

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

MONTHLY OPERATIONS REPORT

NO. 71

NOVEMBER, 1979

1657 002

1.0 NARRATIVE SUMMARY OF OPERATING EXPERIENCE AND MAJOR SAFETY RELATED MAINTENANCE (Cont'd)

1.3 Testing

Testing completed during the month of November, 1979, was the normally scheduled surveillance tests.

1.4 Miscellaneous Equipment and Valves Repaired During the Outage

Seal oil leak on main turbine generator exciter drive bearing #6 repaired.

Seal oil leak on turbine side of "A" boiler feed pump (P-3101) repaired.

V-2245, Loop II main steam safety relief valve was repaired.

HV-2224, Loop II main steam stop valve seat leakage was repaired.

Steam generator B-2-4 Sulzer valve packing leak was repaired.

Main turbine generator valve position transducer linear variable differential transducer rod slugs were replaced per General Electric ECN 351-535. Mechanical failure of the installed linear variable differential transducer rod slugs necessitated their replacement.

PS-2103S, turbine water removal pump, cracked volute was repaired using devcon.

HV-2202, Loop II feedwater block valve, operator was disassembled to repair oil leak, inspection of components revealed severely scored cylinder walls and a bent seal retainer ring on piston. A replacement cylinder and retaining ring was obtained, and operator was re-assembled and returned to service.

P-4102, circulating water pump, has been shipped to General Electric in Denver, Colorado, for repair. General Electric will machine rotor and add I beam bracing to the stator to increase the structural strength of the stator assembly.

SV-2112, "D" circulator steam turbine control valve, rod end seal oil leak repaired.

Auxiliary transfer cask electrical problems were traced to shorted conductors in the gleason reel cable. Conductors which normally supply power to the core vacuum tool, are being used in the grapple position indication circuit. A replacement cable has been ordered.

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 November, 1979.

## 1.0 NARRATIVE SUMMARY OF OPERATING EXPERIENCE AND MAJOR SAFETY RELATED MAINTENANCE

### 1.1 Summary

The Fort St. Vrain outage, which started on October 29, 1979, has continued through the month of November. The outage is about 75% complete. Major accomplishments to date have been as follows:

Installation of all core region constraint devices was completed on November 25, 1979. Eighteen core regions were entered for the installation of 84 region constraint devices.

CN-473 manual isolation valves, V-211615 and V-211616, were installed in Loop I and Loop II pelton wheel supply header.

Buffer helium dryer valves were disassembled, valve seats inspected and repaired. Desiccant was removed from all valves and lines. The dryer towers were removed and disassembled. The center stand pipe in both towers was found to be distorted, apparently due to thermal stress. The dryer towers have been repaired and are presently being reinstalled.

Loop II outage items were completed and Loop I was isolated for work on November 24, 1979.

Main condenser retubing continues. Retubing in the north water box is completed. All tubes have been inserted in the south water box and the rolling of tubes is in progress.

### 1.2 Operations

Detailed layup procedures were developed and implemented for the feedwater and condensate systems. The procedures are to minimize the time required to clean up the condensate when the system is returned to service.

Public Service Company and General Atomic Company met with the Nuclear Regulatory Commission on November 20, 1979, to discuss cycle 2 fluctuations. Plant operating parameters and testing procedures, after the core region constraint devices have been installed, were also discussed. The Nuclear Regulatory Commission agreed to issue a Safety Evaluation Report for plant operations with the region constraint devices installed after they receive a formal summary of the cycle 2 fluctuation experience. General Atomic Company, San Diego engineering will provide a formal summary of the cycle 2 fluctuation experience.

1.0 NARRATIVE SUMMARY OF OPERATING EXPERIENCE AND MAJOR SAFETY RELATED MAINTENANCE (Cont'd)

1.4 Miscellaneous Equipment and Valves Repaired During the Outage (Cont'd)

Five temperature sensors were installed on control rod drive (SN-0008) from region 36. One additional temperature sensor for a total of three was added to control rod drive (SN-022) from region 34. Control rod drive (SN-031), which had previously been instrumented with five temperature sensors, was installed in region 4. The temperature sensors are being added to determine the thermal environment of the orifice valve and control rod drive mechanisms.

