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South Carolina Office of Regulatory Staff

Review of South Carolina Electric & Gas Company's 2014 1st Quarter Report on V. C. Summer Units 2 and 3 Status of Construction

June 20, 2014

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Executive Summary

On May 15, 2014, SCE&G submitted its 2014 1st Quarter Report related to construction of V.C. Summer Units 2 & 3. The Quarterly Report is filed in Commission Docket No. 2008-196-E and covers the quarter ending March 31, 2014. With reference to the Base Load Review Act, ORS's review of the SCE&G's Quarterly Report focuses on SCE&G's ability to adhere to the approved schedule and approved budget.

Approved Schedule Review

As previously reported by ORS, SCE&G has announced that its Engineering, Procurement and Construction contract partners, Westinghouse Electric Company and Chicago Bridge and Iron, indicated to SCE&G that the substantial completion date of Unit 2 is expected to be delayed until the 4th quarter of 2017 or the 1st quarter of 2018, with the substantial completion date of Unit 3 expected to be delayed similarly[1]. This expected delay is primarily attributed to sub-module fabrication and delivery. SCE&G's Milestone Schedule reflects a delay in the Unit 2 substantial completion date from March 15, 2017 to December 15, 2017, and a delay in the Unit 3 substantial completion date from May 15, 2018 to December 15, 2018. Per the Base Load Review Order, overall construction is considered to be on schedule if the substantial completion dates are not accelerated more than 24 months or delayed more than 18 months. While delayed, the substantial completion dates fall within the parameters allowed by the Base Load Review Order. SCE&G is holding the current Unit 2 substantial completion date of December 15, 2017. ORS finds that meeting the current Unit 2 substantial completion date will continue to be a challenge.

SCE&G reports to ORS that a revised fully-integrated construction schedule will be available in the 3rd quarter of 2014. At that time, any impact on the Units 2 and 3 substantial completion dates will be determined. SCE&G also reports to ORS that it does not expect the Units 2 and 3 substantial completion dates to fall outside the 18 month boundary. Should the integrated construction schedule revise the Unit 2 substantial completion date, it may also revise the Unit 3 substantial completion date.

In ORS letters dated March 20, 2014 and May 19, 2014 (See Appendix A), ORS informed the Commission of the Consortium's decision to suspend providing either SCE&G or ORS monthly updates to the BLRA milestone schedule until the revised fully-integrated construction schedule has been issued. As stated above, SCE&G reports to ORS that a revised fully-integrated construction schedule will be available in the 3rd quarter of 2014. During the interim, ORS will not have the ability to monitor and provide updates on the status of milestone activities. Therefore, ORS's review of SCE&G's 2014 1st Quarter Report does not include a BLRA milestone status update. See Appendix 1 of SCE&G's Quarterly Report for its status of BLRA milestones.

[1] SCE&G has not agreed to any contractual change to the Guaranteed Substantial Completion Dates for Units 2 & 3.

Several ongoing construction concerns create risk to the on-time completion of the Units, particularly, the continued delay in the delivery of the structural sub-modules. ORS continues to monitor this closely.

Subsequent to the quarter, SCE&G completed four (4) major project milestones. Unit 2 CA04 (Reactor Vessel structural support module), CA20 (Auxiliary Building Module), Containment Vessel Ring 1, and Unit 3 Containment Vessel Bottom Head were formally set in place during the month of May. Additional information regarding these major milestones can be found in "Notable Activities Occurring after March 31, 2014" on page 16 of this report.

Approved Budget Review

The current approved base project cost in 2007 dollars is $4.548 billion. There has been no increase in the total base project cost (in 2007 dollars). The approved gross construction cost of the project is $5.755 billion. As of March 31, 2014, due to current escalation rates, the forecasted gross construction cost of the plant is $5.626 billion, which represents a decrease of approximately $129 million.

The cumulative amount projected to be spent on the project by December 31, 2014 is $3.116 billion. At the end of 2014, the cumulative project cash flow is projected to be approximately $605 million below the capital cost schedule approved in Order No. 2012-884, updated for current escalation rates. Due to escalation, an increased project cash flow of approximately $146.331 million is necessary to complete the project in 2018. SCE&G has estimated the costs associated with the delay in the substantial completion dates for Unit 2 and Unit 3 to be approximately $200 million in future dollars (or $115 million in 2007 dollars). Since SCE&G has not accepted responsibility for these costs, this report includes no increases to the cash flow attributable to the delay in the substantial completion dates.

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Introduction and Background

On March 2, 2009, the Public Service Commission of South Carolina ("Commission") approved South Carolina Electric & Gas Company's ("SCE&G" or the "Company") request for the construction of V.C. Summer Nuclear Station Units 2 & 3 (the "Units") and the Engineering, Procurement and Construction ("EPC") Contract with Westinghouse Electric Company ("WEC") and CB&I Stone & Webster, Inc. ("CB&I") (collectively "the Consortium"). The Commission's approval of the Units can be found in the Base Load Review Order No. 2009-104(A) filed in Docket No. 2008-196-E.

Subsequent to the Base Load Review Order, the Commission has held three (3) hearings regarding the Units and issued the following Orders:

- **Order No. 2010-12**: Issued on January 21, 2010 and filed in Docket No. 2009-293-E. The Commission approved the Company's request to update milestones and capital cost schedules.
- **Order No. 2011-345**: Issued on May 16, 2011 and filed in Docket No. 2010-376-E. The Commission approved SCE&G's petition for updates and revisions to schedules related to the construction of the Units which included an increase to the base project cost of approximately $174 million.
- **Order No. 2012-884**: Issued on November 15, 2012 and filed in Docket No. 2012-203-E. The Commission approved SCE&G's petition for updates and revisions to schedules related to the construction of the Units which included an increase to the base project cost of approximately $278 million.[2]

The anticipated dependable capacity from the Units is approximately 2,234 megawatts ("MW"), of which 55% (1,228 MW) will be available to serve SCE&G customers. South Carolina Public Service Authority ("Santee Cooper") is currently contracted to receive the remaining 45% (1,006 MW) of the electric output when the Units are in operation and is paying 45% of the costs of the construction of the Units. As discussed below, this 45% is under agreement to be reduced to 40%. In October 2011, SCE&G and Santee Cooper executed the permanent construction and operating agreements for the project. The agreements grant SCE&G primary responsibility for oversight of the construction process and operation of the Units as they come online. On March 30, 2012, the Nuclear Regulatory Commission ("NRC") voted to issue SCE&G a Combined Construction and Operating License ("COL") for the construction and operation of the Units.

[2]Petitions for Rehearing or Reconsideration were filed on behalf of the Sierra Club and the South Carolina Energy Users Committee. Both petitions were denied via Commission Order No. 2013-5 issued on February 14, 2013. The Sierra Club and the South Carolina Energy Users Committee subsequently filed appeals with the Supreme Court of South Carolina. Those appeals were heard on April 16, 2014. No opinion has been issued by the Supreme Court regarding this matter.

In 2010, SCE&G reported that Santee Cooper began reviewing its level of ownership participation in the Units. Since then, Santee Cooper has sought partners in its 45% ownership. Santee Cooper signed a Letter of Intent with Duke Energy Carolinas, LLC in 2011. On January 27, 2014, Santee Cooper and Duke Energy Carolinas, LLC concluded their negotiations which resulted in no change in ownership of the Units. On January 27, 2014, SCE&G announced that it had reached an agreement to acquire from Santee Cooper an additional 5% (110 MWs) ownership in the Units. The agreement is contingent upon the Commercial Operation Date of Unit 2. Ultimately, under the new agreement, SCE&G would own 60% and Santee Cooper would own 40% of the Units. The new agreement and the specific terms are subject to Commission approval. The project continues to be governed by the ownership responsibilities as established in the approved EPC Contract.

