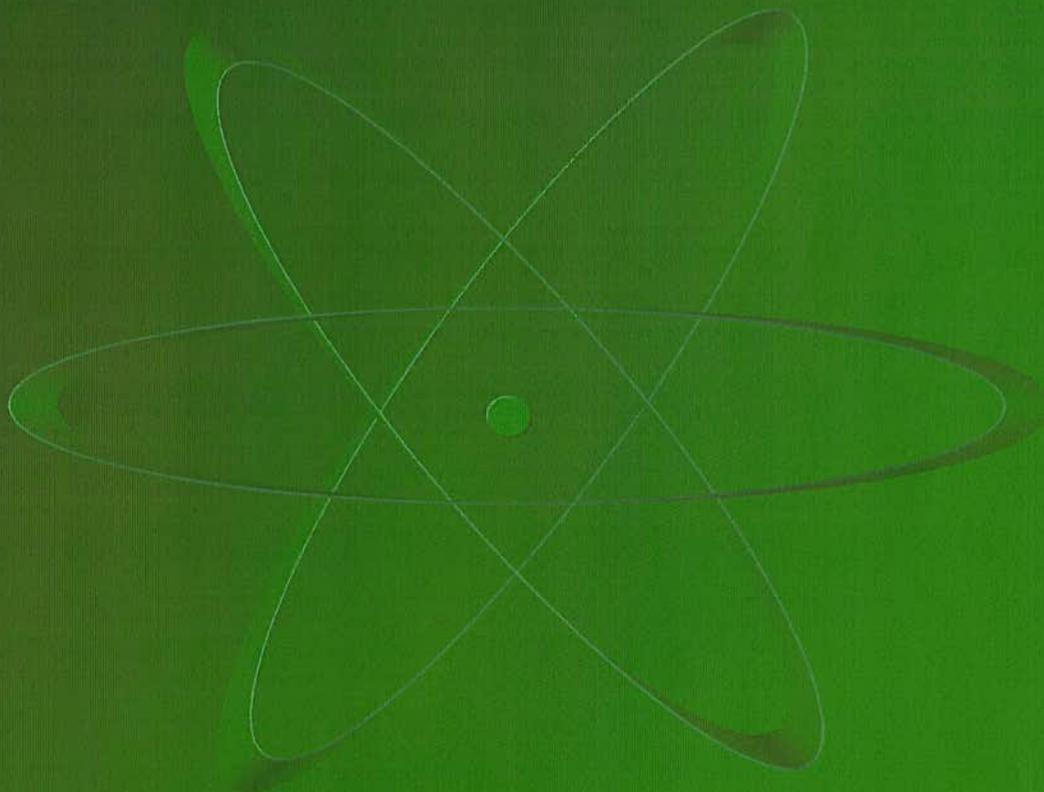


# South Carolina Office of Regulatory Staff

## Report on South Carolina Electric & Gas Company's Annual Request for Revised Rates

*Docket No. 2014-187-E*



*July 30, 2014*



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## Introduction and Background

Pursuant to the Base Load Review Act (“BLRA”), South Carolina Electric & Gas Company (“SCE&G” or “Company”) may request to revise rates no earlier than one year after the request of a Base Load Review Order or any prior revised rates request. SCE&G filed its Annual Request for Revised Rates (“Request”) with the Public Service Commission of South Carolina (“Commission”) on May 30, 2014, in Docket No. 2014-187-E. The Company states that it has invested \$595.203 million in incremental Construction Work in Progress (“CWIP”) related to its construction of V.C. Summer Nuclear Station Units 2 & 3 (the “Units”) that is not reflected in current rates and is requesting additional retail revenues of \$70.038 million to recover associated financing costs for the Units.

In accordance with the BLRA, the South Carolina Office of Regulatory Staff (“ORS”) has two months to review SCE&G’s Request and file a report with the Commission indicating the results of its examination. ORS’s review of SCE&G’s Request focuses on the Company’s ability to adhere to the requirements of the BLRA and applicable Commission Orders. This report details the results of ORS’s examination.

On March 2, 2009, the Commission approved SCE&G’s request for the construction of the Units and the Engineering, Procurement and Construction (“EPC”) Contract with Westinghouse Electric Company and CB&I Stone & Webster, Inc. (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.<sup>1</sup>

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<sup>1</sup>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.

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 Units. 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 voted to issue SCE&G a Combined Construction and Operating License (“COL”) for the construction and operation of the Units.

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 Company intends to seek Commission approval of the new agreement. The Units continue to be governed by the ownership responsibilities as established in the approved EPC Contract.

## Revised Rates Background

Pursuant to Section 58-33-280 of the BLRA, SCE&G may file with the Commission annual requests for revised rates as long as the Units are being constructed in accordance with the construction schedules and cumulative cost forecasts as approved by the Commission. Pursuant to the BLRA, until a nuclear plant commences commercial operation, the rate adjustments related to the Units include recovery only of the weighted average cost of capital applied to the outstanding balance of CWIP, and shall not include depreciation or other items constituting a return of capital to the utility.

The BLRA allows SCE&G to choose the date on which to calculate the outstanding balance of CWIP. SCE&G utilized the CWIP balance forecasted as of June 30, 2014. Exhibit C of the Request sets forth the capital structure and weighted average cost of capital. Exhibit D of the Request sets forth an increase in retail rates totaling \$70,038,000. It also shows the incremental CWIP balance for the Units, as of June 30, 2014 – which has not been reflected in

retail rates – is \$595,441,000. The Company’s Request shows the total CWIP for the Units forecasted, as of June 30, 2014, to be approximately \$2.701 billion.

Table 1 shows the requested and approved increases from all prior Revised Rate Filings for the Units with the Commission.

**Table 1:**

<b>SCE&amp;G Revised Rates History</b>						
<b>Docket No.</b>	<b>Order No.</b>	<b>Requested Increase</b>	<b>ORS Examination</b>	<b>Approved Increase</b>	<b>Retail Increase</b>	<b>Rates Effective</b>
2008-196-E	2009-104(A)	\$8,986,000	(\$1,183,509)	\$7,802,491	0.43%	4/1/2009
2009-211-E	2009-696	\$22,533,000	\$0	\$22,533,000	1.10%	10/30/2009
2010-157-E	2010-625	\$54,561,000	(\$7,260,000)	\$47,301,000	2.31%	10/30/2010
2011-207-E	2011-738	\$58,537,000	(\$5,753,658)	\$52,783,342	2.43%	10/30/2011
2012-186-E	2012-761	\$56,747,000	(\$4,598,087)	\$52,148,913	2.33%	10/30/2012
2013-150-E	2013-680(A)	\$69,671,000	(\$2,430,768)	\$67,240,232	2.87%	10/30/2013
<b>2014-187-E</b>	<b>TBD</b>	<b>\$70,038,000</b>	<b>(\$3,800,546)</b>	<b>TBD</b>	<b>TBD</b>	<b>10/30/2014</b>

## CWIP Review

ORS’s examination was limited to the actual CWIP reported for the review period of July 1, 2013, through June 30, 2014 (“Review Period”) together with the associated revenue requirement and Allowance for Funds Used During Construction (“AFUDC”) calculations. As agreed to by the Company, the June 2014 CWIP activity presented for recovery, and reviewed by ORS, was limited to accrued charges under the EPC Contract. Likewise, no AFUDC charges for June were presented or reviewed. The ORS Audit Department reviews only actual amounts and did not examine or otherwise test any of the Company’s projected results. The results of ORS’s examination of the Request and the underlying financial records through June 30, 2014 are contained in Appendix A.

The purpose of ORS's Audit Department's examination was to verify that:

- The actual capital expenditures reflected in the Company's Request were complete, accurate, and supported by the books and records of the Company;
- The actual costs incurred were properly allocated between SCE&G and its co-owner, Santee Cooper, and accurately assigned to the cost categories set forth in the Request;
- The Company's gross cost of capital as of June 30, 2014 was calculated accurately and supported by the books and records of the Company; and
- The Company's calculations of the AFUDC were accurate and properly reflected in the CWIP balance at May 31, 2014.

## Summary of Expenditure Examination Procedures

The key audit steps performed are summarized below:

- Interviewed principal accounting personnel within SCE&G New Nuclear Deployment, and reviewed the audit work papers from the prior request to examine existing processes, and gain an understanding of any changes in the accounting team or new processes being performed.
- Toured the construction facility periodically during the Review Period to provide ORS with a visual frame of reference in conducting its examination.
- Obtained invoice-level listings of all charges to CWIP through May 31, 2014 of the Review Period, and of EPC accrued charges for June 2014.
- Selected samples of invoice and journal entry items to test in detail, including inter-departmental cross-charges. Verified the mathematical accuracy of sampled invoices and related support, and verified that each was incurred during the Review Period.
- Ensured that the nature of each sample expenditure appeared to relate to the Units, and that the amounts in question appeared reasonable.
- Obtained from the Company certain roll-forward and trend schedules; tested them to ensure the ending CWIP balance from June 30, 2013, together with incremental costs incurred during the Review Period, supported the reported balance at June 30, 2014, in total and by cost category.

- Scrutinized the CWIP expenses under the EPC contract (“EPC Items”) to ensure the charges were approved by Company management prior to booking, and were coded into the appropriate construction cost categories as set forth in the Request. Base charges invoiced by the EPC vendors were verified against the EPC contract, and escalation amounts were recalculated for accuracy using the appropriate inflation indices.
- Verified that invoice items were accrued into the month incurred.
- Determined that the ending CWIP totals for each month reconciled properly to general ledger detail. For the quarter-end balances, ensured they agreed with the Company’s published Schedule 10-Q, as filed with the United States Securities & Exchange Commission, (“SEC”), and with Form 1, as filed with the Federal Energy Regulatory Commission.
- Verified a sample of items from each month to ensure that payment had actually been made to the vendor by examining bank drafts and wire transfer acknowledgements.
- Traced each invoice item to the PeopleSoft payment vouchers, noting that required approvals were present. Also traced the EPC Items to internal approval sheets signed by construction management.
- Performed a test of payroll costs charged to the Units, noting that employees’ gross pay was supported by the payroll department records, that their time appeared to be properly allocated to the Units, and that charges reconciled to the general ledger detail.
- Recalculated the AFUDC for the Review Period using actual CWIP expenditures in lieu of the projected amounts reflected in the Request. Total AFUDC of \$29,042,635 was calculated for the Review Period.
- Analyzed the gross cost of capital rate.

## Detail of ORS Appendix A

### Revenue Requirement and CWIP through June 30, 2014

Appendix A shows the CWIP included in rates as of June 30, 2013, incremental additions to CWIP and AFUDC for the Review Period, and total CWIP as of June 30, 2014. Appendix A is designed to reflect “Revised Rates Filing” projected CWIP as compared to both the “Actual” CWIP per book amount, and the maximum “Allowable” CWIP. All amounts presented on Appendix A reflect the Company’s portion after applying the allocation with Santee Cooper.

Column (A) reflects Revised Rates Filing CWIP through June 30, 2014, of \$2,701,222,000 and an adjusted net incremental CWIP for the Review Period of \$595,203,000. Utilizing the resulting increase in the CWIP balance and the projected gross cost of capital, SCE&G’s projected incremental revenue requirement per the Request was \$72,496,000 in total, or \$70,038,000 after applying the retail allocation factor of 96.61%.

Column (B) presents Actual CWIP through June 30, 2014, as verified by ORS examination, totaling \$2,667,474,000. Incremental Actual CWIP for the Review Period was \$561,694,000 before removing deferrals of \$52,000 related to the COL Delay Study, \$432,000 related to Cyber Security Phase II Costs, and \$148,000 related to Site Layout Change Costs. Total adjusted incremental CWIP for the Review Period ending June 30, 2014 is \$561,062,000.

Column (C) reflects the Allowable CWIP through June 30, 2014, computed as \$2,667,474,000 before adjustment. Incremental Allowable CWIP for the Review Period was \$561,062,000 net of previously discussed deferrals. Utilizing the resulting increase in the CWIP balance and the gross cost of capital, the incremental, allowable revenue requirement is \$68,562,000 in total, or \$66,238,000 after applying the retail allocation factor of 96.61%.

Column (D) calculates the differences between Columns (A) and (B). The difference in incremental CWIP shown in the Revised Rates Filing figures versus the Actual column was \$34,141,000 indicating that the actual, audited CWIP, per the Company books, was less than the projected CWIP by that amount.

Column (E) calculates the differences between Columns (B) and (C). There were no differences between audited CWIP per the Company’s books and that deemed by ORS to be allowable for this Review Period.

Appendix A was prepared in accordance with recognized regulatory accounting practices and conforms to prior orders of the Commission.

## Capital Structure

Section 58-33-280(B) of the BLRA states, “a utility must be allowed to recover through revised rates its weighted average cost of capital...calculated as of a date specified in the filing.” Exhibit C of SCE&G’s Request shows the capital structure for the Company as of March 31, 2014 adjusted for equity transfers and debt issuances planned through June 30, 2014.

The capital structure in the Company’s Request reflects two adjustments. The first adjustment, to Common Equity, reflects the projected transfer of additional equity by June 30, 2014 from employee stock and retirement plans. As indicated in Exhibit C of the Request, the adjustment of \$27,616,000 is included in Common Equity. The second adjustment, to Long-Term Debt, reflects the issuance of \$300,000,000 in bonds that was anticipated at the time SCE&G filed its Request which has now occurred.

Three subsequent adjustments were not indicated in the Request. First, the embedded cost of Long-Term Debt changed from 5.67% to 5.68% due to the combined effects of the costs of credit facilities and the interest rate on the newly issued debt. The second adjustment came from a slightly lower dividend reinvestment amount – \$27,525,343, rather than the \$27,616,000 projected in the Request – and the addition of \$7,065,800 in tax benefits flowing to Common Equity. The third adjustment was the addition of \$33,749,383 in Retained Earnings. As a result of the subsequent second and third adjustments, Common Equity rose from \$4,482,632,915 to \$4,523,357,441.

Appendix B of this report shows the capital structure of March 31, 2014, updated to June 30, 2014 for changes in Long-Term Debt and Common Equity. With Common Equity amounts and Embedded and Average Costs of Long-Term Debt updated, the Total Capitalization is now \$8,452,227,441, the Common Equity Ratio is 53.52%, its Weighted Average Cost is 5.89% and its Gross-of-Tax cost is 9.58%. The Embedded and Weighted Average Cost of Long-Term Debt reflect the changes discussed above. As a result, the Net of Tax Return on Total Capitalization is 8.53%, as opposed to the 8.51% in the Request, due to a higher Embedded Cost of Debt and a higher Ratio of Common Equity. The Cost of Capital Gross of Tax is 12.22%, four basis points higher than in the Request. As in the 2011, 2012, and 2013 Requests, the capital structure includes \$100,000 in Preferred Stock, in the capital structure filed in SCE&G’s Request. This is a token amount with a zero cost rate, held by SCANA, but with no return, for the purposes of maintaining certain reporting requirements to the SEC. The Ratios of Long-Term Debt and Common Equity are proportions of the Total Capitalization, less the \$100,000 in Preferred Stock.

