

Stephen A. Byrne
Senior Vice President, Nuclear Operations
803.345.4622



March 28, 2002

U. S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, DC 20555

Dear Sir:

Subject: VIRGIL C. SUMMER NUCLEAR STATION
DOCKET NO. 50-395
OPERATING LICENSE NO. NPF-12
ANNUAL OPERATING REPORT

Enclosed is the 2001 Annual Operating Report for the South Carolina Electric & Gas Company Virgil C. Summer Nuclear Station Unit No. 1. This report is being submitted in accordance with Technical Specifications 6.9.1.4, 6.9.1.5, and Regulatory Guide 1.16.

If there are any questions, please call at your convenience.

Very truly yours,

Stephen A. Byrne

SBR/SAB/sr
Attachment

c: N. O. Lorick
T. G. Eppink (w/o attachment)
R. J. White
W. R. Higgins
L. A. Reyes
G. E. Edison
REIRS Project Manager
K. M. Sutton

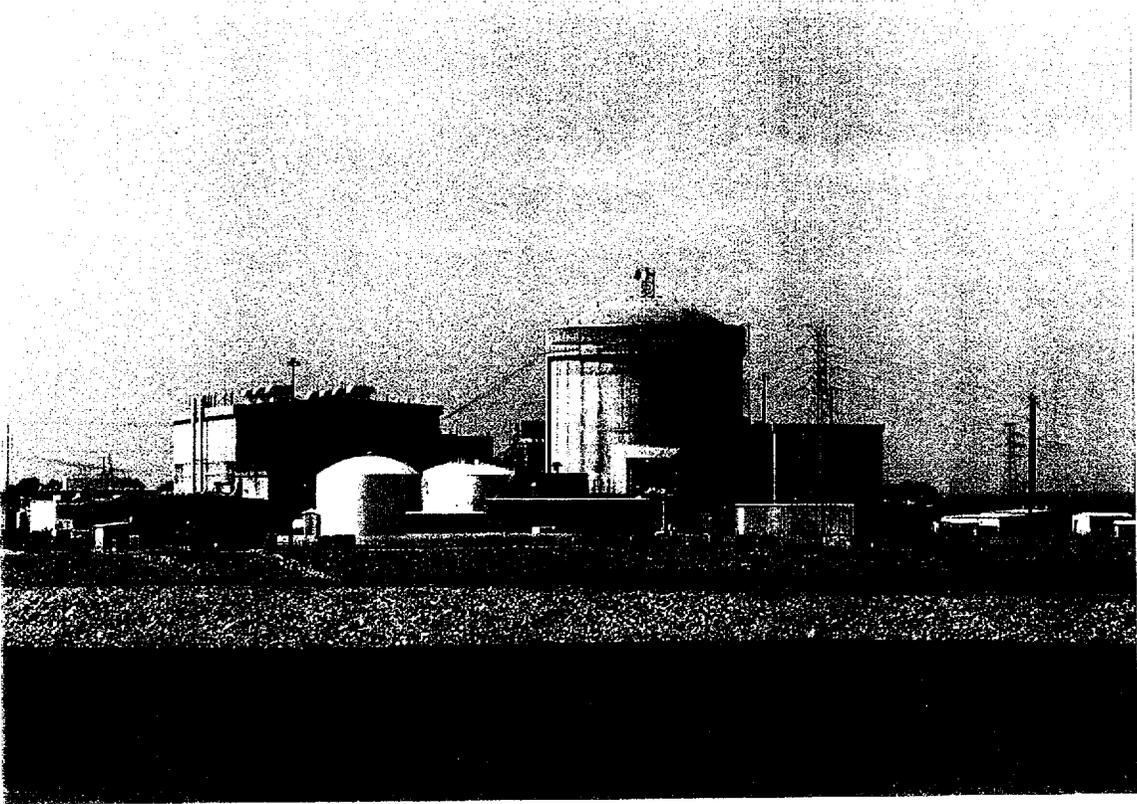
D. L. Abstance
W. G. Wendland
J&H Marsh & McLennan
NRC Resident Inspector
NSRC
RTS (0-L-99-0107)
File (818.02-10, RR 8225)
DMS(RC-02-0042)

A001

PREFACE

The 2001 Annual Operating Report for the Virgil C. Summer Nuclear Station is hereby submitted in accordance with Technical Specifications 6.9.1.4, 6.9.1.5, and Regulatory Guide 1.16 under Docket Number 50/395 and Facility Operating License NPF-12.