On May 15, 2014, SCE&G submitted its 2014 1st Quarter Report ("Quarterly Report") related to construction of the Units. The Quarterly Report is filed in Commission Docket No. 2008-196-E and covers the quarter ending March 31, 2014 ("Review Period"). The Company's Quarterly Report is submitted pursuant to S.C. Code Ann. § 58-33-277 (Supp. 2013) of the Base Load Review Act ("BLRA"), which requires the Quarterly Report to include the following information:

1. Progress of construction of the plant;
2. Updated construction schedules;
3. Schedules of the capital costs incurred including updates to the information required in Section 58-33-270(B)(5);
4. Updated schedules of the anticipated capital costs; and
5. Other information as the Office of Regulatory Staff may require.

With reference to Section 58-33-275(A) of the BLRA, the review by the Office of Regulatory Staff ("ORS") of the Company's Quarterly Report focuses on SCE&G's ability to adhere to the approved construction schedule and the approved capital cost schedule.

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Approved Schedule Review

Milestone Schedule

In ORS letters dated March 20, 2014 and May 19, 2014 (See Appendix A), ORS informed the Commission of the Consortium's decision to suspend providing either SCE&G or ORS monthly updates to the BLRA milestone schedule until the revised fully-integrated construction schedule ("Revised Schedule") is issued. SCE&G reports to ORS that the Revised Schedule will be available in the 3rd quarter of 2014. During the interim, ORS will not have the ability to monitor and provide updates on the status of milestone activities. Therefore, ORS's review of SCE&G's 2014 1st Quarter Report does not include a BLRA milestone status update. See Appendix 1 of the Company's Quarterly Report for its status of BLRA milestones.

SCE&G's Milestone Schedule, attached to its Quarterly Report as Appendix 1, indicates that overall construction supports a substantial completion date of December 15, 2017 for Unit 2 and December 15, 2018 for Unit 3. The substantial completion dates for the Units reflect a delay from the substantial completion dates approved by the Commission in Order No. 2012-884 of March 15, 2017 and May 15, 2018, respectively.

Unit 2
Substantial Completion Date

Order No. 2012-884	Q1 2014	Change
3/15/2017	**12/15/2017**	**+9 Months**

Unit 3
Substantial Completion Date

Order No. 2012-884	Q1 2014	Change
5/15/2018	**12/15/2018**	**+7 Months**

Per the Base Load Review Order, construction is considered to be on schedule if the substantial completion dates and each milestone date are not accelerated more than 24 months or delayed more than 18 months. While delayed, the substantial completion dates fall within the boundary allowed by the Base Load Review Order. SCE&G is holding the current Unit 2 substantial completion date of December 15, 2017. ORS finds that meeting the current Unit 2 substantial completion date will continue to be a challenge. As mentioned above, SCE&G reports to ORS that a Revised Schedule will be available in the 3rd quarter of 2014. At that time, any impact on the Units 2 and 3 substantial completion dates will be determined. SCE&G also reports to ORS that it does not expect the Units 2 and 3 substantial completion dates to fall outside the 18 month boundary. Should the Revised Schedule change the Unit 2 substantial completion date, it may also revise the Unit 3 substantial completion date.

ORS reviews all invoices associated with the Milestone Schedule and during the Review Period, one (1) invoice was paid. ORS reviews invoices to ensure the invoices are paid in accordance with Company policies and practices and in accordance with the terms of the EPC contract. ORS also reviews the escalation applied to these invoices for consistency with the appropriate EPC inflation indices.

Specific Construction Activities

Site construction activities continue to progress. The critical path for the Units runs through the successful completion of the CA20 and CA01 modules, and is dependent upon timely delivery of the sub-modules to the site.

During the Review Period, work was suspended on the interior and exterior concrete walls of the Auxiliary Building, while waiting for NRC approval of License Amendment Request ("LAR") 14-01, which provides additional guidance for floor and wall supports. Given the extended time necessary to complete the LAR approval process, the Company worked with the Consortium to develop a Preliminary Amendment Request ("PAR"). The PAR would allow SCE&G to continue to build out the Auxiliary Building pending the LAR approval. This PAR is unique in that the Company requested to pour concrete which is considered an irreversible construction practice. Subsequent to the Review Period, the PAR was approved by the NRC. Additional information regarding this matter can be found in "Notable Activities Occurring after March 31, 2014" on page 16 of this report.

Approximately 2,400 WEC/CB&I (including subcontractors) and 450 SCE&G personnel are currently on site. Major construction activities during the Review Period are listed below:

- Progress continued on the Unit 2 Turbine Building structural steel placement and the first section of the basemat at the finished floor elevation. Piping and pipe supports were being installed and welding continued on the Unit 2 Condensers.

- The Unit 3 CR10 module, on which the Containment Vessel Bottom Head will rest, was completed. Construction also began on all three condenser sections of Unit 3 Turbine Building, as well as continued progress on the installation of the Unit 3 Circulating Water Pipe.

- WEC/CB&I issued a Stop Work Order on the fabricator of the Cooling Towers. The Stop Work Order applied to the welding of the concrete structural panels that form the exterior of the Cooling Towers. Subsequent to the Review Period, the Stop Work Order was lifted.

- The Unit 3 Accumulator Tanks (2 of 2) were delivered to the site, as well as the final Unit 2 Auxiliary Transformer.

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Subsequent to the Review Period, SCE&G completed four (4) major project milestones. Unit 2 CA04 (Reactor Vessel structural support module), CA20 (Auxiliary Building Module), Containment Vessel Ring 1 and Unit 3 Containment Vessel Bottom Head were formally set in place during the month of May. Additional information regarding these major milestones can be found in "Notable Activities Occurring after March 31, 2014" on page 16 of this report.

Photographs of construction activities during the Review Period are shown in Appendix B.

Transmission

On February 28, 2011, SCE&G entered into a contract with Pike Electric for the permitting, engineering and design, procurement of material, and construction of four (4) 230 kilovolt ("kV") transmission lines and associated facilities related to the Units. This project consists of two phases.

Phase 1 consists of construction of two new 230 kV transmission lines in support of Unit 2: the VCS1–Killian Line and the VCS2–Lake Murray Line #2. The VCS1–Killian Line will connect the existing V.C. Summer Switchyard ("Switchyard 1") to the Company's existing Killian Road 230 kV Substation. The VCS1–Killian Line is near completion, with a minor scope of work remaining to be completed. The VCS2–Lake Murray Line #2 is energized. It connects the newly-constructed Switchyard ("Switchyard 2") to the Company's existing Lake Murray 230 kV Substation. Switchyard 2 will allow the connection of both Unit 2 and Unit 3 to the grid. Also, for Phase 1, two new 230 kV interconnections between Switchyard 1 and Switchyard 2 have been constructed.

Phase 2 consists of construction of two new 230 kV transmission lines and associated facilities in support of Unit 3. The construction of these lines and associated facilities was approved in Order No. 2012-730. Facilities in Phase 2 are the VCS2–St. George Line #1, VCS2–St. George Line #2, St. George 230 kV Switching Station, and Saluda River 230/115 kV Substation. Construction activities for these lines continued during the Review Period with work progressing on the VCS2-St. George 230 kV Line #2 segment between VCS2 and Lake Murray Substation.

