PUBLIC SERVICE COMPANY OF COLORADO

FORT ST. VRAIN NUCLEAR GENERATING STATION

MONTHLY OPERATIONS REPORT

NO. 110

March, 1983

FORM 286 22 0218

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 March, 1983.

1.0 NARRATIVE SUMMARY OF OPERATING EXPERIENCE AND MAJOR SAFETY RELATED MAINTENANCE

On March 1, the reactor remained shut down for removal of moisture from the primary coolant, and repairs to Loop 1 main steam stop check valve, two main steam relief valves, and a bearing water makeup pump (P-2105) shaft seal.

These repairs were completed, and the reactor was brought to criticality on March 6. Primary coolant moisture continued a downward trend, and the main turbine generator was placed on line on March 8 with reactor power at 28%.

On March 9, the generator tripped due to a phase-to-ground fault at the unit auxiliary transformer. A leaking cooling water coil in the bus duct cooling system was found to be the cause of the fault and the resulting trip. Reactor power remained at 28% with a variance to LCO 4.6.1(a) granted by the Nuclear Regulatory Commission for the unit auxiliary transformer outage. Temporary bus duct cooling was installed.

On March 11 through March 16, power and generation varied between 30% and 62%, governed by the moisture removal rate and the resulting core outlet temperature limiting conditions for operation.

On March 17, 1A helium circulator was shut down as being suspect of moisture leakage into the core. Immediately thereafter, a scram occurred from the tripping of two high range moisture monitors.

During the period March 17 through March 31, investigations were conducted regarding the source of moisture ingress to the primary coolant, including 1A helium circulator, bearing water accumulator firings, and steam generator tube leaks. The source is et unknown, but investigations will continue.

Repairs to Loop 2 main steam stop check valve, 1D helium circulator reheat flanges, 1B boiler feedpump, and the replacement of the cooling water coils of the bus duct cooling system are being completed while moisture removal operations are in progress.

The chiller system for 1A purification train front end cooler has been completed and is in service. This appears to have enhanced the moisture removal process by allowing the train to be in service for longer periods of time before regenerations.

Liquid waste from the helium purification system front end coolers and regeneration knock out pot is being placed in carboys for a dilute release at a later date. This has eased the problem of accumulation of liquid waste in the liquid waste receivers and the Reactor Building sump.

The repairs to 1D helium circulator steam flanges, HV-2224 main stop check valve, and 1B boiler feedpump are the determining factors for restart. Estimated start of rise-to-power is April 22.

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 April 8, 1983
COMPLETED BY Chuck Fuller
TELEPHONE (303) 785-2224

OPERATING STATUS

NOTES

1. Unit Name: Fort St. Vrain
2. Reporting Period: 830301 through 830331
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	744	2,160	32,881
12. Number of Hours Reactor Was Critical	252.9	1,153.9	20,900.6
13. Reactor Reserve Shutdown Hours	0.0	0.0	0.0
14. Hours Generator On-Line	126.3	905.0	14,079.5
15. Unit Reserve Shutdown Hours	0.0	0.0	0.0
16. Gross Thermal Energy Generated (MWH)	60,356.5	464,132.2	7,253,557.6
17. Gross Electrical Energy Generated (MWH)	11,024	140,814	2,467,718
18. Net Electrical Energy Generated (MWH)	6,522	123,117	2,246,227
19. Unit Service Factor	17.0	41.9	42.8
20. Unit Availability Factor	17.0	41.9	42.8
21. Unit Capacity Factor (Using MDC Net)	2.7	17.3	20.7
22. Unit Capacity Factor (Using DER Net)	2.7	17.3	20.7
23. Unit Forced Outage Rate	83.0	58.1	38.9

24. Shutdowns Scheduled Over Next 6 Months (Type, Date, and Duration of Each): 830401 through 830421 (504 hours) for completion of helium circulator repair work.
25. If Shut Down at End of Report Period, Estimated Date of Startup: 830421
26. Units In Test Status (Prior to Commercial Operation):

	Forecast	Achieved
INITIAL CRITICALITY	N/A	N/A
INITIAL ELECTRICITY	N/A	N/A
COMMERCIAL OPERATION	N/A	N/A

AVERAGE DAILY UNIT POWER LEVEL

Docket No. 50-267

Unit Fort St. Vrain

Date April 8, 1983

Completed By Chuck Fuller

Telephone (303) 785-2224

Month March, 1983

DAY	AVERAGE DAILY POWER LEVEL (MWe-Net)	DAY	AVERAGE DAILY POWER LEVEL (MWe-Net)
1	0.0	17	25.7
2	0.0	18	0.0
3	0.0	19	0.0
4	0.0	20	0.0
5	0.0	21	0.0
6	0.0	22	0.0
7	0.0	23	0.0
8	0.0	24	0.0
9	3.5	25	0.0
10	0.0	26	0.0
11	0.0	27	0.0
12	23.6	28	0.0
13	46.7	29	0.0
14	70.8	30	0.0
15	152.7	31	0.0
16	79.3		

*Generator on line but no net generation.

UNIT SHUTDOWNS AND POWER REDUCTONS

DOCKET NO. 50-267
UNIT NAME Fort St. Vrain
DATE April 8, 1983
COMPLETED BY Chuck Fuller
TELEPHONE (303) 785-2224

REPORT MONTH March, 1983

NO.	DATE	TYPE	DURATION	REASON	METHOD OF SHUTTING DOWN REACTOR	LER #	SYSTEM CODE	COMPONENT CODE	CAUSE AND CORRECTIVE ACTION TO PREVENT RECURRENCE
83-004	830301	F	193.8	A	2	83-007-L-0	EDD	GENERA	Remained shutdown due to primary coolant impurities.
83-005	830309	F	62.3	A	4	83-013-L-0	EDD	ELECON	Turbine-generator trip due to failure of the output bus ducting. Reactor remained critical.
83-006	830311	F	8.9	H	4	N/A	IBH	INSTRU	Turbine-generator trip from Plant Protective System due to main steam conditions. Reactor remained critical.
83-007	830313	F	0.7	H	4	N/A	IBH	INSTRU	Turbine-generator trip from Plant Protective System due to main steam conditions. Reactor remained critical.
83-008	830314	F	1.4	H	4	N/A	HBD	INSTRU	Turbine-generator trip from false transmitter signal in EHC system. Reactor remained critical.
83-009	830315	F	N/A	H	4	N/A	CBI	ZZZZZZ	Power reduction from 70% to 30% due to primary coolant impurity levels.
83-010	830317	F	350.6	H	3	N/A	IBH	ZZZZZZ	Reactor scram from Plant Protective System due to high primary coolant moisture. Remained shutdown for maintenance to "D" helium circulator.

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 accomodate eight fuel segments. It is estimated that the eighth fuel segment will be discharged in 1992.