VIRGIL C. SUMMER NUCLEAR STATION



2001 ANNUAL OPERATING REPORT

ANNUAL OPERATING REPORT

1.0 INTRODUCTION

The Virgil C. Summer Nuclear Station (VCSNS) utilizes a pressurized water reactor rated at 2900 MWT. The maximum dependable capacity is 966 Mwe.

The station is located approximately 26 miles northwest of Columbia, South Carolina.

2.0 OPERATIONAL DATA

For the reporting period of January 1 through December 31, 2001, the station operated at a capacity factor of 79.9 percent (using maximum dependable capacity) and a unit availability of 81.0 percent. The reactor was critical for a total of 7295.4 hours, the generator remained on line 7096.9 hours, and the total gross electrical energy generated for 2001 was 7,039,330 MWH.

The station successfully completed its twelfth refueling outage in 147 days and 11.3 hours.

3.0 OPERATING SUMMARY

The Virgil C. Summer Nuclear Station (VCSNS) Unit No.1 was shutdown for the entire month of January. The shutdown was due to the extension of the twelfth refueling outage. The outage was extended due to repairs to the "A" Loop of the Reactor Coolant System Hot Leg Pipe. Repairs were completed by the end of February and the reactor became critical on February 28th. The reactor remained critical until March 1st when the reactor was manually tripped. The manual trip was due to a problem with the rod control system. Rod control was repaired and the reactor became critical on March 2nd. Physics testing was completed on March 3rd at which time power escalation began.

On March 9th, while at approximately 98% power, a reduction to 90% power commenced to secure the "C" Main Feedwater Pump to support maintenance. The pump was repaired and power escalation back to 98% power began on March 9th. On March 10th power was reduced to 90% power due to the lifting of the deaerator storage tank relief valve. Repairs were completed and power was restored to 100% power on March 11th.

VCSNS operated at 100 percent power from March 11th to May 18th. On May 18th the plant power was reduced to 88% to support maintenance on the "B" and "C" Main Feedwater Pumps as well as the "D" Feedwater Booster Pump. The plant remained at 88% power until the repairs were completed. Power was restored to 100% power on May 21st.

VCSNS operated at 100 percent power from May 21st to June 1st. On June 1st, the plant power was reduced and the Main Generator Breaker was opened. This was done to support repairs of steam generator shell side steam leakage from manways and inspection ports. Repairs were completed and the power was restored to 100% power on June 9th.

VCSNS operated at 100 percent power from June 8th to June 23rd. On June 23rd the main generator was opened to support a plant shutdown to repair two Combined Intercept Valves (CIV). At full power two of the turbine generator CIV valves closed. The CIV valves were repaired and the main generator breaker was closed on June 23rd. Following the repair of the CIV valves, the plant was unable to achieve full power due to high temperatures on disconnect switch 8902 in the plant switchyard. The main generator breaker was opened on June 30th. The switch was replaced and the main generator breaker was closed on June 30th.

Power was increased to 98 percent power on July 1st where it was held pending repairs to the level transmitters on "A" and "B" Reheater Drain Tanks. The level transmitters were repaired and power was restored to 100 percent power on July 10th.

VCSNS operated at 100 percent power from July 10th to July 21st. On July 21st a plant shutdown began to conduct repairs to the main generator air system. The main generator breaker was opened on July 21st. The reactor remained critical at approximately two percent power. On July 24th, all repairs were completed and the main generator breaker was closed. Power was restored to 100% power on July 24th.

VCSNS operated at 100 percent power from July 24th to September 4th. On September 4th, power was reduced to 90% power to support maintenance on the "A" Main Feedwater Pump keep warm line. The keep warm line had developed a steam leak which required the pump to be secured for repair. Repairs were completed and power was stored to 100% on September 6th.

