285/2003003-01). This violation is in the licensee's corrective action program as Condition Report 200300091.

1R04 Equipment Alignments (71111.04)

a. Inspection Scope

The inspectors performed partial walkdowns of the following trains of equipment during outages, operation, or testing of redundant trains. The inspectors verified critical portions of the following equipment to identify any discrepancies between the existing alignment and alignments as determined by system piping and instrumentation drawings and plant procedures:

- Low Pressure Safety Injection Pump SI-1A during an outage of Low Pressure Safety Injection Pump SI-1B on February 13, 2003

- Diesel Generator 1 during an outage of Diesel Generator 2 on March 5, 2002

b. Findings

No findings of significance were identified.

1R05 Fire Protection (71111.05)

a. Inspection Scope

The inspectors performed routine fire inspection tours and reviewed relevant records for the following plant areas important to reactor safety:

- Fire Area 10 - Charging Pump Area, Room 6
- Fire Area 30 - Containment
- Fire Area 46.1 - Turbine Building 1036' elevation
- Fire Area 46.2 - Turbine Building 990' through 1036'

The inspectors observed the material condition of plant fire protection equipment, the control of transient combustibles, and the operational status of barriers. The inspectors compared in-plant observations with commitments in the licensee's Updated Fire Hazards Analysis Report. The inspectors reviewed Condition Report 200300520 associated with Fire Area 46.1.

b. Findings

No findings of significance were identified.

1R11 Licensed Operator Requalification (71111.11)

a. Inspection Scope

The inspectors reviewed licensed operator requalification training activities, including the licensed operators' performance and the evaluators' critique. The inspectors compared performance in the simulator on March 17, 2003, with performance observed in the control room during this inspection period.

The inspectors placed an inspection emphasis on high-risk licensed operator actions, operator activities associated with the emergency plan, and previous lessons-learned items. These items were evaluated to ensure that operator performance was consistent with protection of the reactor core during postulated accidents.

b. Findings

No findings of significance were identified.

1R12 Maintenance Rule Implementation (71111.12)

.1 Routine Maintenance Effectiveness Inspection

a. Inspection Scope

The inspectors reviewed the implementation of the requirements of the Maintenance Rule (10 CFR 50.65) to verify that the licensee had conducted appropriate evaluations of equipment functional failures, maintenance preventable functional failures, the unplanned capacity loss factor, and system unavailability. The inspectors reviewed root causes and corrective action determinations for equipment failures and reviewed performance goals for ensuring corrective action effectiveness. The inspectors discussed the evaluations with licensee personnel. The following components were reviewed:

- Condensate Pump 2A
- Control Room Air Conditioner VA-46B

b. Findings

No findings of significance were identified.

.2 Biennial Periodic Evaluation Inspection

a. Inspection Scope

The inspectors reviewed the licensee's report documenting the performance of the last two Maintenance Rule periodic effectiveness assessments. The Operating Cycle 19 periodic evaluation covered the period from January 1, 2000, through May 31, 2001. The Operating Cycle 20 periodic evaluation covered the period from June 1, 2001, through August 31, 2002.

The inspectors reviewed the program for the monitoring of risk-significant functions associated with structures, systems, and components using reliability and unavailability. The performance monitoring of nonrisk-significant functions using plant level criteria was also reviewed.

The inspectors evaluated whether the report contained adequate assessment of the performance of the Maintenance Rule Program as well as conformance with applicable programmatic and regulatory requirements. To accomplish this, the inspectors verified that the licensee appropriately and correctly addressed the following attributes in the assessment reports:

- The program treatment of nonrisk-significant structure, system, and component functions monitored against plant level performance criteria

- Program adjustments made in response to unbalanced reliability and availability

- The application of industry operating experience
- Performance review of Category (a)(1) systems
- Evaluation of the bases for system category status change (e.g., (a)(1) to (a)(2) or (a)(2) to (a)(1))
- Effectiveness of performance and condition monitoring at component, train, system, and plant levels
- Review and adjustment of definitions of functional failures

The inspectors also verified that the issuance of the two most recent assessments met the regulatory timeliness requirements.

