

PUBLIC SERVICE COMPANY OF COLORADO
FORT ST. VRAIN NUCLEAR GENERATING STATION

MONTHLY OPERATIONS REPORT

NO. 125

June, 1984

FORM 288 22 0218

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PDR ADOCK 05000267
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This report contains the highlights of the Fort St. Vrain, Unit No. 1, activities operated under the provisions of the Nuclear Regulatory Commission Operating License DPR-34. This report is for the month of June, 1984.

1.0 NARRATIVE SUMMARY OF OPERATING EXPERIENCE AND MAJOR SAFETY RELATED MAINTENANCE

At the beginning of June, 1984, the reactor was being operated at approximately 8% power, while primary and secondary coolant chemistry cleanup continued.

On June 2, reactor power was reduced to less than 2% to allow for the repair of an hydraulic oil leak on HV-2224, and for leak checks on several other hydraulically operated valves.

Reactor power was slowly increased, beginning June 3, as reactor dewpoint and feedwater iron concentration levels would allow.

The turbine generator was synchronized on June 12, but tripped within one hour due to low main steam temperature. Main steam temperature was inadequate, due to reactor power being limited by Technical Specification requirements on moisture. A second attempt was made later in the day but resulted in another trip on low main steam temperature. During the short period of operation, the No. 5 turbine bearing exhibited a higher than normal vibration.

The turbine generator was placed in service on June 13, at 2127 hours, at approximately 50MW.

Flushing of both high pressure feedwater heaters was completed and the heaters returned to normal service on June 14, 1984.

The turbine generator was removed from service on June 16, to perform overspeed tests.

Reactor power was increased above 30% on June 21, and as high as 53% on June 22, when operation of the sudden pressure relay on the 4160/480V Transformer No. 1 caused a trip of the 480V A.C. Essential Bus 1A and subsequently, the 1A Helium Circulator due to a bearing water upset. This transient resulted in water ingress to the primary coolant via the 1A Helium Circulator. Power was reduced, and the circulator was recovered.

Increasing moisture, problems with the helium purification system, and other compounding conditions caused a reactor scram on high pressure on June 23, 1984, at 0028, following the 1A helium circulator upset. During the event, six of the thirty-seven control rod pairs failed to automatically insert upon actuation of the Plant Protective System (PPS) Scram Logic. A powered insertion of the stuck rods was initiated, and all rod pairs were fully inserted by 0049, on June 23. Although some rods failed to initially insert, cold shutdown conditions were achieved with the initial scram. Investigation into the problem is continuing. Nuclear Regulatory Commission approval will be necessary prior to reactor startup.

Due to higher than normal vibration, the 1A boiler feed pump internals have been removed and sent out for inspection/repair. Weights are being installed in the main turbine generator to decrease vibration at the No. 5 bearing.

At present, the reactor remains shut down pending resolution of the control rod drive problem and Nuclear Regulatory Commission concurrence in starting up.

2.0 SINGLE RELEASES OF RADIOACTIVITY OR RADIATION EXPOSURE IN EXCESS OF 10% OF THE ALLOWABLE ANNUAL VALUE

None.

3.0 INDICATION OF FAILED FUEL RESULTING FROM IRRADIATED FUEL EXAMINATION

None.

4.0 MONTHLY OPERATING DATA REPORT

Attached.

OPERATING DATA REPORT

DOCKET NO. 50-267
DATE August 13, 1984
COMPLETED BY Chuck Fuller
TELEPHONE (303) 785-2224

OPERATING STATUS

1. Unit Name: Fort St. Vrain
2. Reporting Period: 840601 through 840630
3. Licensed Thermal Power (Mwt): 842
4. Nameplate Rating (Gross MWe): 342
5. Design Electrical Rating (Net MWe): 330
6. Maximum Dependable Capacity (Gross MWe): 342
7. Maximum Dependable Capacity (Net MWe): 330

NOTES

8. If Changes Occur in Capacity Ratings (Items Number 3 Through 7) Since Last Report, Give Reasons:

None

9. Power Level To Which Restricted, If Any (Net MWe): 280
10. Reasons for Restrictions, If Any: Per commitment to the NRC, long term operation above 85% power is pending completion of the B-0 Startup Testing.

	This Month	Year to Date	Cumulative
11. Hours in Reporting Period	<u>720</u>	<u>4,367</u>	<u>43,848</u>
12. Number of Hours Reactor Was Critical	<u>528.5</u>	<u>1,324.1</u>	<u>27,151.4</u>
13. Reactor Reserve Shutdown Hours	<u>0</u>	<u>0</u>	<u>0</u>
14. Hours Generator On-Line	<u>213.5</u>	<u>660.1</u>	<u>18,463.3</u>
15. Unit Reserve Shutdown Hours	<u>0</u>	<u>0</u>	<u>0</u>
16. Gross Thermal Energy Generated (MWH)	<u>92,004.7</u>	<u>340,407.9</u>	<u>9,861,725.3</u>
17. Gross Electrical Energy Generated (MWH)	<u>17,732</u>	<u>95,144</u>	<u>3,248,594</u>
18. Net Electrical Energy Generated (MWH)	<u>12,734</u>	<u>73,998</u>	<u>2,945,525</u>
19. Unit Service Factor	<u>29.7</u>	<u>15.1</u>	<u>42.1</u>
20. Unit Availability Factor	<u>29.7</u>	<u>15.1</u>	<u>42.1</u>
21. Unit Capacity Factor (Using MDC Net)	<u>5.4</u>	<u>5.1</u>	<u>20.4</u>
22. Unit Capacity Factor (Using DER Net)	<u>5.4</u>	<u>5.1</u>	<u>20.4</u>
23. Unit Forced Outage Rate	<u>51.7</u>	<u>26.3</u>	<u>39.1</u>