The overall engineering layout of the St. George Switching Station is complete. The Company also performed Topographical surveys of the site in preparation of the site plan and the development of the storm water permit application.

A map showing the geographical location of SCE&G's new transmission lines and other associated facilities to support the Units is available in Appendix C.

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Licensing and Inspection Activities

Federal Activities

As of March 31, 2014, SCE&G has identified the need to submit numerous LARs to the NRC. An LAR is the process by which a licensee requests changes to the COL issued by the NRC. The licensee may seek a PAR to accompany an LAR. PARs allow the licensee to continue with construction at its own risk while awaiting final dispensation of the LAR. As of March 31, 2014, 27 LARs have been approved/under review by the NRC including 3 LARs submitted during the Review Period. A table of LARs submitted to the NRC, and accompanying PARs, if also submitted, is attached as Appendix D.

Status of LARs

Total	Approved	Under Review
27	11	16

The NRC conducts routine site inspections to monitor construction progress. On January 17, 2014, the NRC held an Inspection Exit Meeting covering the 4th quarter of 2013 and identified no violations. On February 28, 2014, the NRC issued its annual assessment letter finding that the Units were being constructed in a manner that preserves public health and meets all cornerstone objectives.

State Activities

During the Review Period, the Company received the National Pollutant Discharge Elimination System Storm Water Permit issued by the SC Department of Health and Environmental Control, and the Lexington County Storm Water Permit for the Saluda River Substation.

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Approved Budget Review

ORS's budget review includes an analysis of the 1st quarter 2014 capital costs, project cash flow, escalation and Allowance for Funds Used During Construction ("AFUDC").

Capital Costs

To determine how consistently the Company adheres to the budget approved by the Commission in Order No. 2012-884, ORS evaluates 9 major cost categories for variances. These cost categories are:

1. Fixed with No Adjustment
2. Firm with Fixed Adjustment A
3. Firm with Fixed Adjustment B
4. Firm with Indexed Adjustment
5. Actual Craft Wages
6. Non-Labor Cost
7. Time & Materials
8. Owners Costs
9. Transmission Projects

ORS monitors variances due to project changes (e.g., shifts in work scopes, payment timetables, construction schedule adjustments, Change Orders). The current approved base project cost (in 2007 dollars) is $4.548 billion. There has been no increase in the total base project cost (in 2007 dollars). The approved gross construction cost of the project is $5.755 billion. As of March 31, 2014, due to current escalation rates, the forecasted gross construction cost of the plant is $5.626 billion, which represents a decrease of approximately $129 million.

Budget in 2007 Dollars ("000")
{Base Project Cost}

Order No. 2012-884	Q1 2014	Change
$4,548,405	$4,548,405	$0

Budget in Future Dollars ("000")
{Gross Construction Cost}

Order No. 2012-884	Q1 2014	Change
$5,754,565	$5,625,575	($128,990)

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Budget in 2007 Dollars

Change Orders may impact the base project base cost and may result in a filing before the Commission to increase the budget (in 2007 dollars). During the Review Period, no Change Orders or Amendments were executed (See Appendix E for approved Change Orders and Amendments). However, the Company is currently negotiating several Change Orders:

Change Order #16: Execution of this Change Order has been delayed pending the resolution of a question regarding the application of the Handy-Whitman inflation indices. During the Review Period, SCE&G and the Consortium reached an agreement on this matter and expect to issue this Change Order soon. SCE&G reports to ORS that resolution of the Handy-Whitman issue will not increase the budget.

Commercial Issues: This Change Order incorporates design changes to offsite the water treatment system for the removal of bromide from the raw water intake source. It also addresses the transfer of certain scopes of work from the Time and Materials cost category to the Target Price and Firm Price cost categories. SCE&G reports to ORS that this Change Order will not increase the budget.

Cyber Security: This Change Order would incorporate Phase II of the cyber security changes previously catalogued in Change Order #14. During the Review Period, the Company continued to evaluate the technical scope of work and negotiate the terms of this Change Order. The impact to the budget has yet to be determined.

Health Care: This Change Order addresses WEC's costs associated with federal health care legislation. The Company is continuing its review of the information provided by WEC. SCE&G expects to issue a Change Order regarding this matter. The impact to the budget has yet to be determined.

Fabrication Delays: The Company continues to discuss this matter with the Consortium. SCE&G has estimated the costs associated with the delay in the substantial completion dates for Unit 2 and Unit 3 to be approximately $200 million in future dollars (or $115 million in 2007 dollars)[3].

Budget in Future Dollars

The Handy-Whitman escalator indices may increase or decrease the gross construction cost of the Units. As of March 31, 2014, due to current escalation rates, the forecasted gross construction cost of the Units is approximately $129 million below the approved budget. Since the Base Load Review Order issued by the Commission allows for escalation, the impact of escalation cost on the project will not result in a filing to increase the budget.

[3]Since SCE&G has not accepted responsibility for these costs, this report includes no increases to the project cash flow attributable to the delay in the substantial completion dates.

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Project Cash Flow

As shown in Appendix 2 of the Company's Quarterly Report, the cumulative amount projected to be spent on the project by December 31, 2014 is $3.116 billion. With reference to Appendix 2, ORS compared the total revised project cash flow (Line 37) with respect to the annual project cash flow, adjusted for changes in escalation (Line 16). This evaluation provides a comparison of the Company's current project cash flow to the cash flow schedule approved by the Commission in Order No. 2012-884. To produce a common basis for the comparison, Line 16 adjusts the approved cash flow schedule to reflect the current escalation rates.

Table 1 shows the cumulative variance from the approved cash flow schedule through the life of the project. The comparison shows that by the end of 2014, the cumulative project cash flow is forecasted to be approximately $605 million below the capital cost schedule approved in Order No. 2012-884, updated for current escalation rates. Due to escalation, however, an increased project cash flow of approximately $146.331 million is necessary to complete the project in 2018.

Table 1:

Project Cash Flow Comparison

$'s in Thousands[4]

		Annual Over/(Under)	Cumulative Over/(Under)
Actual	2007	-	-
	2008	$0	$0
	2009	$0	$0
	2010	$0	$0
	2011	$0	$0
	2012	($142,003)	($142,003)
	2013	($397,667)	($539,670)
Projected	2014	($65,079)	($604,749)
	2015	**$185,524**	($419,225)
	2016	**$223,034**	($196,191)
	2017	**$225,165**	($28,974)
	2018	**$117,357**	**$146,331**

[4]Slight variances may occur due to rounding.

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AFUDC and Escalation

The forecasted AFUDC for the total project as of March 31, 2014 is approximately $266 million and is currently based on a forecasted 7.27% AFUDC rate.

Changes in the AFUDC rate, timing changes in project spending due to construction schedule shifts, and five-year average escalation rates are all factors that impact the projected project cash flow. Due to changes in escalation rates, as well as changes to the timing of payments due to construction delays, the overall project cost has decreased.

Annual Request for Revised Rates

Pursuant to the BLRA, SCE&G may request revised rates no earlier than one year after the request of a Base Load Review Order or any prior revised rates request. Subsequent to the Review Period, SCE&G filed its Annual Request for Revised Rates with the Commission in Docket No. 2014-187-E on May 30, 2014, the anniversary date of SCE&G's previous request for revised rates. Additional information regarding this filing can be found in "Notable Activities Occurring after March 31, 2014" on page 16 of this report.

