



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

January 17, 2001

S. K. Gambhir, Division Manager
Nuclear Operations
Omaha Public Power District
Fort Calhoun Station FC-2-4 Adm.
P.O. Box 399
Hwy. 75 - North of Fort Calhoun
Fort Calhoun, Nebraska 68023-0399

SUBJECT: FORT CALHOUN STATION - NRC INSPECTION REPORT NO. 50-285/00-10

Dear Mr. Gambhir:

On December 30, 2000, the NRC completed an inspection at the Fort Calhoun Station facility. The enclosed report documents the inspection findings which were discussed on December 30, 2000, with Mr. Clemens and other members of your staff.

Based on the results of this inspection, the inspectors identified one issue of very low safety significance (Green). This issue was determined to involve a violation of NRC requirements. However, because of its very low safety significance and because it has been entered into your corrective action program, the NRC is treating this issue as a noncited violation, in accordance with Section VI.A.1 of the NRC's Enforcement Policy. If you deny this noncited violation, you should provide a response with the basis for your denial, within 30 days of the date of this inspection report, to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001, with copies to the Regional Administrator, Region IV; the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, Washington, DC 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 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/NRC/ADAMS/index.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/

Charles S. Marschall
Project Branch C
Division of Reactor Projects

Docket No.: 50-285
License No.: DPR-40

Enclosure:
NRC Inspection Report No.
50-285/00-10

cc w/enclosure:
Mark T. Frans, Manager
Nuclear Licensing
Omaha Public Power District
Fort Calhoun Station FC-2-4 Adm.
P.O. Box 399
Hwy. 75 - North of Fort Calhoun
Fort Calhoun, Nebraska 68023-0399

James W. Chase, Division Manager
Nuclear Assessments
Fort Calhoun Station
P.O. Box 399
Fort Calhoun, Nebraska 68023

Richard P. Clemens, Manager - Fort Calhoun Station
Omaha Public Power District
Fort Calhoun Station FC-1-1 Plant
P.O. Box 399
Hwy. 75 - North of Fort Calhoun
Fort Calhoun, Nebraska 68023

James R. Curtiss
Winston & Strawn
1400 L. Street, N.W.
Washington, D.C. 20005-3502

Chairman
Washington County Board of Supervisors
Washington County Courthouse
P.O. Box 466
Blair, Nebraska 68008

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

Electronic distribution from ADAMS by RIV:

Regional Administrator (**EWM**)

DRP Director (**KEB**)

DRS Director (**ATH**)

Senior Resident Inspector (**WCW**)

Branch Chief, DRP/C (**CSM**)

Senior Project Engineer, DRP/C (**DPL**)

Branch Chief, DRP/TSS (**PHH**)

RITS Coordinator (**NBH**)

Jim Isom, Pilot Plant Program (**JAI**)

Sampath Malur, Pilot Plant Program (**SKM**)

Only inspection reports to the following:

Scott Morris (**SAM1**)

NRR Event Tracking System (**IPAS**)

FCS Site Secretary (**NJC**)

Dale Thatcher (**DFT**)

RIV:SRI:DRP/C	RI:DRP/C	SPE:DRP/C	C:DRP/C	
WCWalker:nc	CCOsterholtz	DPLoveless	CSMarschall	
<i>T - DPLoveless</i>	<i>T - DPLoveless</i>	<i>/RA/</i>	<i>/RA/</i>	
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ENCLOSURE

U.S. NUCLEAR REGULATORY COMMISSION
REGION IV

Docket No.: 50-285
License No.: DPR-40
Report No.: 50-285/00-10
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: November 19 through December 30, 2000
Inspectors: W. Walker, Senior Resident Inspector
C. Osterholtz, Resident Inspector
Approved By: Charles S. Marschall, Chief, Project Branch C

ATTACHMENTS:

Attachment 1: Supplemental Information
Attachment 2: NRC's Revised Reactor Oversight Process

SUMMARY OF FINDINGS

Fort Calhoun Nuclear Station NRC Inspection Report 50-285/00-10(DRP)

IR 05000285-00-10, on 11/19-12/30/2000, Omaha Public Power District. Fort Calhoun Station Integrated Resident/Regional inspection.

The body of the report is organized under the broad categories of Reactor Safety and Other Activities as listed in the summaries below. A finding was identified under the area of Maintenance Risk Assessments and Emergent Work Evaluation.

The significance of issues is indicated by their color (green, white, yellow, red) and was determined by the Significance Determination Process in Inspection Manual Chapter 0609.)

Cornerstone: Initiating Events

1. Green. The inspectors identified a noncited violation for failure to take adequate corrective actions for charging system vibrations which contributed to a leak in the reactor coolant system (10 CFR Part 50, Appendix B, Criterion XVI).