## Rate Design and Allocation of Additional Revenue

Section 58-33-270(D) of the BLRA states, “In establishing revised rates, all factors, allocations, and rate designs shall be as determined in the utility’s last rate order...” ORS examined the Company’s proposed rate schedules in its Request and found the rate designs were consistent with those approved in the Company’s last rate order, which is Commission Order No. 2012-951 found in Docket No. 2012-218-E.

Section 58-33-270(D) of the BLRA also requires “... that the additional revenue requirement to be collected through revised rates shall be allocated among customer classes based on the utility’s South Carolina firm peak demand data from the prior year.” ORS verified that the Company used the summer firm peak demand day of August 12, 2013, along with the coincident class firm peaks, to determine the appropriate percentages by which to allocate the additional revenue requirements. The firm peak demand was based on the approved four-hour coincident peak allocation methodology. The appropriate South Carolina retail firm demand allocation of the system total is 96.61% as shown on Exhibit B of SCE&G’s Request.

## Revenue Verification

ORS verified that the corresponding approved rates for 2014 reflect actual revenues generated in the test year of 2013. ORS then utilized the most recent approved rates in effect at the time the Company filed its Request to obtain the most current annualized rate revenues. That is, ORS utilized SCE&G’s rate schedules effective in May 2014.

Additionally, ORS verified that the proposed revised tariffs in Exhibit F of SCE&G’s Request generate additional revenues totaling \$70,037,763, which is shown in Exhibit E of the Company’s Request.<sup>2</sup> ORS’s review determined the appropriate retail revenue target increase to be \$66.237 million instead of \$70.038 million proposed by the Company and shown in Exhibit D of its Request. The results of ORS’s examination are shown in Appendix A. ORS’s review reduced the Company’s Request by \$3.801 million or 5.43%. The total additional revenues of \$66.237 million allocated by class are shown in Appendix C. Appendix C also includes the annual revenues generated under the currently approved rates and the incremental change by customer class. Since the general lighting schedules do not contribute to SCE&G’s firm peak demand, those schedules of rates were not affected by the revised rates filing and received no increase in charges.

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<sup>2</sup>It should be noted that ORS does not utilize Exhibit G of the Company’s Request in its analysis and review. Exhibit G of the Request provides general information based on internal financial reports estimating future revenue requirements and rate increases. It does not contain information necessary for ORS to evaluate the revenue increase being considered in SCE&G’s Request.

It should be noted that it is difficult to set rates to produce precise dollar amounts due to the general complexity of rate designs of the various tariffs, their interdependent relationships, and the large number of billing determinants associated with these calculations. The commonly accepted practice is to adjust rates while maintaining the appropriate rate design and generate revenues close to the desired level without exceeding the targeted amount.

Based on ORS's review and a reduction of \$3.801 million to the Company's Request, the resulting overall increase to the retail class (excluding lighting) is 2.82%. Residential customers using 1,000 kWhs would see an increase of approximately \$4.15 in their average monthly bill. If the Commission approves the findings of ORS's examination, the Company would then apply the reduced revenue amount in like proportion to the Company's Request using the above criteria. ORS will then verify that these new rates generate the approved revenue increase.

## ORS's Review of SCE&G's Quarterly Reports

As required by the BLRA, SCE&G must include its most recent quarterly report on the status of construction of the Units. Accordingly, SCE&G included its 2014 1<sup>st</sup> Quarter Report ("Report") which was filed on May 15, 2014. The Report is in Commission Docket No. 2008-196-E and covers the quarter ending March 31, 2014. The Report incorporates updated capital cost schedules per Commission Order No. 2012-884, which was issued on November 15, 2013. Subsequently, ORS completed and produced a document describing its review of the Report. ORS's review of the Report is attached as Appendix D. ORS also included in Appendix D its prior reviews of SCE&G's quarterly reports since the last revised rates request.

With reference to Section 58-33-275(A) of the BLRA, ORS's review of the Company's quarterly reports focuses on SCE&G's ability to adhere to (1) the approved construction schedule and (2) the approved capital cost schedules. The following information summarizes ORS's review of SCE&G's Report:

### **Approved Schedule Review**

As previously reported by ORS, SCE&G has announced that the Consortium indicated to SCE&G that the substantial completion date of Unit 2 is expected to be delayed until the 4<sup>th</sup> quarter of 2017 or the 1<sup>st</sup> quarter of 2018, with the substantial completion date of Unit 3 expected to be delayed similarly.<sup>3</sup> 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

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<sup>3</sup> SCE&G has not agreed to any contractual change to the Guaranteed Substantial Completion Dates for Units 2 & 3.

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 3<sup>rd</sup> quarter of 2014. At that time, any impact on the Units 2 & 3 substantial completion dates will be determined. SCE&G also reports to ORS that it does not expect the Units 2 & 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, 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 3<sup>rd</sup> quarter of 2014. During the interim, ORS will not have the ability to monitor and provide updates on the status of milestone activities.

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.

In May 2014, SCE&G completed four (4) major construction 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.

### **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 Units is \$5.755 billion. As of March 31, 2014, due to current escalation rates, the forecasted gross construction cost of the Units is \$5.626 billion, which represents a decrease of approximately \$129 million.

The cumulative amount projected to be spent on the Units 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 Units 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). SCE&G has not accepted responsibility for these costs.

## Conclusions

The purpose of the BLRA is to provide for recovery of prudently incurred costs associated with financing new base load plants when constructed by investor-owned electrical utilities, while at the same time protecting customers of investor-owned electrical utilities from responsibility for imprudent financial obligations or costs. ORS reviewed SCE&G's Request, conducted an on-site examination of the Company's books and records regarding the Company's capital expenditures, and found the expenditures to be prudently incurred.

Based on the information reviewed, ORS concludes: the Units are being constructed in accordance with the construction schedules and cumulative cost forecasts approved in Commission Order Nos. 2009-104(A), 2010-12, 2011-345, and 2012-884; that the additional revenue requested by SCE&G should be reduced by \$3.801 million to reflect actual CWIP through June 30, 2014; and, the appropriate revenue increase is \$66.237 million.

## **Appendix A**

*Revenue Requirement and CWIP through June 30, 2014*

**South Carolina Office of Regulatory Staff**  
**SCE&G - 2014 Revised Rates Filing**  
**Revenue Requirement and CWIP through June 30, 2014**  
**(Docket No. 2014-187-E)**

(\$ in Thousands)

Cost Categories	SCE&G Revised Rates Filing	ORS Examination			
		Actual	Allowable	Difference	Carry Over to 2014-2015
	(A)	(B)	(C)	(D) (A - B)	(E) (B - C)
CWIP in Rates as of June 30, 2013 <i>Per Commission Order No. 2013-680</i>	\$ 2,105,781	\$ 2,105,780	\$ 2,105,780	\$ 1	\$ -
Incremental Actual Additions to CWIP through March 31, 2014	\$ 407,157	\$ 404,866	\$ 404,866	\$ 2,291	\$ -
Incremental AFUDC through March 31, 2014	\$ 22,235	\$ 24,528	\$ 24,528	\$ (2,293)	\$ -
Incremental Additions to CWIP April 1 through June 30, 2014	\$ 161,506	\$ 127,785	\$ 127,785	\$ 33,721	\$ -
Incremental AFUDC April 1 through June 30, 2014	\$ 4,543	\$ 4,515	\$ 4,515	\$ 28	\$ -
CWIP as of June 30, 2014 <sup>1</sup>	\$ 2,701,222	\$ 2,667,474	\$ 2,667,474	\$ 33,748	\$ -
Incremental CWIP before Adjustment	\$ 595,441	\$ 561,694	\$ 561,694	\$ 33,747	\$ -
Deferral of 1/2 of Change Order No. 11 <i>(COL Delay Study Costs)</i>	\$ (52)	\$ (52)	\$ (52)	\$ -	\$ -
Deferral of Cyber Security Phase II Costs <sup>2</sup>	\$ (186)	\$ (432)	\$ (432)	\$ 246	\$ -
Deferral of Site Layout Change Costs	\$ -	\$ (148)	\$ (148)	\$ 148	\$ -
Incremental CWIP, as adjusted	\$ 595,203	\$ 561,062	\$ 561,062	\$ 34,141	\$ -
Gross Cost of Capital	12.18%		12.22%		
Incremental Revenue Requirement	\$ 72,496		\$ 68,562		
Allocation Factor for Retail Operation	96.61%		96.61%		
<b>Allocated Retail Revenue Requirement</b>	<b>\$ 70,038</b>		<b>\$ 66,238</b>		

<sup>1</sup> SCE&G's May 30, 2014 Request utilized projected incremental CWIP amounts. ORS's examination reflects actual incremental CWIP amounts through May 31, 2014, and EPC charges only for June 2014.

<sup>2</sup> Deferral cost includes AFUDC.

## **Appendix B**

### *Capitalization Ratios and Cost of Capital*

**South Carolina Office of Regulatory Staff**  
**SCE&G - 2014 Revised Rates Filing**

**Capitalization Ratios and Cost of Capital**  
**As of June 30, 2014\***  
**(Docket No. 2014-187-E)**

Capital Cost Category	Amount	Ratio	Embedded Cost	Weighted Average Cost of Capital	Gross of Tax
Long-Term Debt	\$3,928,770,000	46.48%	5.68%	2.64%	2.64%
Preferred Stock †	\$100,000	0.00%	0.00%	0.00%	0.00%
Common Equity	<u>\$4,523,357,441</u>	<u>53.52%</u>	11.00%	<u>5.89%</u>	<u>9.58%</u>
<b>Total Capitalization</b>	<b><u>\$8,452,227,441</u></b>	<b><u>100.00%</u></b>		<b><u>8.53%</u></b>	<b><u>12.22%</u></b>

\* Reflects \$300,000,000 Long-Term Debt issuance included in filing and issued on May 27, 2014, Equity transfers in filing and post-filing, updated Debt Cost, and updated Equity Dollars.

† The Preferred Stock amount is nominal in that it is used for Total Capitalization but not for the calculation of the Ratio Column because of Preferred Stock's 0.00% Embedded Cost.

# Appendix C

## *Revenue Allocation*

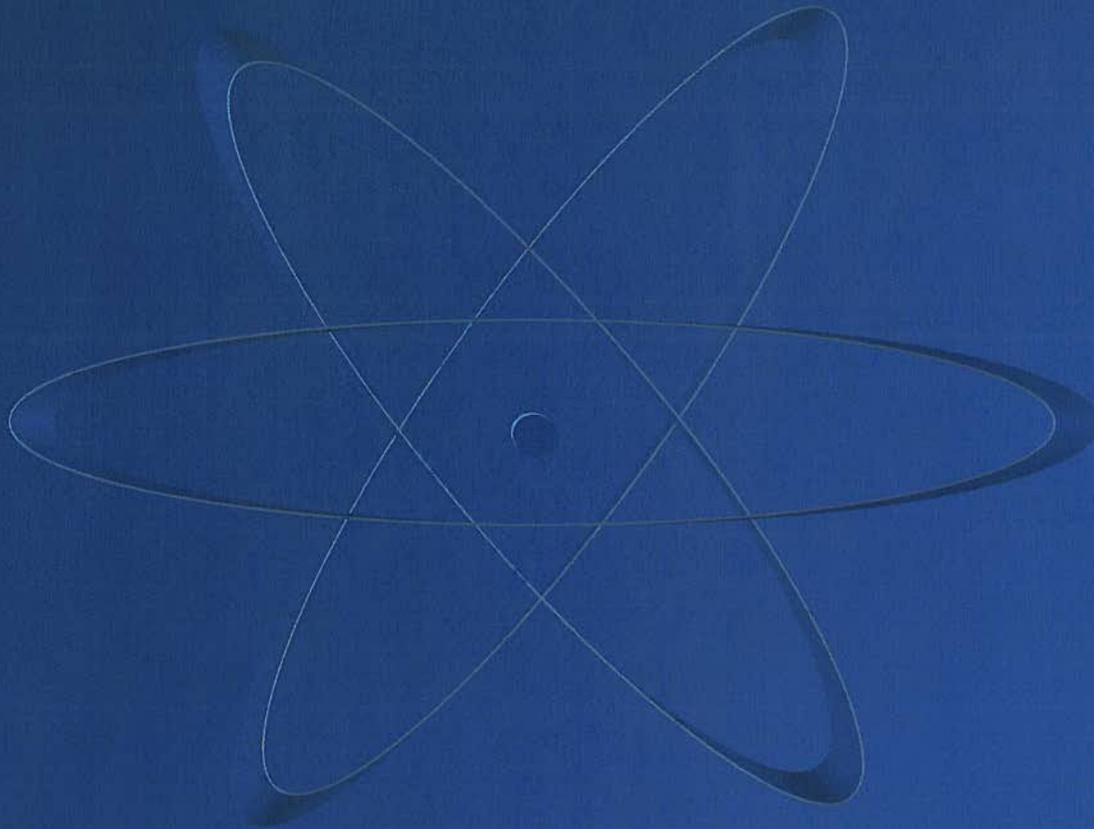
**South Carolina Office of Regulatory Staff**  
**SCE&G - 2014 Revised Rates Filing**  
**Revenue Allocation**  
**(Docket No. 2014-187-E)**

Rate Class	Approved Annual Revenue	ORS Examination Annual Revenue	Incremental Change \$	Incremental Change %
	(A)	(B)	(C) (B - A)	(D) (C / A)
<b>Residential</b>	\$ 1,064,696,990	\$ 1,095,835,217	\$ 31,138,227	2.92%
<b>Small General Service</b>	\$ 421,810,593	\$ 434,084,393	\$ 12,273,800	2.91%
<b>Medium General Service</b>	\$ 241,997,236	\$ 249,031,654	\$ 7,034,418	2.91%
<b>Large General Service</b>	\$ 617,281,979	\$ 633,072,988	\$ 15,791,009	2.56%
<b>Retail Total (Excluding Lighting)</b>	<b>\$ 2,345,786,798</b>	<b>\$ 2,412,024,252</b>	<b>\$ 66,237,454</b>	<b>2.82%</b>

## **Appendix D**

### *ORS's Review of SCE&G's Quarterly Reports*

South Carolina Office of Regulatory Staff  
Review of South Carolina Electric & Gas Company's  
2013 2<sup>nd</sup> Quarter Report on  
V. C. Summer Units 2 and 3  
Status of Construction



*October 10, 2013*



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## Executive Summary

On August 14, 2013, SCE&G submitted its 2013 2<sup>nd</sup> Quarter Report related to construction of the Units. The Report is filed in Commission Docket No. 2008-196-E and covers the quarter ending June 30, 2013. With reference to the Base Load Review Act, ORS's review of the Company's Report focuses on SCE&G ability to adhere to the approved schedule and approved budget.

