

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

November 14, 1990  
LIC-90-0889

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

Reference: Docket No. 50-285

Gentlemen:

SUBJECT: October Monthly Operating Report (MOR)

Please find enclosed the October 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*  
W. G. Gates  
Division Manager  
Nuclear Operations

WGG/sel

Enclosures

093  
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)  
Nuclear Safety Analysis Center  
INPO Records Center  
American Nuclear Insurers

AVERAGE DAILY UNIT POWER LEVEL

DOCKET NO. 50-285  
 UNIT Fort Calhoun Station  
 DATE November 5, 1990  
 COMPLETED BY D. L. Stice  
 TELEPHONE (402)636-2474

MONTH October 1990

DAY	AVERAGE DAILY POWER LEVEL (MWe-Net)	DAY	AVERAGE DAILY POWER LEVEL (MWe-Net)
1	0	17	485
2	0	18	484
3	0	19	486
4	0	20	487
5	35	21	486
6	107	22	486
7	138	23	486
8	279	24	486
9	428	25	485
10	475	26	486
11	486	27	485
12	486	28	485
13	486	29	485
14	486	30	485
15	485	31	486
16	486		

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 November 5, 1990  
 COMPLETED BY D. L. Stice  
 TELEPHONE (402)636-2474

OPERATING STATUS

1. Unit Name: Fort Calhoun Station Notes  
 2. Reporting Period: October 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	745.0	7,296.0	149,906.0
12. Number of Hours Reactor was Critical	647.3	4,606.3	115,772.6
13. Reactor Reserve Shutdown Hours	0.0	0.0	1,309.5
14. Hours Generator On-Line	638.6	4,425.1	114,430.5
15. Unit Reserve Shutdown Hours	0.0	0.0	0.0
16. Gross Thermal Energy Generated (MWH)	875,395.1	6,199,941.5	149,815,052.7
17. Gross Electrical Energy Generated (MWH)	294,684.0	2,040,540.0	49,250,648.2
18. Net Electrical Energy Generated (MWH)	280,288.3	1,940,888.0	47,008,440.8
19. Unit Service Factor	85.9	60.7	76.3
20. Unit Availability Factor	85.9	60.7	76.3
21. Unit Capacity Factor (Using MDC Net)	78.7	55.7	68.0
22. Unit Capacity Factor (Using DER Net)	78.7	55.7	66.4
23. Unit Forced Outage Rate	14.3	8.0	3.2
24. Shutdowns Scheduled Over Next 6 Months (Type, Date, and Duration of Each): None			

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

INITIAL CRITICALITY \_\_\_\_\_  
 INITIAL ELECTRICITY N/A \_\_\_\_\_  
 COMMERCIAL OPERATION \_\_\_\_\_

**UNIT SHUTDOWNS AND POWER REDUCTIONS**

DOCKET NO. 50-285  
 UNIT NAME Fort Calhoun Station  
 DATE November 12, 1990  
 COMPLETED BY D. L. Stice  
 TELEPHONE (402) 636-2474

REPORT MONTH October, 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
90-06	900929	F	106.4	H	1	90-025	ZZ	ZZZZZZ	*See LER 90-025 for cause. As a result of questions concerning outstanding design basis problems associated with the Raw Water, Component Cooling and Containment Spray Systems, the plant was taken off-line and the reactor shutdown. The necessary modifications were performed. Fort Calhoun Station Unit No. 1 was returned to service on October 5, 1990.

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

Refueling Information  
Fort Calhoun - Unit No. 1

Report for the month ending October 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 *Kevin Hill* Date 11-7-90

OMAHA PUBLIC POWER DISTRICT  
Fort Calhoun Station Unit No. 1

October 1990  
Monthly Operating Report

I. OPERATIONS SUMMARY

At the start of this report period, Fort Calhoun Station was maintained in a hot shutdown condition while the design basis problems described in the September 1990 Monthly Operating Report were resolved. The potential for loss of component cooling water due to the raw water/component cooling water interface valves failing open on a loss of instrument air was eliminated by handjacking all interface valves closed. The possibility of a containment spray (CS) pump carrying excessive motor current when a single pump is supplying two CS headers was reduced by installing a logic to a spray header isolation valve where only one spray header isolation valve (HCV-344) will remain closed if only one CS pump starts. It was also found that for one CS pump to supply sufficient flow for containment cooling the CS pump minimum recirculation flow valves needed to be closed. The Emergency Operating Procedures, Abnormal Operating Procedures and Operating Instructions were changed to account for the results of these engineering analyses.

