



Ronald A. Jones  
Vice President  
New Nuclear Operations

June 26, 2013  
NND-13-0376

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

Virgil C. Summer Nuclear Station (VCSNS) Units 2 and 3  
Combined License Nos. NPF-93 and NPF-94  
Docket Nos. 52-027 & 52-028

Subject: June 2013 Submittal of the Updated Final Safety Analysis Report (UFSAR)  
Revision 1 for V.C. Summer Nuclear Station Units 2 and 3

Enclosure 1: UFSAR Revision Notices Incorporated in June 2013 Update

Enclosure 2: DVD-ROM Electronic Copy of the UFSAR Revision 1

In accordance with the provisions of 10 CFR 50.71(e) and 10 CFR Appendix D Section X.B.2, South Carolina Electric & Gas Company (SCE&G), acting for itself and as agent for the South Carolina Public Service Authority, is submitting an electronic revision to the V.C. Summer Nuclear Station (VCSNS) Units 2 and 3 Updated Final Safety Analysis Report (UFSAR) and Plant-Specific Design Control Document (PS DCD).

This revision of the UFSAR (Enclosure 2) incorporates the changes and departures identified in Enclosure 1. These changes are identified by the use of a vertical revision bar and the Revision Notice Number. All affected Table of Contents, List of Tables, and List of Figures are updated to reflect the current information contained in the UFSAR. Furthermore, this revision utilizes colored text to indicate the source material of the information as a user aid. A formatting legend is provided at the bottom of the Cover Page for each chapter.

Enclosure 2 to this letter contains Security-Related Information, and accordingly, SCE&G requests that this enclosure be withheld from public disclosure under 10 CFR 2.390(d). Sections containing 2.390(d) material have been identified on the applicable pages.

During this reporting period, no generic changes or plant-specific departures from Tier 1 of the DCD were made. Therefore, no update to Tier 1 of the Plant-Specific DCD is provided in this annual update.

DD83  
NRD

The VCSNS Units 2 and 3 Technical Specifications, section 5.5.6, "Technical Specifications (TS) Bases Control Program," provides for changes to the Bases without prior NRC approval. In addition, TS section 5.5.6 requires that Bases changes made without prior NRC approval be provided to the NRC on a frequency consistent with 10 CFR 50.71 (e). Because there were no changes made to the TS Bases pursuant to TS 5.5.6 during the current reporting period there is no update to the TS Bases provided in this letter.

Should you have any questions, please contact Mr. Alfred M. Paglia by telephone at (803) 941-9876, or by email at [apaglia@scana.com](mailto:apaglia@scana.com).

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

Executed on this 26<sup>th</sup> day of June, 2013.

Sincerely,



Ronald A. Jones  
Vice President  
New Nuclear Operations

AMP/RAJ/eam

c (*with* enclosures):

Denise McGovern  
Rahsean Jackson  
[DCRM-EDMS@SCANACOM](mailto:DCRM-EDMS@SCANACOM)

c (*w/o* enclosures):

Victor McCree – Region II Regional Administrator  
Stephen A. Byrne  
Jeffrey B. Archie  
Ronald A. Jones  
William M. Cherry – Santee Cooper  
Joel Hjelseth – Westinghouse  
William A Fox, III – CB&I

Daniel, Churchman - Westinghouse  
Brian A. McIntyre - Westinghouse  
Tom Geer - Westinghouse