### **Approved Schedule Review**

On June 5, 2013, SCE&G announced that its Engineering, Procurement and Construction contract partners, Westinghouse Electric Company and Chicago Bridge and Iron, had preliminarily indicated to SCE&G that the substantial completion date of Unit 2 is expected to be delayed until the 4<sup>th</sup> quarter of 2017 or the 1<sup>st</sup> quarter of 2018, with the substantial completion date of Unit 3 expected to be delayed similarly<sup>1</sup>. This potential delay is primarily due to challenges in the project schedule related to delays in sub-module fabrication and delivery, specifically the CA01 module. CA01 is a structural module which sits inside of the containment vessel and forms the refueling canal, steam generator compartments and pressurizer compartment. SCE&G's Milestone Schedule reflects a delay in the Unit 2 substantial completion date from March 15, 2017 to December 14, 2017. On SCE&G's Milestone Schedule, the Unit 3 substantial completion date remains unchanged as schedule re-sequencing for Unit 3 is still underway and the substantial completion date is still being evaluated. Per the Base Load Review Order, overall construction is considered to be on schedule if the substantial completion dates are not accelerated more than twenty-four (24) months or delayed more than eighteen (18) months. As of June 30, 2013, eighty-six (86) of the 146 milestone activities had been completed. Thirteen (13) yet to be completed milestone activities had been delayed by ten (10) months or more. ORS identified thirteen (13) milestones being delayed ten (10) months or longer, with one (1) milestone indicating a delay of sixteen (16) months and one (1) milestone indicating a delay of seventeen (17) months. Subsequent to the end of the quarter, on July 26, 2013, ORS filed a letter notifying the Commission of the delay in these milestones.

ORS has identified several ongoing construction challenges that pose a potential risk to the on-time completion of the project. ORS continues to monitor these areas closely. The most significant issue is the continued delay in the delivery of the structural sub-modules. Despite continuing high-level management and executive focus from Chicago Bridge and Iron, Westinghouse Electric Company and SCE&G, the delivery and quality problems associated with these sub-modules are still not satisfactorily resolved. Delays in these sub-modules affect almost all subsequent critical path sequences in the construction schedule.

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<sup>1</sup> SCE&G has not agreed to any contractual change to the Guaranteed Substantial Completion Dates for the Units.

## **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). With escalation applied, the total cash flow budgeted for the project is \$5.563 billion. The cumulative amount spent on the project as of December 31, 2012 was \$1.773 billion. The cumulative project cash flow is forecasted to be approximately \$365 million below the capital cost schedule at the end of 2013 approved in Order No. 2012-884. Due to escalation, an increased project cash flow of approximately \$80.388 million is necessary to complete the project in 2019. 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. 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. As of June 30, 2013, the SCE&G forecasted gross construction cost of the plant is \$5.800 billion as compared to the approved gross construction cost of \$5.755 billion, which represents an increase of approximately \$46 million.

Subsequent to the end of the quarter, on September 9, 2013 and in Docket 2013-336-E, SCE&G filed a petition and notice for an allowable ex parte communication briefing to address a regulatory accounting issue related to accumulated deferred income taxes. This tax issue arises as a result of the construction of the Units. In short, traditional accounting tax practices as compared to accounting tax treatment under the Base Load Review Act create a timing difference that temporarily causes SCE&G increased tax liability exposure. If SCE&G's petition is approved, the Company reports to ORS that this temporary tax liability exposure will not have an impact on ratepayers. The briefing before the Commission is scheduled for October 17, 2013.

## 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 and 3 (the “Units”) and the Engineering, Procurement and Construction (“EPC”) Contract. This approval can be found in the Base Load Review Order No. 2009-104(A) filed in Docket No. 2008-196-E. On January 21, 2010, the Commission approved the Company’s request to update milestones and capital cost schedules in Order No. 2010-12, which is filed in Docket No. 2009-293-E. On May 16, 2011, the Commission approved SCE&G’s petition for revisions and updates to capital cost schedules in Order No. 2011-345, which is filed in Docket No. 2010-376-E.

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 expected 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. 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.

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. Subsequently, Santee Cooper signed Letters of Intent with South Mississippi Electric Power Association, American Municipal Power, Inc. and several other organizations. However, as of May 12, 2013 all pending Letters of Intent had expired. Santee Cooper and Duke Energy Carolinas, LLC are continuing negotiations regarding an ownership share in the Units.

On May 15, 2012, SCE&G filed an application with the Commission in Docket No. 2012-203-E for updates and revisions to schedules related to the construction of the Units (“Update Filing”). The Update Filing indicated that SCE&G intended to delay the substantial completion date of Unit 2 from April 2016 until March 2017, while advancing the substantial completion date for Unit 3 from January 2019 to May 2018. The requested schedule changes, along with an increase to the base project cost totaling \$278.05 million, were approved by the Commission in Order No. 2012-884 on November 15, 2012.<sup>2</sup> Petitions for Rehearing or Reconsideration were filed on behalf of the Sierra Club and the South Carolina Energy Users Committee. Both of these

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<sup>2</sup> Petitions for Rehearing or Reconsideration were filed on behalf of the Sierra Club and the South Carolina Energy Users Committee. Both of these 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 are now pending.

petitions were denied via Commission Directive on December 12, 2012. The changes associated with these new substantial completion dates will be updated in the Company's EPC Contract with Westinghouse Electric Company ("WEC") and Chicago Bridge and Iron ("CB&I"). CB&I became a party to the EPC Contract via its acquisition of the Shaw Group, Inc.

On August 14, 2013, SCE&G submitted its 2013 2<sup>nd</sup> Quarter Report ("Report") related to construction of the Units. The Report is filed in Commission Docket No. 2008-196-E and covers the quarter ending June 30, 2013. The Company's Report is submitted pursuant to S.C. Code Ann. § 58-33-277 (Supp. 2012) of the Base Load Review Act ("BLRA"), which requires the 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, ORS's review of the Company's Report focuses on SCE&G's ability to adhere to the approved construction schedule and the approved capital cost schedule.

## Approved Schedule Review

### Milestone Schedule

As of June 30, 2013, ORS verified that of the Milestone Schedule's 146 activities:

- Eighty-six (86) milestone activities have been completed (includes eighty-six (86) historical and zero (0) future milestones)
- Sixty (60) milestone activities are yet to be completed (includes eleven (11) delayed historical and forty-nine (49) future milestones)

ORS also verified that during the 2<sup>nd</sup> Quarter of 2013:

- Five (5) milestone activities were scheduled to be completed
  - One (1) of these milestones has been completed
  - Four (4) of these milestones have not been completed

Per the Base Load Review Order, overall construction is considered to be on schedule if the substantial completion dates are not accelerated more than twenty-four (24) months or delayed more than eighteen (18) months. As part of its review of the approved schedule, ORS identifies Caution Milestones. Caution Milestones are those that have been delayed ten (10) months or longer. If any Milestone is delayed sixteen (16) months or greater, ORS may issue a formal notification to the Commission of the delay. As of the end of the 2<sup>nd</sup> quarter of 2013, ORS identified that the Company's notification of the change in Substantial Completion for Unit 2 resulted in thirteen (13) milestones being delayed ten (10) months or longer, with one (1) milestone indicating a delay of sixteen (16) months and one (1) milestone indicating a delay of seventeen (17) months. Additional information on this subject can be found in "Notable Activities Occurring After June 30, 2013" later in this report.

- **Milestone Activity No. 88** – *Set Nuclear Island Structural Module CA03 for Unit 2.*

**Status:** Delayed 17 months.

While the delay in this milestone is primarily due to delays associated with the fabrication and setting of the CA01 module, there are additional contributing factors. The sub-modules for CA03 were originally scheduled to be manufactured by Chicago Bridge & Iron's module fabrication facility, known as CB&I Lake Charles ("CB&I-LC"), but in order to expedite the work on other modules, the fabrication of these sub-modules was transferred to Pegasus Steel, LLC earlier this year. In reworking the milestone schedule to accommodate delays associated with the CA01 module, WEC and CB&I also discovered a problem in the logic of the previous schedule, as the proper support for the CA03 module will not be available until both the placement of CA01 module and the concrete pour associated with that activity have been completed.

- **Milestone Activity No. 92** – *Start Containment Large Bore Pipe Supports for Unit 2.*  
**Status:** Delayed 16 months.

While the delay in this milestone is primarily due to delays associated with the fabrication and setting of the CA01 module, there are additional contributing factors. In reworking the milestone schedule to accommodate delays associated with the CA01 module, WEC and CB&I discovered a problem in the logic of the previous schedule, as the Containment Vessel Large Bore Pipe Supports cannot be installed until the same activities associated with the placement of CA01, as stated for Milestone Activity No. 88, have been completed.

Appendix A shows details of SCE&G's Milestone Schedule as of June 30, 2013. A complete list of Caution Milestones, along with the reasons for the delays provided by SCE&G, WEC and CB&I, is attached as Appendix B. ORS continues to closely review and monitor these milestones.

SCE&G's Milestone Schedule attached to the Report indicates that overall construction supports a substantial completion date of December 14, 2017 for Unit 2 and May 15, 2018 for Unit 3. The substantial completion date for Unit 2 reflects a delay from the substantial completion date approved by the Commission in Order No. 2012-884 of March 15, 2017. While delayed, this substantial completion date falls within the parameters allowed by the Base Load Review Order. SCE&G's Milestone Schedule does not reflect a delay from Order No. 2012-884 for Unit 3, though a similar delay is anticipated. WEC has not yet made a revised detailed integrated schedule for Unit 3 available. ORS will continue to monitor this matter closely.

ORS reviews all invoices associated with the Milestone Schedule and during the 2<sup>nd</sup> quarter of 2013, there was one (1) invoice paid. ORS reviews invoices to ensure that 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 Handy Whitman inflation indices.

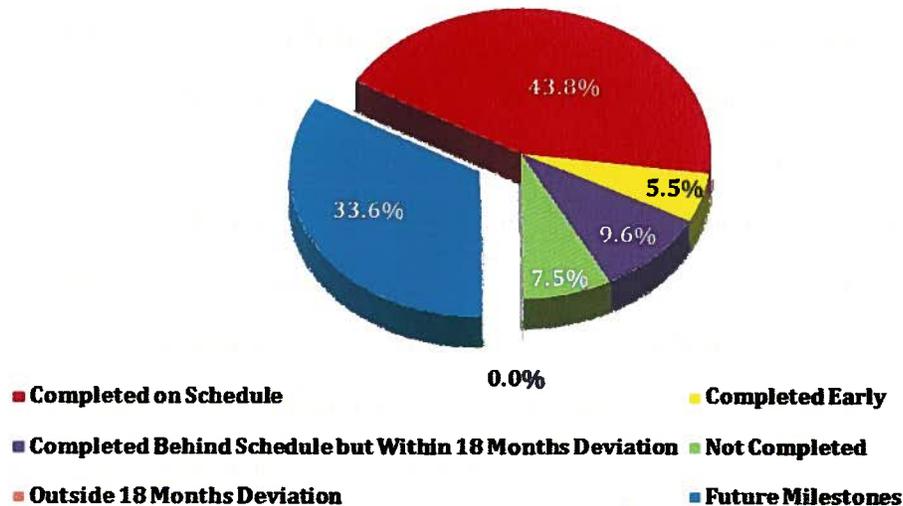
Table 1 shows the status of the ninety-seven (97) historical milestones and Chart 1 shows the status of all 146 milestones for the 2<sup>nd</sup> quarter of 2013 and prior.<sup>3</sup>

**Table 1:**

<b>Historical Milestones</b>		
<i>2<sup>nd</sup> Quarter 2013 and Prior</i>		
<b>97 of 146 Total Milestones</b>		
	<b># of Milestones</b>	<b>% of All Milestones<sup>4</sup></b>
<b>Completed on Schedule</b>	64	43.8%
<b>Completed Early</b>	8	5.5%
<b>Completed Behind Schedule but Within 18 Months Deviation</b>	14	9.6%
<b>Not Completed</b>	11	7.5%
<b>Outside 18 Months Deviation</b>	0	0.0%
<b>Total Historical Milestones</b>	<b>97</b>	<b>66.4%</b>

**Chart 1:**

**Historical Milestone Status**  
*2<sup>nd</sup> Quarter 2013 and Prior*



<sup>3</sup> The numbers reported by ORS and SCE&G may vary. For reporting purposes, ORS applies a 30 day threshold before a milestone is deemed accelerated or delayed. SCE&G uses a threshold less than 30 days. For instance, if a milestone is scheduled to be completed January 2, 2013 and the actual completion date is December 29, 2012, SCE&G deems the milestone as completed one month early since it is completed in a prior calendar month. ORS would report this milestone as being accomplished on schedule since it was completed within 30 days of the scheduled completion date.

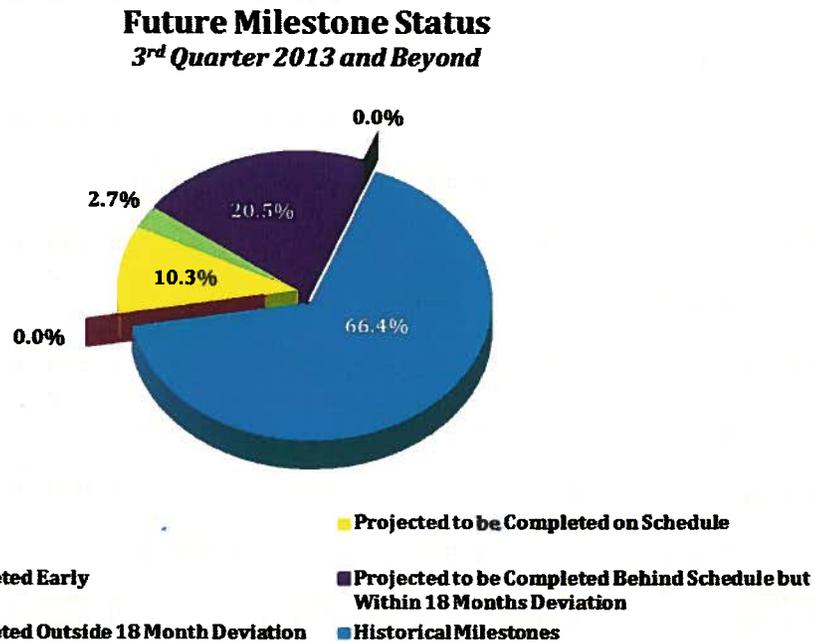
<sup>4</sup> Slight variances may occur due to rounding.

Table 2 shows the status of the forty-nine (49) future milestones and Chart 2 shows the status of all 146 milestones for the 3<sup>rd</sup> quarter 2013 and beyond.

**Table 2:**

<b>Future Milestones</b>		
<i>3<sup>rd</sup> Quarter 2013 and Beyond</i>		
<b>49 of 146 Total Milestones</b>		
	# of Milestones	% of All Milestones <sup>5</sup>
<b>Completed Early</b>	0	0.0%
<b>Projected to be Completed on Schedule</b>	15	10.3%
<b>Projected to be Completed Early</b>	4	2.7%
<b>Projected to be Completed Behind Schedule but Within 18 Months Deviation</b>	30	20.5%
<b>Projected to be Outside 18 Months Deviation</b>	0	0.0%
<b>Total Future Milestones</b>	<b>49</b>	<b>33.6%</b>

**Chart 2:**



<sup>5</sup> Slight variances may occur due to rounding.

