Attachment 3 (CD-ROM) Contains Sensitive Non-Publicly Available Information, Withhold in Accordance With 10 CFR 2.390

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A SCANA COMPANY

Thomas D. Gatlin
Vice President, Nuclear Operations
803.345.4342

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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) /
FIRE PROTECTION EVALUATION REPORT (FPER)
UPDATED THROUGH MAY 31, 2013

In accordance with 10CFR50.71(e), South Carolina Electric & Gas Company (SCE&G), acting for itself and as agent for South Carolina Public Service Authority, submits one (1) CD-ROM electronic copy of the Updated Final Safety Analysis Report (UFSAR) and the Updated Fire Protection Evaluation Report (UFPER) for the Virgil C. Summer Nuclear Station (VCSNS) updated through May 31, 2013. The V. C. Summer Updated FSAR CD-ROM is a complete copy in Adobe PDF format generated from the original native master files and scanned hard copy documents.

This FSAR/FPER Update includes:

- Changes to the FSAR and FPER 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 and/or FPER.

Changes to the FSAR and FPER that were made to correct formatting/transcription errors are annotated via the footnote information. 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.

Attachment 3 (CD-ROM) Contains Sensitive Non-Publicly Available Information, Withhold in Accordance With 10 CFR 2.390

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The CD-ROM contains information that has been deemed sensitive to VCSNS physical protection. Therefore, SCE&G requests that the files on the CD-ROM be withheld from public disclosure in accordance with 10 CFR 2.390.

If there are any questions, please contact Donna Railey at (803) 345-4107.

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

6-6-13
Executed On

Thomas D. Gatlin

DWR/TDG/sr
Attachments:

1) FSAR/FPER Revision Notices Incorporated Since November 2011 Update
2) Information Removed from the FSAR/FPER Since November 2011 Update
3) VCSNS FSAR/FPER CD-ROM (Sensitive Non-Publicly Available Information, Withhold in Accordance With 10 CFR 2.390)

c: (Without CD unless noted below)

K. B. Marsh
S. A. Byrne
J. B. Archie
N. S. Carns
J. H. Hamilton
J. W. Williams
W. M. Cherry
V. M. McCree (w/CD, 2.390)
E. A. Brown (w/CD, 2.390)
NRC Resident Inspector
K. M. Sutton (w/CD, 2.390)
NSRC
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File (813.12)
PRSF (RC-13-0073 w/CD, 2.390)

FSAR/FPER REVISION NOTICES INCORPORATED SINCE NOVEMBER 2011 UPDATE

RN No.	Approval Date	Sections	Brief Description
03-037	2012-06	FSAR Figure 9.5-1, SH 2	ECR-50510C - This change converted the cafeteria on the first floor of the Auxiliary Service Building to a central planning area for outage activities. The ECR added Sprinkler System Strainer Flushing Valve XVG34037-FS to drawing D-302-231, Sheet 2. The sprinkler system was also changed from manual to an automatically operated system upon detection of fire.
05-015	2012-07	FPER Section 2.2.2.3 FPER Section 2.2.2.4 FPER Section 4.4	ETBT-70690, ETBT-71259 - Removed the words "magnesium oxychloride" from three sections of the FPER. The plant's original structural steel fire coating Albi Duraspray is no longer manufactured or available. Replacement products Albi Clad Thin Film and Pyrocrete 241 do not contain magnesium oxychloride.
06-008	2012-07	FSAR Figure 10.4-14	ECR-70756 - Revised drawing to clarify piping configuration represented as Detail "A" and Detail "B". A Corrective Action identified that valves contained in Detail "A" of this drawing could be missed when preparing a tagout boundary due to the method chosen to show these valves on the drawing. The same problem existed for valves shown in Detail "B".
06-024	2012-12	FSAR Figure 10.4-1 FSAR Figure 10.4-8 FSAR Figure 10.4-9	ECR-50065 – ECR changed the design data upset pressure for various design flag sections of the process piping. Drawings were revised to reflect the boundaries and design conditions.
06-043	2012-07	FSAR Figure 10.4-8	ECR-70967 - Add component IDs for 3" condensate pump vent valves to Detail A of Drawing D-302-101. This was done to be consistent with the level of details provided in the drawing for other valves associated with the condensate pumps.

