

George A. Lippard  
Vice President, Nuclear Operations  
803.345.4810



March 30, 2016

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

Dear Sir/Madam:

Subject: VIRGIL C. SUMMER NUCLEAR STATION UNIT 1  
DOCKET NO. 50-395  
OPERATING LICENSE NO. NPF-12  
ANNUAL OPERATING REPORT

Enclosed is the 2015 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 Specification 6.9.1.4.

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

Very truly yours,

A handwritten signature in black ink, appearing to read "George A. Lippard", is written over a light blue horizontal line.

George A. Lippard

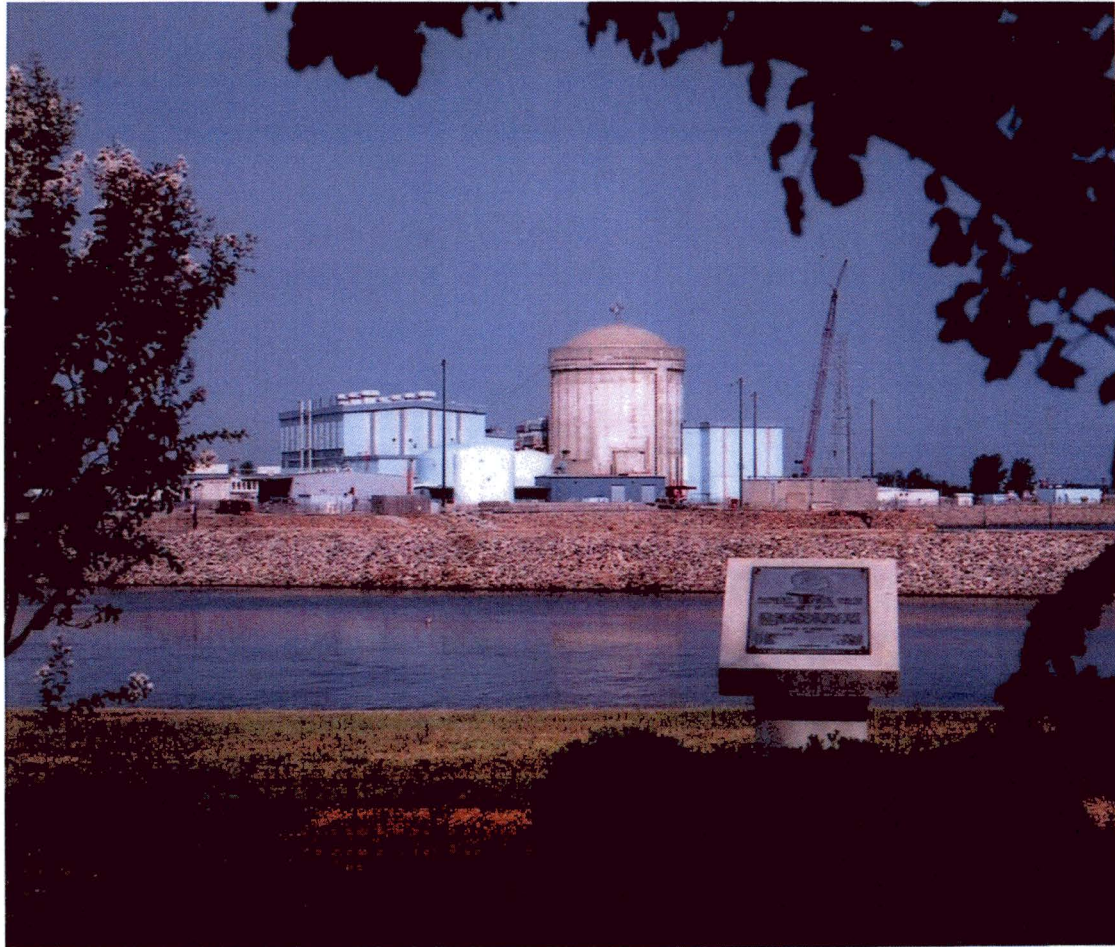
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c: K. B. Marsh  
S. A. Byrne  
J. B. Archie  
N. S. Carns  
J. H. Hamilton  
J. W. Williams  
W. M. Cherry  
C. Haney  
S. A. Williams  
M. L. Thomas

K. M. Sutton  
J. C. Mellette  
C. Logan (ANI)  
Marsh USA, Inc.  
NRC Resident Inspector  
NSRC  
RTS (LTD 292)  
File (818.02-10, RR 8225)  
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# VIRGIL C. SUMMER NUCLEAR STATION UNIT 1



## 2015 ANNUAL OPERATING REPORT

PREFACE

The 2015 Annual Operating Report for the Virgil C. Summer Nuclear Station Unit 1 is hereby submitted in accordance with Technical Specification 6.9.1.4 under Docket Number 50/395 and Facility Operating License NPF-12.