## **Specific Construction Activities**

Site construction activities continue to progress. A workforce of approximately 1,600 WEC/CB&I (including subcontractors) and 330 SCE&G personnel is currently on site. Major construction activities during the 2<sup>nd</sup> quarter of 2013 are listed below:

- The Unit 2 Containment Vessel Bottom Head (“CVBH”) was set into place atop the CR10 module on May 22, 2013. Grout was placed underneath the CVBH on June 30, 2013. This was the largest lift performed to date by the Heavy Lift Derrick, with the CVBH weighing approximately 990 tons.
- Progress continued on the Unit 2 Turbine building basement, with the supports placed for one segment of the condenser and walls on the east, south and west sides reaching a height of twelve (12) feet above the base mat.
- Approximately 75% of the precast panels for Cooling Tower 2A and 25% of the precast panels for Cooling Tower 3A have been set into place. Fans, shrouds and electrical equipment are being installed. Foundation pilings for Cooling Tower 2B were installed and preparations were made in advance of pouring the foundation. Foundation and basin work on Cooling Tower 3B by CB&I were also completed.
- Unit 3 CVBH work continued with the first course of steel plates being placed on the erection stand.
- Installation of the plates that make up the Unit 2 Containment Vessel (“CV”) Rings continued. Unit 2 CV Ring 1 fabrication and installation of internal stiffeners is largely complete. Welding was completed on the seams of the first three courses of plates for CV Ring 2.
- Several major components were delivered to the site during the quarter, including the Unit 2 Reactor Vessel (“RV”), Unit 2 Closure Head and the major components of Unit 2 Turbine Generator.
- Progress continued on the CA20 sub-modules inside the Module Assembly Building (“MAB”). A total of thirty-nine (39) of seventy-two (72) CA20 sub-modules had been delivered to the site from CB&I Lake Charles as of the end of the 2<sup>nd</sup> quarter of 2013, with two (2) of these arriving on site during the 2<sup>nd</sup> quarter of 2013. During the 3<sup>rd</sup> quarter of 2012, it was determined as a result of a WEC design review that the weld process used at many points on the modules, called a “fillet weld”, did not meet the requirement reflected in the current licensing basis drawings for a full penetration weld. During the quarter, CB&I contractors began re-welding the modules inside of the MAB using full penetration welds. The delivery and assembly of all of the structural modules, including CA20, is a critical path activity.

- CB&I-LC has been the focus of intense management attention. Delays in sub-module fabrication have contributed to the anticipated delay in the Unit 2 substantial completion date. CB&I has implemented a new leadership team and developed a new schedule for Unit 2 sub-module production. In an effort to improve delivery times, CB&I shifted work from CB&I-LC to other fabricators, including the CA04 module, the CA03 module, and Shield Building modules. Further delays in the sub-module fabrication schedule, particularly the CA01 module may result in Milestones exceeding the window allowed by the BLRA. ORS continues to closely monitor the impact module delays have on cost and schedule.
- Shipment of the completed squib valves for the Units is on hold as their manufacturer addresses anomalies uncovered during the qualification testing of the valves and deficiencies identified by the NRC in document packages related to work performed by sub-contractors.

Photographs of 2<sup>nd</sup> quarter construction activities are shown in Appendix C.

### **Critical Path Activities**

Critical path activities are those that drive the construction schedule. These assessments are based on previous critical paths and projected future critical paths.

- **Unit 2 CA01 Module**  
Fabrication and delivery of the sub-modules being manufactured at CB&I-LC continues to challenge the schedule. Of the sub-modules required to be assembled, the CA01 module remains one of the major critical concerns and challenges to the schedule of the project. None of these sub-modules have been completed or shipped to the site. There are various options being pursued by the project, including work-arounds and re-sequencing of the installation, to reduce the impact of the delay of these sub-modules. This is currently the most critical activity in the assembly of the nuclear island building because the CA01 module must be placed before the setting of the CV rings can progress beyond the 1<sup>st</sup> ring. This critical path activity is behind schedule and could further delay the completion date.
- **Unit 2 CA20 Module**  
Delays also continue regarding the fabrication and delivery of the CA20 sub-modules from CB&I-LC. It is especially concerning that the revised schedule worked out with CB&I, to which they had committed, during the 2<sup>nd</sup> quarter has not been met. The sub-modules needed to proceed with the assembly of module CA20 are not yet on-site which may impact the construction of the shield building and further delay the project. However, the weld repairs on the on-site sub-modules as discussed in the 2013 1<sup>st</sup> quarter ORS Report have begun and are progressing well. This critical path activity is behind schedule.

- **Unit 2 Shield Building**

Because of the production and quality issues associated with CB&I-LC, fabrication of the Shield Building modules has been reassigned to Newport News Industries (“NNI”) in Virginia. Mobilization and preparation for production continued at NNI throughout the quarter. Although fabrication is now underway, no sub-modules have yet been delivered to the site. A detailed schedule for their delivery is not yet available; however, the first sub-modules are to be delivered in December 2013. In addition, work associated with completing the mock-ups to field test the installation activities associated with the installation of the shield building modules has now been scheduled to be completed by the end of the year.

- **Unit 3 Basemat**

Significant progress has been made in this area. The mudmat has been poured and the water-proof membrane has been installed. Installation of the reinforcing steel and the embedded components is progressing well with an expected concrete pour of the basemat to occur in mid-October 2013. This is the current critical path activity for Unit 3 and is on schedule.

- **Unit 3 Modules**

Module assembly is a future critical path activity for Unit 3. Neither an overall revised construction schedule nor a revised sub-module delivery schedule has been released for Unit 3. However, SCE&G has indicated that they anticipate Unit 3 will be delayed in a similar manner to Unit 2. These sub-modules, and therefore the associated modules, are behind schedule.

## **Transmission**

On February 28, 2011, SCE&G entered into a contract with Pike Electric for the permitting, engineering and design, procurement of material, and the construction of four (4) 230 kV transmission lines and associated facilities related to the Units. This project will consist of two (2) phases.

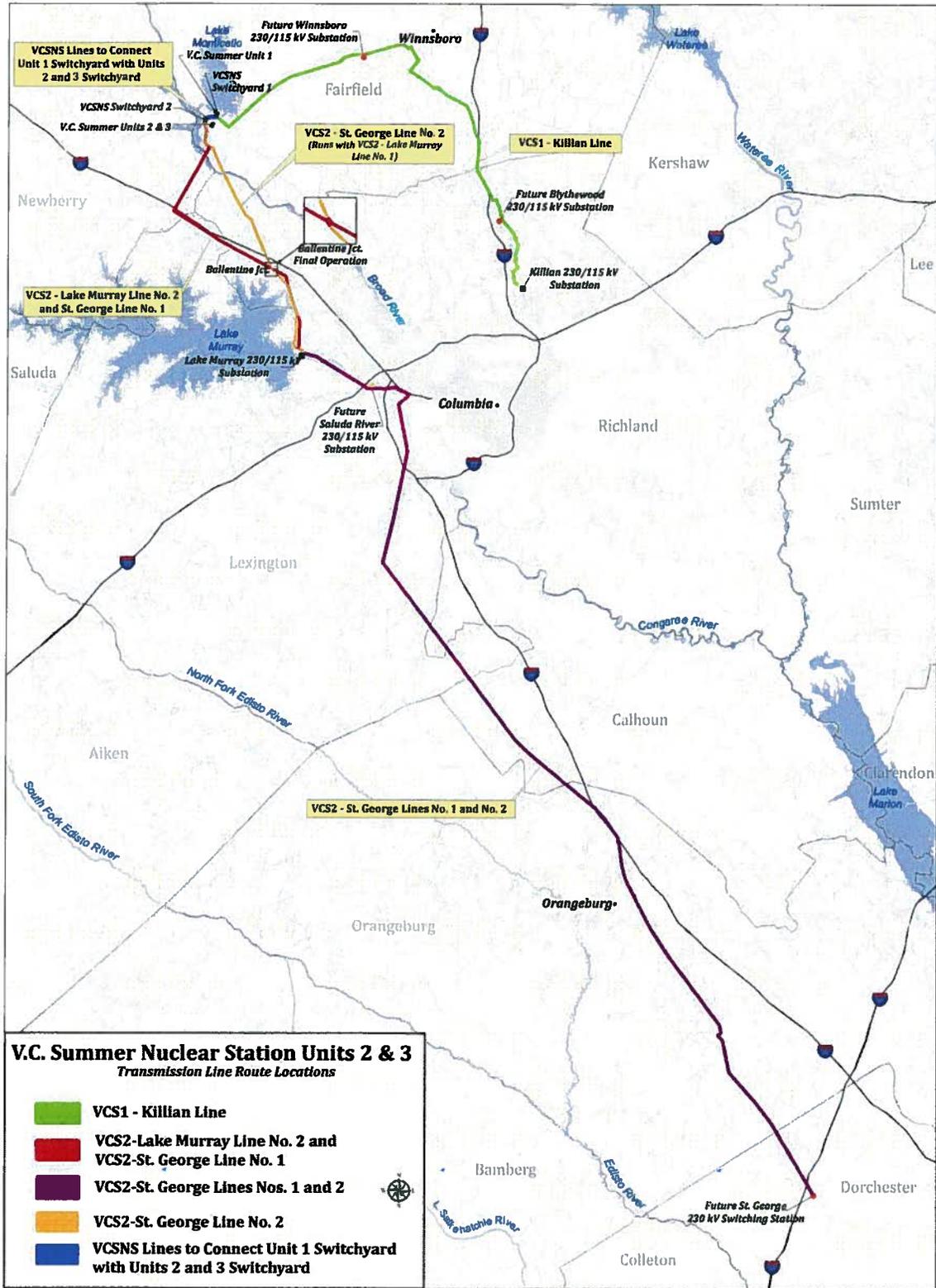
Phase 1 consists of construction of two (2) new 230 kV transmission lines in support of Unit 2: the VCS1–Killian Line and the VCS2–Lake Murray Line #2. The VCS1–Killian Line will connect the existing V.C. Summer Switchyard (“Switchyard 1”) to the Company’s existing Killian Road 230 kV Substation. The VCS2–Lake Murray Line #2 will connect the newly-constructed Switchyard (“Switchyard 2”) to the Company’s existing Lake Murray 230 kV Substation. Switchyard 2 will allow the connection of both the Unit 2 and Unit 3 generators to the grid. Also, for Phase 1, two (2) new 230 kV interconnections between Switchyard 1 and Switchyard 2 have been constructed. Construction of the Phase 1 lines continued during the 2<sup>nd</sup> quarter of 2013. As of June 30, 2013, the VCS1–Killian Line was approximately ninety-five percent (95%) complete and the VCS2–Lake Murray Line #2 was approximately eighty percent (80%) complete.

Phase 2 consists of construction of two (2) 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, and St. George 230 kV Switching Station, and Saluda River 230/115 kV Substation.

Both the VCS2–St. George Line #1 and VCS2–St. George Line #2 will connect Switchyard 2 to the yet-to-be constructed St. George 230 kV Switching Station. Construction on these lines began during the quarter; however, construction of the St. George 230 kV Switching Station has not yet begun. A third new 230 kV interconnection between Switchyard 1 and Switchyard 2 will be required for Phase 2. SCE&G entered into an agreement to purchase the site for the Saluda River 230/115 kV Substation, to be built adjacent to and interconnect with the VCS2–St. George lines. The preliminary environmental assessment of this site has been completed and lay out of the substation is progressing.

Map 1 shows the geographical location of SCE&G’s new transmission lines and other SCE&G associated facilities to support the Units.

# Map 1: New SCE&G Transmission Lines and Facilities Supporting V.C. Summer Units 2 & 3



## **Change Orders and Amendments**

During the 2<sup>nd</sup> quarter of 2013, no Change Orders or Amendments were executed. The four (4) Change Orders that were being negotiated at the end of the 1<sup>st</sup> quarter 2013 remain under negotiation. No Change Orders or Amendments have been executed since early 2012, despite continued negotiations.

The first of these Change Orders, Change Order #16, would incorporate the settlement agreement with WEC/CB&I into the EPC Contract. The costs associated with this Change Order are incorporated in the Company's Update Filing. Execution of this change order has been delayed pending the resolution of a question regarding the application of the Handy-Whitman inflation indices. The Company is withholding payment of disputed amounts on invoices that are affected by these indices pending resolution of this matter.

The second Change Order under negotiation would incorporate Phase II of the cyber security changes previously catalogued in Change Order #14. The third incorporates potential design changes to the offsite water treatment system. The final Change Order under negotiation would address WEC/CB&I's costs associated with recent federal health care legislation.

Table 3 details all Change Orders and Amendments. 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.

**Table 3:**

<b>Change Orders and Amendments</b>					
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 <sup>6</sup>	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	<i>*Supplements Change Order No. 1*</i> Increased training by two (2) weeks	Fixed Price with 0% escalation <sup>6</sup>	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 (Shaw)	Firm	Entitlement	11/14/2011	Approved
13	Ovation Workstations	No Cost	Owner Directed	3/12/2012	Approved
14	Cyber Security Phase I	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
16	Resolves WEC/CB&I claims related to COL Delay & other items	Target & Firm Price	Entitlement	N/A	Pending

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

<sup>6</sup> 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.

## **Licensing and Inspection Activities**

### **Federal Activities**

As of June 30, 2013, SCE&G has identified the need to submit more than fifty (50) License Amendment Requests ("LARs") to the NRC. The exact number of LARs required varies, as one LAR may address multiple identified issues. A LAR is the process by which a licensee requests changes to the COL issued by the NRC. The licensee may request a Preliminary Amendment Request ("PAR") to accompany a LAR. PARs allow the licensee to continue with construction at its own risk while awaiting final dispensation of the LAR. A total of twelve (12) LARs had been submitted through the end of the 1<sup>st</sup> quarter of 2013. During the 2<sup>nd</sup> quarter of 2013, no additional LARs were submitted. A table of LARs submitted to the NRC, and accompanying PARs, if requested, is attached as Appendix D. Issues surrounding the approval of LARs are discussed in more detail in the section entitled "Construction Challenges."

The NRC conducts monthly civil inspections to monitor construction progress. While no additional issues were identified in the monthly civil inspections, discussions continued during the quarter surrounding the unresolved issue ("URI") related to concrete reinforcement in the basemat elevator pits and sump areas discussed in ORS's 2012 3<sup>rd</sup> Quarter Report. On December 21, 2012, the NRC re-exited the September 2012 Monthly Civil Inspection identifying this as a potential violation.

On March 26, 2013 the NRC re-exited its September 2012 Monthly Civil Inspection and identified one (1) potential White finding. White findings are findings of low to moderate safety significance. This finding was issued related to design control surrounding the issue of the concrete reinforcement in the basemat elevator pits and sump areas. Two (2) LARs have since been approved by the NRC relating to this issue. The Company has submitted additional documentation to the NRC to help the NRC determine the final significance of this finding and a regulatory conference was held on April 30, 2013. The information presented at the regulatory conference satisfied the NRC and the finding was determined to be a Green finding on May 16, 2013. Green findings are findings of very low safety significance.

The NRC also conducted an inspection of SCE&G's Quality Assurance Program on May 3, 2013. No findings were identified during this inspection.

### **State Activities**

As of June 30, 2013 there are currently no major state construction-related permits outstanding.

## Approved Budget Review

ORS's budget review includes an analysis of the 2<sup>nd</sup> Quarter 2013 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 nine (9) major cost categories for variances. These cost categories are:

- Fixed with No Adjustment
- Firm with Fixed Adjustment A
- Firm with Fixed Adjustment B
- Firm with Indexed Adjustment
- Actual Craft Wages
- Non-Labor Cost
- Time & Materials
- Owners Costs
- Transmission Projects

ORS monitors variances due to project changes (e.g., shifts in work scopes, payment timetables, construction schedule adjustments, Change Orders). At the end of the 2<sup>nd</sup> quarter of 2013, SCE&G's total base project cost (in 2007 dollars) is \$4.548 billion.

