SCE&G
A SCANA COMPANY

April 11, 2000
RC-00-0218

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

Dear Sir:

Stephen A. Byrne
Vice President
Nuclear Operations
803.345.4622

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

Enclosed is a corrected copy of the 1999 Annual Operating Report for the South Carolina Electric & Gas Company Virgil C. Summer Nuclear Station Unit No. 1. A correction has been made to Attachment I "Outages or Power Reductions Caused by Maintenance Activities." This report was previously sent on March 29, 2000. This report is being submitted in accordance with Technical Specifications 6.9.1.4, 6.9.1.5, and Regulatory Guide 1.16.

We apologize for any inconvenience. If there are any questions, please call at your convenience.

Very truly yours,

KW Petty for
Stephen A. Byrne

South Carolina Electric & Gas Co
Virgil C. Summer Nuclear Station
P. O. Box 88
Jenkinsville, South Carolina
29065

803.345.4344
803.345.5209
www.scana.com

SBR/SAB/sr
Attachment

c: J. L. Skolds
J. J. Galan (w/o attachment)
R. J. White
L. A. Reyes
K. R. Cotton
Mary L. Thomas (NRC)
J. B. Knotts Jr.
D. L. Abstance
Charleen T. Raddatz
W. G. Wendland
J&H Marsh & McLennan
NRC Resident Inspector
NSRC
RTS (RR 8225, 99-0107)
File (818.02-10)
DMS (RC-00-0218)

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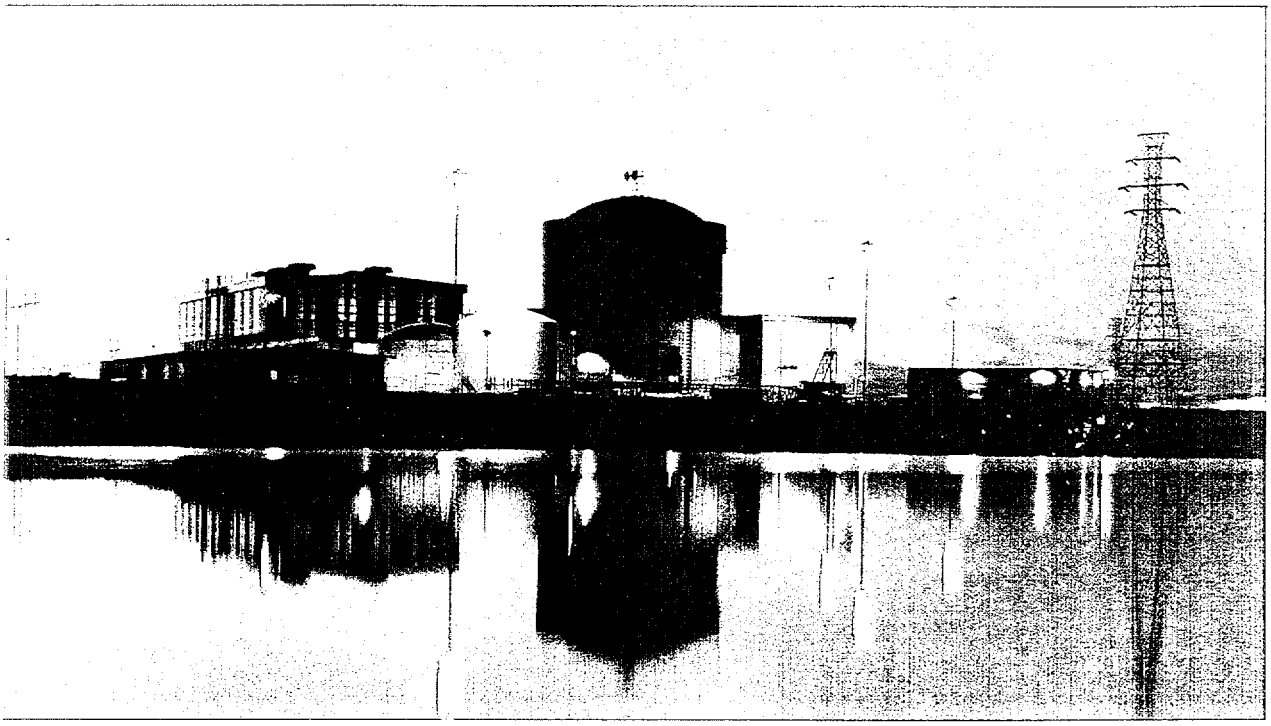
VIRGIL C. SUMMER

NUCLEAR STATION



1999

ANNUAL OPERATING REPORT

PREFACE

The 1999 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.