Table 2 below shows a summary of SCE&G's Revised Rate Filings with the Commission.

Table 2:

SCE&G Revised Rate Filings					
Docket No.	Order No.	Requested Increase	ORS Examination	Approved Increase	Retail Increase
2008-196-E	2009-104(A)	$8,986,000	($1,183,509)	$7,802,491	0.43%
2009-211-E	2009-696	$22,533,000	$0	$22,533,000	1.10%
2010-157-E	2010-625	$54,561,000	($7,260,000)	$47,301,000	2.31%
2011-207-E	2011-738	$58,537,000	($5,753,658)	$52,783,342	2.43%
2012-186-E	2012-761	$56,747,000	($4,598,087)	$52,148,913	2.33%
2013-150-E	2013-680(A)	$69,671,000	($2,430,768)	$67,240,232	2.87%
2014-187-E	TBD	$70,038,000	TBD	TBD	2.99%

Additional ORS Monitoring Activities

ORS continually performs the following activities, as well as other monitoring activities as deemed necessary:

- Audits capital cost expenditures and resulting AFUDC in Construction Work in Progress
- On-site observations of construction activities and progress
- Bi-monthly on-site review of construction documents
- Holds monthly update meetings with SCE&G
- Meets quarterly with representatives of the Consortium
- Participates in NRC Public Meetings regarding SCE&G COL and other construction activities
- Visits vendor fabrication facilities

On February 26, 2014, ORS conducted an allowable ex parte communication briefing before the Commission to provide an update on its monitoring activities regarding the construction of the Units. The presentation is posted on ORS's website at: http://www.regulatorystaff.sc.gov/Documents/News%20Archives/ORS%20NND%20Update%20to%20PSC%20February%202014_Final.pdf

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Construction Challenges

Based upon the information provided by the Company in its Quarterly Report, as well as information obtained via additional monitoring activities, ORS identifies several ongoing construction concerns that create risk to the on-time completion of the Units. ORS continues to monitor these areas closely.

Structural Modules

As identified in previous ORS reviews, the most significant issue related to the construction of the Units remains the continued inability of Chicago Bridge & Iron – Lake Charles ("CB&I-LC") to reliably and predictably meet the quality and schedule requirements. The critical path for the Units runs through the successful completion of the CA20 and CA01 modules, and is dependent upon timely delivery of the sub-modules from CB&I-LC. During the Review Period, several Unit 2 CA01 sub-modules were delivered to the site; however, SCE&G has not received the sub-modules necessary to start erecting the Unit 2 CA01 module.

Previous ORS reports identified SCE&G and Consortium efforts to improve the performance of CB&I-LC. Accordingly, SCE&G is pursuing an alternate approach of transferring the Unit 2 CA01 sub-modules to the site for rework/repairs. Fabrication responsibilities for the major Unit 3 sub-modules (CA01, CA03 and CA20) were being transferred from CB&I-LC to other fabrication vendors. In addition, the Georgia Power Vogtle Unit 4 CA03 module will be exchanged with SCE&G's Unit 2 CA03 module. ORS considers these actions to be positive steps toward addressing the structural module issues.

Subsequent to the Review Period, the Unit 2 CA20 module was set in place. Its completion satisfies the Unit 2 CA20 module critical path and permits the construction to proceed toward other critical path activities. Additional information regarding the setting of the CA20 module can be found in "Notable Activities Occurring after March 31, 2014" on page 16 of this report.

Shield Building Modules

As previously reported, shield building module fabrication has been reassigned to Newport News Industrial ("NNI"). NNI's sustained, reliable performance has not yet been demonstrated, and a delivery schedule has not been provided to ORS. Subsequent to the Review Period, ORS visited the NNI facility on May 5, 2014, to observe the Shield Building fabrication process. Additional information regarding ORS's visit to NNI can be found in "Notable Activities Occurring after March 31, 2014" on page 16 of this report.

SCE&G has begun to receive Shield Building module panels (167 are needed per Unit) at the site. ORS remains concerned about the significant fabrication and erection challenges presented by the complex configurations of the Shield Building panels. A delivery schedule for all shield building modules should be established as part of the Revised Schedule, and NNI needs to demonstrate sustained delivery of high quality modules to the site.

Engineering Completion Status and Design Compliance

As of the end of the Review Period, the plant design packages issued for construction was updated from 99% complete downward to 88%. The reasons for this change appear to be associated with the comprehensive engineering review to support developing the Revised Schedule. This is an area of concern for ORS and will be further explored with ORS's review of the Revised Schedule.

Instrumentation and Control Design

No further delays have been identified regarding the design and procurement schedule, but the completion schedule is aggressive and remains an area of focus.

Overlapping Unit 2 and Unit 3 Construction Schedules

This will be addressed in the Revised Schedule to be provided in the 3rd quarter of 2014. ORS will revisit this matter at that time.

Manufacturing of Major Equipment

As previously reported, several major components were delivered during the Review Period. The overall progress in this area is encouraging. However, the thrust bearings anomalies and loss of cooling test results for the Reactor Coolant Pumps, as well as, the leakage identified during the squib valves qualification testing will be monitored by ORS.

License Amendment Reviews

As of the end of the Review Period, the Company has identified multiple LARs for the Units, and this number continues to increase each month. The identification and processing of these LARs remains an area of focus by ORS.

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Notable Activities Occurring after March 31, 2014

The BLRA allows SCE&G 45 days from the end of the current quarter to file its Quarterly Report. Items of importance that occurred subsequent to the Review Period are reported below.

NRC Acceptance of PAR Associated with LAR 14-01

The PAR associated with LAR 14-01 dealing with changes to the interior walls and floors of the Auxiliary Building was accepted by the NRC in April 2014. This PAR is unique in that the Company requested to pour concrete which is considered an irreversible construction practice. The PAR approval allowed the work on the Auxiliary Building to continue at the Company's and the Consortium's risk.

Achievement of Multiple Major Construction Milestones

SCE&G has completed four (4) major project milestones. The Unit 2 CA04 module, CA20 module, Ring 1 and Unit 3 Bottom Bowl were formally set in place during the month of May 2014. These accomplishments represent significant advancements in the construction of the Units. Photographs of these construction milestones can be found at:
https://www.flickr.com/photos/scegnews/sets/72157629244341909/

The issues associated with the tolerances and alignment of the Unit 2 CA04 module which houses the Reactor Pressure Vessel inside the Containment Vessel were addressed and this module was set on May 3, 2014. This activity is associated with BLRA Milestone No. 78. SCE&G's Quarterly Report shows this activity as delayed by 18 months. However, it did not exceed 18 months, and therefore, was within the construction contingency allowance per the Commission Order.

Unit 2 CA20 module was set on May 9, 2014. It is one of the largest structural modules for the Units. Its completion satisfies the Unit 2 CA20 module critical path and permits the construction to proceed toward other critical path activities.

Unit 2 Containment Vessel Ring 1 was set in place on June 2, 2014 and will permit construction to proceed on the upper levels of the plant.

Lastly, the bottom head of the Unit 3 Containment Vessel was set on May 21, 2014 which represents the first major move for the Biggie Heavy Lift Derrick on Unit 3.

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Stop Work Lifted on CB&I-LC

The CB&I stop work resulting from the improper review of welding procedures at CB&I-LC was lifted in April 2014 and work at the facility resumed. This action was critical to support the completion of the CA01 sub-modules.