### **Project Cash Flow**

As shown in Appendix 2 of the Company's Report, the cumulative amount spent on the project as of December 31, 2012 was \$1.773 billion. The cumulative amount forecasted to be spent on the project by December 31, 2013 is \$2.513 billion.

With reference to Appendix 2, ORS evaluated 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. As of December 31, 2012, the comparison shows the yearly maximum annual variance from the approved cash flow schedule through the life of the project. The comparison also shows that the cumulative project cash flow is forecasted to be approximately \$364.7 million under budget at the end of 2013. Due to escalation, at the completion of the project in

2019 the cumulative project cash flow is forecasted to be approximately \$80.4 million over budget.

Table 4 shows the annual and cumulative project cash flows as compared to those approved in Order No. 2012-884.

**Table 4:**

<b>Project Cash Flow Comparison</b>			
<i>\$'s in Thousands<sup>7</sup></i>			
		<b>Annual Over/(Under)</b>	<b>Cumulative Over/(Under)</b>
<b>Actual</b>	<b>2007</b>	-	-
	<b>2008</b>	\$0	\$0
	<b>2009</b>	\$0	\$0
	<b>2010</b>	\$0	\$0
	<b>2011</b>	\$0	\$0
	<b>2012</b>	(\$142,003)	(\$142,003)
<b>Projected</b>	<b>2013</b>	(\$222,686)	(\$364,689)
	<b>2014</b>	(\$31,487)	(\$396,176)
	<b>2015</b>	\$71,371	(\$324,805)
	<b>2016</b>	\$125,051	(\$199,754)
	<b>2017</b>	\$165,731	(\$34,023)
	<b>2018</b>	\$57,576	\$23,553
	<b>2019</b>	\$56,835	\$80,388

In summary, the Report shows no increase in the total base project cost (in 2007 dollars). Due to escalation, an increased project cash flow of approximately \$80.4 million is necessary to complete the project in 2019. These forecasts reflect the updated capital cost schedules approved in Order No. 2012-884, the current construction schedule and the inflation indices in the Company's Appendix 4. This increased project cash flow is due to increased escalation resulting from construction delays and short-term escalation rate increases since the filing. 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. 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.

<sup>7</sup> Slight variances may occur due to rounding.

## **AFUDC and Escalation**

The forecasted AFUDC for the total project as of the end of the 2<sup>nd</sup> quarter of 2013 is \$237.7 million and is currently based on a forecasted 6.09% 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. Worldwide economic conditions previously reduced the projected escalation cost of the project; however, these economic conditions are now improving. Due to increases in escalation rates, as well as changes to the timing of payments due to construction delays, the overall project cost has increased. More specifically, as of June 30, 2013, the SCE&G forecasted gross construction cost of the plant is \$5.800 billion as compared to the approved gross construction cost of \$5.755 billion, which represents an increase of approximately \$46 million.

## **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. SCE&G filed its Annual Request for Revised Rates with the Commission in Docket No. 2013-150-E on May 30, 2013, the anniversary date of SCE&G's previous request for revised rates.

Table 5 below shows the requested increases and approved increases from all prior Revised Rate Filings with the Commission.

**Table 5:**

<b>Requested vs. Approved Increases</b> <i>SCE&amp;G Revised Rate Filings</i>					
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%

## **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 CWIP
- Physically observes construction activities
- Bi-monthly on-site review of construction documents
- Holds monthly update meetings with SCE&G
- Meets quarterly with representatives of WEC
- Participates in NRC Public Meetings regarding SCE&G COL and other construction activities

## Construction Challenges

Based upon the information provided by the Company in its Report, as well as information obtained via additional ORS monitoring activities, ORS identifies the following ongoing challenges in the construction of the Units:

### **Structural Modules**

The most significant, currently identified challenge to the project is the continued inability of CB&I-LC to reliably meet the quality and schedule requirements of the project. Despite intense and continuous management focus from CB&I-LC, CB&I, WEC and SCE&G, CB&I-LC has been unable to meet its revised schedules to deliver sub-modules to the site in a timely manner. CB&I-LC has also continued to struggle with quality issues, ranging from design compliance to the completion of final inspection paperwork. This issue is the most immediate challenge to the project. Although SCE&G and CB&I have demonstrated success performing the field activities associated with the on-site assembly of the limited number of CA20 modules received, this area remains as a significant challenge to the project. Specifically, the on-site weld repairs that need to be made, resulting from an incorrect interpretation of the approved design during the module fabrication process, and the assembly of the sub-modules into modules to be installed in the Nuclear Island, are significant construction challenges. The weld repairs are now underway and appear to be progressing well, but the tardy delivery of the sub-modules remains a cause for concern.

### **Shield Building Modules**

Although shield building module fabrication has been reassigned to NNI, thus freeing CB&I-LC to concentrate on the structural modules, NNI's performance has not yet been demonstrated and a delivery schedule has not yet been provided. The shield building modules are more complex and present even greater fabrication and erection challenges to the project than the structural modules. Though some mock-ups have been produced, these mock-ups are only being used for testing purposes, and have not yet been completed at the site. The full extent of challenges in this area remains unknown; however, given the project's history with structural module fabrication, it is an area of concern moving forward. NNI will need to demonstrate sustained and reliable performance in both the quality and on-time delivery of sub-modules, and CB&I will need to do the same in the area of erecting the shield building modules on-site.

## **Structural Design Compliance**

The issues relating to the basemat design, as well as a portion of the issues relating to the structural modules and shield building modules, are related to compliance with the design approved by the NRC. This structural design compliance is emerging as an issue affecting multiple areas of the project. WEC has had challenges providing accurate directions for fabrication, in part because of differences in the interpretation of the Design Control Document (“DCD”) approved by the NRC. Issues include, but are not limited to, 1) a lack of compliance with applicable building codes for concrete and rebar to 2) the failure to correctly translate the requirement for full penetration welds in structural modules to documents used for fabrication. This raises questions of whether the overall WEC structural design will face similar challenges at each new phase of construction. WEC has taken steps to engage the services of structural experts from several leading nuclear plant design and engineering firms to assist them in the structural design area, which indicates a commitment to addressing these issues going forward. This is an area that presents a significant continuing challenge to the project, and remains an open concern at this time. The challenges associated with the connections used between the walls and the Nuclear Island basemat appear to have been met, but there continue to be new issues developing in the design of the embedment attachments to the walls and in the reinforcing steel design within the walls. Sustained progress in this area will be a key indicator of how the project will address the remaining structural compliance issues. These concerns have resulted in many design drawings being placed on “hold” and WEC needs to provide a detailed schedule for the release of the holds on these design drawings so that they can be released for construction.

## **Instrumentation and Control Design**

The completion of the WEC Instrumentation and Control (“I&C”) design is also presenting a significant challenge to the project. The most obvious impact that is of concern is the effect of this on the availability of the Plant Reference Simulator (“PRS”) and it appears there may be a delay in the delivery of the PRS. The PRS must be available to support operator training. The current schedule for delivery of the PRS has very little margin for any delays. However, I&C design must also support plant equipment procurement and construction activities above and beyond those required for completion of the PRS. This is also presenting a significant challenge to the project that must be monitored closely.

## **Overlapping Unit 2 & Unit 3 Construction Schedules**

The delays in the progress on Unit 2 construction, in particular those associated with sub-module fabrication and erection, may begin to challenge the ability of the project to work on both Units simultaneously while adhering to the approved schedule. This has the potential to result in significant challenges to the Unit 3 construction schedule. A detailed integrated schedule for both units must be provided that reflects how this challenge will be addressed and sustained satisfactory performance in meeting these schedules must be demonstrated to alleviate this concern.

## **Manufacturing of Major Equipment**

Factors such as design changes, labor conditions, shipping conditions, and the financial stability of foreign manufacturers due to financial market conditions must be monitored closely. Significant progress was demonstrated this quarter with the delivery of the Unit 2 RV and Closure Head, the delivery of the Unit 2 Deaerator, Moisture-Separator Reheaters and the majority of the Turbine-Generator; however, these challenges still remain for the remaining equipment.

## **License Amendment Reviews**

Construction compliance issues requiring LARs and the preparation of the necessary supporting documentation are proving to be more problematic and require significantly more resources than originally planned. As demonstrated by the extended review required of the basemat reinforcing LARs, the activities and efforts required resulted in actual construction delays and costs. There are several additional LARs that may require similar efforts. Therefore, the resolution of these LARs presents a potential challenge to the construction of the Units.

## **Notable Activities Occurring after June 30, 2013**

The BLRA allows SCE&G forty-five (45) days from the end of the current quarter to file its Report. Items of importance that occurred subsequent to the closing of the 2<sup>nd</sup> quarter of 2013 are reported below.

### **Caution Milestones**

As previously discussed, ORS identified that the Company's notification of the change in Substantial Completion for Unit 2 resulted in thirteen (13) milestones being delayed ten (10) months or longer, with one (1) milestone indicating a delay of sixteen (16) months and one (1) milestone indicating a delay of seventeen (17) months. On July 26, 2013, ORS filed a letter notifying the Commission of the delay in these milestones, which is attached as Appendix E.

### **NRC Licensing**

On July 29, 2013 the NRC issued an inspection report for the period of April 1, 2013 to June 30, 2013 with two (2) green findings, both of very low safety significance. As they were of very low safety significance, these findings were treated as non-cited violations in accordance with NRC policies.

### **Structural Modules**

As structural module delivery is contributing to delays in the anticipated substantial completion date, this is an area of intense focus. A revised Unit 2 sub-module delivery schedule was provided to SCE&G by CB&I-LC in June. Initially, CB&I-LC was meeting the revised delivery dates; however, by August they were again delivering sub-modules behind schedule. As of August 6, 2013, there were five (5) sub-modules previously scheduled to be delivered that had not arrived on site. A total of forty-four (44) CA20 sub-modules had been delivered to the site from CB&I-LC as of September 27, 2013 with five (5) of these arriving on site subsequent to the end of the 2<sup>nd</sup> quarter of 2013. In addition to the CA20 sub-modules, eighteen (18) other modular components, including modules and sub-modules, were delivered to the site subsequent to the end of the quarter. SCE&G and ORS staff visited the CB&I-LC facility in Louisiana on September 25, 2013 to observe module fabrication activities.

## **Turbine Building**

Subsequent to the end of the quarter, significant progress was made on the Unit 2 Turbine Building. One (1) of the three (3) sections of the Unit 2 Main Condenser was installed in August 2013, and CH80, a major structural module for the turbine building, was installed in September 2013. These represent major activities toward the completion of the Unit 2 Turbine Building.

## **Accumulated Deferred Income Tax Timing Difference**

Subsequent to the end of the quarter, on September 9, 2013 and in Docket 2013-336-E, SCE&G filed a petition and notice for an allowable ex parte communication briefing to address a regulatory accounting issue related to accumulated deferred income taxes. This tax issue arises as a result of the construction of the Units. In short, traditional accounting tax practices as compared to accounting tax treatment under the Base Load Review Act create a timing difference that temporarily causes SCE&G increased tax liability exposure. If SCE&G's petition is approved, the Company reports to ORS that this temporary tax liability exposure will not have an impact on ratepayers. The briefing before the Commission is scheduled for October 17, 2013.

*SCE&G's 2013 3<sup>rd</sup> quarter report is due forty-five (45) days after September 30, 2013. ORS expects to continue publishing a review evaluating SCE&G's quarterly reports.*

## **Appendix A**

*Detailed Milestone Schedule as of June 30, 2013*

Appendix A

Key:

Milestones Not Completed	Completed Prior to Q2-13	Current Quarter	Scheduled to Be Completed Q3-13	ORS Caution Milestone
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Activity No.	Milestone	Completion Date Approved in Order No. 2012-884	Scheduled Completion Date as of Q2-13	Outside 18 - 24 Month Contingency?	Impact to Substantial Completion Date? <sup>1</sup>	Actual Completion Date	Deviation from Order No. 2012-884
1	Approve Engineering, Procurement and Construction Agreement	5/23/2008		No	No	5/23/2008	
2	Issue Purchase Orders ("P.O.") to Nuclear Component Fabricators for Units 2 and 3 Containment Vessels	12/3/2008		No	No	12/3/2008	
3	Contractor Issue P.O. to Passive Residual Heat Removal Heat Exchanger Fabricator - First Payment - Unit 2	8/31/2008		No	No	8/18/2008	
4	Contractor Issue P.O. to Accumulator Tank Fabricator - Unit 2	7/31/2008		No	No	7/31/2008	
5	Contractor Issue P.O. to Core Makeup Tank Fabricator - Units 2 & 3	9/30/2008		No	No	9/30/2008	
6	Contractor Issue P.O. to Squib Valve Fabricator - Units 2 & 3	3/31/2009		No	No	3/31/2009	
7	Contractor Issue P.O. to Steam Generator Fabricator - Units 2 & 3	6/30/2008		No	No	5/29/2008	1 Month Early
8	Contractor Issue Long Lead Material P.O. to Reactor Coolant Pump Fabricator - Units 2 & 3	6/30/2008		No	No	6/30/2008	
9	Contractor Issue P.O. to Pressurizer Fabricator - Units 2 & 3	8/31/2008		No	No	8/18/2008	
10	Contractor Issue P.O. to Reactor Coolant Loop Pipe Fabricator - First Payment - Units 2 & 3	6/30/2008		No	No	6/20/2008	

Appendix A

Key:	Milestones Not Completed	Completed Prior to Q2-13	Current Quarter	Scheduled to Be Completed Q3-13	ORS Caution Milestone
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Activity No.	Milestone	Completion Date Approved in Order No. 2012-884	Scheduled Completion Date as of Q2-13	Outside 18 - 24 Month Contingency?	Impact to Substantial Completion Date? <sup>1</sup>	Actual Completion Date	Deviation from Order No. 2012-884
11	Reactor Vessel Internals – Issue Long Lead Material P.O. to Fabricator - Units 2 & 3	11/21/2008		No	No	11/21/2008	
12	Contractor Issue Long Lead Material - P.O. to Reactor Vessel Fabricator - Units 2 & 3	6/30/2008		No	No	5/29/2008	1 Month Early
13	Contractor Issue P.O. to Integrated Head Package Fabricator - Units 2 & 3	7/31/2009		No	No	7/31/2009	
14	Control Rod Drive Mechanism – Issue P.O. for Long Lead Material to Fabricator - Units 2 & 3 - First Payment	6/21/2008		No	No	6/21/2008	
15	Issue P.O.'s to Nuclear Component Fabricators for Nuclear Island Structural CA20 Modules	7/31/2009		No	No	8/28/2009	
16	Start Site Specific and Balance of Plant Detailed Design	9/11/2007		No	No	9/11/2007	
17	Instrumentation & Control Simulator - Contractor Place Notice to Proceed - Units 2 & 3	10/31/2008		No	No	10/31/2008	
18	Steam Generator - Issue Final P.O. to Fabricator for Units 2 & 3	6/30/2008		No	No	6/30/2008	
19	Reactor Vessel Internals - Contractor Issue P.O. for Long Lead Material (Heavy Plate and Heavy Forgings) to Fabricator - Units 2 & 3	1/31/2010		No	No	1/29/2010	
20	Contractor Issue Final P.O. to Reactor Vessel Fabricator - Units 2 & 3	9/30/2008		No	No	9/30/2008	

