

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

MONTHLY OPERATIONS REPORT

NO. 96

December, 1981

FORM 200 2-2 0210

8202030182 820127
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 December, 1981.

1.0 NARRATIVE SUMMARY OF OPERATING EXPERIENCE AND MAJOR SAFETY RELATED MAINTENANCE

1.1 Summary

The plant has remained shutdown throughout the entire month to complete the circulator auxiliaries loop split modifications. This work is now about 75% complete, and the work is scheduled to be complete by January 25. The modifications should be complete on Loop 1 by January 7. At that time, Loop 1 will be placed in service and used for core cooling. Loop 2 shutdown maintenance and modification will then begin.

The turbine generator work being completed during this outage should be complete by the first week in February. At that time, the secondary coolant will be placed in a normal configuration and cleanup of the system can commence. The last stage of blading of the low pressure turbine has been removed and sent to General Electric Company for repairs/modifications. This blading will be installed during another 1982 outage.

The maintenance activities requiring a Loop 1 shutdown are near completion. The major items that remain are the repair of several hydraulically operated valves and seal replacement on the Loop 1, System 91 power unit.

1.2 Operations

The plant has remained shutdown for the entire month to complete the modifications to the circulator auxiliaries and segregate the buffer system into separate loops. The loop split work is approximately 75% done with an estimated completion date of January 25, 1982. The turbine generator work is now scheduled for completion the first week of February.

The loop split work affecting the startup of Loop 1 that has been completed this month includes 1) modifications to the buffer helium recirculators, 2) the new buffer helium makeup station for Loop 1, and 3) modifications to the Loop 1 buffer supply and return valves. Loop 2 circulators are presently being operated with the buffer supply from a temporary configuration from the high pressure bottles and

the buffer return is being vented to the ventilation system at the discharge of the buffer helium recirculators. This mode allows the maximum amount of the construction work to continue without interfering with core cooling. The startup of Loop 1 circulators is now scheduled for January 7. The new dryer will not be placed in service until a later date. Cleanup of the primary system will begin when the dryer is operable.

All internal maintenance and related shutdown maintenance work was completed on January 2, and the vessel was pressurized to 10 psig. All core cooling was terminated for about 50 hours prior to this to allow evacuating the vessel. The vessel was pumped down to 13 inches vacuum to maximize the removal of primary system impurities prior to pressurization.

An examination of the low pressure rotor revealed that once again the tenor stays on the insert covers of the last stage of low pressure blading were loose. This is the same problem that caused the shutdown in the summer of 1981. The last stage of blading has been removed and sent to General Electric Company for repairs/modification. The blading will be installed during a scheduled 1982 outage. A 5 to 7% loss of capacity is expected as a result of removing this stage of blading. The machine is also presently being realigned to resolve an alignment discrepancy. The previous high pressure and low pressure alignment was the cause of the oil whip we experienced on the #3 bearing. The high pressure nozzle assemblies are still at the General Electric Company shop for repair and should be on site in late January. The turbine work is about 50% complete and should be finalized by the first week of February when a condenser vacuum can be established and cleanup of the secondary coolant system can commence.

Maintenance activities requiring a Loop 1 shutdown are nearly complete. The seal replacement activity in the Loop 1 hydraulic skid should be done by the first week in January. The extensive list of shutdown maintenance activities represents resolution of both recent and long term problems and should improve our operating reliability.

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 EXAMINATIONS

None

4.0 MONTHLY OPERATING DATA REPORT

Attached

OPERATING DATA REPORT

DOCKET NO. 50-267
 DATE 820108
 COMPLETED BY L. M. McBride
 TELEPHONE (303) 785-2224

OPERATING STATUS

NOTES

1. Unit Name: Fort St. Vrain
2. Reporting Period: 811201 through 811231
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
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): 231
10. Reasons for Restrictions, If Any: NRC restriction of 70% pending resolution of temperature fluctuations.

