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

April 11, 1991
LIC-91-121R

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

Reference: Docket No. 50-285

Gentlemen:

SUBJECT: March Monthly Operating Report (MOR)

Please find enclosed the March 1991 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. F. Sentell, Combustion Engineering
R. J. Simon, Westinghouse
Office of Management & Program Analysis (2)
INPO Records Center
American Nuclear Insurers

1/1

1034

AVERAGE DAILY UNIT POWER LEVEL

DOCKET NO. 50-285
UNIT Fort Calhoun Station
DATE April 3, 1991
COMPLETED BY M.L. Edwards
TELEPHONE (402)636-2451

MONTH March 1991

DAY	AVERAGE DAILY POWER LEVEL (MWe-Net)	DAY	AVERAGE DAILY POWER LEVEL (MWe-Net)
1	327	17	328
2	327	18	327
3	328	19	326
4	328	20	326
5	328	21	326
6	328	22	326
7	327	23	326
8	327	24	326
9	328	25	327
10	327	26	327
11	327	27	326
12	328	28	325
13	327	29	326
14	292	30	327
15	325	31	326
16	328		

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 April 3, 1991
COMPLETED BY M.L. Edwards
TELEPHONE (402)636-2451

OPERATING STATUS

1. Unit Name: Fort Calhoun Station — Notes
2. Reporting Period: March 1991
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	2,160.0	153,530.0
12.	Number of Hours Reactor was Critical	744.0	1,980.0	118,768.7
13.	Reactor Reserve Shutdown Hours	0.0	0.0	1,309.5
14.	Hours Generator On-Line	744.0	1,969.2	117,399.1
15.	Unit Reserve Shutdown Hours	0.0	0.0	0.0
16.	Gross Thermal Energy Generated (MWH)	778,550.9	2,408,311.6	153,691,800.9
17.	Gross Electrical Energy Generated (MWH)	257,968.0	802,290.0	50,552,416.2
18.	Net Electrical Energy Generated (MWH)	242,258.8	759,276.2	48,244,052.5
19.	Unit Service Factor	100.0	91.2	76.5
20.	Unit Availability Factor	100.0	91.2	76.5
21.	Unit Capacity Factor (Using MDC Net)	68.1	73.5	68.1
22.	Unit Capacity Factor (Using DER Net)	68.1	73.5	66.6
23.	Unit Forced Outage Rate	0.0	8.8	3.6

24. Shutdowns Scheduled Over Next 6 Months (Type, Date, and Duration of Each):

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

INITIAL CRITICALITY			
INITIAL ELECTRICITY	N/A		
COMMERCIAL OPERATION			

Refueling Information
Fort Calhoun - Unit No. 1

Report for the month ending March 1991

1. Scheduled date for next refueling shutdown. — January 31, 1992

2. Scheduled date for restart following refueling. — May 1, 1992

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. — November 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. — 1995

* Capability of full core offload of 133 assemblies lost.

Prepared by Kevin Walter Date 4-4-91

DOCKET NO. 50-285
UNIT NAME Fort Calhoun Station
DATE April 8, 1991
COMPLETED BY M.L. Edwards
TELEPHONE (402) 636-2451

UNIT SHUTDOWNS AND POWER REDUCTIONS

REPORT MONTH March 1991

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
91-01	910211	S	0	H	4	N/A	ZZ	ZZZZZZ	Continued operation at reduced power level (70%) to allow extension of the fuel cycle to January 1992.

1 2 3 4

F-Forced
S-Scheduled

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)

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

MARCH 1991
Monthly Operating Report (MOR)

I. OPERATIONS SUMMARY

With the exception of March 14, Fort Calhoun Station (FCS) operated at 70% power during March, 1991. On March 14, during monthly surveillance testing of the safety injection tank boron concentration, one of the four tanks was found to contain less than the 1900 ppm boron concentration as required by Technical Specifications. A plant shutdown was initiated when the concentration could not be corrected within the one hour limiting condition for operation. The power decrease was stopped at 45% when the safety injection tank was returned to an operable condition with greater than 1900 ppm boron concentration. An investigation of this event is continuing and all four safety injection tanks have had concentrated boric acid added to prevent recurrence of the condition.

Omaha Public Power District (OPPD) has been revising and/or reconstituting the FCS electrical design basis calculations and analyses over the past eighteen months. This review has discovered the following two design basis issues:

As mentioned in the February 1991 MOR, OPPD has discovered a potential condition outside the design basis for the station's Offsite Power Low Signal (OPLS) degraded voltage protection system. The OPLS design basis requires that the 480 VAC system be maintained above 90% of rated voltage for all safeguards loads. The potential existed that in some heavily loaded conditions with a degraded 161KV system, the 480 VAC system could fall below the design basis without OPLS actuating as designed. New OPLS setpoints based on an acceptable configuration of the stations electrical distribution system were installed February 13, 1991. Additionally, restrictions on bus loading were implemented to limit the potential for falling below the design basis limits. Further analysis is being performed to determine if station loading restrictions can be refined to allow more operational flexibility.