The inspectors reviewed procedures, condition reports, and Category (a)(1) recovery plans associated with the above activities for the following systems: component cooling water heat exchanger valves, 480-volt molded circuit breakers, control room air-conditioning unit, instrument air check valve, and reactor coolant pump seals.

b. Findings

No findings of significance were identified.

1R13 Maintenance Risk Assessments and Emergent Work Evaluation (71111.13)

a. Inspection Scope

The inspectors reviewed the licensee's risk assessments for equipment outages as a result of planned and emergent maintenance to evaluate the licensee's effectiveness in assessing risk for the activities. The inspectors compared the licensee's risk assessment and risk management activities against requirements of 10 CFR 50.65 (a)(4). The inspectors discussed the planned and emergent work activities with planning and maintenance personnel. The inspectors verified that plant personnel were aware of the appropriate licensee-established risk category, according to the risk assessment results and licensee program procedures. The inspectors reviewed the effectiveness of risk assessment and risk management for the following activities:

- Inoperability of Component Cooling Water Heat Exchanger AC-1C, Containment Spray Pump SI-3A, and Steam-Driven Auxiliary Feedwater Pump FW-10 on January 23, 2003
- Inoperability of Condensate Pump FW-2A, Containment Spray Pump SI-3C, Control Room Air Conditioner VA-46B, and Main Generator Output Breaker 3451-5 on February 10, 2003

- Removal of condenser water boxes from service and a unit power reduction to 30 percent power on March 14, 2003

b. Findings

No findings of significance were identified.

1R14 Personnel Performance During Nonroutine Plant Evolutions (71111.14)

a. Inspection Scope

The inspectors reviewed the operators' response to a low river water level on February 26, 2003. The operators entered Procedure AOP-01, "Acts of Nature," Revision 13, Section IV, "Low River Water Level," when the river level lowered to below 983 feet, as measured in the intake structure. The inspectors discussed the procedure requirements and operator actions with the control room supervisor. The inspectors toured the intake structure and monitored the condition of the circulating water pumps, the raw water pumps, and the intake traveling screens. On February 28 the licensee exited Procedure AOP-01 when the river level rose above 983 feet.

b. Findings

No findings of significance were identified.

1R15 Operability Evaluations (71111.15)

a. Inspection Scope

The inspectors reviewed selected operability evaluations to verify that the evaluations provided adequate justification that the equipment could still meet its Technical Specification, Updated Safety Analysis Report, and design bases requirements. The inspectors also discussed the evaluations with cognizant licensee personnel. The inspectors reviewed the operability evaluations and cause assessments for the following:

- Auxiliary Feedwater Inlet Valve HCV-1108A with a body-to-bonnet steam leak in two locations (Condition Report 200300400)

- Fuel oil receipt and inspection for Diesel Generators DG-1 and DG-2 (Condition Reports 200300747, 200300748, and 200300749)

b. Findings

No findings of significance were identified.

1R17 Permanent Plant Modifications (71111.17B)

a. Inspection Scope

The inspectors reviewed procedures governing plant modifications to evaluate the effectiveness of the programs for implementing modifications to risk-significant systems, structures, and components, such that these changes do not adversely affect the design and licensing basis of the facility. The inspectors also reviewed 10 permanent plant modification packages and associated documentation, such as review screens and safety evaluations, to verify that they were performed in accordance with regulatory requirements and plant procedures. Procedures and permanent plant modifications reviewed are listed in the attachment to this report.

The inspectors interviewed the cognizant design and system engineers for the identified modifications to gain their understanding of the modification packages. The inspectors evaluated the effectiveness of the licensee's corrective action process to identify and correct problems concerning the performance of permanent plant modifications. In this effort, the inspectors reviewed corrective action documents (listed in the attachment to this report) and the subsequent corrective actions pertaining to licensee-identified problems and errors in the performance of permanent plant modifications.

b. Findings

No findings of significance were identified.