Document Control Desk

NND-13-0376

Page 3 of 3

Alvis J. Bynum

Kathryn M. Sutton – Morgan Lewis

April R. Rice

Al M. Paglia

Curtis Castell – CB&I

Chuck Baucom – CB&I

Tom Ray - Westinghouse

William E. Hutchins – Westinghouse

Unit 1 NRC Resident Inspector

VCSummer2&3ProjectMail@cbi.com

vcsummer2&3project@westinghouse.com

**South Carolina Electric & Gas**

**NND-13-0376**

**Enclosure 1**

**V.C. Summer Nuclear Station Units 2 and 3**

**UFSAR Revision Notices Incorporated in June 2013  
Update**

**UFSAR Revision Notices Incorporated in June 2013 Update**

RN No.	Sections	Brief Description
RN-12-001	3.8.4.6.1.1 Table 3.8.4-5	This activity updates concrete admixtures described in the PS-DCD and the design specification for mixing and delivering concrete.
RN-12-008	9.3.5.2.2	This activity changes the affected sentence in Subsection 9.3.5.2.2 to, "Each sump is fitted with a vent connection to exhaust potential sump gases." With this change, the PS-DCD accurately describes the WRS sump vent design.
RN-12-009	3.8.3.3.2	This activity updates PS-DCD language in the UFSAR to allow steel with strength that is greater than or equal to 36 ksi to be used for the carbon steel faceplates on CA modules. Previously, the PS-DCD specified A36 steel instead of steel with a yield strength of 36 ksi or greater. During design finalization, several modules were revised to use materials with greater strength properties.
RN-12-015	5.2.5.3.1 5.2.5.3.3 Table 3.2-3	WLS Containment Sump Module (KQ11) and PSS Containment Atmosphere Radiation Monitor (JS-26) Seismic Requirements Resolution and Design Clarification. Previously the design information regarding the containment sump module (KQ11), three containment sump level instruments (WLS-LT-L034, WLS-LT-L035, WLSL-T-L036), and PSS radiation particulate monitoring instrument (JS26) were incomplete concerning licensing commitments with regard to operation following a Safe Shutdown Earthquake (SSE).
RN-12-024	3.7.2 3.8.3.2 3.8.4.2	The requirements for structural steel fabrication are being updated for clarification and to allow use of recent code versions during the manufacture/ installation of steel, without affecting design or analysis of the structures.
RN-12-025	Table 3.2-3	Table 3.2-3 was modified to reflect the principal construction code for the WGS Gas Cooler is Manufacturer Std. as opposed to ASME VIII/TEMA. The actual design of the WGS and its design function are not changed or adversely impacted; however, the description of the WGS in the PS-DCD has been altered by modifying Table 3.2-3.
RN-12-038	3.8.4.6.1.1 3.8.4.6.1.2 3.8.4.6.1.3 Table 3.8.4-3 Table 14.3-5 19.58.2.2 Table 19.59-18	The change activity clarifies requirements and commitments in the licensing basis for concrete and structural steel used in the nuclear Island structures. The information clarified includes test age of concrete, conformance with ACI standards, aggregate testing, use of air entraining admixtures, incorporation of waterstops, and ASTM specification tabulated.
RN-12-044	Table 1.1-1	This activity requires a change to the UFSAR Table 1.1-201 to remove unused acronyms from the table.
RN-12-045	2.5.4.12	The activity is being conducted to remove overly conservative mass concrete placement temperature guidance limits from the UFSAR since the appropriate limits are included within the detailed Thermal Control Plan.

RN No.	Sections	Brief Description
RN-12-050	9.2.11.2.2 9A.3.3.3	This activity switches using dual flow static screens to using through-flow MultiDisc traveling screens for the RWS intake.
RN-12-052	9.3.5.1.2	Auxiliary Building Elevation 66'-6" Waste Water Drain Pipe Configuration in Subsection 9.3.5.1.2 is revised to include Auxiliary Building Area 1 in the exception statement, that is "The slope of the drain lines is 1/8 inch per foot minimum except for the embedded drain piping for areas 1 and 2 of the auxiliary building."
RN-12-057	14.2.10.1.6	The range of subsections referenced in Section 14.2.1 0.1.6 under "Performance Criteria" only goes up to 14.2.1 0.1.20. The referenced subsection 14.2.1 0.23 does not exist. This activity changes the top end reference number from 14.2.1 0.1.23 to 14.2.1 0.1.20.
RN-12-062	1 0.4.5.5	The Raw Water System (RWS) pumps changed from constant speed to variable frequency drive and was documented in RN-12-035. UFSAR Section 1 0.4.5.5 is an additional section impacted by the design change that was not identified in RN-12-035.
RN-12-006	Table 3.2-3, Sh. 36 Table 3.11-1, Sh. 44 Table 31.6-3, Sh. 24 Figure 5.4-7 Figure 9.1-6, Sh. 2	As part of the design finalization process, vents and drains are provided for the RNS and SFS. The vents and drains are being placed on their associated system P&IDs.
RN-12-007	Table 3.11-1 Table 3.2-3 Table 31.6-3	The RNS pump seal coolers are modified to add additional 1" vent and drain lines to the RNS process side of the pump seal coolers. These vent and drain lines also include ASME-III isolation valves.
RN-12-012	Table 2.0-201 2.5.4.5.3.1 2.5.4.7 2.5.4.10 and 2.5.4.10.1.1 2.4.4.12 Table 2.5.4-217 Table 2.5.4-219 Table 2.5.4-220 Figure 2.5.4-221 Figure 2.5.4-223.	Backfill material under the EI 82.9' portion of the Turbine Building is being changed from a granular structural fill to concrete. To ensure the CWS piping under the building is not overstressed.