Stop Work Lifted on Cooling Tower Structural Welding

The CB&I stop work issued against the cooling tower subcontractors, Envirotech and Tindell, due to deficiencies in the welding QA/QC documentation was lifted in May 2014. This action allowed work on the erection of Cooling Tower 3B to resume.

ORS Visit to Newport News Industrial Facility

On May 5, 2014, ORS visited the NNI facility in Newport News, Virginia. SCE&G representatives were also in attendance at the meeting. NNI is currently fabricating the Shield Building for the Units. The purpose of the NNI visit was to meet with senior staff to discuss the fabrication schedule and to tour the NNI facility.

The basic fabrication processes were discussed, including the cutting of the plates by high-pressure water jets, the boring and machining of the liner plates in preparation for welding the reinforcing steel, the bending and assembly of the parallel liner plates, the welding and assembly of the modules and the blasting and coating of the final modules. Each of these processes has its own quality assurance and quality control inspection and documentation requirements. NNI's documentation process requires completion of the proper documentation as part of the work flow, and does not wait until the end to assemble the document packages. Several of these processes were observed by ORS during the shop tour.

The activity level in the shop area was high and the shop floor was essentially full of Shield Building modules in various stages of production. The shop is currently working two ten-hour shifts on a six day work week basis. The shop appeared to be efficiently laid out with work progressing in a logical and effective manner.

Annual Request for Revised Rates

On May 30, 2014, the anniversary date of SCE&G's previous request for revised rates, SCE&G filed its Annual Request for Revised Rates with the Commission in Docket No. 2014-187-E. ORS is currently reviewing the Company's request. SCE&G is requesting approximately $70 million (or 2.99%) in increased retail revenues to support the financing cost of the Units. The proposed average increase is 3.09% for residential customers, 3.08% for small general service customers, 3.07% for medium general service customers, and 2.70% for large general service customers. SCE&G's request would increase an average residential customer's monthly bill (using 1,000 kWhs) by approximately $4.34.

Appendix A

ORS Letters to the Commission

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Appendix A

C. DUKES SCOTT
EXECUTIVE DIRECTOR

1401 Main Street, Suite 900
Columbia, SC 29201

Phone: (803) 737-0800
Fax: (803) 737-0801

DAN F. ARNETT
CHIEF OF STAFF

shudson@regstaff.sc.gov

Shannon Bowyer Hudson
Counsel for ORS

March 20, 2014

VIA U.S. MAIL

Jocelyn G. Boyd, Esquire
Chief Clerk & Administrator
Public Service Commission of South Carolina
101 Executive Center Drive, Suite 100
Columbia, South Carolina 29210

Re: V.C. Summer Nuclear Station Units 2 & 3

Dear Ms. Boyd:

During the Allowable Ex Parte Communication Briefing on February 26, 2014, the South Carolina Office of Regulatory Staff ("ORS") informed the Public Service Commission of South Carolina ("the Commission") that South Carolina Electric & Gas Company ("SCE&G") will be receiving from Westinghouse Electric Company, CB&I Stone & Webster, Inc. (collectively "the Consortium") a revised integrated project schedule in the 2014 third quarter. Generally, SCE&G and ORS have been receiving monthly updates from the Consortium on the Base Load Review Act ("BLRA") milestones to compare with the Commission's approved milestone schedule. The most recent update was provided during January 2014. At the time of the Allowable Ex Parte Communication Briefing, ORS and SCE&G had no reason to believe there would be any change to this past practice of monthly updates.

This week, SCE&G informed ORS that the Consortium will not be providing either SCE&G or ORS monthly updates to the BLRA milestone schedule until the revised integrated project schedule is complete. The revised integrated project schedule is still expected in the third quarter of this year. Pursuant to ORS's nuclear monitoring of V.C. Summer Units 2 & 3 according to S.C. Code § 58-33-277 of the BLRA, ORS is advising the Commission of this temporary change in practice as it will impact ORS's ability to monitor and provide updates to the Commission on the status of milestone activities during this interim period, particularly as it relates to milestones equal to or greater than sixteen months.

Sincerely,

Shannon B. Hudson

Shannon Bowyer Hudson

cc: K. Chad Burgess, Esquire

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C. DUKES SCOTT
EXECUTIVE DIRECTOR

1401 Main Street, Suite 900
Columbia, SC 29201

OFFICE OF REGULATORY STAFF
ORS
SOUTH CAROLINA

Phone: (803) 737-0800
Fax: (803) 737-0977

DAN F. ARNETT
CHIEF OF STAFF

May 19, 2014

Jocelyn G. Boyd, Esquire
Chief Clerk & Administrator
Public Service Commission of South Carolina
101 Executive Center Drive, Suite 100
Columbia, South Carolina 29210

Dear Ms. Boyd:

I am writing to provide the most recent information regarding the temporary suspension of monthly updates provided by the Consortium (consisting of Westinghouse Electric Co. and CB&I Stone & Webster, Inc.) to SCE&G and the ORS on the BLRA construction milestone schedule for V.C. Summer Units 2 and 3.

Via letter dated March 20, 2014, we informed the Commission of the Consortium's decision to suspend the monthly updates until the Consortium completed its work on a Revised Fully Integrated Construction Schedule. SCE&G anticipates this work to be complete in the third quarter of 2014, after which the Consortium's monthly updates are to resume. In our March 20th letter, we expressed concern regarding this arrangement, particularly in light of the fact that the Consortium is required to provide these monthly updates to SCE&G, as specified by the Engineering, Procurement, and Construction Agreement (EPC Agreement). Further, we expressed concern that the Consortium's change in practice regarding monthly updates would hinder the ORS' ability to monitor and provide updates to the Commission and the public on the status of pending construction activities.

SCE&G has been responsive in addressing our concerns. Specifically, SCE&G informed ORS that it objected to the temporary suspension of monthly project schedules, as noted on p.2, paragraph 3 of the enclosed letter from SCE&G detailing its response to the Consortium's actions. The Consortium's response was that its resources would be better applied to creating the Revised Fully Integrated Construction Schedule than on generating a monthly updated project schedule that was based on a soon-to-be-replaced construction schedule. In other words, the Consortium advised that "... the issuance of a monthly updated project schedule would not be meaningful and of no benefit to the project in the light of the upcoming Revised Fully Integrated Construction Schedule."

SCE&G provided assurances that it is closely monitoring the activities of the Consortium and is in continuous communication with the Consortium. SCE&G believes that by proceeding in this manner, it has not waived any of its rights under the EPC Agreement and is properly executing the EPC Agreement.

If you have any questions or concerns, please feel free to contact me.

Sincerely,

Shannon B. Hudson

Shannon B. Hudson
Esquire

Enclosure

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Stephen A. Byrne
President Generation & Transmission & COO
sbyrne@scana.com

May 1, 2014

VIA HAND DELIVERY

The Honorable C. Dukes Scott
South Carolina Office of Regulatory Staff
1401 Main Street, Suite 900
Columbia, South Carolina 29201

RE: V.C. Summer Nuclear Station Units 2 & 3

Dear Mr. Scott:

By letter dated March 20, 2014, the South Carolina Office of Regulatory Staff ("ORS") advised the Public Service Commission of South Carolina ("Commission") that ORS had been informed that Westinghouse Electric Company and CB&I Stone & Webster (together, "the Consortium") had temporarily suspended providing South Carolina Electric & Gas Company ("SCE&G" or "Company") with a monthly update to the Base Load Review Order milestone schedule. ORS also informed the Commission that the issuance of a monthly update would resume after the Consortium completed its work on a revised integrated project schedule.[1] As ORS has noted, the Engineering, Procurement and Construction Agreement between SCE&G and the Consortium ("EPC Agreement") requires the Consortium to provide SCE&G with an updated project schedule monthly. The purpose of this letter is to provide you with information regarding the Company's response to the Consortium's actions.