1R19 Postmaintenance Testing (71111.19)

a. Inspection Scope

The inspectors observed and/or reviewed postmaintenance testing for the following activities to verify that the test procedures and activities adequately demonstrated system operability:

- Work Order Package 00135634-01 for replacement of an annunciator power supply on January 6, 2003

- Work Order Package 00113501-01 for disassembly, clean, visual inspection, and reassembly of component cooling water heat Exchanger AC-1C and Procedure PE-RR-CCW-0100, "Disassembly, Cleaning, and Repair of CCW Heat Exchanger - Raw Water Side," Revision 20, on January 24, 2003

- Work Order Package 00140770-01 for adjusting the impeller lift of Raw Water Pump AC-10A on March 10, 2003

The inspectors determined that the effect of testing on the plant had been adequately addressed. In addition, the inspectors determined that the tests were adequate for the scope of the maintenance work performed and that the acceptance criteria were clear and consistent with design and licensing basis documents.

b. Findings

No findings of significance were identified.

1R22 Surveillance Testing (71111.22)

a. Inspection Scope

The inspectors observed and/or reviewed the performance and documentation for the following surveillance tests to verify that the structures, systems, and components were capable of performing their intended safety functions and to assess their operational readiness:

- Procedure SE-ST-AFW-3006, "Auxiliary Feedwater Pump FW-10, Steam Isolation, and Check Valve Tests," Revision 28, performed on January 29, 2003, and Condition Report 200300311
- Procedure OP-ST-RC-3001, "Reactor Coolant System (RCS) Leak Rate Test," Revision 20, performed on February 7, 2003
- Procedure OP-PM-AFW-0004, "Third Auxiliary Feedwater Pump Operability Verification," Revision 24, performed on February 13, 2003
- Procedure OP-ST-AFW-3010, "Auxiliary Feedwater System Quarterly Category A and B Valve Exercise Test," Revision 2, performed on February 27, 2003
- Procedure OP-ST-DG-0002, "Diesel Generator 2 Check," Revision 37, performed on March 5, 2003
- Procedure OP-ST-RW-3001, "AC-10A Raw Water Pump Quarterly Inservice Test," Revision 28, performed on March 10, 2003

b. Findings

No findings of significance were identified.

1R23 Temporary Plant Modifications (71111.23)

a. Inspection Scope

The inspectors reviewed and observed the following temporary plant modifications to verify that the safety functions of safety systems were not affected:

- Temporary Modification EC 31911 that installed a temporary camera system inside containment for observation of Auxiliary Feedwater Inlet Valve HCV-1108A

- Temporary Modification EC 32045 that installed a temporary Furmanite clamp and Furmanite compound to correct a body-to-bonnet leak on Auxiliary Feedwater Inlet Valve HCV-1108A

b. Findings

No findings of significance were identified.

1EP4 Emergency Action Level and Emergency Plan Changes (71114.04)

a. Inspection Scope

The inspectors completed an in-office review of the following changes to the Fort Calhoun Station Emergency Plan: Revision 23 to Section E, Revision 15 to Section F, and Revision 12 to Appendix C, submitted June 17, 2002; Revision 13 to Section O, and Revision 14 to Section M, submitted May 24, 2002; and Revision 10 to Section D submitted December 24, 2002. The inspectors also reviewed Revision 35 to Procedure EPIP-OSC-1, "Emergency Classification," submitted May 2, 2002. These changes were compared to their previous revisions and 10 CFR 50.54(q) to determine if the revisions decreased the effectiveness of the emergency plan.

b. Findings

No findings of significance were identified.

1EP6 Drill Observation (71114.06)

a. Inspection Scope

The inspectors observed aspects of two of the licensee's emergency preparedness drills. The purpose of the observations was to evaluate operator performance, licensee event classification, notification of state and local authorities, and the adequacy of protective action recommendations. The inspectors attended the licensee's postdrill critiques and discussed observations with licensee management. The inspectors observed the drills from the following locations:

- Simulator and technical support center on January 28, 2003
- Technical support center on March 4, 2003

b. Findings

No findings of significance were identified.