RN No.	Sections	Brief Description
RN-12-018	3.8.2.1 .1 3.8.2.6 3.8.4.1.3 Figure 3.8.2-1, Sh.1 Figure 3.8.4-1, Sh.1	<ol style="list-style-type: none"> <li>1) This activity removes containment vessel (CV) fabrication and erection details from the licensing basis. The sketches in Figure 3.8.2-1 sheet 1 and Figure 3.8.4-1 sheet 1 are representative and are not intended to show required course layout, plate geometry, and weld seams.</li> <li>2) This activity removes containment ring section fabrication and erection detail from PS-DCD Section 3.8.2.6</li> <li>3) This activity removes containment air baffle fabrication detail including size and number of panels and detail design of supports and attachment from PS-DCD Section 3.8.4.1.3. The functional requirements including structural integrity of the containment air baffle are not altered.</li> <li>4) This activity changes in Section 3.8.2.6 the elevation of the top of the containment vessel's lowest course from 116'-10" to a minimum of 109'-0". This course has a plate thickness 1/8" thicker than the rest of the vessel</li> </ol>
RN-12-026	Figure 6.3-2	Changes to PXS High Point Gas Accumulation Measurement. Line routing changed due to unacceptable high stresses in small bore piping attached to the DVI A and 8 modules as a result of squib valve loading.
RN-12-027	Figure 6.4-2, Sh. 1	Safety/relief valves V040A, V040B, V040C, and V040D and their associated inlet and outlet lines are being added to Figure 6.4-2 (Sheet 1). These relief valves serve to protect the VES Emergency Air Supply tanks from an over pressurizing event.
RN-12-029	Table 2.0-201 , 2.5.0, 2.5.4.2.2 2.5.4.2.5.3 2.5.4.5.1 2.5.4.5.2, & 2.5.4.5.3 2.5.4.5.4 2.5.4.6.2.1 2.5.4.7, 2.5.4.7.1.2 & 2.5.4.7.2.1 2.5.4.8 & 2.5.4.8.1 2.5.4.10 & 2.5.4.10.1.3 2.5.4.10.2 2.5.4.12 Table 2.5.4-217 Table 2.5.4-219 Table 2.5.4-220 2.5.5.1.1 2.5.5.1.2 & 2.5.5.2	Activity makes clarifications and correction of inconsistencies within section 2.5 of the FSAR. To establish an accurate and complete baseline description of the excavation and backfill that reflects the current design.

RN No.	Sections	Brief Description
RN-12-031	2.5.4.2.5.3 2.5.4.5.3.1 2.5.4.15 2.5.4 Table 2.5.4-209	Change allows for limited quantities of comparable fill material to be used as an alternate for Structural Fill under Seismic Category II structures.
RN-12-037	2.5.4.12	Package changes the UFSAR stated distance of the NI fill concrete extending out from the NI basemat. Distance of "5 or 6 feet" is being changed to "two or more feet outward".
RN-12-039	9.2.9.2.1 9.2.9.2.2 Figure 1.2-23 Figure 1.2-24 Figure 1.2-29 Figure 1.2-30 Figure 9A-2, Sh. 1&2 Figure 12.3-1, Sh. 15&16 Figure 12.3-2, Sh. 15 Figure 12.3-3, Sh. 15&16	<ol style="list-style-type: none"> <li>1) The turbine building sump sizes are expanded, and one air operated pump is added to each sump to account for the additional CPS resin rinse effluent. The Southwest corner of turbine building E. 82'-9" is expanded to column line 13.1 to accommodate the increased sump size needed to hold the additional volume from the CPS resin rinse effluent. Various PS-DCD text changes are made for consistency with the design function of the CPS resin rinse discharge.</li> <li>2) The Northwest corner of the turbine building El. 82'-9" basemat area is extended out to column line 18 to open room for the boiler installation at El. 82'-9", and stairwell S09 is removed from the design as its design functions are no longer needed or performed by other means.</li> <li>3) The south end of the turbine building basemat area at El. 82'-9" is extended to the south of column line 13.1 The North end of the El. 82'-9" basemat area is extended to the north of column line 18. Concrete base pad surfaces for structural columns 14,15,16, and 17 are lowered from El. 100'-0" to El. 90'-0". A ditch is created in the middle of the concrete base pad for structural column 17.</li> <li>4) A new material handling elevator will be installed at El. 82'-9" of the turbine building between column lines 17 and 18 in the South to North direction and column lines L.5 and L.1 in the West to East direction. Turbine Building stairwell S11 will be relocated to the Northeast corner of El. 82'-9".</li> </ol>
RN-12-045	2.5.4.12	The activity makes changes to the UFSAR discussion of the maximum temperature controls by removing the "rule-of-thumb" temperature limits. The activity is being conducted to remove overly conservative temperature guidance limits from the FSAR since the appropriate limits are included within the detailed Thermal Control Plan.
RN-12-046	Figure 9.2.1-1	Changes to SWS P&ID to change pipe class, remove redundant switches, and add CWS strainer backwash connection.
RN-12-047	Figure 1.2-11	Change to SG grating elevation in UFSAR Figure 1.2-11 is being made to 1) address personnel safety and constructability concerns and 2) ensure consistency with UFSAR Figures 1.2-13 and 1.2-15, which already reflect this new elevation.