By way of background, during the third quarter of 2013, the Consortium provided SCE&G with revised Unit 2 and Unit 3 construction schedules ("Revised Unit 2 and Unit 3 Schedules") which were based on a reevaluation of the submodule production schedule at the CB&I facility in Lake Charles, Louisiana. SCE&G did not agree to these schedules and advised the Consortium that it remained obligated to satisfy the dates previously agreed to in the EPC Agreement, as amended. Nevertheless, based on these schedules, SCE&G was forced to announce a delay in the expected completion dates of the projects. The projected dates, however, remain within the 18-month schedule contingency provided for in Commission Order No. 2009-104(A).

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[1] Please know that the Consortium continues to provide SCE&G with a monthly update of the manufacture of equipment milestones which are part of the Base Load Review Order milestone schedule.

During the fourth quarter of 2013, the Consortium began a full re-baselining of the Unit 2 and Unit 3 construction schedules to incorporate into the schedule a more detailed evaluation of the engineering and procurement activities necessary to accomplish the schedule and to provide a detailed reassessment of the impact of the Revised Unit 2 and Unit 3 Schedules on engineering and design resource allocations, procurement schedules, construction work crew assignments, and other items. This result will be a revised fully integrated construction schedule ("Revised Fully Integrated Construction Schedule") that will provide detailed and itemized information on individual budget and cost categories, cost estimates at completion for all non-firm/fixed scopes of work, and the timing of specific construction activities and cash flow requirements. Based on representations from the Consortium, SCE&G anticipates that the Revised Fully Integrated Construction Schedule and the cost estimate at completion for all non-firm/fixed scopes of work will be finalized in the third quarter of 2014. SCE&G plans to reevaluate and reschedule its Owners Cost estimates and cash flow requirements in light of the new schedule.

By letter dated March 10, 2014, the Consortium informed SCE&G that it was temporarily discontinuing its practice of issuing a monthly updated project schedule until the Revised Fully Integrated Construction Schedule is complete.

SCE&G objected when informed by the Consortium of its decision to temporarily suspend the issuance of a monthly updated project schedule. In response to SCE&G's objection, the Consortium advised the Company that it would prefer to concentrate its efforts on drafting the Revised Fully Integrated Construction Schedule rather than devote resources and time to generate a monthly updated project schedule that would be based upon a construction schedule that would soon be superseded by the Revised Fully Integrated Construction Schedule. Accordingly, the Consortium advised SCE&G that the issuance of a monthly updated project schedule would not be meaningful and of no benefit to the project in the light of the upcoming Revised Fully Integrated Construction Schedule.

Please be assured that we are taking the issue very seriously and are closely monitoring the activities of the Consortium. A project of this magnitude requires constant communication between SCE&G and the Consortium. We continue to receive information daily from the Consortium concerning the progress of construction. Additionally, we continue to receive written "1 week look-ahead site specific schedule" reports for both construction and non-construction related activities from the Consortium updating us on the status of activities at the project site, and we also continue to receive a written monthly status report. Even though the monthly updated project schedule has been temporarily discontinued, there has been no lack of communication between SCE&G and the Consortium concerning the progress of construction.

By proceeding in this manner, SCE&G has not waived any of its rights under the EPC Agreement. Moreover, the Company's course of action in this matter is consistent with its responsibility for the proper execution of the EPC Agreement. We will continue to monitor this matter closely and if the circumstances change such that it becomes advisable to take a different approach, then the Company will do so.

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If you have any questions, please do not hesitate to contact us.

Very truly yours,

Stephen A. Byrne

SAB/beb

Appendix B

Construction Site Photographs

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Unit 2 Low Pressure Turbine Rotor

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Unit 2 Turbine Island

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Unit 2 Containment Vessel

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Unit 2 Main Transformers

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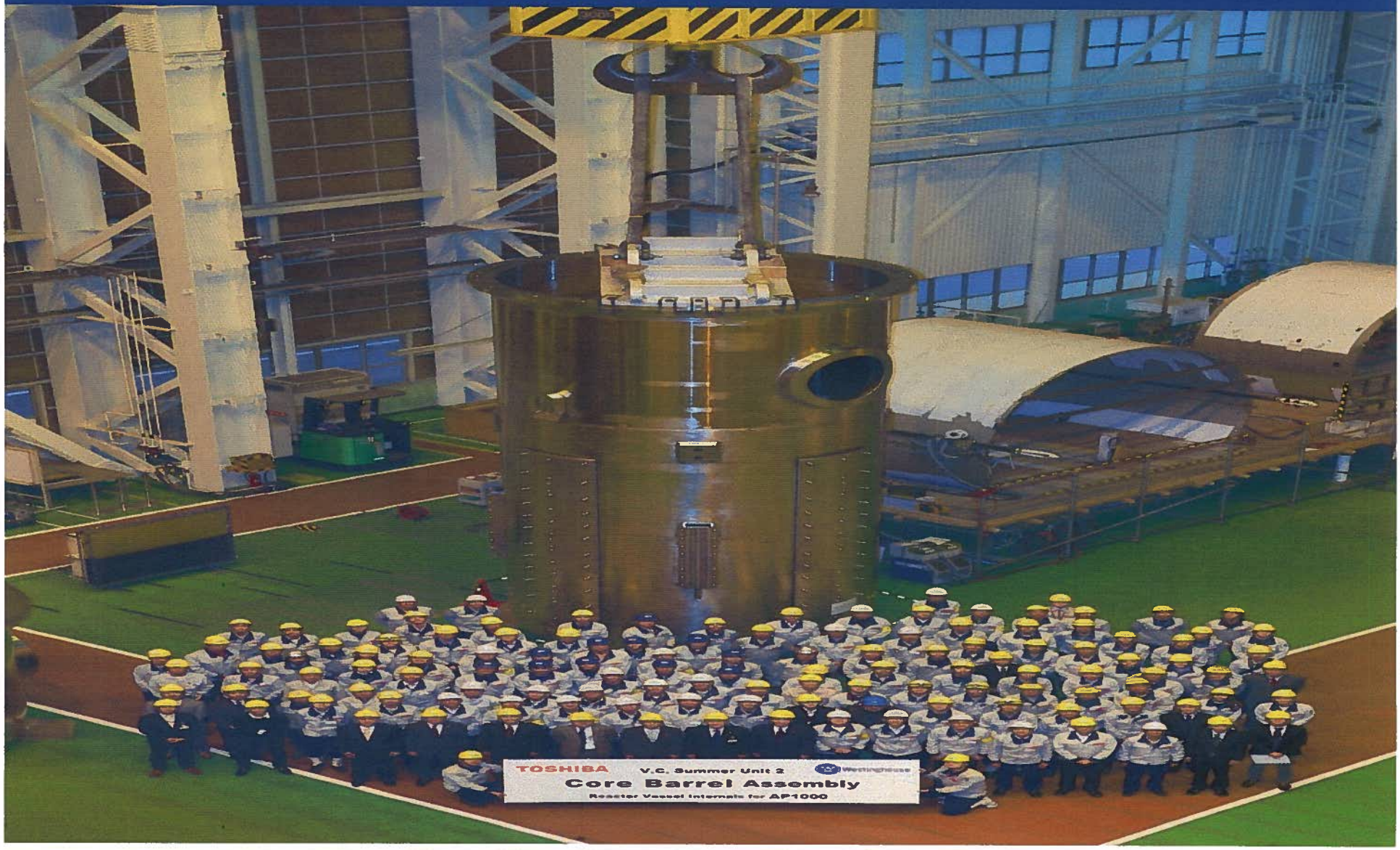
Unit 2 Core Barrel Assembly



