

Omaha Public Power District  
444 South 16th Street Mail  
Omaha, Nebraska 68102-2247  
402/636-2000

January 14, 1991  
LIC-91-028R

U. S. Nuclear Regulatory Commission  
Attn: Document Control Desk  
Mail Station P1-137  
Washington, DC 20555

Reference: Docket No. 50-285

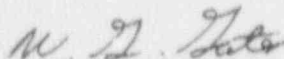
Gentlemen:

SUBJECT: December Monthly Operating Report (MOR)

Please find enclosed the December 1990 Monthly Operating Report for the Fort Calhoun Station Unit No. 1 as required by Technical Specification Section 5.9.1.

If you should have any questions, please contact me.

Sincerely,



W. G. Gates  
Division Manager  
Nuclear Operations

WGG/sel

Enclosures

c: LeBoeuf, Lamb, Leiby & MacRae  
R. D. Martin, NRC Regional Administrator, Region IV  
R. P. Mullikin, NRC Senior Resident Inspector  
D. K. Sentell, Combustion Engineering  
R. J. Simon, Westinghouse  
Office of Management & Program Analysis (2)  
INPO Records Center  
American Nuclear Insurers

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R PDR



AVERAGE DAILY UNIT POWER LEVEL

DOCKET NO. 50-285  
 UNIT Fort Calhoun Station  
 DATE January 9, 1991  
 COMPLETED BY D. L. Stice  
 TELEPHONE (402)636-2474

MONTH December 1990

DAY	AVERAGE DAILY POWER LEVEL (MWe-Net)	DAY	AVERAGE DAILY POWER LEVEL (MWe-Net)
1	488	17	0
2	488	18	0
3	488	19	0
4	488	20	0
5	488	21	0
6	488	22	0
7	488	23	0
8	488	24	0
9	488	25	0
10	488	26	0
11	488	27	0
12	488	28	0
13	488	29	0
14	467	30	0
15	5	31	0
16	0		

INSTRUCTIONS

On this form, list the average daily unit power level in MWe-Net for each day in the reporting month. Compute to the nearest whole megawatt.

OPERATING DATA REPORT

DOCKET NO. 50-285  
 UNIT Fort Calhoun Station  
 DATE January 9, 1991  
 COMPLETED BY D. L. Stice  
 TELEPHONE (402)636-2474

OPERATING STATUS

1. Unit Name: Fort Calhoun Station Notes
2. Reporting Period: December 1990
3. Licensed Thermal Power (Mwt): 1500
4. Nameplate Rating (Gross MWe): 502
5. Design Electrical Rating (Net MWe): 478
6. Maximum Dependable Capacity (Gross MWe): 502
7. Maximum Dependable Capacity (Net MWe): 478
8. If changes occur in Capacity Ratings (Item Numbers 3 through 7) Since Last Report, Give Reasons:  
N/A
9. Power Level to Which Restricted, If Any (Net MWe): N/A
10. Reasons for Restrictions, If Any: N/A

	This Month	Yr-to-Date	Cumulative
11. Hours in Reporting Period	744.0	8,760.0	151,370.0
12. Number of Hours Reactor was Critical	348.8	5,622.4	116,788.7
13. Reactor Reserve Shutdown Hours	0.0	0.0	1,309.5
14. Hours Generator On-Line	339.7	5,424.5	115,429.9
15. Unit Reserve Shutdown Hours	0.0	0.0	0.0
16. Gross Thermal Energy Generated (MWH)	502,831.6	7,668,378.1	151,283,489.3
17. Gross Electrical Energy Generated (MWH)	171,600.0	2,540,018.0	49,750,126.2
18. Net Electrical Energy Generated (MWH)	163,610.5	2,417,223.5	47,484,776.3
19. Unit Service Factor	45.7	61.9	76.3
20. Unit Availability Factor	45.7	61.9	76.3
21. Unit Capacity Factor (Using MDC Net)	46.0	57.7	68.0
22. Unit Capacity Factor (Using DER Net)	46.0	57.7	66.5
23. Unit Forced Outage Rate	54.3	13.5	3.5
24. Shutdowns Scheduled Over Next 6 Months (Type, Date, and Duration of Each): <u>None</u>			

25. If Shut Down at End of Report Period, Estimated Date of Startup: January 8, 1991
26. Units In Test Status (Prior to Commercial Operation): Forecast            Achieved