RN No.	Sections	Brief Description
RN-12-048	3.8.5.4.4 Figure 3.8.5-3 Sh. 1,2 & 5	The change activity clarifies requirements in the licensing basis for design of the reinforcement in the nuclear island basemat in the area below the shield building and containment. The change activity also includes rearrangement of the reinforcement as a result of design finalization and constructability reviews. The information clarified includes the size, spacing, and extent of the reinforcement in the basemat design. The information in the UFSAR figure is based on the reinforcement design drawings and supporting calculations. The reinforced concrete design impacted by the change activity (that is the reinforcement arrangement below the shield building and containment) remains in compliance with ACI-349.
RN-12-049	9.4.1.2.2 9A.3.1.2 6.3.2.2.8 3.5.1.1.2.1 12.3.1.1.1 Figure 1.7-2, Sh. 1,2 & 3	<ol style="list-style-type: none"> <li>1) Addition of smoke dampers to the VBS design</li> <li>2) Change in small bore manual isolation valve specifications,</li> <li>3) Updating UFSAR P&amp;ID/Figure symbol legends.</li> </ol>
RN-12-051	3.D.4.3.1 3.D.4.3.2	In UFSAR Chapter 3, Appendix 0, page 30-91 to 92, example 0.4.3.1 & 0.4.3.2 changes a "+" to an "=" sign. Also adds a line to the example calculations to improve readability.
RN-12-054	3D.5.5 3D.5.5.1.6 Table 3D.5-1, Sh. 1 Table 3D.5-2 Table 3D.5.5 Figure 3D.5.2	APP-GW-VP-030 is revised to incorporate post-accident radiation levels in the Auxiliary Building and updates the normal operation radiation levels inside the containment. Some of those changes affect the contents within Tier 2 Appendix 3~. The Licensing Basis is being updated to comply with RG 1.183, and be consistent with APP-GW-VP-030.
RN-12-56	Figure 9.2-201	UFSAR Figure 9.2-201 depicts Air Operated Valves in the Raw Water System (RWS) leading to the Primary and Secondary Fire Water Tanks. Valves exist at this location but are Motor Operated Valves and are scoped within the Fire Protection System (FPS) not the RWS.
RN-12-058	2.5.4.5.3.1	Activity removes specified moisture content values for compacting the structural fill around the Unit 2 and 3 excavations. However the activity maintains the requirement to compact to 95% of the maximum dry density.
RN-12-060	9.6-1, Sh. 1 & 2	Figure simplification rules are applied to FSAR Figure 9.1-6 Sheet 1 and 2 for the spent fuel cooling system.
RN-12-064	11.2.2.3 Table 3.2-3	The discussions of WLS components in the plant-specific DCD Subsection 11.2.2.3 are relocated to other areas within the same subsection to clarify their relationships to other components. The technical descriptions are not revised from their current descriptions. The information relocations and their associated revised subsection numbers are as identified in the changes to licensing basis documents. A line item is added to PS-DCD Tier 2 Table 3.2-3, within the Liquid Radwaste System (WLS) portion of the table, to include the Containment Sump (WLS-MT-02).