The reactor was taken critical and the generator was placed on-line October 5, 1990. A nominal 100% power was attained October 10 and maintained for the rest of the month.

The following NRC inspections took place in October:

- IR 90-38 Residents' Monthly Inspection (from September 11, 1990 thru October 22, 1990)
- IR 90-39 Residents' Monthly Inspection (from October 23, 1990)
- IR 90-41 Effluent Monitoring/Radiological Waste Processing
- IR 90-42 Plant Shutdown and Miscellaneous Follow-up

The following LERs were submitted:	Date Submitted
LER 90-22 Non-Functional Fire Barrier Penetrations	October 8, 1990
LER 90-23 Safety Injection Piping and Relief Valves Outside Design Basis	October 22, 1990
LER 90-24 Failure to Conduct Hourly Firewatch	October 26, 1990
LER 90-25 Cooling Water System Outside Design Basis	October 29, 1990

A. SAFETY VALVES OR PORV CHALLENGES OR FAILURES WHICH OCCURRED

None

B. RESULTS OF LEAK RATE TESTS

The results of the Reactor Coolant System (RCS) Leak Rate Tests for October, 1990 yielded a relatively low RCS leakage trend at the beginning of the month. However, on October 21, the total RCS leakage essentially doubled. The "known" RCS leakage to the Reactor Coolant Drain Tank (RCDT) and the quench tank remained low, therefore, the source of the additional leakage is considered "unknown". Two containment entries have been made since the RCS leak rate increase. These entries were made in attempt to locate and possibly isolate the source of the "unknown" leakage.

To date, no unusual conditions have been noted that can explain the elevated leak rate. The charging pumps, the usual source of elevated "unknown" leakage, received considerable attention following the jump in RCS leak rate. The results from the charging pump work however, indicated that the charging pumps were not the cause. Also, there is no evidence that either steam generator has a primary to secondary leak, nor was any substantial Boric Acid concentration found in the containment sump.

The known leakage to the RCDT and the Pressurizer Quench Tank for the month varied from 0.013 to 0.107 gpm. The total leak rate, which is the sum of both the known and unknown leak rates for the period, varied between a low of 0.041 gpm on October 8 to a high of 0.444 gpm on October 2. The monthly high total leak rate on October 2 was due to the charging pump leakage. This was corrected and the total leak rates remained low until October 21.

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

Amendment No.    Description

133                    This amendment modifies the Technical Specifications to: (1) increase the refueling boron concentration from 1800 to 1900 ppm; (2) suspend sampling during periods when the fuel has been removed from the reactor vessel; (3) revise the storage requirements of the spent fuel pool Region 2; (4) allow discharge of fuel assemblies from the core directly to Region 2 of the spent fuel pool; and (5) delete the requirements to provide a fuel performance report at the end of each cycle.

D. SIGNIFICANT SAFETY RELATED MAINTENANCE FOR THE MONTH OF OCTOBER, 1990

Significant safety related maintenance activities completed in the month of October, 1990 are outlined below:

The operators for containment spray header isolation valves, HCV-344 and 345, were rebuilt due to excessive leakage. The cause of failure indicated a leaking diaphragm and valve misadjustment. While performing post maintenance testing on HCV-344 the solenoid valve was replaced to satisfactorily restore the valve.

A leak occurred on the bottom pin plug of the steam generator RC-2A auxiliary feedwater inlet check valve FW-164. Cause of the failure was unknown. The plug was peened and no leakage was evident following repairs.

During the performance of preventive maintenance on the breaker for charging pump CH-1C, it was discovered that the rackout mechanism interlock did not always prevent the racking handle from engaging when the breaker was closed. The cause of the failure was due to the springs' loss of tension and linkage misalignment.

Diesel Generator maintenance activities included:

- DG-1 - Calibrated the pressure indicators for fuel oil pressure systems 1 and 2.
- The replacement of fuel filters due to fuel pressure trending upward.
  
- DG-2 - Replacement of the diaphragm in the air inlet damper actuator.
- Testing related to the cooling system capability and design.