RN No.	Approval Date	Sections	Brief Description
07-006	2013-02	FSAR Figure 8G-6 FSAR Figure 8G-7 FSAR Figure 8G-8	ECR-50625 - Rod Control System Blocking Diode Replacement/Removal. Westinghouse identified the Rod Control system blocking diodes as a single failure component. Additionally, Westinghouse identified the blocking diode fuses and all TI-600 trigger indicating fuses as a reliability issue. The blocking diodes were replaced with a jumper wire and the fuses were replaced with more reliable fuses.
07-034	2012-08	FSAR Figure 9.3-15, SH 1	ECR-50474 - Added a match mark on drawing 302-361 sheet 1 which shows a continuation on new drawing 302-361 sheet 2. New drawing 302-361 sheet 2 was created to show the lift stations outside the protected area.
07-035	2012-08	FPER 5.0.E.2(c)	ECR-70830A - Replaced Electric Fire Pump Controller.
07-038	2012-07	FSAR Figure 2.4-6	ECR-70883 - Yard drainage system was changed to improve legibility and to make minor editorial changes that did not involve design information.
08-013	2013-05	FSAR Figure 9.4-32	ECR-50682, Replacement of Control Rod Drive Mechanism Cooling Tower XCI0004. The new cooling tower is manufactured by the same original equipment manufacturer as the existing tower. This ECR also addresses minor changes in configuration of the new tower compared to the old tower. Figure 9.4-32 was revised to add valves and another level switch.
10-012	2013-05	FSAR Figure 9.2.2, Sht 1 FSAR Figure 9.2.2, Sht 3 FSAR Figure 10.4-16	ECR-50695, Emergency Feedwater System Flow Control Enhancements. Added three notes to Figure 9.2.2, Sheets 1 and 3 to indicate the installation of Cured-In-Place Piping [B16.5 150# TEE 316 SST to eliminate and resist corrosion and the use of Plastocor to prevent corrosion and microbiologically induced corrosion build up]. Added a note to Figure 10.4-16 to indicate valve inlet nozzle and upstream face of disk is covered with Plastocor.

RN No.	Approval Date	Sections	Brief Description
10-021	2012-08	FSAR Figure 9.2-5	ECR-50239 - Editorial Change - Revised drawing 302-612 to change valve "XVT09363B-CC" to "XVT09563B-CC".
10-023	2012-07	FSAR Figure 1.2-12 FPER Section 4.4.22.1	ECR-50764 - Safety Improvements to DRIB/324 Hatch and Ladder; Health Risk BS-08-01. FSAR Figure 1.2-12 notes the hatch as a 2'6" x 3'0" removable opening. This note is being changed to reflect the dimension of the new hatch opening which is 2'6"x 4'6". The new hatch was installed under ECR-50764.
10-024	2012-11	FSAR Figure 1.2-3 FSAR Figure 1.2-4 FSAR Figure 1.2-5 FSAR Figure 1.2-6 FSAR Figure 1.2-8 FPER Figure E-023-003 FPER Figure E-023-005 FPER Figure E-023-008 FPER Figure E-023-014	ECR-50685 - In the Auxiliary Building, existing hoist (XCR0019) was replaced with a new equipment lift (XCR0075). As part of the ECR, fire extinguishers were added to the FPER drawings. The new lift was added to the FSAR drawings.
10-028	2013-05	FSAR Figure 9.4-21	ECR-50763, Service Building First and Second Floor HVAC Replacement. Figure 9.4-21 was updated to reflect the current Service Building second floor layout. This figure was also updated to reflect changes made to refrigeration components and piping of XRC0003, and the change in control system from pneumatic to digital.
10-031	2012-07	FSAR Figure 9.2-8	ECR-50728 - Replaced Clay Feeder Mixing Tank and Associated Equipment. FSAR Figure 9.2-8 is the piping and instrument diagram for the Water Treatment System. The FSAR Figure was updated to capture permanent plant changes resulting from the implementation of ECR-50728. The changes include the replacement of the clay feeder (XTK0068), mixing tank (XTK0071), solution pump (XPP0062), and associated equipment, piping, and valves.