An analysis of the 161KV system down to the 480 volt motor control center (MCC) molded case circuit breaker coordination has been reviewed. OPPD has discovered that some of the 480 volt loads have circuit breakers with trip curves that slightly overlap with the 480 volt load center feeder breaker trip curves. The curve overlap could result in the tripping of a MCC due to a fault on one of its non-coordinated loads. Twenty-one breakers were found to have this problem. Two loads for which the load breakers trip curves overlap are in a harsh environment. As a precautionary measure, one of the two breakers has been tagged open until a satisfactory solution can be implemented and the other breaker has had the identified load removed. The NRC was notified of this design basis problem on March 20, 1991. A Safety Analysis for Operability (SAO) was approved by the Plant Review Committee (PRC) on March 25, 1991 to justify continued plant operation until the breaker coordination problem can be resolved.

During March 1991, the following tests and modifications were performed on the diesel generators:

Air flow testing through each diesel generator (DG) radiator was performed following radiator steam cleaning and fin straightening. flow increases of approximately 8% for DG-1 and 4% for DG-2 were measured. This should correspond to DG jacket water operability temperature limit increases of approximately one degree for each percentage increase in air flow. Presently, the jacket water operability temperature limit for DG-1 is 103°F. (outdoor ambient air temperature) and 100° F. (outdoor ambient air temperature) for DG-2.

A modification installed a new engine speed sensing device on DG-1 and DG-2.

The following NRC inspections took place in March:

IR-91-05 First portion of Resident Inspectors' Routine Inspection
IR-91-01 Electrical Distribution System Functional Inspection (EDSFI) (to April 5, 1991)
IR-91-06 Security

The following LERs were submitted:

LER-91-02, "VIAS Actuation During Primary System Sampling"
LER-91-03, "Containment Penetration M-3 Outside Design Basis"
LER-91-04, "Off-site Power Low Signal Outside Design Basis"

A. SAFETY VALVES OR PORV CHALLENGES OR FAILURES WHICH OCCURRED

None

B. RESULTS OF LEAK RATE TESTS

The reactor coolant leak rate tests showed that the reactor coolant system (RCS) and chemical and volume control system (CVCS) had a very low leak rate during March, 1991. During the month, RCS leakage averaged 0.08 gpm divided equally between "known" and "unknown" leakage.

There were a few instances of negative leak rates which are attributed to normal random variation of the test data in conjunction with the low average leak rate.

The maximum leak rate for the month was recorded on March 9, when leakage from charging pump CH-1A was suspected. The operating charging pump was switched and CH-1A was isolated. A repeat of the leak rate test showed a reduction in the total leak rate from 0.360 gpm to 0.040 gpm and a reduction in the unknown leak rate from 0.328 gpm to 0.005 gpm. This verified that the leakage was from CH-1A which was subsequently re-packed and satisfactorily tested.

C. CHANGES, TESTS AND EXPERIMENTS REQUIRING NUCLEAR REGULATORY COMMISSION AUTHORIZATION PURSUANT TO 10 CFR 50.59

Amendment No.	Description
137	This amendment makes changes to the Fort Calhoun Station Technical Specifications to allow operation of the chemical and radiation protection/radioactive waste processing building.
138	This amendment makes changes to the Fort Calhoun Station Technical Specifications to add the hydrogen purge system.

D. SIGNIFICANT SAFETY RELATED MAINTENANCE FOR THE MONTH OF MARCH 1991

During surveillance testing, an engineered safeguards lockout relay (86A/PPLS) failed to trip although the supervisory light indicated that the relay was getting a trip signal. The cause of failure was traced to binding of the relay's mechanical linkage. The mechanical linkage was adjusted, lubricated and post maintenance testing determined that the relay operated satisfactorily.

During trouble shooting, the backwash control valve (HCV-2805B) for raw water strainer AC-12B was found to have a torn rubber liner. A new valve liner was installed and operability testing verified that there were no flange leaks with the valve in service.

The solenoid valve (HCV-480A-20) for the component cooling water inlet valve to shutdown cooling heat exchanger AC-4A was leaking air through the vent. The cause of failure was determined to be normal wear and the solenoid was replaced. Applicable sections of the surveillance test were performed to verify operability.

During predictive maintenance order testing, containment spray pump SI-3C showed abnormal vibration. The coupling alignment and motor magnetic check were found to be within tolerance. The surveillance test was performed and the vibration readings were found to be within the specifications.

The manual racking interlock for SI-3C was out of adjustment and failed to operate the breaker during the calibration procedure. The interlock was adjusted and operability was verified during post maintenance testing.

Diesel work for the month included:

DG-1 Access doors were installed in the radiator duct work, the radiator core exterior was steam cleaned, and the cooling fins were straightened. The radiator exhaust duct work and associated chimney area were inspected.

DG-2 Access doors were installed in the radiator duct work, the radiator core exterior was steam cleaned, the cooling fins were straightened and the fan pitch was adjusted. Performed radiator fan blade pitch testing which verified that the fan pitch is set at its optimum level.

During surveillance testing, the fuel oil transfer pump motor (FO-4A-2-M) tripped the breaker when attempting to start. A new pump motor was installed after a short circuit in the motor windings was found. Applicable sections of the surveillance test were performed to verify pump operability.