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 791203  
 COMPLETED BY J. W. Gahm  
 TELEPHONE (303) 785-2253

OPERATING STATUS

NOTES

1. Unit Name: Fort St. Vrain, Unit No. 1
2. Reporting Period: 791101 through 791130
3. Licensed Thermal Power (MWe): 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: Nuclear Regulatory Commission restriction (70%)  
 pending resolution of temperature fluctuations.

	This Month	Year to Date	Cumulative
11. Hours in Reporting Period	<u>720</u>	<u>3,673*</u>	<u>3,673*</u>
12. Number of Hours Reactor Was Critical	<u>-0-</u>	<u>2,419.8</u>	<u>2,419.8</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>982.2</u>	<u>982.2</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>0.0</u>	<u>476,555</u>	<u>476,555</u>
17. Gross Electrical Energy Generated (MWH)	<u>0.0</u>	<u>140,796</u>	<u>140,796</u>
18. Net Electrical Energy Generated (MWH)	<u>0.0</u>	<u>123,584</u>	<u>123,584</u>
19. Unit Service Factor	<u>0.0%</u>	<u>26.7%</u>	<u>26.7%</u>
20. Unit Availability Factor	<u>0.0%</u>	<u>26.7%</u>	<u>26.7%</u>
21. Unit Capacity Factor (Using MDC Net)	<u>0.0%</u>	<u>10.2%</u>	<u>10.2%</u>
22. Unit Capacity Factor (Using DER Net)	<u>0.0</u>	<u>10.2%</u>	<u>10.2%</u>
23. Unit Forced Outage Rate	<u>0.0</u>	<u>65.1%</u>	<u>65.1%</u>

24. Shutdowns Scheduled Over Next 6 Months (Type, Date, and Duration of Each): Maintenance shutdown  
 began on October 26, 1979. It is scheduled to last 45 days.

25. If Shut Down at End of Report Period, Estimated Date of Startup: December 10, 1979

26. Units In Test Status (Prior to Commercial Operation):	Forecast	Achieved
INITIAL CRITICALITY	<u>740201</u>	<u>740131</u>
INITIAL ELECTRICITY	<u>7612</u>	<u>761211</u>
COMMERCIAL OPERATION	<u>790701</u>	<u>790701</u>

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POOR ORIGINAL

UNIT SHUTDOWNS AND POWER RESTRICTIONS

DOCKET NO. 50-267  
 UNIT NAME Fort St. Vrain, Unit No. 1  
 DATE 791203  
 COMPLETED BY J. W. Gahm  
 TELEPHONE (303) 785-2253

REPORT MONTH November, 1979

NO.	DATE	TYPE	DURATION	REASON	METHOD OF SHUTTING DOWN REACTOR	LER #	SYSTEM CODE	COMPONENT CODE	CAUSE AND CORRECTIVE ACTION TO PREVENT RECURRENCE
79-14	791026	S	720.0	B	2	N/A	N/A	N/A	Scheduled shutdown for plant maintenance and installation of region constraint devices.

Summary: Scheduled shutdown for plant maintenance and installation of region constraint devices is to be completed by December 10, 1979. The plant is scheduled to return to 70% power for the remainder of December.

AVERAGE DAILY UNIT POWER LEVEL

Docket No. 50-267

Unit Fort St. Vrain, Unit No.

Date 791203

Completed By J. W. Gahm

Telephone (303) 785-2253

Month November, 1979

DAY AVERAGE DAILY POWER LEVEL  
(MWe-Net)

1	-0-
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	
15	
16	

DAY AVERAGE DAILY POWER LEVEL  
(MWe-Net)

17	-0-
18	
19	
20	
21	
22	
23	
24	
25	
26	
27	
28	
29	
30	
31	

REFUELING INFORMATION

1. Name of Facility.	Fort St. Vrain, Unit No. 1
2. Scheduled date for next refueling shutdown.	September 1, 1980
3. Scheduled date for restart following refueling.	November 1, 1980
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 10CFR Section 50.59)?	The Plant Operations Review Committee will review any questions associated with the core reload.
If no such review has taken place, when is it scheduled?	March 1, 1980
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.	a) 1482 HTGR fuel elements. b) 244 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.

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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.