RN No.	Approval Date	Sections	Brief Description
11-016	2013-05	FSAR Section 9.4.7.2.3 FSAR Figure 9.4-20 FPER Section 4.11.2.1 FPER Section 4.11.2.3 FPER Section 5.0	ECR-50763A, First Floor SB HVAC Replacement. FSAR Figure 9.4-20 was updated to reflect the current Service Building first floor layout. This figure was also updated to reflect changes made to refrigeration components and piping of XRC0002 and the change in controls from pneumatic to digital for the first floor HVAC system per ECR-50763A. FSAR Section 9.4.7.2.3 and FPER Sections 4.11.2.1, 4.11.2.3 and 5.0 were updated to reflect the as-built configuration and use of the former permanent records vault and the HVAC changes made in ECR-50763A. The current permanent records vault is now housed in the Nuclear Operations Building.
11-018	2012-07	FSAR Table 1.7-1 FSAR Table 3.9-0 FSAR Table 3.10-3 FSAR Figure 9.2 -2, Sh. 1 FSAR Figure 9.3-10 FSAR Section 9.4.7.2.4 FSAR Figure 9.4-22 FPER Section 4.4.20.2 FPER Section 4.4.21.2 FPER Section 4.4.23.1 FPER Section 4.4.23.4 FPER Section 4.4.23.5 FPER Section 4.5.2.2 FPER Figure E-023-007	ECR-50585A - Safety Related Chiller Replacement. Revised FSAR Chapters 1, 3, and 9 and FPER Chapter 4 to reflect the new safety related chiller “A” (XHX0001A), which has recently been replaced with a new, state-of-the-art chiller. Design features of the new chiller and associated piping, valves and electrical circuits have been updated in the FSAR and FPER.
11-020	2012-12	FSAR Section 5.7.1.4 FSAR Section 17.2.1.2.4 FSAR Section 17.2.10.3	Change Management Plan (CMP-10-02766). Revised the FSAR to show change of control for the Inservice Inspection Program from Quality Control to Design Engineering and revised information for the Containment Inservice Inspection Program.
11-022	2012-08	FSAR Section 10.4.9.4	CR-11-01651 - Revised FSAR to correctly describe how the Service Water-to-Emergency Feedwater pump suction valves are tested.

RN No.	Approval Date	Sections	Brief Description
11-025	2012-07	FSAR Figure 10.4-10	ECR-71598 - Drawing enhancement to aid with work or tagging.
11-027	2013-05	FSAR Figure 1.2-1 FSAR Figure 1.2-3 FSAR Figure 1.2-10 FSAR Figure 1.2-27 FSAR Figure 1.2-28A FSAR Table 3.2-1 FSAR Table 3.2-1 Notes FSAR Figure 3.8-73 FSAR Table 3.9-7 FSAR Section 5.5.7 FSAR Section 9.3.4.1.5 FSAR Section 9.3.4.2.1 FSAR Table 9.3-4 FSAR Table 9.3-5 FSAR Figure 9.3-16 SH 3 FSAR Figure 12A.4-4	ECR-50780C - Alternate Seal Injection. ECR-50780C installed an Alternate Seal Injection (ASI) system to provide an alternate means for Reactor Coolant Pump (RCP) seal injection to reduce the probability of RCP seal LOCA. The ASI takes suction from the Refueling Water Storage Tank via the 20 inch discharge header and discharge to the 2" seal injection line upstream of the filters. A check valve is provided (under ECR 50780) in the seal injection line to prevent back flow to the charging pump header and normal injection line through FCV-122.
11-028	2012-07	FSAR Figure 1.2-1	ECR-71558 (CR-10-03242) - Parr Hydro Project Boundary Line (PBL). The PBL was added to a plant layout drawing.
11-030	2012-07	FPER 3.6	ECR-50556 - 8-Hour Emergency Battery Light Upgrades. ECR installed additional emergency lighting units at various locations in the plant to enhance lighting required for the performance of local manual actions needed to accommodate Appendix R safe shutdown.
11-034	2012-09	FSAR Table 6.2-53a	TS Amendment 191 deleted five High Head Safety Injection Containment Isolation Valves from the Local Leak Rate Test Program. FSAR Table 6.2-53a was revised to reflect this NRC approved deletion.
11-038	2012-11	FPER Figure 023-007 FPER Figure 023-008 FPER Figure 023-010 FPER Figure 023-019 FPER Figure 023-022	ECR-71012 - Proper location of portable fire extinguishers. FPER drawings were revised to show the proper locations of portable fire extinguishers.