4. OTHER ACTIVITIES

4OA1 Performance Indicator Verification (71151)

a. Inspection Scope

The inspectors reviewed the licensee's performance indicator data to verify its accuracy and completeness. The inspectors verified the following indicators:

- IE1 Unplanned Scrams
- IE2 Scrams With Loss of Normal Heat Removal
- IE3 Unplanned Power Changes

The inspectors reviewed the performance indicator data for all four quarters of 2003. The inspectors reviewed NEI 99-02, "Regulatory Assessment Performance Indicator Guideline," and licensee operating logs. The inspectors discussed the status of the performance indicators and compilation of data with licensee personnel.

b. Findings

No findings of significance were identified.

4OA2 Identification and Resolution of Problems (71152)

.1 Frazil Ice, Selected Issue Followup Inspection

a. Inspection Scope

As the result of the finding in Section 1R01, the inspectors reviewed the licensee's evaluation of NRC Information Notice 96-36, "Degradation of Cooling Water Systems due to Icing." Information Notice 96-36 discussed how frazil ice affects the operation of intake structures in regions that experience cold water. The inspectors also reviewed Condition Report 200001465 that captured industry operating experience concerning frazil icing conditions at Point Beach Nuclear Plant.

b. Findings and Observations

There were no findings identified associated with this review, except as stated in Section 1RO1. The licensee's evaluation stated that Information Notice 96-36 was previously evaluated under Institute of Nuclear Power Operations (INPO) SER 08-96 and INPO OE 80-88. The evaluation indicated that the Fort Calhoun Station had not experienced any problems due to icing in the past 10 years and that warm water recirculation maintained the inlet temperature above the frazil ice formation temperature.

A memorandum, written in response to INPO SER 08-96, indicated that, at least on one occasion, the Fort Calhoun Station experienced icing problems. The memorandum indicated that a raw water strainer had frozen to the point where the motor could no

longer rotate the strainer's internal basket. The memorandum also indicated that the icing problem had no effect on system operations. One of the corrective actions in the memorandum had operators verify that the warm water recirculation was operating properly in the winter months and consider strainer backwashing intervals and the installation of temporary heat sources in the vicinity of the strainers.

Condition Report 200001465 evaluation indicated that warm water recirculation minimized the formation of frazil ice on the trash racks and that the traveling screens, downstream of the trash racks, were located in a heated structure which would prevent the screen wash water from freezing to the traveling screens.

The inspectors noted that the evaluations focused on always having warm water recirculation available in the winter months which would prevent icing problems. The evaluations did not consider the possibility of losing warm water recirculation and the resulting consequences. The licensee did not fully consider all situations that could affect warm water recirculation and frazil ice formation. The inspectors documented inadequate procedural guidance for addressing the frazil ice condition in Section 1R01.

.2 Initiating Condition Reports, Selected Issue Followup Inspection

a. Inspection Scope

The inspectors reviewed plant events and component deficiencies to determine how the licensee addressed these issues in the corrective action program. The inspectors reviewed Procedure SO-R-2, "Condition Reporting and Corrective Action," Revision 22. The inspectors discussed the corrective action program with the Manager of the Corrective Action Group and discussed the initiation of condition reports with various licensee managers.

b. Findings and Observations

There were no findings associated with this review; however, the following observations were noted. The licensee did not follow procedural guidance regarding when to initiate condition reports. Licensee personnel were inconsistent when determining a threshold for initiating condition reports. The inspectors considered these examples minor; however, they are being documented in accordance with Inspection Procedure 71152, Section 03.02.c. and Manual Chapter 0612.

Licensee Procedure SO-R-2, "Condition Reporting and Corrective Action," Revision 22, step 5.2.2 requires, in part, that a condition report shall be initiated upon determining defective materials, equipment or nonconformances affecting structures, systems, or components and should be written within one day.

The inspectors reviewed the control room logs on January 30, 2003, and noted that a log entry on the previous day indicated that Auxiliary Feedwater Pump FW-10 was started and failed to come up to speed while performing a surveillance test. The inspectors reviewed the condition reports and could not find a condition report documenting the auxiliary feedwater pump problems. The inspectors asked the

licensee if a condition report had been written. The licensee had not initiated a condition report and, only after the inspectors' questioning, initiated Condition Report 200300311 within the one day requirement.