INITIAL CRITICALITY           

INITIAL ELECTRICITY           

COMMERCIAL OPERATION           

N/A

Refueling Information  
Fort Calhoun - Unit No. 1

Report for the month ending December 1990

1. Scheduled date for next refueling shutdown. September 1991
2. Scheduled date for restart following refueling. November 1991
3. Will refueling or resumption of operation thereafter require a technical specification change or other license amendment? Yes
  - a. If answer is yes, what, in general, will these be?  
Incorporate specific requirements resulting from reload safety analysis.
  - b. If answer is no, has the reload fuel design and core configuration been reviewed by your Plant Safety Review Committee to determine whether any unreviewed safety questions are associated with the core reload. N/A
  - c. If no such review has taken place, when is it scheduled? N/A
4. Scheduled date(s) for submitting proposed licensing action and support information. June 1991
5. Important licensing considerations associated with refueling, e.g., new or different fuel design or supplier, unreviewed design or performance analysis methods, significant changes in fuel design, new operating procedures. New fuel supplier  
New LOCA Analysis
6. The number of fuel assemblies:
  - a) in the core 133 Assemblies
  - b) in the spent fuel pool 477 Assemblies
  - c) spent fuel pool storage capacity 729 Assemblies
  - d) planned spent fuel pool storage capacity Planned to be increased with higher density spent fuel racks.
7. The projected date of the last refueling that can be discharged to the spent fuel pool assuming the present licensed capacity. 1994\*

\* Capability of full core offload of 133 assemblies lost.

Prepared by [Signature] Date 1-8-91

UNIT SHUTDOWNS AND POWER REDUCTIONS

DOCKET NO. 50-285  
 UNIT NAME Fort Calhoun Station  
 DATE January 9, 1991  
 COMPLETED BY D. L. Stice  
 TELEPHONE (402) 636-2474

REPORT MONTH December 1990

No.	Date	Type (1)	Duration (Hours)	Reason (2)	Method of Shutting Down Reactor (3)	Licensee Event Report #	System Code (4)	Component Code (5)	* Cause & Corrective Action to Prevent Recurrence
90-08	901215	F	404.3	H	1	LER 90-028	XX	PSX, AA	On December 15, 1990, a through-wall leak on an installed spare Control Element Drive Mechanism (CEDM) pressure housing was identified and a cooldown to cold shutdown was initiated. The affected CEDM housing and a second installed spare housing were removed and replaced with blank flanges.  *See LER 90-028 for further cause and corrective actions.

1  
 F-Forced  
 S-Scheduled

2  
 Reason:  
 A-Equipment Failure (Explain)  
 B-Maintenance or Test  
 C-Refueling  
 D-Regulatory Restriction  
 E-Operator Training & License Examination  
 F-Administrative  
 G-Operational Error  
 H-Other (Explain)

3  
 Method:  
 1-Manual  
 2-Manual Scram  
 3-Automatic Scram  
 4-Other (Explain)

4  
 Exhibit G - Instructions for Preparation of Data Entry Sheets for Licensee Event Report (LER) File (NUREG-0161)

5  
 Exhibit 1 - Same Source



OMAHA PUBLIC POWER DISTRICT  
Fort Calhoun Station Unit NO. 1

December 1990  
Monthly Operating Report

I. OPERATIONS SUMMARY

Fort Calhoun Station operated at a nominal 100% power until December 14, 1990, when a power reduction to hot standby was initiated to investigate a possible Reactor Coolant System (RCS) leak in the reactor vessel (RV) head area. On December 15, a through-wall leak on an installed spare control element drive mechanism (CEDM) pressure housing was identified and a cooldown to cold shutdown was initiated. The affected CEDM housing and a second installed spare housing were removed and replaced with blank flanges. Both housings had several identified deep cracks. Detailed metallurgical analyses showed it was caused by transgranular stress corrosion cracking (TGSCC). This cracking phenomenon has been attributed to high oxygen levels in the housings which have not been vented since initial startup. Two other installed spare CEDM housings, which had heated junction thermocouples installed in 1982 for reactor vessel level monitoring, were checked by ultrasonic testing and showed no signs of cracking. The active CEDM housings are not considered susceptible to TGSCC since they are self-venting. Preparations are presently underway for plant startup.

New fuel oil transfer pumps were installed on Emergency Diesel Generator No. 1. Startup of the water plant is complete after modifications.