RN No.	Approval Date	Sections	Brief Description
11-039	2012-07	FSAR Section 5.5.7.1.1.3.3.i	CR-12-00713 - Wording was be changed to say, "Normal Charging Isolation Valve 8146 - If the normally open valve closes spuriously, alternate charging valve 8147, which fails open, can be used." This will eliminate any confusion caused by the current wording of "...which fails to open..."
11-040	2012-05	FSAR Section 3A FSAR Section 13.1 FSAR Section 13.4 FSAR Section 13.5 FSAR Section 13.6 FSAR Section 17.2 FSAR Figure 17.2-1	CR-10-03108 (TS Amendment 188) - License Amendment Request for the new Quality Assurance Program Description (QAPD) to change the program to comply with the requirements of ANSI/ASME NQA-1-1994. Removed the Quality Assurance Program information from Chapter 17, Section 17.2, and identified that the information is found in the QAPD. Revised Regulatory Guide commitments in Chapter 3, Appendix 3A, related to the application of the new QA program. Revised Chapter 13 to reference new requirements in the QAPD.
12-004	2012-09	FSAR Table 3.9-8	ECR-50780 - Alternate Seal Injection. Added active code valve XVC18529-CS to FSAR Table 3.9-8. This change was required due to implementation of the ECR-50780 base package. This change was not included in the previous FSAR RN 11-009 approved November 2011.
12-005	2013-05	FSAR Figure 1.2-1 FSAR Figure 2.4-6 FSAR Index 11-iii FSAR Section 11.7 (removed)	ECR 71498 - Waste Oil Incinerator Demolition. Removed the Incinerator Building from site drawings and Section 11.7. ECR was written to remove the incinerator from service and any related buildings or materials.
12-009	2013-02	FSAR Figure 5.1-1, SH 2	ECR-71669 - Valve Shown in Wrong Position. Isolation valve XVT00100-WG was changed from "normally open" to "normally closed" on drawing 302-602. Valve was installed by MRF-21256 as normally closed.

RN No.	Approval Date	Sections	Brief Description
12-011	2012-11	FSAR Figure 10.4-14	ECR-71665 (CR-12-00337) - Valves Shown in Wrong Position. Valves XVD06102B and XVD06103B were changed from "normally closed" to "normally open"on drawing 302-782.
12-014	2012-11	FSAR Figure 9.2-1 FSAR Figure 9.2-4 FSAR Figure 9.3-5 FSAR Figure 9.3-10 FSAR Figure 9.4-22 FSAR Figure 9.4-25 FSAR Figure 9.5-1, SH 3 FSAR Figure 10.4-16	ECR-71215 - Editorial change. Drawing 302-222 was converted from 1 sheet to 4 sheets to make the document easier to read and follow. Match Marks on 8 drawings were revised to show the new 302-222 sheet numbers.
12-015	2013-05	FSAR Figure 10.4-16	ECR 71718 - Corrected Typographical Error with IFT03561A. When this figure was enhanced per ECR-50239 (Rev. 43), IFT3561A was typed as IFT3531A (coordinate B11). The instrument in the plant is not affected and remains as IFT3561A.
12-018	2013-05	FSAR Section 9.3.1.2 FSAR Section 9.3.1.5 FSAR Table 9.3-1 FSAR Figure 9.3-2	ECR-50577 - Diesel Air Compressor Auto-Start Addition. This ECR eliminated an Operator Recovery Action by providing the diesel driven air compressor, XAC0014, with an Auto-Start signal. Figure 9.3-2 was updated to reflect the electronic signal from IPS08395 to XAC0014. Section 9.3.1 was revised to include discussion of the diesel air compressor.
12-019	2012-07	FSAR Section 2.4.12.2	CR-12-02022 - Correct numerical errors on page 2.4-26. Updated Section 2.4.12.2, pg 2.4-26, to provide correct information concerning spatially-averaged Cs-137 peak concentration across the effective width of the contaminated local aquifer ($3.7 \times 10^{-3.5}$). The discharge from the uncontaminated portion of the local ground water system was changed to 0.52 cfs.