On January 21, 2003, during a routine plant tour, the inspectors observed a chip (minor damage) on the epoxy coating on the water box side of component cooling water Heat Exchanger AC-1C, which had been removed from service for inspection. When attempting to repair the damaged area, the licensee discovered that a repair kit was not available in the warehouse and had to expedite obtaining the repair materials from the coating vendor. The licensee ultimately received the material and returned the heat exchanger to service. This series of events delayed the return to service of a safety-significant component for more than 24 hours.

The inspectors attempted to locate a condition report that documented heat exchanger deficiencies and the delay in returning it to service. The inspectors discussed the scenario stated above with the component cooling water system engineer and then asked the system engineer if a condition report had been initiated. The system engineer indicated that a condition report had not been initiated and that one was not required. The inspectors informed the system engineer that they did not agree with the assessment that a condition report was not required. The inspectors discussed the above scenario with the Manager, System Engineering. The manager also indicated that a condition report was not required. However, the manager provided the inspectors with Condition Report 200300152 that documented a nearly identical condition on component cooling water Heat Exchanger AC-1D a week earlier. The inspectors informed the manager that they did not agree with the manager's assessment and then discussed the issue with the Division Manager, Nuclear Engineering. The division manager acknowledged the inspectors' concerns and the licensee then initiated Condition Report 200300452 on February 11, 2003.

The inspectors evaluated the safety significance of the observation. The inspectors decided that not writing condition reports upon determining defective materials, equipment, or nonconformances affecting structures, systems or components as mentioned in Procedure SO-R-2, "Condition Reporting and Corrective Action," Revision 22, was an issue. Manual Chapter 0612 states, in part, that issues related in crosscutting areas, i.e. Problem Identification and Resolution, generally do not provide a basis for a performance deficiency, but are documented. Since the above two examples dealt with a problem identification and resolution issue, it was not considered a performance deficiency. Therefore, the issue was not subject to a significance determination process evaluation and was considered minor.

The inspectors evaluated the enforcement aspects of the observation. 10 CFR Part 50, Appendix B, Criterion V, requires, in part, that activities affecting quality shall be prescribed by documented instructions appropriate to the circumstances and shall be accomplished in accordance with these instructions. Procedure SO-R-2, "Condition Reporting and Corrective Action," Revision 22, step 5.2.2 requires, in part, that a condition report shall be initiated upon determining defective materials, equipment or nonconformances are affecting structures, systems or components and should be written within one day. Contrary to the above, the licensee did not write a condition

report for defective materials on a component cooling water heat exchanger until prompted by the inspectors. This violation is in the licensee's corrective action program as Condition Report 200300452. In accordance with Section IV of the Enforcement Policy, this is a violation of minor significance and is not subject to formal enforcement action.

.3 Routine Review of Maintenance Rule Identification and Resolution of Problems

a. Inspection Scope

As part of the Maintenance Rule biennial periodic evaluation inspection (Section 1R12.2), the inspectors evaluated the use of the corrective action system within the Maintenance Rule program for issues associated with risk significant systems. The review was accomplished by the examination of a sample of corrective action documents associated with systems which are or had been in Maintenance Rule Category (a)(1), including recovery plans for improving system performance. The purpose of the review was to establish that the corrective action program was entered at the appropriate threshold for the purpose of:

- Implementation of the corrective action process when a performance criterion was exceeded
- Correction of performance-related issues or conditions identified during the periodic evaluation
- Correction of generic issues or conditions identified during programmatic assessments, audits, or surveillances

b. Findings

No findings of significance were identified.

4OA6 Meetings

Exit Meeting Summary

The inspectors presented the inspection results to Mr. R. Clemens, Division Manager, Nuclear Assessments, Mr. R. Phelps, Division Manager, Nuclear Engineering, and other members of licensee management at the conclusion of the Maintenance Rule biennial periodic evaluation inspection on January 17, 2003. 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.

The inspectors presented the inspection results to Mr. C. Simmons, Supervisor, Emergency Planning, at the conclusion of the emergency action level and emergency plan changes inspection on March 3, 2003. 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.