The finding was of very low safety significance because operations personnel took prompt action to isolate the leak, all mitigation systems remained operable, and the licensee entered the finding into the corrective action program (Section 1R13).

Report Details

The Fort Calhoun Station began this inspection period at 100 percent power and maintained that level until December 1, 2000, when an approximately 1-gallon per minute unidentified reactor coolant leak was discovered and an orderly plant shutdown commenced. The plant shutdown was secured at 86 percent power following identification and isolation of the leak in the discharge piping of the charging pump system. Repairs were conducted and the plant was returned to 100 percent power on December 3, 2000, and maintained at that level throughout the inspection period.

2. REACTOR SAFETY Initiating Events, Mitigating Systems, Barrier Integrity

1R05 Fire Protection

a. Inspection Scope

The inspectors performed inspections of the following areas to determine if proper fire protection controls for combustibles and ignition sources were being effectively maintained:

- Control room ventilation room
- Spent fuel pool cooling room
- Spent fuel pool
- New fuel storage and uncrating
- Equipment hatch room

b. Findings

No findings of significance were identified.

1R12 Maintenance Rule Implementation

a. Inspection Scope

The inspectors verified proper implementation of the maintenance rule for the following components:

- Component Cooling Water Pump AC-3A motor replacement
- Component Cooling Water inlet and outlet isolation valve diagnostic testing

b. Findings

No findings of significance were identified.

1R13 Maintenance Risk Assessments and Emergent Work Evaluation

a. Inspection Scope

The inspectors reviewed the licensee's risk assessment for equipment outages as a result of planned and emergent maintenance to evaluate the licensee's effectiveness in assessing risk for planned and emergent maintenance. The inspectors also discussed the planned and emergent work activities with planning and maintenance personnel. They observed and reviewed emergent work on the following systems/components/activities:

- Diving activities to remove debris from the inlet to the intake structure
- Activities performed in response to stator failure of the component cooling water Pump AC-3A motor

b. Findings

No findings of significance were identified.

.2 Repairs to Socket Weld on Discharge Piping for the Charging and Letdown System

a. Inspection Scope

The inspectors reviewed the corrective actions associated with Condition Report 200002402, the associated root cause report, and the event notification worksheets. The inspectors also reviewed design requirements, Abnormal Operating Procedures, Emergency Action Levels, and Technical Specifications.

b. Findings

On December 1, 2000, with the reactor at full power, reactor operators identified an increasing reactor coolant system leak rate and subsequently an increasing level in the containment sump. Per Technical Specification 2.1.4, with an unidentified leakage of greater than 1-gallon per minute, an orderly shutdown was initiated. In approximately 1 hour, the leak was identified as being in a 2-inch socket weld on the discharge piping of the charging pump system just upstream of the regenerative heat exchanger. The leak was isolated and the shutdown was secured at 86 percent power. During repairs, the alternate high pressure injection flowpath was used to maintain the reactor coolant inventory. Normal charging and letdown were restored approximately 18 hours after the leak was identified.

The inspectors determined that the licensee failed to take adequate corrective actions following a history of vibration induced failures of pipe welds and supports in the charging pump discharge header system. This most recent leak required an unplanned plant downpower and isolation of the charging and letdown system to repair the leak.

This issue was characterized as having very low safety significance based upon the significance determination process review of the event.

The inspectors concluded that the licensee failed to properly implement the necessary corrective actions as required by 10 CFR Part 50, Appendix B, Criterion XVI, which states that the cause of the condition adverse to quality be determined and corrective action taken to preclude repetition. This violation is being treated as a noncited violation (50-285/200010-01) consistent with Section VII.A of the NRC Enforcement Policy.

1R14 Personnel Performance During Nonroutine Plant Evolutions

a. Inspection Scope

The inspectors reviewed operator response to an unidentified reactor coolant system leak inside containment during normal operations. The leak was approximately 1 gallon per minute and the operations crew determined the leak was in a weld on the discharge piping of the charging pump system.

b. Findings

No findings of significance were identified.

1R15 Operability Evaluations

a. Inspection Scope

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

- Operability for particulate and Noble Gas Radiation Monitors RM-050 and RM-51 (Condition Report 200002452)
- Operability for component cooling water Pump AC-3A following a surveillance failure (Condition Report 200002365)

b. Findings

No findings of significance were identified.

1R19 Postmaintenance Testing

a. Inspection Scope

The inspectors reviewed or observed postmaintenance testing on the following equipment to verify that procedures and test activities were adequate to verify system operability:

- Work Order 64872 for Containment/Stack Gas High Radiation Monitor RM-062 vacuum pump maintenance
- Work Order 70224 for Diesel Generator 2, Secondary Air Hose Repair

b. Findings

No findings of significance were identified.