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12-021	2013-04	FSAR Figure 9.1-3 FSAR Figure 9.5-1, SH 3 FSAR Figure 9.5-1, SH 5	Six different changes were made to Drawing 302-231, Sheet 3, covering Revisions 5 through 10 - ECR-50205 (Kaowool) and ECR-50692 (B5b).
12-022	2012-06	FPER Figure 3.2-1	CR-12-02035 - Reassigned the operator actions for emergency feedwater during control room evacuation from the Shift Technical Advisor (STA) to the Fire Emergency Procedure (FEP) Operator.
12-027	2012-12	FSAR Section 4.3.4 FSAR Section 7.7.7 FSAR Section 15.3.8	CR-10-03107, Technical Specification Amendment 190, BEACON. TS Amendment 190 adopted the revised BEACON power distribution methodology that incorporated the use of the three-dimensional advance nodal code neutronic model into SPNOVA/BEACON. This revision notice updated references to the WCAP-12472-P-A Addendum 1-A.
12-033	2013-01	FSAR Section 12 FSAR Table 12.3-3	CR-12-02080 - FSAR Table 12.3-3, "Portable Health Physics Instruments", was revised to change Location Column for all portable survey instruments from "412' Control Building" to "Refer to Section 12.3.2.1.2". Also changed location for air samplers to "various".
12-042	2013-05	FSAR Section 4.2.2.2.2 FSAR Section 5.4.2	ECR-50846, Relief Request RR-III-09, Reactor Vessel Head. The FSAR was updated to reflect the Reactor Vessel Head weld repairs and installation of Flow Restrictor on Upper Internals.
13-001	2013-05	FSAR Figure 5.1-1, Sh 3A FSAR Figure 5.1-1, Sh 3B FSAR Figure 5.1-1, Sh 3C FSAR Section 5.5.1.2	ECR-50683 - RCP/RB Fan Vibration System Replacement. The existing Reactor Coolant Pump (RCP) Vibration System, a Bentley Nevada (BN) 7000 Series Vibration Monitoring System, (XCP6090) and existing Reactor Building (RB) Fan Vibration System (IYM9295) were removed and replaced with a BN 3500 Series Machinery Protection System.

RN No.	Approval Date	Sections	Brief Description
13-002	2013-04	FSAR Figure 8.2-3	ECR-50851 - Determinated Circuit ESM361X and Recalibrated Overcurrent Relay of XSW1B-12.
13-005	2013-04	FSAR Section 12.3.1.1.1 FSAR Section 12.3.1.1.2	CR-12-02077 and CR-12-02078 - FSAR Section 12 was revised due to organizational changes identified during a QA Audit - Station Radiation Control Audit.
13-009	2013-05	FSAR 7.7.3.1	CR-12-03645 - Safety Parameter Display System (SPDS). Added language to the SPDS description to illustrate that SPDS provides a continuous indication of plant parameters except in the case that a seismic event results in the loss of IPCS.
13-010	2013-05	FSAR 6.2.3.2.1	ECR-71830 (MRF-20168; CR-12-05293) - NaOH Tank Recirculation Loop from MRF-20168. Updated Section 6.2.3.2.1 to add description of NaOH tank recirculation loop installed under MRF-20168.

INFORMATION REMOVED FROM THE FSAR/FPER SINCE THE NOVEMBER 2011 UPDATE

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11-040	2012-05	FSAR Section 3A FSAR Section 13.1 FSAR Section 13.4 FSAR Section 13.5 FSAR Section 13.6 FSAR Section 17.2 Figure 17.2-1	CR-10-03108 (TS Amendment 188) - License Amendment Request for the new QAPD to change the program to comply with the requirements of ANSI/ASME NQA-1-1994. Removed the Quality Assurance Program information from Chapter 17, Section 17.2, and identified that the information is found in the Quality Assurance Program Description (QAPD). Revised Regulatory Guide commitments in Chapter 3, Appendix 3A, related to the application of the new QA program. Revised Chapter 13 to reference new requirements in the QAPD.
12-005	2013-05	FSAR Figure 1.2-1 FSAR Figure 2.4-6 FSAR Index 11-iii FSAR Section 11.7 (removed)	ECR 71498 - Waste Oil Incinerator Demolition. Removed the Incinerator Building from site drawings and Section 11.7. ECR was written to remove the incinerator from service and any related buildings or materials.