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## **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, 2015, the station operated at a capacity factor of 84.1% (using maximum dependable capacity) and a unit availability of 83.3%. The reactor was critical for a total of 7337.4 hours, the generator remained on line 7301.2 hours and the total gross electrical energy generated for 2015 was 7,397,220 MWH.

## **3.0 OPERATING SUMMARY**

The Virgil C. Summer Nuclear Station (VCSNS) Unit No.1 operated at 100% power from January 1<sup>st</sup> through January 3<sup>rd</sup>. On January 3<sup>rd</sup> power was reduced to 86.7% in order to isolate one set of high pressure feedwater heaters to repair a steam leak. The repair was completed on January 8<sup>th</sup> and the feedwater heaters were restored to service. Power was restored to 100% on January 8<sup>th</sup>.

VCSNS operated at 100% power from January 8<sup>th</sup> to January 16<sup>th</sup>. On January 16<sup>th</sup> power was reduced to approximately 93% to support planned main turbine valve testing. Reactor power was restored to 100% on January 17<sup>th</sup>.

VCSNS operated at 100% power from January 17<sup>th</sup> to April 24<sup>th</sup>. On April 24<sup>th</sup> power was reduced to approximately 91% to support planned main turbine valve testing. Reactor power was restored to 100% on April 25<sup>th</sup>.

VCSNS operated at 100% power from April 25<sup>th</sup> to June 26<sup>th</sup>. On June 26<sup>th</sup> power was reduced to approximately 90% to support planned main turbine valve testing. Power was restored to 100% on June 27<sup>th</sup>.

VCSNS operated at 100% power from June 27<sup>th</sup> to September 30<sup>th</sup>. On September 30<sup>th</sup> power was reduced to approximately 91% to allow planned testing of the reheat steam safety valves. On October 1<sup>st</sup> power was reduced to 85% to support planned testing of the main steam safety valves.

Power reduction for VCSNS Unit 1 Refueling Outage Twenty-Two (RF-22) started on October 2<sup>nd</sup> at 2135 hours and concluded on October 3<sup>rd</sup> at 0021 hours when the Main Generator Breaker was opened. The reactor was manually tripped October 3<sup>rd</sup> at 0231 hours to begin the scheduled refueling outage.

The outage was originally planned through November 27<sup>th</sup>, however fuel transfer equipment problems, reactor coolant pump seal modification delays and weather related delays (e.g. Hurricane Joaquin) resulted in an unplanned extension of five and one-half days. The unit remained shutdown for the refueling outage until December 1<sup>st</sup> when the reactor was returned to criticality and synchronized to the grid on December 2<sup>nd</sup>. Reactor power was restored to 100% on December 5<sup>th</sup>. The plant operated at 100% power for the remainder of 2015.

### **Refueling Outage 22 Summary**

The main generator breaker was opened at 0021 hours on October 3<sup>rd</sup> for Refueling Outage 22. The outage duration was originally planned through November 27<sup>th</sup>, however several plant issues resulted in an unplanned extension of five days and one half days.

Major work included:

- Fukushima FLEX modifications
- NFPA 805 modifications
- Reactor Water Storage Tank piping changes
- Switchyard upgrades
- Main Generator Field replacement
- Reactor Incore Thimble replacement
- Feedwater Piping replacement
- Reactor Building Cooling Unit piping changes

Refueling Outage 22 duration was 60.7 days. Outage business plan duration was 55 days. Personnel exposure in 2015 due to the outage was approximately 77.1 Rem, based on electronic dosimeters.

### **Forced Power Reduction >20% Exceeding 4 Hours**

None

## **4.0 FAILED FUEL**

VCSNS did not have any indications of failed fuel in 2015.