VCSNS operated at 100 percent power from September 6th to October 13th. On October 13th, power was reduced to 98% power due to a failure of one of the two No. 1B feedwater heater level transmitters. The power reduction was initiated as a conservative action to provide control room operators time to react to the potential failure of the transmitter that remained in service. A failure did not occur and after repairs were completed on the failed transmitter, power was restored to 100% on October 15th.

VCSNS operated at 100 percent power from October 15th to November 13th. On November 13th, power was reduced to 98% to support maintenance to replace one

Magnetrol level transmitter on each high pressure feedwater heater with a new Rosemount transmitter. Maintenance was completed on November 16th and power was restored to 100% on November 20th.

VCSNS operated at 100 percent power from November 20th to December 7th. On December 7th, power was reduced to 91% to support planned main turbine valve testing. Testing was completed and power was restored to 100% on December 8th.

VCSNS operated at 100 percent power from December 8th to December 9th. On December 9th, power was reduced to 98% to support repairs to the No. 1B feedwater heater level transmitter probe. Repairs were completed and the power was restored to 100% on December 9th. The plant operated at 100% power for the remainder of 2001.

Maintenance

Attachment I, "Power Reductions Caused by Maintenance Activities," provides more detailed information on operating time lost as a result of maintenance activities.

4.0 EXPOSURES

Attachment II consists of tables which list the number of station, utility, and other personnel (including contract personnel) receiving exposures greater than 100 mrem/year and their associated man-rem exposure according to work and job function.

5.0 FAILED FUEL

VCSNS has not had indication of failed fuel in 2001.

The reactor coolant system specific activity did not exceed the 1.0 microcuries per gram dose equivalent iodine-131 specific activity or the 100/E microcuries per gram limits of Technical Specification 3.4.8, for this reporting period.

ATTACHMENT I

TO

2001 ANNUAL REPORT

V. C. Summer Nuclear Station Events

Outage or Power Reductions Caused by Maintenance Activities

<u>Date</u>	<u>Time Start</u>	<u>Cause of Event</u>	<u>Date</u>	<u>Time Finish</u>	<u>Duration</u>	<u>Net Capacity MWe</u>	<u>Type</u>
01/01/2001	0001 Hrs	Refuel 12 Outage	03/03/2001	1310 Hrs	1477.2 Hrs	0	Unplanned
03/09/2001	1700 Hrs	Main Feed Pump	03/09/2001	2140 Hrs	4.7 Hrs	842	Unplanned
03/10/2001	1644 Hrs	DA Relief Valve	03/11/2001	0300 Hrs	10.3 Hrs	877	Unplanned
05/18/2001	1530 Hrs	'B' and 'C' Main FW Repair and 'D' Feedwater Booster Pump	05/21/2001	1945 Hrs	60.8 Hrs	861	Maintenance MO
06/01/2001	0925 Hrs	Repair SG Bolted Connections	06/07/2001	2025 Hrs	155.0 Hrs	0/Avg. 112	Unplanned
06/23/2001	2330 Hrs	FW Heater Level Transmitters	06/29/2001	0025 Hrs	120.9 Hrs	870 / 919	Unplanned
06/29/2001	0025 Hrs	Operate with OCB Disconnect	06/29/2001	2200 Hrs	21.6 Hrs	870 / 919	Unplanned
06/29/2001	0025 Hrs	Repair OCB Disconnect	06/30/2001	2400 Hrs	24.0 Hrs	0/Avg. 246	Unplanned
07/01/2001	1300 Hrs	FW Heater Level Transmitter	07/10/2001	1020 Hrs	213.3 Hrs	952	Unplanned
07/21/2001	0635 Hrs	Repair Gen. Breaker Air System	07/25/2001	0100 Hrs	91.6 Hrs	0/Avg. 185	Unplanned
09/04/2001	0445 Hrs	Leak on Recir Line 'A' FW Pump	09/06/2001	0645 Hrs	50.0 Hrs	874	Unplanned
10/13/2001	1305 Hrs	FW Heater 1B Level Transmitter Problem	10/15/2001	1545 Hrs	50.7 Hrs	962	Unplanned
11/13/2001	2222 Hrs	FW Heater Transmitter Problem	11/16/2001	2300 Hrs	72.6 Hrs	955	Planned
12/09/2001	0925 Hrs	FW Heater Level Transmitter	12/09/2001	2102 Hrs	11.6 Hrs	957	Unplanned