Appendix A

Key:	Milestones Not Completed	Completed Prior to Q2-13	Current Quarter	Scheduled to Be Completed Q3-13	ORS Caution Milestone
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Activity No.	Milestone	Completion Date Approved in Order No. 2012-884	Scheduled Completion Date as of Q2-13	Outside 13 - 24 Month Contingency?	Impact to Substantial Completion Date? <sup>1</sup>	Actual Completion Date	Deviation from Order No. 2012-884
21	Variable Frequency Drive Fabricator Issue Transformer P.O. - Units 2 & 3	4/30/2009		No	No	4/30/2009	
22	Start Clearing, Grubbing and Grading	1/26/2009		No	No	1/26/2009	
23	Core Makeup Tank Fabricator Issue Long Lead Material P.O. - Units 2 & 3	10/31/2008		No	No	10/31/2008	
24	Accumulator Tank Fabricator Issue Long Lead Material P.O. - Units 2 & 3	10/31/2008		No	No	10/31/2008	
25	Pressurizer Fabricator Issue Long Lead Material P.O. - Units 2 & 3	10/31/2008		No	No	10/31/2008	
26	Reactor Coolant Loop Pipe - Contractor Issue P.O. to Fabricator - Second Payment - Units 2 & 3	4/30/2009		No	No	4/30/2009	
27	Integrated Head Package - Issue P.O. to Fabricator - Units 2 & 3 - Second Payment	7/31/2009		No	No	7/31/2009	
28	Control Rod Drive Mechanism - Contractor Issue P.O. for Long Lead Material to Fabricator - Units 2 & 3	6/30/2008		No	No	6/30/2008	
29	Contractor Issue P.O. to Passive Residual Heat Removal Heat Exchanger Fabricator - Second Payment - Units 2 & 3	10/31/2008		No	No	10/31/2008	
30	Start Parr Road Intersection Work	2/13/2009		No	No	2/13/2009	

Appendix A

Key:	Milestones Not Completed	Completed Prior to Q2-13	Current Quarter	Scheduled to Be Completed Q3-13	ORS Caution Milestone
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Activity No.	Milestone	Completion Date Approved in Order No. 2012-884	Scheduled Completion Date as of Q2-13	Outside 18 - 24 Month Contingency?	Impact to Substantial Completion Date? <sup>1</sup>	Actual Completion Date	Deviation from Order No. 2012-884
31	Reactor Coolant Pump - Issue Final P.O. to Fabricator - Units 2 & 3	6/30/2008		No	No	6/30/2008	
32	Integrated Heat Packages Fabricator Issue Long Lead Material P.O. - Units 2 & 3	10/31/2009		No	No	10/1/2009	1 Month Early
33	Design Finalization Payment 3	1/31/2009		No	No	1/30/2009	
34	Start Site Development	6/23/2008		No	No	6/23/2008	
35	Contractor Issue P.O. to Turbine Generator Fabricator - Units 2 & 3	2/28/2009		No	No	2/19/2009	
36	Contractor Issue P.O. to Main Transformers Fabricator - Units 2 & 3	9/30/2009		No	No	9/25/2009	
37	Core Makeup Tank Fabricator Notice to Contractor Receipt of Long Lead Material - Units 2 & 3	11/30/2010		No	No	12/30/2010	Delayed 1 Month
38	Design Finalization Payment 4	4/30/2009		No	No	4/30/2009	
39	Turbine Generator Fabricator Issue P.O. for Condenser Material - Unit 2	8/31/2009		No	No	8/28/2009	
40	Reactor Coolant Pump Fabricator Issue Long Lead Material Lot 2 - Units 2 & 3	4/30/2009		No	No	4/30/2009	

Appendix A

Key:

Milestones Not Completed	Completed Prior to Q2-13	Current Quarter	Scheduled to Be Completed Q3-13	ORS Caution Milestone
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Activity No.	Milestone	Completion Date Approved in Order No. 2012-884	Scheduled Completion Date as of Q2-13	Outside 18 - 24 Month Contingency?	Impact to Substantial Completion Date? <sup>1</sup>	Actual Completion Date	Deviation from Order No. 2012-884
41	Passive Residual Heat Removal Heat Exchanger Fabricator Receipt of Long Lead Material - Units 2 & 3	5/31/2010		No	No	5/27/2010	
42	Design Finalization Payment 5	7/31/2009		No	No	7/31/2009	
43	Start Erection of Construction Buildings to include Craft Facilities for Personnel, Tools, Equipment; First Aid Facilities; Field Offices for Site Management and Support Personnel; Temporary Warehouses; and Construction Hiring Office	10/9/2009		No	No	12/18/2009	Delayed 2 Months
44	Reactor Vessel Fabricator Notice to Contractor of Receipt of Flange Nozzle Shell Forging - Unit 2	7/31/2009		No	No	8/28/2009	
45	Design Finalization Payment 6	10/31/2009		No	No	10/7/2009	
46	Instrumentation and Control Simulator - Contractor Issue P.O. to Subcontractor for Radiation Monitor System - Units 2 & 3	12/31/2009		No	No	12/17/2009	
47	Reactor Vessel Internals - Fabricator Start Fit and Welding of Core Shroud Assembly - Unit 2	6/30/2011		No	No	7/29/2011	
48	Turbine Generator Fabricator Issue P.O. for Moisture Separator Reheater/Feedwater Heater Material - Unit 2	4/30/2010		No	No	4/30/2010	
49	Reactor Coolant Loop Pipe Fabricator Acceptance of Raw Material - Unit 2	4/30/2010		No	No	2/18/2010	2 Months Early

Appendix A

Key:

Milestones Not Completed	Completed Prior to Q2-13	Current Quarter	Scheduled to Be Completed Q3-13	ORS Caution Milestone
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Activity No.	Milestone	Completion Date Approved in Order No. 2012-884	Scheduled Completion Date as of Q2-13	Outside 18 - 24 Month Contingency?	Impact to Substantial Completion Date? <sup>1</sup>	Actual Completion Date	Deviation from Order No. 2012-884
50	Reactor Vessel Internals - Fabricator Start Weld Neutron Shield Spacer Pads to Assembly - Unit 2	7/31/2012		No	No	8/28/2012	
51	Control Rod Drive Mechanisms - Fabricator to Start Procurement of Long Lead Material - Unit 2	6/30/2009		No	No	6/30/2009	
52	Contractor Notified that Pressurizer Fabricator Performed Cladding on Bottom Head - Unit 2	11/30/2010		No	No	12/23/2010	
53	Start Excavation and Foundation Work for the Standard Plant for Unit 2	3/15/2010		No	No	3/15/2010	
54	Steam Generator Fabricator Notice to Contractor of Receipt of 2nd Steam Generator Tubesheet Forging - Unit 2	2/28/2010		No	No	4/30/2010	Delayed 2 Months
55	Reactor Vessel Fabricator Notice to Contractor of Outlet Nozzle Welding to Flange Nozzle Shell Completion - Unit 2	2/28/2010		No	No	12/30/2010	Delayed 10 Months
56	Turbine Generator Fabricator Notice to Contractor Condenser Fabrication Started - Unit 2	5/31/2010		No	No	5/17/2010	
57	Complete Preparations for Receiving the First Module On Site for Unit 2	8/18/2010		No	No	1/22/2010	6 Months Early
58	Steam Generator Fabricator Notice to Contractor of Receipt of 1st Steam Generator Transition Cone Forging - Unit 2	4/30/2010		No	No	4/21/2010	
59	Reactor Coolant Pump Fabricator Notice to Contractor of Manufacturing of Casing Completion - Unit 2	11/30/2010		No	No	11/16/2010	

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Key:

Milestones Not Completed	Completed Prior to Q2-13	Current Quarter	Scheduled to Be Completed Q3-13	ORS Caution Milestone
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Activity No.	Milestone	Completion Date Approved in Order No. 2012-8884	Scheduled Completion Date as of Q2-13	Outside 18 - 24 Month Contingency?	Impact to Substantial Completion Date? <sup>1</sup>	Actual Completion Date	Deviation from Order No. 2012-8884
60	Reactor Coolant Loop Pipe Fabricator Notice to Contractor of Machining, Heat Treating & Non-Destructive Testing Completion - Unit 2	12/31/2010		No	No	3/20/2012	Delayed 14 Months
61	Core Makeup Tank Fabricator Notice to Contractor of Satisfactory Completion of Hydrotest - Unit 2	9/30/2012		No	No	11/26/2012	Delayed 1 Month
62	Polar Crane Fabricator Issue P.O. for Main Hoist Drum and Wire Rope - Units 2 & 3	2/28/2011		No	No	2/1/2011	
63	Control Rod Drive Mechanisms - Fabricator to Start Procurement of Long Lead Material - Unit 3	6/30/2011		No	No	6/14/2011	
64	Turbine Generator Fabricator Notice to Contractor Condenser Ready to Ship - Unit 2	10/31/2011		No	No	3/26/2012	Delayed 4 Months
65	Start Placement of Mud Mat for Unit 2	6/29/2012		No	No	7/20/2012	
66	Steam Generator Fabricator Notice to Contractor of Receipt of 1st Steam Generator Tubing - Unit 2	1/31/2011		No	No	9/28/2010	4 Months Early
67	Pressurizer Fabricator Notice to Contractor of Welding of Upper and Intermediate Shells Completion - Unit 2	10/31/2010		No	No	10/28/2011	Delayed 12 Months
68	Reactor Vessel Fabricator Notice to Contractor of Closure Head Cladding Completion - Unit 3	6/30/2012		No	No	6/28/2012	

Appendix A

Key:

Milestones Not Completed	Completed Prior to Q2-13	Current Quarter	Scheduled to Be Completed Q3-13	ORS Caution Milestone
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Activity No.	Milestone	Completion Date Approved in Order No. 2012-884	Scheduled Completion Date as of Q2-13	Outside 18 - 24 Month Contingency?	Impact to Substantial Completion Date? <sup>1</sup>	Actual Completion Date	Deviation from Order No. 2012-884
69	Begin Unit 2 First Nuclear Concrete Placement	8/24/2012		No	No	3/9/2013	Delayed 6 Months
70	Reactor Coolant Pump Fabricator Notice to Contractor of Stator Core Completion - Unit 2	9/30/2011		No	No	12/1/2011	Delayed 2 Months
71	Fabricator Start Fit and Welding of Core Shroud Assembly - Unit 2	6/30/2011		No	No	7/29/2011	
72	Steam Generator Fabricator Notice to Contractor of Completion of 1st Steam Generator Tubing Installation - Unit 2	5/31/2011		No	No	1/27/2012	Delayed 8 Months
73	Reactor Coolant Loop Pipe - Shipment of Equipment to Site - Unit 2	12/31/2012	9/30/2013	No	No		Delayed 9 Months
74	Control Rod Drive Mechanism - Ship Remainder of Equipment (Latch Assembly & Rod Travel Housing) to Head Supplier - Unit 2	6/30/2012		No	No	7/16/2012	
75	Pressurizer Fabricator Notice to Contractor of Welding of Lower Shell to Bottom Head Completion - Unit 2	10/31/2010		No	No	12/22/2011	Delayed 13 Months
76	Steam Generator Fabricator Notice to Contractor of Completion of 2nd Steam Generator Tubing Installation - Unit 2	5/31/2012		No	No	5/4/2012	
77	Design Finalization Payment 14	10/31/2011		No	No	10/31/2011	

Appendix A

Key:	Milestones Not Completed	Completed Prior to Q2-13	Current Quarter	Scheduled to Be Completed Q3-13	ORS Caution Milestone
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Activity No.	Milestone	Completion Date Approved in Order No. 2012-884	Scheduled Completion Date as of Q2-13	Outside 18 - 24 Month Contingency?	Impact to Substantial Completion Date? <sup>1</sup>	Actual Completion Date	Deviation from Order No. 2012-884
78	Set Module CA04 For Unit 2	11/6/2012	8/29/2013	No	No		Delayed 9 Months
79	Passive Residual Heat Removal Heat Exchanger Fabricator Notice to Contractor of Final Post Weld Heat Treatment - Unit 2	6/30/2010		No	No	5/24/2011	Delayed 10 Months
80	Passive Residual Heat Removal Heat Exchanger Fabricator Notice to Contractor of Completion of Tubing - Unit 2	5/31/2012		No	No	5/29/2012	
81	Polar Crane Fabricator Notice to Contractor of Girder Fabrication Completion - Unit 2	10/31/2012		No	No	10/23/2012	
82	Turbine Generator Fabricator Notice to Contractor Condenser Ready to Ship - Unit 3	8/31/2013	8/22/2013	No	No		
83	Set Containment Vessel Ring #1 for Unit 2	1/7/2013	11/7/2013	No	No		Delayed 10 Months
84	Reactor Coolant Pump Fabricator Delivery of Casings to Port of Export - Unit 2	7/31/2012	7/31/2013	No	No		Delayed 12 Months
85	Reactor Coolant Pump Fabricator Notice to Contractor of Stator Core Completion - Unit 3	8/31/2013	8/30/2013	No	No		
86	Reactor Vessel Fabricator Notice to Contractor of Receipt of Core Shell Forging - Unit 3	9/30/2012		No	No	3/29/2012	6 Months Early

Appendix A

Key:	Milestones Not Completed	Completed Prior to Q2-13	Current Quarter	Scheduled to Be Completed Q3-13	ORS Caution Milestone
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Activity No.	Milestone	Completion Date Approved in Order No. 2012-884	Scheduled Completion Date as of Q2-13	Outside 18 - 24 Month Contingency?	Impact to Substantial Completion Date? <sup>1</sup>	Actual Completion Date	Deviation from Order No. 2012-884
87	Contractor Notified that Pressurizer Fabricator Performed Cladding on Bottom Head - Unit 3	1/31/2013		No	No	11/9/2011	14 Months Early
88	Set Nuclear Island Structural Module CA03 for Unit 2	6/26/2013	11/22/2014	No	No		Delayed 17 Months
89	Squib Valve Fabricator Notice to Contractor of Completion of Assembly and Test for Squib Valve Hardware - Unit 2	5/31/2012		No	No	5/10/2012	
90	Accumulator Tank Fabricator Notice to Contractor of Satisfactory Completion of Hydrotest - Unit 3	3/31/2013	9/2/2013	No	No		Delayed 5 Months
91	Polar Crane Fabricator Notice to Contractor of Electric Panel Assembly Completion - Unit 2	3/31/2013		No	No	3/6/2013	
92	Start Containment Large Bore Pipe Supports for Unit 2	6/28/2013	10/22/2014	No	No		Delayed 16 Months
93	Integrated Head Package - Shipment of Equipment to Site - Unit 2	3/31/2013	2/6/2014	No	No		Delayed 10 Months
94	Reactor Coolant Pump Fabricator Notice to Contractor of Final Stator Assembly Completion - Unit 2	5/31/2013	9/4/2013	No	No		Delayed 3 Months
95	Steam Generator Fabricator Notice to Contractor of Completion of 2nd Steam Generator Tubing Installation - Unit 3	6/30/2013	7/15/2013	No	No		