The inspectors presented the inspection results to Mr. R. Phelps, Division Manager, Nuclear Engineering, and other members of licensee management at the conclusion of the permanent plant modifications inspection on March 20, 2003. 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.

The inspectors presented the inspection results to Mr. G. Gates, Vice President, Nuclear, and other members of licensee management at the conclusion of the residents' inspection on March 25, 2003. 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

SUPPLEMENTAL INFORMATION

PARTIAL LIST OF PERSONS CONTACTED

Licensee

D. Bannister, Plant Manager
M. Core, Manager, System Engineering
R. Clemens, Division Manager, Nuclear Assessments
M. Frans, Assistant Plant Manager
G. Gates, Vice President, Nuclear
J. Herman, Manager, Nuclear Licensing
D. Lippy, Engineer, Design Engineering
D. Molzer Engineer, Design Engineering
T. Pilmaier, Manager, Corrective Action Group
R. Phelps, Division Manager, Nuclear Engineering
M. Puckett, Manager, Radiation Protection
H. Sefick, Manager, Security and Emergency Planning
C. Simmons, Supervisor, Emergency Planning
S. Swearngin, Supervisor, Reliability Engineering
R. Tella, Engineer, Reliability Engineering
R. Westcott, Manager, Training
J. Zagata, Engineer, Reliability Engineering

ITEMS OPENED, CLOSED, AND DISCUSSED

Opened and Closed During this Inspection

285/03003-01 NCV inadequate acts of nature procedure (Section 1R01)

LIST OF DOCUMENTS REVIEWED

1. The following documents were selected and reviewed by the inspectors to accomplish the objectives and scope of the maintenance rule biennial periodic evaluation inspection (Sections 1R12.2 and 4OA2.3):

PROCEDURES

MRII-0, Maintenance Rule Implementing General Instruction, Revision 3

MRII-1.1, Maintenance Rule Implementing Scoping Instruction, Revision 1

MRII-2, Maintenance Rule Implementing Instruction - Setting Performance Criteria, Revision 3

MRII-3.1, MRII-2, Maintenance Rule Implementing Instruction - Failure Identification and Reporting, Revision 2

MRII-6, Maintenance Rule Implementing Instruction - Placement of SSCs into Category (a)(1) or (a)(2), Revision 5

CONDITION REPORTS

200100003 200100051 200100180 200100467 200100918 200100989 200101300 200101350 200101364 200101399 200101400 200101416 200101472 200101675 200101736 200101837 200102208 200102221 200102421 200103286 200103550 200103736 200200297 200201141 200201531 200202231 200202260 200203585 200102995

MISCELLANEOUS DOCUMENTS

Component Cooling Water Report Card for Report Period July 1 through September 30, 2002

Cycle 19 Maintenance Rule Periodic Assessment of Maintenance Effectiveness (1/1/2000 - 5/31/2001), dated September 12, 2001

Cycle 20 Maintenance Rule Periodic Assessment of Maintenance Effectiveness (6/1/2001 - 8/31/2002), dated December 1, 2002

Electrical Distribution Report Card for Report Period July 1 through September 30, 2002

Maintenance Rule Equipment Availability Report for November - December 2002

Maintenance Rule Expert Technical Panel Meeting Minutes for: May 3, 2001; June 21, 2001; July 19, 2000; August 21, 2001; October 4, 2001; November 9, 2001; December 11, 2001; March 7, 2002; April 17, 2002; June 20, 2002; July 31, 2002; October 1, 2002; and December 19, 2002.