	This Month	Year to Date	Cumulative
11. Hours in Reporting Period	<u>744</u>	<u>8,760</u>	<u>21,961</u>
12. Number of Hours Reactor Was Critical	<u>0.0</u>	<u>5,443.2</u>	<u>14,578.4</u>
13. Reactor Reserve Shutdown Hours	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>
14. Hours Generator On-Line	<u>0.0</u>	<u>4,215.0</u>	<u>9,908.3</u>
15. Unit Reserve Shutdown Hours	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>
16. Gross Thermal Energy Generated (MWH)	<u>0.0</u>	<u>2,225,852.0</u>	<u>4,933,944.8</u>
17. Gross Electrical Energy Generated (MWH)	<u>0.0</u>	<u>819,562</u>	<u>1,691,356</u>
18. Net Electrical Energy Generated (MWH)	<u>0.0</u>	<u>754,958</u>	<u>1,554,259</u>
19. Unit Service Factor	<u>0.0</u>	<u>48.1</u>	<u>45.1</u>
20. Unit Availability Factor	<u>0.0</u>	<u>48.1</u>	<u>45.1</u>
21. Unit Capacity Factor (Using MDC Net)	<u>0.0</u>	<u>26.1</u>	<u>21.4</u>
22. Unit Capacity Factor (Using DER Net)	<u>0.0</u>	<u>26.1</u>	<u>21.4</u>
23. Unit Forced Outage Rate	<u>0.0</u>	<u>28.8</u>	<u>34.0</u>

24. Shutdowns Scheduled Over Next 6 Months (Type, Date, and Duration of Each): Maintenance/modification shutdown 1-1-82 through 1-31-82.

25. If Shut Down at End of Report Period, Estimated Date of Startup: February 1, 1982

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>

BUCKET NO. 50-267

UNIT NAME Fort St. Vrain

DATE 820108

COMPLETED BY L. M. McBride

TELEPHONE (303) 785-2224

REPORT MONTH

NO.	DATE	TYPE	DURATION	REASON	METHOD OF SHUTTING DOWN REACTOR	LER #	SYSTEM CODE	COMPONENT CODE	CAUSE AND CORRECTIVE ACTION TO PREVENT RECURRENCE
81-026	811201	S	744.0	B	2	N/A	CBI	XXXXXX	Loop-split modification

AVERAGE DAILY UNIT POWER LEVEL

Docket No. 50-267

Unit Fort St. Vrain

Date 820108

Completed By L. M. McBride

Telephone (303) 785-2224

Month December, 1981

DAY AVERAGE DAILY POWER LEVEL
(MWe-Net)

1	<u>0.0</u>
2	<u>0.0</u>
3	<u>0.0</u>
4	<u>0.0</u>
5	<u>0.0</u>
6	<u>0.0</u>
7	<u>0.0</u>
8	<u>0.0</u>
9	<u>0.0</u>
10	<u>0.0</u>
11	<u>0.0</u>
12	<u>0.0</u>
13	<u>0.0</u>
14	<u>0.0</u>
15	<u>0.0</u>
16	<u>0.0</u>

DAY AVERAGE DAILY POWER LEVEL
(MWe-Net)

17	<u>0.0</u>
18	<u>0.0</u>
19	<u>0.0</u>
20	<u>0.0</u>
21	<u>0.0</u>
22	<u>0.0</u>
23	<u>0.0</u>
24	<u>0.0</u>
25	<u>0.0</u>
26	<u>0.0</u>
27	<u>0.0</u>
28	<u>0.0</u>
29	<u>0.0</u>
30	<u>0.0</u>
31	<u>0.0</u>

*Generator on line but no net generation.

REFUELING INFORMATION

1. Name of Facility.	Fort St. Vrain Unit No. 1
2. Scheduled date for next refueling shutdown.	October 1, 1983
3. Scheduled date for restart following refueling.	December 1, 1983
4. Will refueling or resumption of operation thereafter require a technical specification change or other license amendment?	Yes
If answer is yes, what, in general, will these be?	Use of type H-451 graphite.
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 10CFR Section 50.59)?	-----
If no such review has taken place, when is it scheduled?	-----
5. Scheduled date(s) for submitting proposed licensing action and supporting information.	Not scheduled at this time; to be determined.
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 250 spent HTGR fuel elements
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.

REFUELING INFORMATION (CONTINUED)

9. The projected date of the last refueling that can be discharged to the spent fuel pool assuming the present licensed capacity.	1986 under the Three Party Agreement (Contract AT (04-3)-633) between DOE, Public Service Company of Colorado (PSCO), and General Atomic Company.*
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*The 1986 date is based on the understanding that spent fuel discharged during the term of the Three Party Agreement will be shipped to the Idaho National Engineering Laboratory for storage by DOE at the Idaho Chemical Processing Plant (ICPP). The storage capacity has evidently been sized to accommodate fuel which is expected to be discharged during the eight year period covered by the Three Party Agreement.