ATTACHMENT II

TO

2000 ANNUAL REPORT

SOUTH CAROLINA ELECTRIC AND GAS CO. V.C. SUMMER NUCLEAR STATION

PERSONNEL AND MAN-REM BY WORK AND DUTY FUNCTION
FINAL END OF YEAR REPORT FOR 2001

WORK AND JOB FUNCTION	NUMBER OF PERSONNEL OVER 100mREM			TOTAL MAN-REM		
	STATION WORKERS	UTILITY WORKERS	CONTRACT WORKERS	STATION WORKERS	UTILITY WORKERS	CONTRACT WORKERS
ROUTINE MAINTENANCE						
MAINTENANCE PERSONNEL	2	0	0	1.740	0.003	1.374
OPERATIONS PERSONNEL	0	0	1	0.627	0.000	0.365
HEALTH PHYSICS PERSONNEL	2	0	0	0.676	0.000	0.109
SUPERVISORY PERSONNEL	0	0	0	0.123	0.000	0.000
ENGINEERING PERSONNEL	0	0	0	0.086	0.000	0.055
SPECIAL MAINTENANCE						
MAINTENANCE PERSONNEL	16	0	70	9.859	0.027	40.877
OPERATIONS PERSONNEL	3	0	3	1.013	0.000	1.608
HEALTH PHYSICS PERSONNEL	6	0	9	2.394	0.000	2.309
SUPERVISORY PERSONNEL	0	0	0	0.227	0.000	0.022
ENGINEERING PERSONNEL	3	0	5	0.944	0.000	3.944
REACTOR OPERATIONS & SURVEILLANCE						
MAINTENANCE PERSONNEL	0	0	0	0.518	0.000	0.243
OPERATIONS PERSONNEL	1	0	1	1.174	0.000	0.371
HEALTH PHYSICS PERSONNEL	0	0	1	0.934	0.000	0.261
SUPERVISORY PERSONNEL	1	0	0	0.165	0.000	0.005
ENGINEERING PERSONNEL	0	0	0	0.148	0.001	0.018
WASTE PROCESSING						
MAINTENANCE PERSONNEL	0	0	0	0.030	0.000	0.016
OPERATIONS PERSONNEL	0	0	0	0.016	0.000	0.008
HEALTH PHYSICS PERSONNEL	3	0	1	0.848	0.000	0.265
SUPERVISORY PERSONNEL	0	0	0	0.038	0.000	0.000
ENGINEERING PERSONNEL	0	0	0	0.000	0.000	0.000
IN-SERVICE INSPECTION						
MAINTENANCE PERSONNEL	0	0	0	0.000	0.000	0.004
OPERATIONS PERSONNEL	0	0	0	0.008	0.000	0.000
HEALTH PHYSICS PERSONNEL	0	0	0	0.000	0.000	0.000
SUPERVISORY PERSONNEL	0	0	0	0.000	0.000	0.000
ENGINEERING PERSONNEL	0	0	0	0.000	0.000	0.000
REFUELING						
MAINTENANCE PERSONNEL	5	0	16	1.439	0.000	4.034
OPERATIONS PERSONNEL	1	0	0	0.510	0.000	0.086
HEALTH PHYSICS PERSONNEL	1	0	1	0.216	0.000	0.427
SUPERVISORY PERSONNEL	0	0	0	0.004	0.000	0.000
ENGINEERING PERSONNEL	0	0	1	0.053	0.000	0.242
TOTALS						
MAINTENANCE PERSONNEL	23	0	86	13.586	0.030	46.548
OPERATIONS PERSONNEL	5	0	5	3.348	0.000	2.438
HEALTH PHYSICS PERSONNEL	12	0	12	5.068	0.000	3.371
SUPERVISORY PERSONNEL	1	0	0	0.557	0.000	0.027
ENGINEERING PERSONNEL	3	0	6	1.231	0.001	4.259
GRAND TOTAL	44	0	109	23.790	0.031	56.643

***** END OF REPORT *****