Appendix A

Key:

Milestones Not Completed	Completed Prior to Q2-13	Current Quarter	Scheduled to Be Completed Q3-13	ORS Caution Milestone
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Activity No.	Milestone	Completion Date Approved in Order No. 2012-884	Scheduled Completion Date as of Q2-13	Outside 18 - 24 Month Contingency?	Impact to Substantial Completion Date? <sup>1</sup>	Actual Completion Date	Deviation from Order No. 2012-884
96	Steam Generator Fabricator Notice to Contractor of Satisfactory Completion of 1st Steam Generator Hydrotest - Unit 2	1/31/2013		No	No	1/14/2013	
97	Start Concrete Fill of Nuclear Island Structural Modules CA01 and CA02 for Unit 2	4/3/2014	5/23/2015	No	No		Delayed 13 Months
98	Passive Residual Heat Removal Heat Exchanger - Delivery of Equipment to Port of Entry - Unit 2	12/31/2012	11/4/2013	No	No		Delayed 10 Months
99	Refueling Machine Fabricator Notice to Contractor of Satisfactory Completion of Factory Acceptance Test - Unit 2	11/30/2013	3/27/2014	No	No		Delayed 3 Months
100	Deliver Reactor Vessel Internals to Port of Export - Unit 2	1/31/2014	6/10/2014	No	No		Delayed 4 Months
101	Set Unit 2 Containment Vessel #3	4/24/2014	3/16/2015	No	No		Delayed 10 Months
102	Steam Generator - Contractor Acceptance of Equipment at Port of Entry - Unit 2	7/31/2013	12/30/2013	No	No		Delayed 5 Months
103	Turbine Generator Fabricator Notice to Contractor Turbine Generator Ready to Ship - Unit 2	4/30/2013		No	No	5/28/2013	
104	Pressurizer Fabricator Notice to Contractor of Satisfactory Completion of Hydrotest - Unit 3	3/31/2014	1/7/2014	No	No		2 Months Early

Appendix A

Key:	<b>Milestones Not Completed</b>	<b>Completed Prior to Q2-13</b>	<b>Current Quarter</b>	<b>Scheduled to Be Completed Q3-13</b>	<b>ORS Caution Milestone</b>
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Activity No.	Milestone	Completion Date Approved in Order No. 2012-884	Scheduled Completion Date as of Q2-13	Outside 18 - 24 Month Contingency?	Impact to Substantial Completion Date? <sup>1</sup>	Actual Completion Date	Deviation from Order No. 2012-884
105	Polar Crane - Shipment of Equipment to Site - Unit 2	1/31/2014	9/17/2014	No	No		Delayed 7 Months
106	Receive Unit 2 Reactor Vessel On Site From Fabricator	5/13/2014	7/11/2013	No	No		10 Months Early
107	Set Unit 2 Reactor Vessel	6/23/2014	6/3/2015	No	No		Delayed 11 Months
108	Steam Generator Fabricator Notice to Contractor of Completion of 2nd Channel Head to Tubesheet Assembly Welding - Unit 3	12/31/2013	2/28/2014	No	No		Delayed 2 Months
109	Reactor Coolant Pump Fabricator Notice to Contractor of Final Stator Assembly Completion - Unit 3	8/31/2014	12/1/2014	No	No		Delayed 3 Months
110	Reactor Coolant Pump - Shipment of Equipment to Site (2 Reactor Coolant Pumps) - Unit 2	10/31/2013	12/31/2013	No	No		Delayed 2 Months
111	Place First Nuclear Concrete for Unit 3	10/9/2013	10/1/2013	No	No		
112	Set Unit 2 Steam Generator	10/23/2014	9/6/2015	No	No		Delayed 10 Months
113	Main Transformers Ready to Ship - Unit 2	9/30/2013	9/13/2013	No	No		

Appendix A

Key:

Milestones Not Completed	Completed Prior to Q2-13	Current Quarter	Scheduled to Be Completed Q3-13	ORS Caution Milestone
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Activity No.	Milestone	Completion Date Approved in Order No. 2012-884	Scheduled Completion Date as of Q2-13	Outside 18 - 24 Month Contingency?	Impact to Substantial Completion Date? <sup>1</sup>	Actual Completion Date	Deviation from Order No. 2012-884
114	Complete Unit 3 Steam Generator Hydrotest at Fabricator	2/28/2014	7/16/2014	No	No		Delayed 4 Months
115	Set Unit 2 Containment Vessel Bottom Head on Basemat Legs	10/11/2012		No	No	5/22/2013	Delayed 7 Months
116	Set Unit 2 Pressurizer Vessel	5/16/2014	6/15/2015	No	No		Delayed 13 Months
117	Reactor Coolant Pump Fabricator Notice to Contractor of Satisfactory Completion of Factory Acceptance Test - Unit 3	2/28/2015	1/16/2015	No	No		1 Month Early
118	Deliver Reactor Vessel Internals to Port of Export - Unit 3	6/30/2015	6/12/2015	No	No		
119	Main Transformers Fabricator Issue P.O. for Material - Unit 3	2/28/2015	2/2/2015	No	No		
120	Complete Welding of Unit 2 Passive Residual Heat Removal System Piping	2/5/2015	11/15/2015	No	No		Delayed 9 Months
121	Steam Generator - Contractor Acceptance of Equipment At Port of Entry - Unit 3	4/30/2015	4/6/2015	No	No		
122	Refueling Machine - Shipment of Equipment to Site - Unit 3	2/28/2015	4/6/2015	No	No		Delayed 1 Month
123	Set Unit 2 Polar Crane	1/9/2015	10/12/2015	No	No		Delayed 9 Months

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Key:

Milestones Not Completed	Completed Prior to Q2-13	Current Quarter	Scheduled to Be Completed Q3-13	ORS Caution Milestone
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Activity No.	Milestone	Completion Date Approved in Order No. 2012-8884	Scheduled Completion Date as of Q2-13	Outside 18 - 24 Month Contingency?	Impact to Substantial Completion Date? <sup>1</sup>	Actual Completion Date	Deviation from Order No. 2012-8884
124	Reactor Coolant Pumps - Shipment of Equipment to Site - Unit 3	6/30/2015	1/4/2016	No	No		Delayed 6 Months
125	Main Transformers Ready to Ship - Unit 3	7/31/2015	5/28/2015	No	No		2 Months Early
126	Spent Fuel Storage Rack - Shipment of Last Rack Module - Unit 3	7/31/2014	7/4/2014	No	No		
127	Start Electrical Cable Pulling in Unit 2 Auxillary Building	8/14/2013	7/9/2014	No	No		Delayed 10 Months
128	Complete Unit 2 Reactor Coolant System Cold Hydro	1/22/2016	10/15/2016	No	No		Delayed 8 Months
129	Activate Class 1E DC Power in Unit 2 Auxillary Building	3/15/2015	12/19/2015	No	No		Delayed 9 Months
130	Complete Unit 2 Hot Functional Test	5/3/2016	2/14/2017	No	No		Delayed 9 Months
131	Install Unit 3 Ring 3 for Containment Vessel	8/25/2015	12/9/2015	No	No		Delayed 3 Months
132	Load Unit 2 Nuclear Fuel	9/15/2016	7/18/2017	No	No		Delayed 10 Months
133	Unit 2 Substantial Completion	3/15/2017	12/14/2017	No	No		Delayed 9 Months

Appendix A

Key:

Milestones Not Completed	Completed Prior to Q2-13	Current Quarter	Scheduled to Be Completed Q3-13	ORS Caution Milestone
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Activity No.	Milestone	Completion Date Approved in Order No. 2012-884	Scheduled Completion Date as of Q2-13	Outside 18 - 24 Month Contingency?	Impact to Substantial Completion Date? <sup>1</sup>	Actual Completion Date	Deviation from Order No. 2012-884
134	Set Unit 3 Reactor Vessel	10/22/2015	6/7/2016	No	No		Delayed 7 Months
135	Set Unit 3 Steam Generator #2	2/25/2016	10/4/2016	No	No		Delayed 7 Months
136	Set Unit 3 Pressurizer Vessel	7/16/2015	3/7/2016	No	No		Delayed 7 Months
137	Complete Welding of Unit 3 Passive Residual Heat Removal System Piping	6/16/2016	1/20/2017	No	No		Delayed 7 Months
138	Set Unit 3 Polar Crane	5/9/2016	12/5/2016	No	No		Delayed 7 Months
139	Start Unit 3 Shield Building Roof Slab Rebar Placement	5/26/2016	6/10/2016	No	No		
140	Start Unit 3 Auxiliary Building Electrical Cable Pulling	11/7/2014	6/9/2015	No	No		Delayed 7 Months
141	Activate Unit 3 Auxiliary Building Class 1E DC Power	5/15/2016	5/15/2016	No	No		
142	Complete Unit 3 Reactor Coolant System Cold Hydro	3/22/2017	3/22/2017	No	No		
143	Complete Unit 3 Hot Functional Test	7/3/2017	7/3/2017	No	No		

Appendix A

Key:

Milestones Not Completed	Completed Prior to Q2-13	Current Quarter	Scheduled to Be Completed Q3-13	ORS Caution Milestone
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Activity No.	Milestone	Completion Date Approved in Order No. 2012-884	Scheduled Completion Date as of Q2-13	Outside 18 - 24 Month Contingency?	Impact to Substantial Completion Date? <sup>1</sup>	Actual Completion Date	Deviation from Order No. 2012-884
144	Complete Unit 3 Nuclear Fuel Load	11/15/2017	11/15/2017	No	No		
145	Begin Unit 3 Full Power Operation	4/8/2018	4/8/2018	No	No		
146	Unit 3 Substantial Completion	5/15/2018	5/15/2018	No	No		

**Notes:**

White highlighting represents Future or Historical Milestones that have not been completed.
Grey highlighting represents Future or Historical Milestones that were completed prior to the 2nd Quarter 2013.
Yellow highlighting represents those Milestones that are scheduled to be or have been completed during the 2nd Quarter 2013. This is based on the schedule approved by the Commission in Order No. 2012-884.
Green highlighting represents Future Milestones that are scheduled to be completed in the 3rd Quarter of 2013. This is based on the schedule approved by the Commission in Order No. 2012-884.
Red highlighting represents "Caution Milestones." Caution Milestones are those that are delayed by 10 months or greater.

**Appendix B**  
*Caution Milestones*

**Appendix B**

Activity No.	Milestone	Completion Date Approved in Order No. 2012-884	Scheduled Completion Date as of Q2-13	Deviation from Order No. 2012-884	Reason Given for Delay
83	Set Containment Vessel Ring #1 for Unit 2	1/7/2013	11/7/2013	Delayed 10 Months	The Containment Vessel Ring 1 sits atop the Containment Vessel Bottom Head, which sits atop the CR10 module. The delays here are due to engineering and design approvals, notably design approvals related to the basemat concrete. The setting of the Containment Vessel Ring #1 previously also depended on the setting of the CA20 module, but a work around for this has been established. A bulkhead is being installed to allow concrete to be poured around the CVBH prior to the setting of the CA20 module.
84	Reactor Coolant Pump Fabricator Delivery of Casings to Port of Export - Unit 2	7/31/2012	7/31/2013	Delayed 12 Months	Delays are due to design changes to casings, modifications of welding preparation and schedule resequencing. The casings were delivered to the port of export and the vessel carrying the cases departed on July 6, 2013.
88	Set Nuclear Island Structural Module CA03 for Unit 2	6/26/2013	11/22/2014	Delayed 17 Months	Delays are due to delays associated with the fabrication and setting of the CA01 module, as well as schedule resequencing. Manufacturing of the sub-modules for the CA03 module was moved from CB&I-LC to Pegasus Steel, LLC earlier in the year to allow CB&I-LC to focus on the CA01 module. WEC also discovered a problem in the logic of the previous schedule, as the proper support for the CA03 module will not be available until both the placement of the CA01 module and the concrete pour associated with that activity have been completed.

**Appendix B**

Activity No.	Milestone	Completion Date Approved in Order No. 2012-884	Scheduled Completion Date as of Q2-13	Deviation from Order No. 2012-884	Reason Given for Delay
92	Start Containment Large Bore Pipe Supports for Unit 2	6/28/2013	10/22/2014	Delayed 16 Months	Delays are due to delays associated with the fabrication and setting of the CA01 module, as well as schedule resequencing. WEC discovered a problem in the logic of the previous schedule, as the Containment Vessel Large Bore Pipe Supports cannot be installed until activities associated with the placement of the CA01 module have been completed. The revised date for the setting of the CA03 module still supports a target substantial completion date of December 14, 2017 for Unit 2.
93	Integrated Head Package - Shipment of Equipment to Site - Unit 2	3/31/2013	2/6/2014	Delayed 10 Months	The delay is due to design changes to the radial arm hoist to resolve issues with system integration.
97	Start Concrete Fill of Nuclear Island Structural Modules CA01 and CA02 for Unit 2	4/3/2014	5/23/2015	Delayed 13 Months	The delay is due to delays associated with the fabrication and setting of the CA01 module. This milestone is also impacted by a construction activity resequencing that calls for the welding of the Pressurizer and Steam Generator Supports to be welded to the CA01 wall prior to the placement of concrete after the setting of CA01.
98	Passive Residual Heat Removal Heat Exchanger - Delivery of Equipment to Port of Entry - Unit 2	12/31/2012	11/4/2013	Delayed 10 Months	The delay is due to schedule refinement and the need for engineering design approval prior to shipment.
101	Set Unit 2 Containment Vessel #3	4/24/2014	3/16/2015	Delayed 10 Months	The delay is due to delays associated with the fabrication and setting of the CA01 module.

**Appendix B**

Activity No.	Milestone	Completion Date Approved in Order No. 2012-884	Scheduled Completion Date as of Q2-13	Deviation from Order No. 2012-884	Reason Given for Delay
107	Set Unit 2 Reactor Vessel	6/23/2014	6/3/2015	Delayed 11 Months	The delay is primarily due to delays associated with the fabrication and setting of the CA01 module. A portion of the delay is also due to a schedule change related to the installment of overlay plates for the supports for major components.
112	Set Unit 2 Steam Generator	10/23/2014	9/6/2015	Delayed 10 Months	The delay is due to delays associated with the fabrication and setting of the CA01 module.
116	Set Unit 2 Pressurizer Vessel	5/16/2014	6/15/2015	Delayed 13 Months	The delay is due to delays associated with the fabrication and setting of the CA01 module.
127	Start Electrical Cable Pulling in Unit 2 Auxiliary Building	8/14/2013	7/9/2014	Delayed 10 Months	The delay is due to overall schedule resequencing.
132	Load Unit 2 Nuclear Fuel	9/15/2016	7/18/2017	Delayed 10 Months	The delay is due to overall schedule resequencing.