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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, 1999, the station operated at a capacity factor of 88.2 percent (using maximum dependable capacity) and a unit availability of 88.8 percent. The reactor was critical for a total of 7830.6 hours, the generator remained on line 7,780.6 hours, and the total gross electrical energy generated for 1999 was 7,664,990 MWH.

The station successfully completed its eleventh refueling outage in 38 days and 10.5 hours.

3.0 OPERATING SUMMARY

The Virgil C. Summer Nuclear Station (VCSNS) Unit No.1 operated at 100 percent power from January 4 through March 17th, when the station was allowed to begin to coast down prior to a refueling outage. The main generator breaker was opened on April 3rd.

On May 10th the reactor was taken critical. The main generator breaker was closed on May 11th ending the eleventh refueling outage. Power was reduced from 30% to 20% and the Generator taken offline to roll leads on the main generator exciter (refurbished at GE during the refueling outage) on May 13th. On May 18th as power was being increased from 73% to 95% , the unit experienced increasing vibration on bearings #1 and #2 associated with the High Pressure Turbine. Power was ramped back in an attempt to reduce the vibration, but the reactor was manually tripped at 0041 on May 18th. The unit was synchronized to the grid again on May 19th. 100 percent power was reached on May 21st.

VCSNS operated at 100 percent power from May 21st through May 24th. On May 24th, the plant was derated to 98% due to T-hot fluctuations which were periodically bringing in delta temperature alarms. The delta T's were rescaled and the sampling frequency on the computer was reduced. Power was returned to 100 percent power on May 28th.

VCSNS operated at 100 percent power from May 28 through June 4th. On June 4th while a calibration was being completed on Power Range Channel N42, a spike

occurred on Channel N43. With N42 still in test, the 2/4 RPS logic was made up causing a reactor trip on Power Range Hi Flux. Repairs were made to N43 and operational tests were completed. Power was restored to 100 percent power on June 8th.

VCSNS operated at 100 percent power from June 8 to September 24th. The plant was derated to 91.2 percent to support turbine control valve testing. Power was returned to 100 percent on September 25th.

VCSNS operated at 100 percent power from September 25 to October 9th. Power was reduced to 34 percent to support repairs to a Reactor Coolant System flow transmitter. Power was restored to 100 percent on October 10th.

VCSNS operated at 100 percent from October 10 to December 11th. Power was reduced to 91 percent to support turbine control valve testing. Power was restored to 100 percent on December 12th. The plant operated at 100 percent for the remained of 1999.

Maintenance

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

Refuel 11 Summary

The main generator was opened at 0320 on April 3, 1999, for refueling outage 11.

Major work activities included:

- HP Rotor Replacement
- Tenth Stage Extraction Check Valve Replacement
- Removal of S/G Snubbers
- Fuel Transfer System Modification
- Upgrade of Amertap System
- ECCS Gate Valve Modification to Prevent Pressure Locking
- Moisture Separator Reheater Digital Controls Modification
- Main Transformer Supplemental Cooling System Upgrade

An unplanned fuel assembly top nozzle replacement campaign was necessary due to failure of some fuel assembly top nozzle clamp holddown screws. The failed screws allowed the clamps to re-position sufficiently enough to prevent proper grapple engagement with the Manipulator Crane or the Spent Fuel Handling Tool. Only twice burned "M" region fuel was affected. Twenty-eight (28) twice-burned assemblies that were to be reinserted into the core had top nozzle replacements. This "recon" took approximately seven days and was performed by Westinghouse.

Refuel 11 was completed in 38 days and 10.5 hours. Outage planned duration was approximately 30 days. Personnel exposure was 115.818 man rem.

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 1999.

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

1999 ANNUAL REPORT

V. C. Summer Nuclear Station Events
Outage or Power Reductions Caused by Maintenance Activities

Date	Time Start	Cause of Event	Date	Time Finish	Duration	Net Capacity MWe	Type
01/03/1999	1021 Hrs	MSR Pressure Switch Failure	01/04/1999	1825 Hrs	32.8 Hrs	676	Unplanned
04/03/1999	0320 Hrs	Refuel 11 Outage	04/30/1999	2400 Hrs	668.4 Hrs	0	Planned
05/01/1999	0001 Hrs	Refuel 11 Outage	05/11/1999	0900 Hrs	225.0 Hrs	0	Planned
05/13/1999	0220 Hrs	Main Generator Voltage Regulator Repair	05/13/1999	0410 Hrs	1.9 Hrs	0	Unplanned
05/18/1999	0040 Hrs	Turbine Trip - Hi Vibration	05/19/1999	0225 Hrs	25.5 Hrs	0	Unplanned
06/04/1999	1358 Hrs	Meter Failure on N43	06/05/1999	2122 Hrs	31.4 Hrs	0	Unplanned
10/08/1999	2138 Hrs	Flow Transmitter	10/10/1999	1628 Hrs	42.9 Hrs	340	Planned