The following NRC inspections took place in December:

IR 90-36	Maintenance Team Inspection
IR 90-39	Monthly Inspection (October 23 thru December 4, 1990)
IR 90-45	Monthly Inspection (Continued from December 5, 1990)

The following LERs were submitted:

LER-90-22, Rev. 1	Degraded Fire Barriers
LER-90-25, Rev. 1	Component Cooling Water System Outside Design Basis
LER-90-26	Manual Reactor Trip Due to Loss of Instrument Air Pressure

A. SAFETY VALVES OR PORV CHALLENGES OR FAILURES WHICH OCCURRED

None

B. RESULTS OF LEAK RATE TESTS

The results of the Reactor Coolant Leak Rate Tests for December, 1990 indicated a continuation of the elevated unknown leakage that began in October, 1990. An ongoing investigation of the high RCS leak rate concluded that the source of the leakage was probably a component on the RV head. This assumption was reinforced by fire detector alarms on the head vent fans. The plant was taken to hot standby to inspect the RV head on December 14, 1990. The inspection involved removal of

the In Core Instrumentation (ICI) penetration covers from the RV head seismic skirt. Once the covers were removed, evidence of the leak was apparent. Steam was blowing from the CEDM #9 pressure housing and a large quantity of boric acid crystals was found in the area. The plant was taken to cold shutdown and the spare CEDMs were removed and blind flanged. The leak was caused by a through-wall transgranular stress crack. Two other similar CEDM pressure housings were ultrasonically tested and no indications were found.

The highest RCS total leak rate for the month was 0.672 gpm on December 12. The lowest for the month was 0.286 gpm on December 13. The "known" RCS leakage to the Reactor Coolant Drain Tank and the Quench Tank remained low, therefore, the source of the excessive leakage was considered "unknown".

C. CHANGES, TESTS AND EXPERIMENTS REQUIRING NUCLEAR REGULATORY COMMISSION AUTHORIZATION PURSUANT TO 10CFR50.59

Amendment No.    Description

No. 135    This amendment makes changes to the Technical Specifications to delete redundant surveillance requirements and correct an error contained in the Technical Specification. Also a specification was renumbered as a result of deleting specifications.

No. 136    This amendment makes changes to the Fort Calhoun Technical Specifications to restrict the containment spray system use as a backup for shutdown cooling.

D. SIGNIFICANT SAFETY RELATED MAINTENANCE FOR THE MONTH OF DECEMBER

Significant safety related maintenance activities completed in the month of December are outlined below:

Charging Pump CH-1C tripped free upon trying to start pump. The cause of the failure was a faulty trip device. Post Maintenance Testing was done in accordance with the Calibration Procedure and Operability Testing was performed by running the motor two times.

While performing the Surveillance Test on HCV-403C it was noted that the valve started to move to its failed position before the instrument air was vented off. The nature of the failure was deteriorated gaskets on the operator allowing air leakage. Post Maintenance Testing required a leak test and cycling of the valve. Operability Testing required completion of applicable sections of the Surveillance Test.

On Diesel Generator Number One (DG-1), the governor speed setting motor was running slow, causing DG-1 to fail its ten second starting requirement. The motor was replaced. Post Maintenance testing required verification of the speed setting in both the slow and fast speed modes. Operability Testing was verified by performance of the Surveillance Test.

Trouble shooting of the qualified Safety Parameter Display System Panel revealed a failed thermocouple card for heated junction thermocouple probe YE-116B. The cause of the failure was a bad multiplexor. Post Maintenance Testing was performed in accordance with the applicable sections of the calibration procedure.

During the forced outage commencing December 15, 1990, (see Operations Summary) many maintenance items were completed/corrected, including the following:

- Replaced Heater Drain Tank to Condenser Dump valve, (LCV-1198).
- Rebuilt a sample valve (HCV-2504A) off the primary system.
- Rebuilt the steam seal feed valve to eliminate leakage past seat.
- Repaired MS-164 (HCV-1040 isolation valve).
- The drain off of RC-2A feedwater line was capped (FW-1002) due to valve leaking through.
- Replaced the solenoid on the component cooling water valve (HCV-491A) to heat exchanger AC-1C.
- Replaced oil line in Reactor Coolant Pump Motor (RC-3A).
- Repaired limit switch mounting to give proper control room indication on the letdown isolation valve (TCV-202).