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~~Information, Withhold in~~  
Accordance with 10 CFR 2.390

George A. Lippard, III  
Vice President, Nuclear Operations  
803-345-4810

July 25, 2017  
RC-17-0078

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

Dear Sir / Madam:

Subject: VIRGIL C. SUMMER NUCLEAR STATION (VCSNS) UNIT 1  
DOCKET NO. 50-395  
OPERATING LICENSE NO. NPF-12  
FINAL SAFETY ANALYSIS REPORT (FSAR)  
UPDATED THROUGH APRIL 30, 2017

In accordance with 10CFR50.71(e), South Carolina Electric & Gas Company, acting for itself and as agent for the South Carolina Public Service Authority, submits an Updated Final Safety Analysis Report (FSAR) for the Virgil C. Summer Nuclear Station (CD #1). The Updated FSAR contains changes as of April 30, 2017.

The enclosed V. C. Summer Updated FSAR CD-ROMs contain a complete copy in Adobe PDF format generated from the original native master files and scanned hard copy documents.

This FSAR-Update includes:

- Changes to the FSAR that were made under the provisions of 10CFR50.59, but not previously submitted to the Commission.
- All affected chapter Table of Contents, List of Tables, List of Figures, and List of Effective Pages updated to reflect the current information contained in the FSAR.

Technical changes are annotated by a vertical revision bar and the Revision Notice number. Unaffected vertical revision bars and the amendment number changes from prior updates remain unchanged.

Additionally, some FSAR changes (Revision Notices) were not completed in time for this FSAR update. This issue has been documented in the station's corrective action program as CR-17-03016.

CD-ROM Contains ~~Sensitive Non-Publicly Available Information,~~  
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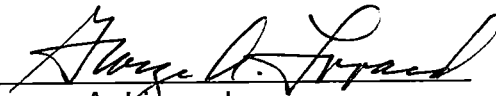
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LTD 325, RR 6500  
RC-17-0078  
Page 2 of 2

If there are any questions, please contact Scarlet Lutz at (803) 931-5640.

I declare under penalty of perjury that the foregoing is true and correct.

7/25/17  
Executed On

  
George A. Lippard

SDL/GAL/sr  
Attachments:

- 1) APPROVED FSAR REVISION NOTICES INCORPORATED SINCE MAY 2016 UPDATE
  - 2) CD #1: Updated Final Safety Analysis Report (FSAR) for the Virgil C. Summer Nuclear Station
- c: (Without CDs unless noted below)
- K. B. Marsh
  - S. A. Byrne
  - J. B. Archie
  - N. S. Carns
  - J. H. Hamilton
  - S. M. Shealy
  - W. M. Cherry
  - C. Haney (w/CD #1, 2.390)
  - S. A. Williams (w/CD #1, 2.390)
  - NRC Resident Inspector
  - K. M. Sutton (w/CD #1, 2.390)
  - NSRC
  - RTS (LTD 325, RR 6500)
  - File (813.12)
  - PRSF (RC-17-0078 w/CD #1, 2.390)

APPROVED FSAR REVISION NOTICES INCORPORATED SINCE MAY 2016 UPDATE – EFFECTIVE 04/30/17

<u>RN No.</u>	<u>APPROVAL DATE</u>	<u>SECTIONS</u>	<u>BRIEF DESCRIPTION</u>
11-008	2017-03	Figure 2.4-6	ECR 50753G – Owner Controlled Area (OCA) Perimeter Corridor Grading and Drainage This change revises FSAR Figure 2.4-6 (E-744-052) to show the final as-built location of the OCA perimeter, following installation of ECR-50753G. This major revision provides excavation, backfill and grading for a 20 foot wide monitoring corridor in support of a future security modification inside the rock barrier.
13-019	2017-03	Section 2.4 Figure 2.4-9	ECR 71793 - VCS Response to Seismic/Flooding Recommendations of March 12, 2012 NRC 50.54(f) Information Request This change modifies the site flooding event descriptions that were revised based upon current data and inputs.
13-027	2016-08	Figure 1.2-1 Figure 1.2-28 Figure 9.3-1	ECR 50790 – Upgrade Fuel Handling Building for Used Fuel Storage This change added plant service connections for 120VAC & 480VAC Non-1E electrical power, service air, helium and cask venting to the Fuel Handling Building. These upgrades support activities required for loading spent fuel in dry casks.
14-031	2016-10	Figure 8.2-2 Figure 8.2-2a Figure 8.2-2c Figure 8.3-5 Figure 8.3-5a	ECR 50864 – Replaced Breaker 8902 (Main Transformer Feed) and Associated Equipment This ECR replaces the existing XCB8902, associated bus control and monitoring equipment, protection equipment, conduits, wiring and grounding.