ATTACHMENT II

TO

1999 ANNUAL REPORT

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

PEOPLE COMPUTERIZED EXPOSURE NUCLEAR TRACKING SYSTEM

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PERSONNEL AND MAN-REM BY WORK AND DUTY FUNCTION

FINAL END OF YEAR REPORT FOR 1999

WORK AND JOB FUNCTION	NUMBER OF PERSONNEL OVER 100mREM STATION WORKERS	UTILITY WORKERS	CONTRACT WORKERS	TOTAL MAN-REM STATION WORKERS	UTILITY WORKERS	CONTRACT WORKERS
ROUTINE MAINTENANCE						
MAINTENANCE PERSONNEL	59	1	157	17.837	0.140	44.497
OPERATIONS PERSONNEL	14	0	8	4.403	0.000	2.419
HEALTH PHYSICS PERSONNEL	10	0	25	4.281	0.000	7.291
SUPERVISORY PERSONNEL	2	0	0	0.835	0.000	0.028
ENGINEERING PERSONNEL	2	0	8	0.840	0.000	2.025
SPECIAL MAINTENANCE						
MAINTENANCE PERSONNEL	0	0	10	0.445	0.000	3.473
OPERATIONS PERSONNEL	0	0	1	0.063	0.000	0.535
HEALTH PHYSICS PERSONNEL	2	0	1	0.656	0.000	0.378
SUPERVISORY PERSONNEL	0	0	0	0.075	0.000	0.000
ENGINEERING PERSONNEL	1	0	1	0.353	0.000	0.877
REACTOR OPERATIONS & SURVEILLANCE						
MAINTENANCE PERSONNEL	3	0	1	0.756	0.000	1.121
OPERATIONS PERSONNEL	26	0	3	7.009	0.000	0.737
HEALTH PHYSICS PERSONNEL	9	0	10	2.370	0.000	3.530
SUPERVISORY PERSONNEL	1	0	0	0.607	0.000	0.031
ENGINEERING PERSONNEL	0	0	0	0.417	0.000	0.051
WASTE PROCESSING						
MAINTENANCE PERSONNEL	0	0	0	0.053	0.000	0.004
OPERATIONS PERSONNEL	0	0	0	0.004	0.000	0.000
HEALTH PHYSICS PERSONNEL	7	0	1	1.381	0.000	0.318
SUPERVISORY PERSONNEL	0	0	0	0.092	0.000	0.000
ENGINEERING PERSONNEL	0	0	0	0.000	0.000	0.000
IN-SERVICE INSPECTION						
MAINTENANCE PERSONNEL	0	0	17	0.116	0.000	6.065
OPERATIONS PERSONNEL	0	0	4	0.202	0.000	1.245
HEALTH PHYSICS PERSONNEL	0	0	0	0.121	0.000	0.245
SUPERVISORY PERSONNEL	0	0	0	0.000	0.000	0.000
ENGINEERING PERSONNEL	0	0	0	0.033	0.000	0.122
REFUELING						
MAINTENANCE PERSONNEL	2	0	23	0.670	0.000	8.888
OPERATIONS PERSONNEL	0	0	2	0.342	0.000	0.519
HEALTH PHYSICS PERSONNEL	1	0	1	0.432	0.000	0.660
SUPERVISORY PERSONNEL	0	0	0	0.092	0.000	0.006
ENGINEERING PERSONNEL	0	0	2	0.074	0.000	0.892
TOTALS						
MAINTENANCE PERSONNEL	64	1	208	19.877	0.140	64.048
OPERATIONS PERSONNEL	40	0	18	12.023	0.000	5.455
HEALTH PHYSICS PERSONNEL	29	0	38	9.241	0.000	12.422
SUPERVISORY PERSONNEL	3	0	0	1.701	0.000	0.065
ENGINEERING PERSONNEL	3	0	11	1.717	0.000	3.967
GRAND TOTAL	139	1	275	44.559	0.140	85.957

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