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Unit 2 Core Makeup Tanks

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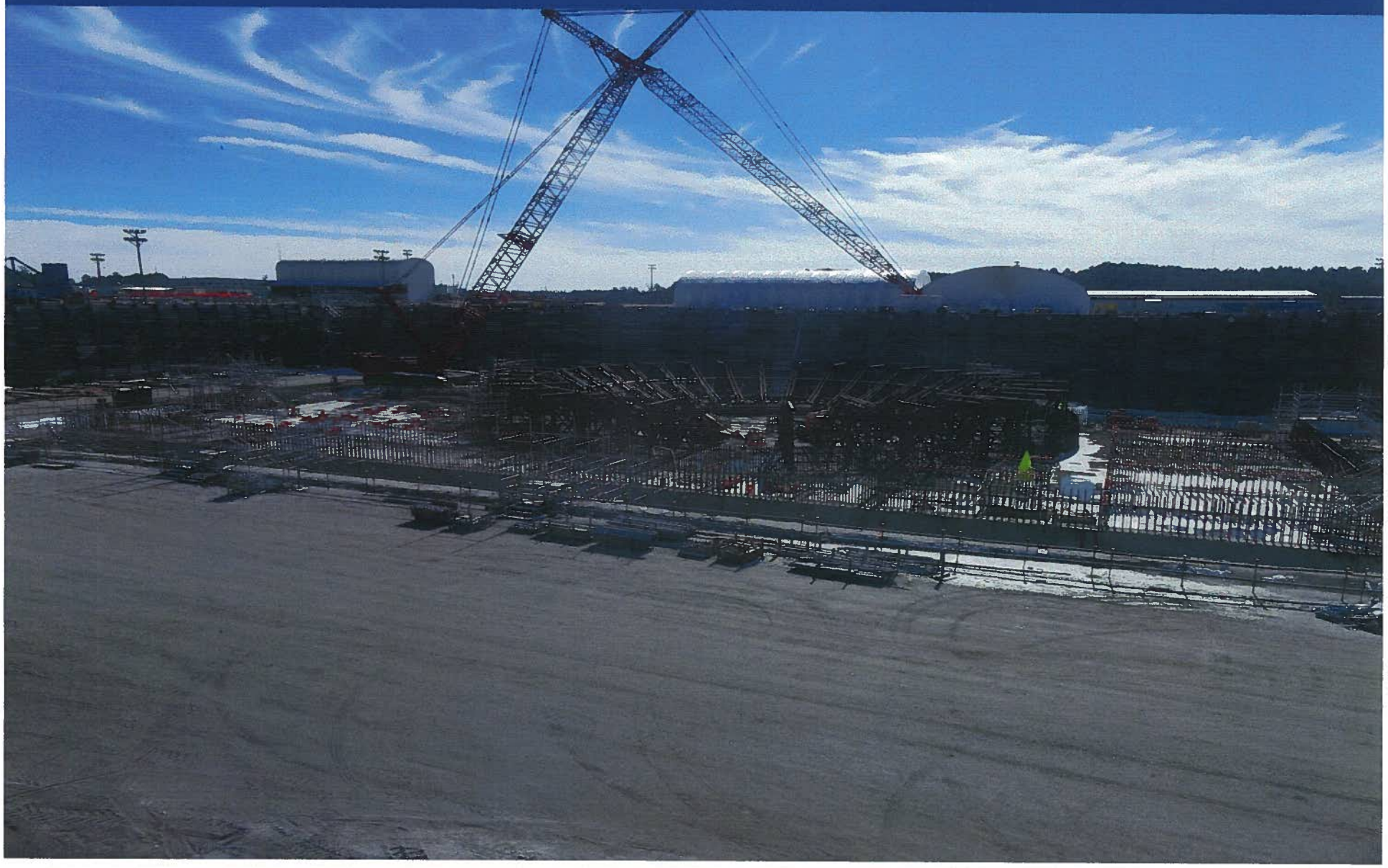
Unit 3 CR10 Module



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Change Orders and Amendments

No.	Summary	Cost Categories Involved	Type of Change	Date Approved	Status
1	Operator training for WEC Reactor Vessel Systems and Simulator training	Fixed Price with 0% escalation [1]	Owner Directed	7/22/2009	Approved
2	Limited Scope Simulator	Firm Price	Owner Directed	9/11/2009	Approved
3	Repair of Parr Road	Time and Materials	Owner Directed	1/21/2010	Approved
4	Transfer of Erection of CA20 Module from WEC to Shaw	Target Price work shifting to Firm Price	Contractor Convenience	N/A	Superseded by Change Order No. 8
5	**Supplements Change Order No. 1** Increased training by two (2) weeks	Fixed Price with 0% escalation	Owner Directed	5/4/2010	Approved
6	Hydraulic Nuts	Fixed Price	Owner Directed	7/13/2010	Approved
7	St. George Lines #1 & 2	Firm and Target Price Categories	Entitlement	7/13/2010	Approved
8	Target to Firm/Fixed Shift	Target, Firm and Fixed Price Categories	Owner Directed	4/29/2011	Approved
9	Switchyard Lines Reconfiguration	Firm and Target Price Categories	Owner Directed	11/30/2010	Approved
10	Primavera	Fixed Price with 0% escalation	Owner Directed	12/16/2010	Approved
11	COL Delay Study	Fixed Price, but would be applied to T&M Work Allowances	Owner Directed	2/28/2011	Approved
12	2010 Health Care Act Costs	Firm	Entitlement	11/14/2011	Approved
13	Ovation Workstations	No Cost	Owner Directed	3/12/2012	Approved
14	Cyber Security Phase 1	Firm Price and T&M Price	Entitlement	3/15/2012	Approved
15	Liquid Waste System Discharge Piping	Firm Price	Owner Directed	3/15/2012	Approved

Amendment #1	Includes Change Orders 1 and 2	Executed on 8/2/2010
Amendment #2	Incorporates Change Orders 3, 5-11	Executed on 11/15/2011
Amendment #3	Includes modified insurance wording	Executed on 4/30/12

[1]Fixed Price with 0% escalation, but would be applied to Time and Materials Work Allowances by adding a new category for Simulator Instructor training and reducing Startup Support by a commensurate amount.

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Appendix E

A list of definitions for each type of Change Order is found below:

- **Contractor Convenience:** These changes are requested by the contractor. They are undertaken at the contractor's own expense, and are both generally consistent with the contract and reasonably necessary to meet the terms of the contract.

- **Entitlement:** The contractor is entitled to a Change Order in the event certain actions occur, including changes in law, uncontrollable circumstances, and other actions as defined in the contract.

- **Owner Directed:** These changes are requested by the Company.