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<u>RN No.</u>	<u>APPROVAL DATE</u>	<u>SECTIONS</u>	<u>BRIEF DESCRIPTION</u>
14-043	2016-07	Figure 1.2-27 Table 3.2-1 Index 5.0 Figure 5.1-1, Sh 2 Table 5.2-1 Section 5.3.2 Section 5.5 Table 5.5-1 Figure 5.5-1 Figure 5.5-16 Figure 5.5-17 Figure 5.5-18 Section 9.2 Figure 9.2-24 Section 9.3 Table 9.3-4 Table 9.3-5 Figure 9.3-16, Sh 1A Figure 9.3-16, Sh 1B Figure 9.3-16, Sh 1C Section 11.2.3.1.3.1	ECR50799 Base and ECR50799C – Reactor Coolant Pump Seal Replacement  The change replaced the reactor coolant pump seals with Flowserve N-9000 seals.
14-044	2016-06	Section 9.2 Figure 9.2-2, Sh2 Figure 9.2-2, Sh4	ECR50567S – Change Interlock Settings  ECR50567S Added a 10+1 second time limit to the Reactor Building Cooling Unit Service Water Valves interlock with the Service Water Pump Start Permissive.
15-004	2016-07	Figure 9.4-11 Figure 9.4-34	ECR 50790 – Upgrade Fuel Handling Building Air Handling Unit and Support Platform  This change provided additional cooling required for cask loading operations. A permanent air handling unit and supporting systems were installed.
15-018	2017-01	Figure 9.4-3	ECR 50886 – Control Building Elevator Modernization Project  This change updated FSAR Figure 9.4-3 with the new control building elevator machine room fan.

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<u>RN No.</u>	<u>APPROVAL DATE</u>	<u>SECTIONS</u>	<u>BRIEF DESCRIPTION</u>
15-022	2016-10	Section 1.6 Section 4.1 Table 4.1-2 Section 4.2 Section 4.3 Section 15.3	ECR72020 – Cycle 23 Core Reload Design This change provides technology updates and methods related to the cycle 23 core design.
16-004	2016-07	Figure 9.2-9b Figure 10.4-16	ECR 51002 – Flex Water Transfer Connections This change implemented water transfer piping connections between Condensate Storage Tank, Filtered Water Tank and Demineralized Storage Tank to support FLEX Strategies.
16-007	2016-06	Figure 9.3-14	ECR 72140 – Revises Drawings to Correct Valve System Designator Discrepancies This change corrected valve labeling for XVG02422-MD and XVG02436-MD on FSAR FSAR Figure 9.3-14.
16-009	2016-09	Section 13.1 Figure 13.1-4	Change to Organization Chart This change added the newly created position of the Vice President of Nuclear Support Services (VPNSS). The org chart was also changed to show that Quality Services now reports to the VPNSS.
16-012	2016-10	Figure 9.3-16 SH 1A Figure 9.3-16 SH 1B Figure 9.3-16 SH 1C	ECR 50799I – Document Updates for Reinstallation of Fuse Pairs FU-CS75/76/77 This change removed notes associated with fuses for XVT08141A/B/C-CS as shown in Figures 9.3-16 Sh 1A, Sh 1B and Sh 1C.
16-014	2017-01	Section 15.1 Table 15.1-4 Section 15.2 Table 15.2-1 Section 15.3	ECR 72147 – Removal of the term Station Blackout from the FSAR This change replaces “Station Blackout” with the correct language of “Loss of Offsite Power.”
16-015	2016-10	Section 9.4	ECR 50587B – Replacement of Turbine Building Switchgear Room Chiller XHX0005 This change updates the chiller’s instrumentation and control devices described in the FSAR.