24. Shutdowns Scheduled Over Next 6 Months (Type, Date, and Duration of Each): 7-1-84 through 9-1-84, 1488 hours, Control Rod Drive investigation; 10-19-84 through 11-10-84, 552 hours, surveillance testing.
25. If Shut Down at End of Report Period, Estimated Date of Startup: 9-1-84

26. Units In Test Status (Prior to Commercial Operation):	Forecast	Achieved
INITIAL CRITICALITY	<u>N/A</u>	<u>N/A</u>
INITIAL ELECTRICITY	<u>N/A</u>	<u>N/A</u>
COMMERCIAL OPERATION	<u>N/A</u>	<u>N/A</u>

AVERAGE DAILY UNIT POWER LEVEL

Docket No. 50-267

Unit Fort St. Vrain

Date August 13, 1984

Completed By Chuck Fuller

Telephone (303) 785-2224

Month June, 1984

DAY	AVERAGE DAILY POWER LEVEL (MWe-Net)
1	0.0
2	0.0
3	0.0
4	0.0
5	0.0
6	0.0
7	0.0
8	0.0
9	0.0
10	0.0
11	0.0
12	0.0 *
13	0.0 *
14	61.8
15	65.9
16	51.5

DAY	AVERAGE DAILY POWER LEVEL (MWe-Net)
17	69.7
18	72.0
19	72.8
20	70.5
21	94.7
22	91.3
23	0.0
24	0.0
25	0.0
26	0.0
27	0.0
28	0.0
29	0.0
30	0.0
31	N/A

*Generator on line but no net generation.

50-267

UNIT NAME Fort St. VrainDATE August 13, 1984COMPLETED BY Chuck FullerTELEPHONE (303) 785-2224REPORT MONTH June, 1984

NO.	DATE	TYPE	DURATION	REASON	METHOD OF SHUTTING DOWN REACTOR	LER #	SYSTEM CODE	COMPONENT CODE	CAUSE AND CORRECTIVE ACTION TO PREVENT RECURRENCE
84-002	840601	S	277.9	H	4	N/A	ZZZ	ZZZZZZ	Primary coolant cleanup. Reactor at low power.
84-003	840612	F	5.5	H	4	N/A	SB	TT	Turbine trip due to low main steam temperature. Reactor remained critical.
84-004	840612	F	25.0	H	4	N/A	SB	TT	Turbine trip due to low main steam temperature and high first stage pressure. Reactor remained critical.
84-005	840616	F	3.9	B	4	N/A	JJ	ST	Turbine generator overspeed test. Reactor remained critical.
84-006	840622	F	194.2	H	3	50-267/84-008	JC	PT	1A helium circulator trip caused a water ingress to the primary coolant. The turbine generator was tripped and a power decrease was in progress when a reactor pressure high scram occurred.

REFUELING INFORMATION

1. Name of Facility	Fort St. Vrain Unit No. 1
2. Scheduled date for next refueling shutdown.	4th Refueling: February 1, 1986
3. Scheduled date for restart following refueling.	May 1, 1986
4. Will refueling or resumption of operation thereafter require a technical specification change or other license amendment?	No
If answer is yes, what, in general, will these be?	-----
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 (Reference 10 CFR Section 50.59)?	No
If no such review has taken place, when is it scheduled?	1985
5. Scheduled date(s) for submitting proposed licensing action and supporting information.	-----
6. 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.	-----
7. The number of fuel assemblies (a) in the core and (b) in the spent fuel storage pool.	1482 HTGR fuel elements 251 spent HTGR fuel elements

REFUELING INFORMATION (CONTINUED)

8. The present licensed spent fuel pool storage capacity and the size of any increase in licensed storage capacity that has been requested or is planned, in number of fuel assemblies.	Capacity is limited in size to about one-third of core (approximately 500 HTGR elements). No change is planned.
9. The projected date of the last refueling that can be discharged to the spent fuel pool assuming the present licensed capacity.	1992 under Agreements AT(04-3)-633 and DE-SC07-79ID01370 between Public Service Company of Colorado, and General Atomic Company, and DOE.*

* The 1992 estimated date is based on the understanding that spent fuel discharged during the term of the Agreements will be stored by DOE at the Idaho Chemical Processing Plant. The storage capacity has evidently been sized to accommodate eight fuel segments. It is estimated that the eighth fuel segment will be discharged in 1992.