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Units 2 and 3 Accumulators

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Appendix C

SCE&G Transmission Line Map

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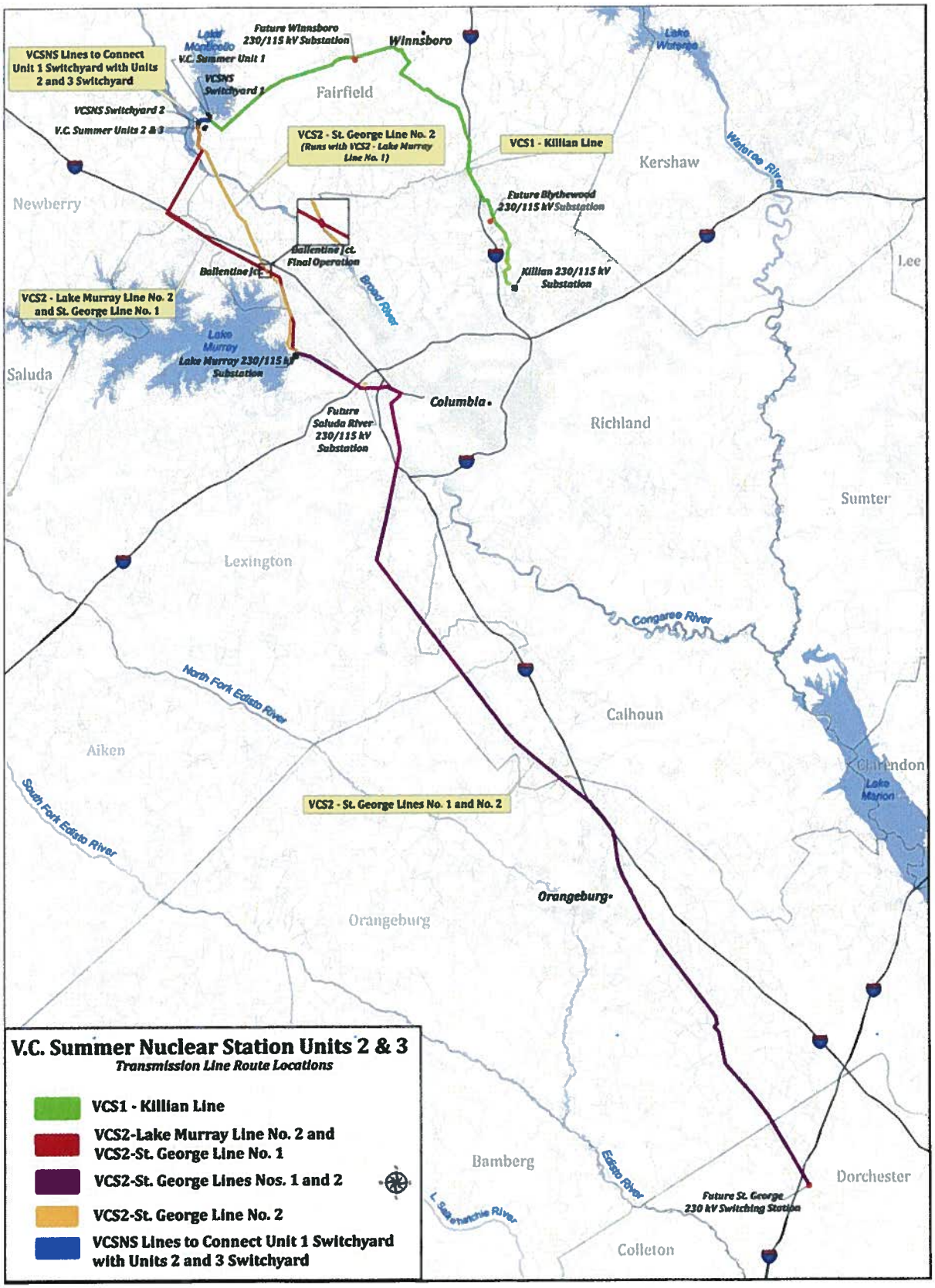
Appendix C

New SCE&G Transmission Lines and Facilities Supporting V.C. Summer Units 2 & 3



Appendix D

License Amendment Requests

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License Amendment Requests

[1]NRC LAR No.	Summary	LAR Submittal Date	LAR Status	LAR Approval Date	PAR Submittal Date	PAR Status	PAR Approval Date
12-01	Stud Spacing around Electrical Penetrations	8/29/2012	Approved	7/1/2013			
12-02	Definition of Wall Thickness in Table 3.3.1 **(PAR Requested)**	9/26/2012	Approved	5/30/2013	12/6/2012	Approved	1/16/2013
13-01	Basemat Shear Reinforcement Design Spacing **(PAR Requested)**	1/15/2013	Approved	2/26/2013	1/24/2013	Approved	1/29/2013
13-02	Basemat Shear Reinforcement Design Details **(PAR Requested)**	1/18/2013	Approved	3/1/2013	1/22/2013	Approved	1/29/2013
13-03	Turbine Building Eccentric and Concentric Bracing	2/7/2013	Approved	7/1/2013			
13-04	Reconciliation of Tier 1 Value Differences	2/7/2013	Under Review				
13-05	Structural Module Shear Stud Size and Spacing	2/14/2013	Approved	5/23/2013			
13-06	Primary Sampling System Changes	2/7/2013	Approved	8/22/2013			
13-07	Changes to Chemical and Volume Control System	3/13/2013	Approved	2/24/2014			
13-08	Module Obstructions and Details *Superceded by LAR 13-20*	2/28/2013	Withdrawn				
13-09	Annex/Radwaste Building Layout Changes	2/27/2014	Under Review				
13-10	Human Factors Engineering Integrated Plan	3/13/2013	Under Review				
13-11	Nuclear Island Walls Reinforcement Criteria **(PAR Requested)**	3/26/2013	Approved	6/6/2013	4/2/2013	Approved	4/10/2013
13-12	Fire Area Boundary Changes	7/17/2013	Under Review				
13-13	Turbine Building Layout Changes	7/30/2013	Under Review				
13-14	Turbine Building Battery Room Electrical Changes	10/2/2013	Under Review				

[1] Numbering may not be in sequence

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License Amendment Requests

[1]NRC LAR No.	Summary	LAR Submittal Date	LAR Status	LAR Approval Date	PAR Submittal Date	PAR Status	PAR Approval Date
13-15	Operator Break Room Configuration *LAR not required*		Withdrawn				
13-16	Revision to Human Factors Engineering Design Verification Plan	9/25/2013	Under Review				
13-17	Revision to Human Factors Engineering Task Support Verification Plan	9/25/2013	Under Review				
13-18	Revision to Human Factors Engineering Issue Resolution Plan	10/3/2013	Under Review				
13-19	Revise to Human Factors Engineering Plan	10/3/2013	Under Review				
13-20	Module/Stud Channel Obstructions Revisions	7/17/2013	Approved	11/19/2013			
13-21	CA03 Module Design Differences	2/2/2014	Under Review				
13-25	Tier 1 Editorial and Consistency Changes	7/2/2013	Under Review				
13-26	Emergency Plan Rule Changes	12/17/2013	Under Review				
13-32	Liquid Waste System Changes	8/30/2013	Approved	1/8/2014			
13-34	Clarification of Tier 2* Material in Human Factors Engineering Documents	3/19/2014	Under Review				
13-37	VCSNS Units 2&3 Tech Spec Upgrade	12/4/2013	Under Review				
13-38	ACI Code Compliance With Crical Sections Higher Elevations - *LAR not required*	11/7/2013	Withdrawn				
13-41	Coating Thermal Conductivity- Revise DCD Tier 2 Document	11/26/2013	Under Review				

[1] Numbering may not be in sequence

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Appendix E

Change Orders and Amendments

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