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16-018	2016-10	Section 3.9 Table 3.9-7 Section 9.3	ECR50780C – Updated Information Related to Alternate Seal Injection (ASI) System This change updated chapters 3 and 9 to describe the ASI a system that is not credited in station analysis:
16-019	2016-09	Section 15.4 Figure 15.4-91 Table 15.4-28 Table 15.4-29 Table 15.4-31 Table 15.4-32 Table 15.4-33	ECR 70290 – Steam Generator Tube Rupture (SGTR) Enhancements This change describes an NRC-approved supplementary SGTR analysis License Amendment 205 that demonstrate the effectiveness of Emergency Operating Procedure guidance incorporating realistic operator action times, and demonstrates the prevention of Steam Generator overfill.
16-020	2017-01	Figure 1.2-1 Figure 2.4-6	ECR 51012 – FLEX Diesel Generator Building This change updated FSAR Figures 1.2-1, and 2.4-6 to show the location of the new FLEX Diesel Generator Building.
16-025	2017-04	Section 9.4 Figure 9.4-25, Sheet 2	ECR 50874 – Increase the heat removal capacity of the Reactor Building Cooling Units. This change installed a new Chiller Loop to act as a new heat sink for Industrial Cooling Water system. An interfacing plate heat exchanger is used to transfer heat to the new chiller loop.
16-026	2017-01	Section 13.1 Figure 13.1-4	CR-16-05196 – Changes to the Organizational Chart This change updates FSAR Chapter 13 to include the new manager position for Nuclear Fuels and Analysis. The Nuclear Fuels and Analysis group for Units 1, 2 and 3 includes previous functions of Fuel Management Reactor Engineering and Probabilistic Risk Assessment.
16-029	2017-03	Appendix 3A, RG 1.147	CR-16-01194 – FSAR Appendix 3A Update Regulatory Guide 1.147 Update This change updates Regulatory Guide 1.147, from Rev. 13 to Rev. 17. Rev. 17 endorses Code Cases that are beneficial to VCSNS for the ASME Section XI Inservice Inspection Program.
16-030	2017-03	Figure 9.4-17	ECR72198 - Corrected Mislabeled Fire Damper This change corrected a typographical error on FSAR Figure 9.4-17 IB Ventilation Flow Diagram. Damper labeled XMD-189-AH should be labeled XFD-189-AH.

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17-001	2017-03	Section 12.3 Section 13.1 Figure 13.1-4 Section 13.2	CMP-15-04298 – To Align Units 1/2/3 for Commercial Operation  This change is a re-organization to change VPNSS title to VPNO 2/3. Additionally, the Director Nuclear Training and new managers of Chemistry and Radiation Protection are now under the VPNO 2/3 position.
17-002	2017-04	Figure 5.2-8A	ECR 72212 – Revised FSAR Figure 5.2-8A to Show Correct Valve Lineup  This change updated drawing D-302-717 (FSAR Figure 5.2-8A) to correct a discrepancy in the valve lineup. D-302-717 was revised to show XVT16302A-NN as normally open and XVT16304B-NN as normally closed. A note was added to explain that either header may be in service during normal operation while the other is in standby.
17-007	2017-04	Section 13.1	CMP-15-04298 - Organization Change to Merge Unit 1/2/3 OD&P Departments  This change merges the Unit 1 and Unit 2/3 OD&P groups under one manager reporting to the existing General Manager Organizational / Development and Effectiveness for Unit 1. The change also provides updates to FSAR Section 13.1.2.2.2.1.
17-009	2017-03	Section 13.2	CR-16-05895 – Changed Plant Access Training (PAT) and Radiological Worker Training (RWT) Required Frequencies  This change revises FSAR Section 13.2.3.1 to require PAT and RWT from annually to biennial.