Reactor and Reactor Coolant Report Card for Report Period July 1 through September 30, 2002

2. The following documents were selected and reviewed by the inspectors to accomplish the objectives and scope of the permanent plant modifications inspection (Section 1R17):

MODIFICATION PACKAGES

Number	Description
EC09789	RC Pump Vibration Monitoring System
EC11293	LPSI Pump NPSH LOCA Injection Phase
EC11304	Addition of 161/345Kv Autotransformers
EC11306	Removal of Toxic Gas Monitors
EC11312	Monitoring PORV RPS Open Circuitry
EC14733	HCV-2987 Actuator Replacement
EC14983	M-22 Penetration Inside Containment Manual Valve

EC14994	FW-10 Reliability Enhancements
EC15021	Reconfigure Welding Receptacles to Load Shed Power Supply
EC27564	Upgrade of Reactor Coolant Pump Mechanical Seals

CALCULATIONS

Number	Description
FC06735	Thrust Requirement for HCV-2987, Revision 6
FC06742	Accumulator Sizing and Seismic Support for HCV-2987, Revision 0
FC06860	Reactor Coolant Pump N Seal Code Stress Analysis, Revision 0

DRAWINGS

Number	Description
E23866-210-130 SH.2	Safety Injection and Containment Spray System Flow Diagram, Revision 60
E23866-210-130	Safety Injection and Containment Spray System, Revision 19

DESIGN BASIS DOCUMENTS

Number	Description
SDBD-SI-HP-132	High Pressure Safety Injection, Revision 10
SDBD-FW-AFW-117	Auxiliary Feedwater, Revision 24
SDBD-EE-201	AC Distribution, Revision 17

CONDITION REPORTS

199700015 199800865 199902265 199902690 200001622 200002425 200100256
200100498 200100598 200100894 200101217 200101352 200101605 200101797
200101973 200102612 200102631 200103027 200200238 200200970 200202994
200203359 200300644 200300645

PROCEDURES

Number	Description
NOD-QP-3	10 CFR 50.59 Reviews, Revision 23
PED-GEI-3	Preparation of Modifications, Revision 32
PED-GEI-56	Configuration Change Closeout, Revision 14
PED-GEI-52	Preparation of Field Design Change Requests, Revision 4

SO-G-21	Modification Control, Revision 70
OI-SI-1	SI Tanks and Leakage System, Revision 63
IC-ST-AE-3122	Type C Local Leak Rate Test of Penetration M-22, Revision 10
OI-CO-5-CL-A	Containment Integrity Mechanical Penetrations, Revision 12
IC-ST-RC-0024	Test of PORVs Actuation From RPS High Pressurizer Pressure Trips, Revision 1
ARP-CB-1,2,3/A4	Annunciator Response Procedure A4 Control Room Annunciator A4
OP-ST-SI-3003	Low Pressure Safety Injection and Containment Spray System Pump and Check Valve Test, Revision 15
AOP-17	Loss of Instrument Air, Revision 4
EOP-20	Functional Recovery Procedure, Revision 8
EM-CP-05-1B4A-7	Calibration of MCC-4A3 Feeder Breaker For Rad Waste Dumping Located in Cubicle 1B4A-7, Revision 5
NOD-QP-3	10CFR50.59 Reviews, Revision 23
PED-GEI-3	Preparation of Modifications, Revision 32
PED-GEI-7	Specification of Post-Modification Test Criteria, Revision 4
PED-GEI-52	Preparation of Field Design Change Requests, Revision 4
PED-GEI-56	Configuration Change Closeout, Revision 14
IC-ST-IA-3005	Instrument Air Accumulator Check Valve Operability Test, Revision 10
IC-ST-SI-3007	HPSI System Pump and Check Valve Test, Revision 13
OP-ST-AFW-0004	Auxiliary Feedwater Pump FW-10 Operability Test, Revision 20
OP-ST-SI-3001	Safety Injection System Category A and B Valve Exercise Test, Revision 21
SE-ST-AFW-3006	Auxiliary Feedwater Pump FW-10, Steam Isolation Valve, and Check Valve Tests, Revision 26

MISCELLANEOUS DOCUMENTS

REG. GUIDE 1.78, Evaluating the Habitability of a Nuclear Power Plant Control Room During a Postulated Hazardous Chemical Release

FC06644, Minimum LPSI Pump Performance Based on 2 and 4 Valve LPSI Flow Curve With a Corresponding 2 and 4 Injection Valve System Resistance, Revision 2

EAR 95-068, Engineering Assistance Request

USAR Section 14.15.6, Long Term Core Cooling Considerations (ECCS), Revision 11