

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

MONTHLY OPERATIONS REPORT

NO. 109

February, 1983

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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 February, 1983.

1.0 NARRATIVE SUMMARY OF OPERATING EXPERIENCE AND MAJOR SAFETY RELATED MAINTENANCE

On January 28, 1983, an upset in the Loop 1 buffer helium system caused a circulator trip. During this circulator auxiliary upset, there was a moisture ingress into the prestressed concrete reactor vessel which caused the reactor to scram on a two-loop trouble plant protective signal.

Moisture removal from the primary coolant resulting from this incident was in progress at the beginning of the month. Increased flow through the purification train was attained by using the helium transfer compressor recirculating to the prestressed concrete reactor vessel. Additionally, moisture removal was accelerated by using the reheater sections of the main steam generators, utilizing the steam drive of the helium circulators. This raised helium temperatures, thus assisting moisture removal. The capacity of the purification trains and the regeneration times were limiting factors for the moisture removal rate.

On February 8, the main generator was synchronized on line; however, it was manually tripped later the same day to prevent violating LCO 4.2.11.

On February 10, 1983, at 1100 hours, the turbine was again synchronized. A plant protective system turbine trip occurred later on February 10, but the turbine was recovered quickly. Power generation continued until 1030 hours on February 15, 1983, when a fuse blew on "B" instrument power inverter. This caused a loss of various plant instrumentation in the Control Room, so the reactor was manually scrammed and the turbine tripped.

A moisture ingress to the prestressed concrete reactor vessel occurred during the February 15, 1983, transient, which necessarily dictated some unit downtime to permit moisture removal. It was decided to repair a main steam stop check valve and two safety valves of Loop 1 while shut down for moisture removal. Loop 1 and Loop 2 steam generators were checked for tube leaks, and no evidence of leakage was found.

Subsequent to the February 15 transient, problems developed with the helium transfer compressor. The compressor was overhauled and returned to service during the outage.

Preparations are being made to start up as soon as repairs and moisture levels allow.

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 March 8, 1983

COMPLETED BY L. M. McBride

TELEPHONE (303) 785-2224

OPERATING STATUS

1. Unit Name: Fort St. Vrain
2. Reporting Period: 830201 through 830228
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: Restriction to 70% pending resolution of contractual matters.

	This Month	Year to Date	Cumulative
11. Hours in Reporting Period	<u>672</u>	<u>1,416</u>	<u>32,137</u>
12. Number of Hours Reactor Was Critical	<u>240.2</u>	<u>901.0</u>	<u>20,647.7</u>
13. Reactor Reserve Shutdown Hours	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>
14. Hours Generator On-Line	<u>132.0</u>	<u>778.7</u>	<u>13,953.2</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>45,880.5</u>	<u>403,775.7</u>	<u>7,193,201.1</u>
17. Gross Electrical Energy Generated (MWH)	<u>7,728</u>	<u>129,790</u>	<u>2,456,694</u>
18. Net Electrical Energy Generated (MWH)	<u>2,570</u>	<u>116,595</u>	<u>2,239,705</u>
19. Unit Service Factor	<u>19.6</u>	<u>55.0</u>	<u>43.4</u>
20. Unit Availability Factor	<u>19.6</u>	<u>55.0</u>	<u>43.4</u>
21. Unit Capacity Factor (Using MDC Net)	<u>1.2</u>	<u>25.0</u>	<u>21.1</u>
22. Unit Capacity Factor (Using DER Net)	<u>1.2</u>	<u>25.0</u>	<u>21.1</u>
23. Unit Forced Outage Rate	<u>80.4</u>	<u>45.0</u>	<u>37.4</u>

24. Shutdowns Scheduled Over Next 6 Months (Type, Date, and Duration of Each): 830301 through 830312
(288 hrs) for plant recovery; 830323 through 830412 (504 hrs) for surveillance testing.

25. If Shut Down at End of Report Period, Estimated Date of Startup: 830312

26. Units In Test Status (Prior to Commercial Operation):

INITIAL CRITICALITY

Forecast

Achieved

N/A

N/A

INITIAL ELECTRICITY

N/A

N/A

COMMERCIAL OPERATION

N/A

N/A

AVERAGE DAILY UNIT POWER LEVEL

TSP-3
Attachment-3A
Issue 2
Page 1 of 1

Docket No. 50-267Unit Fort St. Vrain #1Date March 8, 1983Completed By L. M. McBrideTelephone (303) 785-2224Month February, 1983DAY AVERAGE DAILY POWER LEVEL
(MWe-Net)

1	<u>0</u>
2	<u>0</u>
3	<u>0</u>
4	<u>0</u>
5	<u>0</u>
6	<u>0</u>
7	<u>0</u>
8	<u>22.0</u>
9	<u>0</u>
10	<u>15.8</u>
11	<u>46.1</u>
12	<u>48.0</u>
13	<u>43.3</u>
14	<u>60.2</u>
15	<u>29.1</u>
16	<u>0</u>

DAY AVERAGE DAILY POWER LEVEL
(MWe-Net)

17	<u>0</u>
18	<u>0</u>
19	<u>0</u>
20	<u>0</u>
21	<u>0</u>
22	<u>0</u>
23	<u>0</u>
24	<u>0</u>
25	<u>0</u>
26	<u>0</u>
27	<u>0</u>
28	<u>0</u>
29	<u>N/A</u>
30	<u>N/A</u>
31	<u>N/A</u>

*Generator on line but no net generation.

UNIT SHUTDOWNS AND POWER REDUCTIONS

DOCKET NO. 50-267
UNIT NAME Fort St. Vrain #1
DATE March 8, 1983
COMPLETED BY L. M. McBride
TELEPHONE (303) 785-2224

REPORT MONTH February, 1983

NO.	DATE	TYPE	DURATION	REASON	METHOD OF SHUTTING DOWN REACTOR	LER #	SYSTEM CODE	COMPONENT CODE	CAUSE AND CORRECTIVE ACTION TO PREVENT RECURRENCE
83-001	830201	F	173.7	H	3	N/A	IBH	INSTRU	Reactor scram and turbine trip on 830128 due to moisture ingress. Purification system operation and plant start-up.
83-002	830208	F	38.7	D	4	83-003 - L - O	CBI	ZZZZZZ	The turbine-generator was manually taken off-line to allow decreasing primary coolant temperature/pressure to prevent exceeding moisture limits of the Technical Specifications. Reactor remained critical.
83-003	830210	F	2.1	H	4	N/A	IBH	INSTRU	Turbine-generator protective trip due to low main steam temperature. Reactor remained critical.
83-004	830215	F	325.5	A	2	83-007 - L - O	EDD	GENERA	Manual reactor scram and turbine generator trip upon loss of "B" instrument bus. Instrument bus loss due to blown inverter fuse. Remained shutdown due to primary coolant impurities.

REFUELING INFORMATION

1. Name of Facility.	Fort St. Vrain Unit No. 1
2. Scheduled date for next refueling shutdown.	September 1, 1983
3. Scheduled date for restart following refueling.	November 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. 11 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.

1992 under Agreements AT(04-3)-633 and DE-SC07-79ID01370 between Public Service Company of Colorado, 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.