1R22 Surveillance Testing

a. Inspection Scope

The inspectors observed all or part of the following surveillance activities to confirm that the licensee effectively controlled the associated risk:

- Surveillance Test Procedure IC-ST-RPS-0002, "Quarterly Functional Test of Power Range Safety Channel 'C' Trip Unit," Revision 2
- Surveillance Test Procedure OP-ST-DG-0002, "Diesel Generator 2 Check," Revision 33
- Surveillance Test Procedure OP-ST-SI-3001, "Safety Injection System Category A and B Valve Exercise Test," Revision 22

b. Findings

No findings of significance were identified.

4. OTHER ACTIVITIES

4OA1 Review of the World Association of Nuclear Operators (WANO) 2000 Peer Review of the Fort Calhoun Station

a. Inspection Scope

The inspectors reviewed the WANO 2000 peer review for the Fort Calhoun Station.

b. Findings

No findings of significance were identified.

4OA4 Other

The following licensee event reports (LERs) were determined to be of minor significance and are closed:

LER 285/99-003-00: Pressurizer Safety Valve Acceptance Range

LER 285/99-005-00: Containment Penetration Surveillance

LER 285/99-006-00: Low Power Core Physics Testing Technical Specifications

LER 285/99-006-01: Low Power Core Physics Testing Technical Specifications

40A6 Exit Meeting Summary

On January 2, 2000, the inspectors presented the inspection results in a meeting with Mr. Clemens and other members of your staff. The licensee acknowledged the findings as presented. The licensee did not consider any material examined during the inspection proprietary.

ATTACHMENT 1

PARTIAL LIST OF PERSONS CONTACTED

Licensee

G. Cavanaugh, Supervisor, Nuclear Licensing
R. Clemens, Plant Manager
M. Core, Manager, System Engineering
M. Frans, Manager, Nuclear Licensing
S. Gambhir, Division Manager, Nuclear Operations
W. Gates, Vice President
R. Haug, Manager, Chemistry, Nuclear Operations
J. Herman, Manager, Planning and Scheduling
R. Phelps, Division Manager, Nuclear Engineering
J. Sefik, Manager, Security and Emergency Planning
R. Short, Assistant Plant Manager
J. Spilker, Manager, Corrective Action Group
D. Trausch, Manager, Quality Assurance
R. Westcott, Manager, Training

ITEMS OPENED, CLOSED, AND DISCUSSED

Opened and Closed During this Inspection

50-285/00010-01	NCV	Repairs to Socket Weld on Discharge Piping for the Charging and Letdown System (Section 1R13)
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Closed

50-285/99-003-00	LER	Pressurizer Safety Valve Acceptance Range (Section 4OA4)
50-285/99-005-00	LER	Containment Penetration Surveillance (Section 4OA4)
50-285/99-006-00	LER	Low Power Core Physics Testing Technical Specifications (Section 4OA4)
50-285/99-006-01	LER	Low Power Core Physics Testing Technical Specifications (Section 4OA4)

ATTACHMENT 2
NRC's REVISED REACTOR OVERSIGHT PROCESS

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

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

Reactor Safety	Radiation Safety	Safeguards
<ul style="list-style-type: none">● Initiating Events● Mitigating Systems● Barrier Integrity● Emergency Preparedness	<ul style="list-style-type: none">● Occupational● Public	<ul style="list-style-type: none">● Physical Protection

To monitor these seven cornerstones of safety, the NRC uses two processes that generate information about the safety significance of plant operations: inspections and performance indicators. Inspection findings will be evaluated according to their potential significance for safety, using the Significance Determination Process, and assigned colors of GREEN, WHITE, YELLOW or RED. GREEN findings are indicative of issues that, while they may not be desirable, represent very low safety significance. WHITE findings indicate issues that are of low to moderate safety significance. YELLOW findings are issues that are of substantial safety significance. RED findings represent issues that are of high safety significance with a significant reduction in safety margin.

Performance indicator data will be compared to established criteria for measuring licensee performance in terms of potential safety. Based on prescribed thresholds, the indicators will be classified by color representing varying levels of performance and incremental degradation in safety: GREEN, WHITE, YELLOW, or RED. GREEN indicators represent performance at a level requiring no additional NRC oversight beyond the baseline inspections. WHITE corresponds to performance that may result in increased NRC oversight. YELLOW represents performance that minimally reduces safety margin and requires even more NRC oversight. And RED indicates performance that represents a significant reduction in safety margin but still provides adequate protection to public health and safety.

The assessment process integrates performance indicators and inspection so the agency can reach objective conclusions regarding overall plant performance. The agency will use an Action Matrix to determine in a systematic, predictable manner which regulatory actions should be taken based on a licensee's performance. The NRC's actions in response to the significance (as represented by the color) of issues will be the same for performance indicators as for inspection findings. As a licensee's safety performance degrades, the NRC will take more and increasingly significant action, which can include shutting down a plant, as described in the Action Matrix.

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