RN No.	Sections	Brief Description
RN-12-071	Figures 9.1-6, Sh. 1	The IHP storage stand water tank and the feed line from spent fuel pool cooling system (SFS) are removed. The drain line is rerouted to the WLS sump rather than to the IRWST.
RN-12-078	Figure 3.8.5-3 Sh. 7	This activity changes the spacing of the reinforcement in the sump of the RCA portion of the Auxiliary Building, This change is needed to address a code compliance issue.
RN-12-080	6.3.2.2.7.1	The original RNS flow control range is too small to ensure the prevention of an unnecessary ADS Stage 4 actuation with RNS Low-Pressure Injection from the IRWST- PXS. The screen flow limit is being changed for RNS Injection to increase control range.
RN-12-081	Figure 3.8.4-6 Table 3.8.4-6 Figure 3.8.2-1, Sh. 3	<ol style="list-style-type: none"> <li>1) In plant-specific DCD and UFSAR Tier 2 Figure 3.8.2-1 the top of rail elevation was revised and associated dimensions with that were also adjusted. The "Top of Rail" elevation was 228'-6 1/4" is now 228'-5"; the "Top of Rail to Inside of Top of Head" dimension was 26'-11 %" is now 27'-1 ";the "Top of Rail to Operational Floor" dimension was 93'-3 %"is now 93'-2".</li> <li>2) In PS-DCD Tier 2 Table 3.8.4-6 additional ASTM material A490 was added.</li> <li>3) In plant-specific DCD and UFSAR Tier 2 Table 3.8.4-6 material description for ASTM A194 was revised by correcting the description to "CARBON AND ALLOY STEEL NUTS FOR BOLTS FOR HIGH PRESSURE OR HIGH TEMPERATURE SERVICE, OR BOTH".</li> <li>4) In plant-specific DCD and UFSAR Tier 2 Section 3.8.4.6, the editions of industry specification cited in Table 3.8.4-6 is revised to state: "An edition of the referenced specifications applicable after the start of construction or procurement activities will be used."</li> </ol>
RN-12-084	13.1 Table 13.1-201 Figure 13.1-201 Figure 13.1-203 Figure 13AA Figure 13AA-5	Organizational Changes, transition from Vice President New Nuclear Deployment (VPNND) to Vice President New Nuclear Operations (VPNNO) and the impact of those changes within the organization.
RN-13-001	3.8.5.5	The change activity clarifies an inconsistency in the licensing basis on the requirements for design spacing of shear reinforcement in the basemat under the auxiliary building. (LAR 13-01 Amendment No. 1)
RN-13-002	Figure 3.8.5-3, Sh. 1	Resolving discrepancies in Figure 3.8.5-3 (sheet 1 of 7) implemented in RN-12-048. RN-12-048 was revised based on the markup provided in APP-FSAR-GLF-046 Rev. 0. However, an editorial issue was identified where the final markup did not match the evaluation and GLF-046 Rev 1 was issued.
RN-13-004	1.1.6.3	Remove supplemental information that changes the numbering nomenclature for revised Figures and Tables within the UFSAR described in Section 1.1.6.3.
RN-13-005	Table 1.8-201	Table 1.8-201 Summary of FSAR Departures from the PS-DCD. Departures were taken and documented in Rev. 0 of the UFSAR therefore this information is deemed historical.

RN No.	Sections	Brief Description
RN-13-007	Table 3.11-1 Table 3.6-2 Figure 6.3-1, Sh. 1 Figure 6.3-2, Sh. 2	Issue with the PXS level instrumentation in containment required remote transmitter electronics due to harsh radiation conditions in their respective rooms. Electronics needed relocation to Aux Bid to limit total integrated dose to less than 1000 Rads for transmitter electronics. The PXS level transmitters were separated by this change into sensing element and the remote electronics.
RN-13-012	9A.3.3	It allows for the YFS Fire Pumps to operate outside of the NFPA requirements provided that approval is provided by NEIL and the Local Fire Marshal.
RN-13-013	Appendix 1A, C.1.1.3 3.4.1.2.2.2	Revision to licensing basis to correctly depict location of two liquid radioactive waste monitor tanks. Two liquid radwaste monitor tank locations in the current licensing basis is not correct. The two affected tanks that are noted to be located at elevation 1 00'-0" are actually located at elevations 92'-6" and 1 07'-2".
RN-13-017	2.5.3 Table 2.5.4-202 Table 1.8-2 3.7.2.8.3	Minor editorial and formatting discrepancies identified during integration of the PS-DCD Rev. 19 and FSAR Rev. 5.
RN-13-020	11.2.1 11.2.2	WLS containment sump pumps changed from the type requiring mechanical seals and permanent lubricated bearings to a sealless canned motor pump.
RN-12-021	Table 1.9-1, Sh. 5 1A 6.1.2.1.6	Changes the licensing basis to reflect applicability of the Revision 2 of RG 1.54 to the Containment Vessel coatings.
RN-13-024	2.5.4.10.1.3 2.5.4.10.2	Remove's an incorrect statement in section 2.5.4.1 0.1.3 related to design bearing capacity. Additionally, this RN also excludes the Turbine Building from a statement, in 2.5.4.1 0.2, regarding anticipated settlement of the Annex and Radwaste buildings. This should have been done in RN-12-012; when the anticipated settlement of the Turbine building was revised.