## **Appendix C**

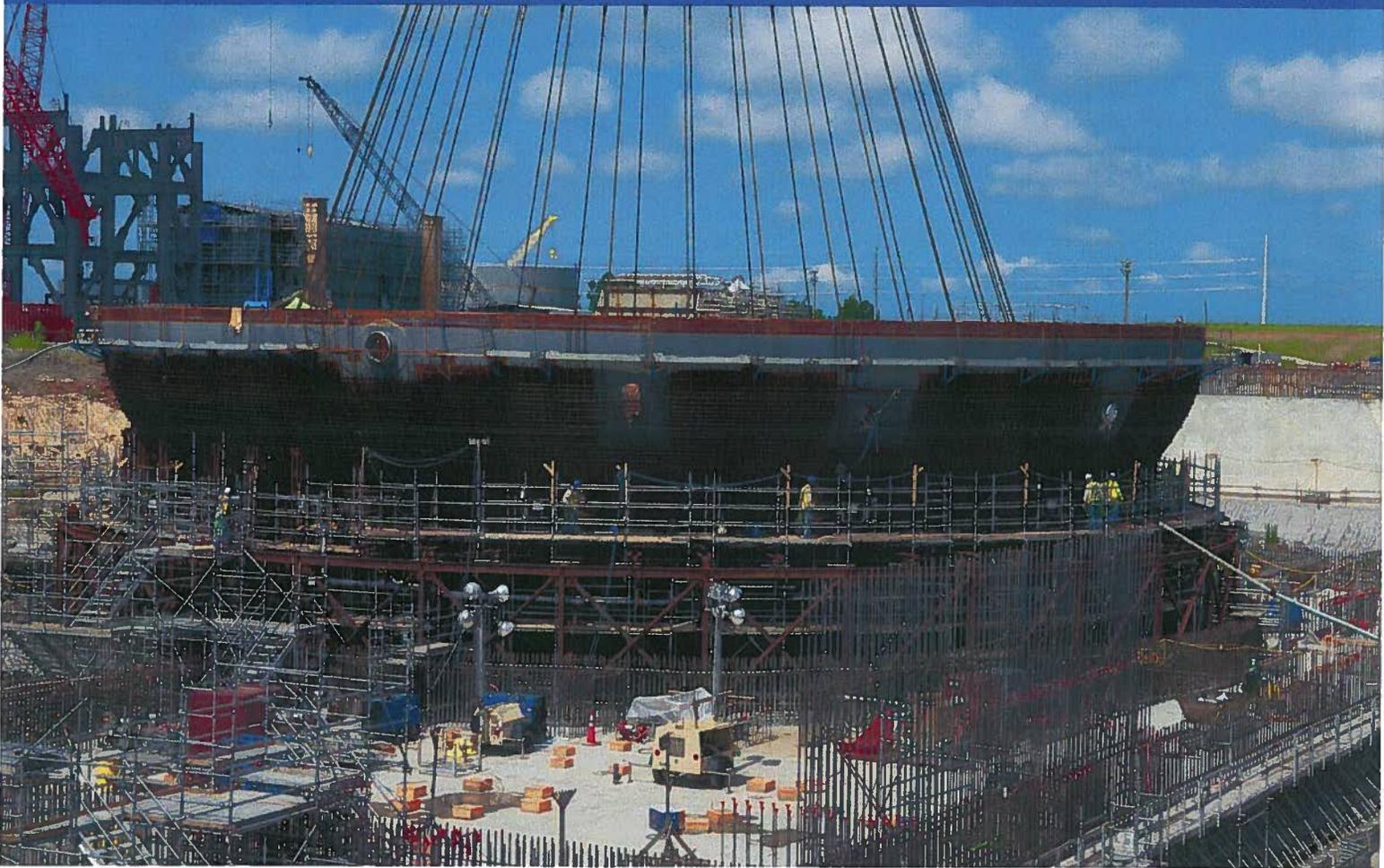
### *Construction Site Photographs*

# Unit 2 Nuclear Island

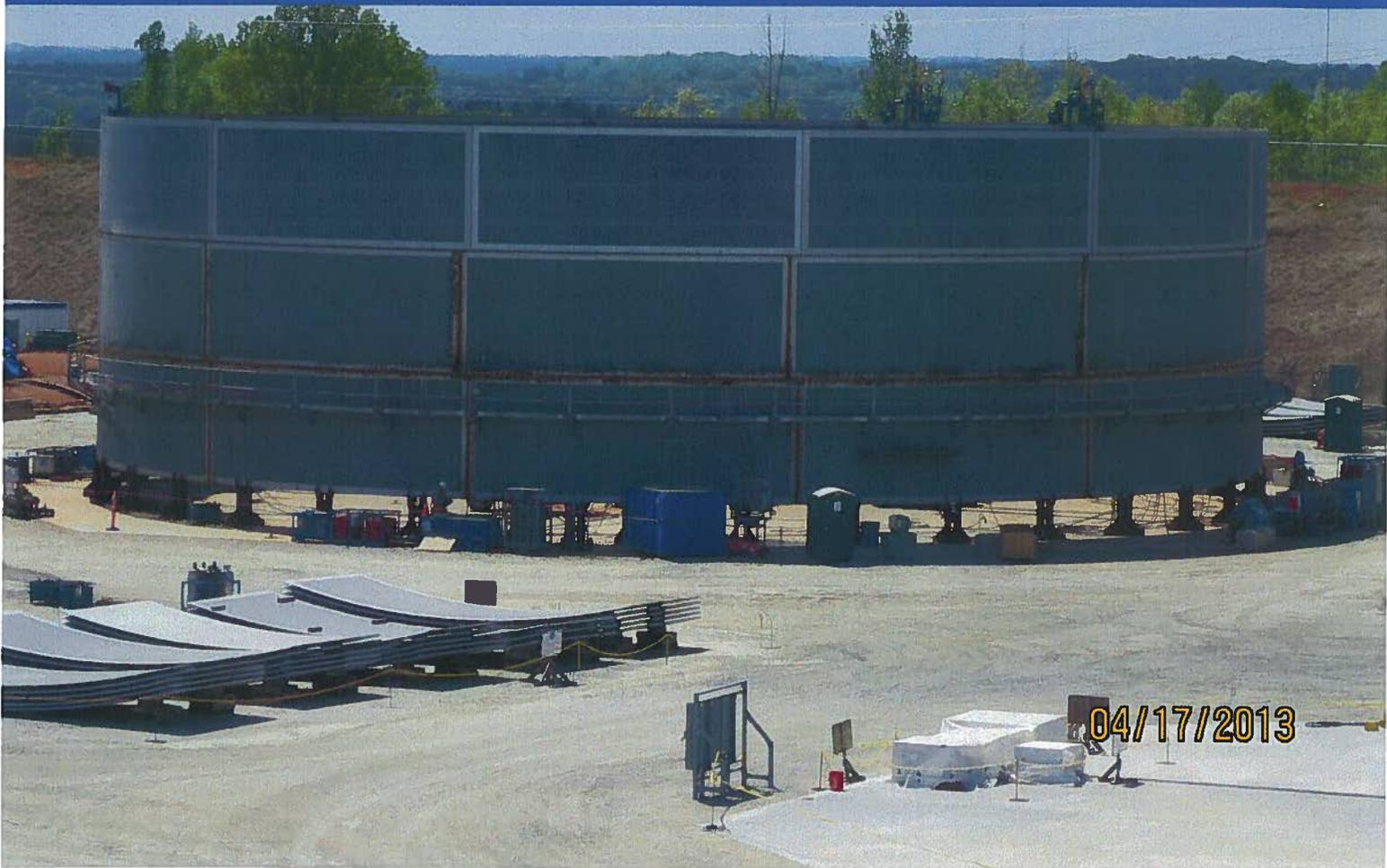


05/16/2013

# Unit 2 CVBH Placement



# Unit 2 CV Ring 2



# Unit 2 Turbine Island



# Unit 2 Condenser



# Unit 2 Reactor Vessel Delivery



# Unit 3 Nuclear Island



## **Appendix D**

### *License Amendment Requests*

**Appendix D**

NRC LAR No.	Summary	LAR Submittal Date	LAR Status	LAR Approval Date	PAR Status	PAR No Objection Letter Date
12-01	Stud Spacing around Electrical Penetrations	8/29/2012	Pending			
12-02	Definition of Wall Thickness in Table 3.3.1	9/26/2012	Pending	5/30/2013	Approved	1/16/2013
13-01	Basemat Shear Reinforcement Design Spacing	1/15/2013	Approved	2/26/2013	Approved	1/29/2013
13-02	Basemat Shear Reinforcement Design Details	1/18/2013	Approved	3/1/2013	Approved	1/29/2013
13-03	Turbine Building Eccentric and Concentric Bracing	2/7/2013	Pending			
13-04	Reconciliation of Tier 1 Value Differences	2/7/2013	Pending			
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	Pending			
13-07	Changes to Chemical and Volume Control System	3/13/2013	Pending			
13-08	Module Obstructions and Details	2/28/2013	Withdrawn			
13-09	<i>Reserved</i>					
13-10	Human Factors Engineering Integrated Plan	3/13/2013	Pending			
13-11	Nuclear Island Walls Reinforcement Criteria	3/26/2013	Approved	6/6/2013	Approved	4/10/2013

## **Appendix E**

*ORS Letter to the Commission on Caution Milestones*

C. DUKES SCOTT  
EXECUTIVE DIRECTOR

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Columbia, SC 29201



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ASSOCIATE PROGRAM MANAGER  
ELECTRIC REGULATION

July 26, 2013

**VIA ELECTRONIC FILING**

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

Re: Combined Application of South Carolina Electric & Gas Company for a Certificate of Environmental Compatibility and Public Convenience and Necessity and for a Base Load Review Order for the Construction and Operation of a Nuclear Facility in Jenkinsville, South Carolina - **V.C. Summer Nuclear Station Units 2 and 3 Construction Milestones**  
**Docket No.: 2008-196-E**

Dear Ms. Boyd:

Pursuant to the South Carolina Office of Regulatory Staff's ("ORS") nuclear monitoring of V.C. Summer Units 2 & 3 ("the Units") according to S.C. Code § 58-33-277 of the Base Load Review Act ("BLRA"), ORS herein advises the Public Service Commission of South Carolina (the "Commission") that there are existing matters that impact the construction schedule.

On June 5, 2013, South Carolina Electric & Gas Company ("SCE&G") announced that its Engineering, Procurement and Construction contract partners, Westinghouse Electric Company and Chicago Bridge and Iron ("the Consortium"), had preliminarily indicated to SCE&G that the substantial completion date of Unit 2 is expected to be delayed until the 4<sup>th</sup> quarter of 2017 or the 1<sup>st</sup> quarter of 2018, with the substantial completion date of Unit 3 expected to be delayed similarly<sup>1</sup>. This potential delay is primarily due to challenges in the project schedule related to delays in sub-module fabrication and delivery, specifically the CA01 module. CA01 is a structural module which sits inside of the containment vessel and forms the refueling canal, steam generator compartments and pressurizer compartment.

During the month of June, SCE&G received a draft revised construction schedule for Unit 2 from the Consortium. This draft revised construction schedule reflected a change to the target substantial completion date for Unit 2 from March 15, 2017 to December 15, 2017. Based on the

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<sup>1</sup> SCE&G has not agreed to any contractual change to the Guaranteed Substantial Completion Dates for the Units.

revised target substantial completion date, a revised construction schedule was generated by the Consortium to reflect the delays in sub-module fabrication and delivery and module fabrication and installation. Rather than shifting all activities forward by the same amount, many construction activities were re-sequenced to reduce the impact of module delays on the overall project. A similar delay to the Unit 3 target substantial completion date is also likely; however, no revised construction schedule for Unit 3 has yet been made available, and specific delay information for Unit 3 construction is not available at this time. ORS will continue to monitor this information closely.

During ORS's monthly project meetings with SCE&G on July 8, 2013 and July 9, 2013, SCE&G provided to ORS an analysis of the impact of these schedule changes on the BLRA Milestone Schedule ("Milestone Schedule").

Per the Base Load Review Order, overall construction is considered to be on schedule if the substantial completion dates are not accelerated more than twenty-four (24) months or delayed more than eighteen (18) months. ORS found no milestone to exceed these criteria; therefore, construction is considered to be on schedule.

As part of its review of the approved schedule, ORS identifies Caution Milestones. Caution Milestones are those that have been delayed ten (10) months or longer. If any Milestone is delayed sixteen (16) months or greater, ORS may issue a formal notification to the Commission of the delay.

As of July 9, 2013, based on the revised construction schedule, ORS identified fifteen (15) Caution Milestones, with one (1) milestone indicating a delay of 16 months and one (1) milestone indicating a delay of 17 months.

- **Milestone Activity No. 88** – *Set Nuclear Island Structural Module CA03 for Unit 2.*  
**Status:** Delayed 17 months.

While the delay in this milestone is primarily due to delays associated with the fabrication and setting of the CA01 module, there are additional factors contributing to the delay of this milestone. The sub-modules for CA03 were originally scheduled to be manufactured by CB&I Lake Charles, but in order to expedite the work on other modules their responsibility for these sub-modules was transferred to Pegasus Steel, LLC earlier this year. In reworking the milestone schedule to accommodate delays associated with the CA01 module, the Consortium also discovered a problem in the logic of the previous schedule, as the proper support for the CA03 module will not be available until both the placement of CA01 module and the concrete pour associated with that activity have been completed.

- **Milestone Activity No. 92** – *Start Containment Large Bore Pipe Supports for Unit 2.*  
**Status:** Delayed 16 months.

While the delay in this milestone is primarily due to delays associated with the fabrication and setting of the CA01 module, there are additional factors contributing the delay of this milestone. In reworking the milestone schedule to accommodate delays associated with the CA01 module, the Consortium discovered a problem in the logic of the previous schedule, as the Containment Vessel Large Bore Pipe Supports cannot be installed until the same activities associated with the placement of CA01 as stated for Milestone 88 have been completed.

Jocelyn G. Boyd, Esquire  
July 26, 2013  
Page 3 of 3

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In accordance with our practice, ORS is formally notifying the Commission of these delayed milestones. ORS has conducted an initial review of these delayed milestones. ORS has held meetings with SCE&G and the Consortium on the revised construction schedule, reviewed documents, and compared activities in the revised construction schedule with observed site activities.

A complete list of Caution Milestones, along with the reasons for the delays provided by SCE&G and the Consortium for their delays, is attached. ORS continues to closely review and monitor these milestones.

ORS appreciates the opportunity to provide this information and present our findings to the Commission.

Sincerely,



Allyn H. Powell

**Enclosure**

cc: Shannon Bowyer Hudson (via e-mail)  
K. Chad Burgess, Esquire (via e-mail)  
Matthew W. Gissendanner, Esquire (via e-mail)  
Belton T. Zeigler, Esquire (via e-mail)  
Gary Pope Jr., Esquire (via e-mail)  
Scott Elliott, Esquire (via e-mail)  
Pamela Greenlaw (via e-mail)  
Robert Guild, Esquire (via e-mail)

ORS Caution Milestones - July 2013

Attachment 1

Activity No.	Milestone	Completion Date Approved in Order No. 2012-884	Revised Target Completion Date as of July 9, 2013	Deviation from Order No. 2012-884	Reason Given for Delay
78	Set Module CA04 For Unit 2	11/6/2012	8/17/2013	Delayed 10 Months	The delays are associated with the delivery, receipt and fabrication of the CA04 module. The CA04 module is being fabricated on site, and the CA04 sub-modules were in the module assembly building as of 7/12/2013. CB&I plans to work extended hours to set the module in accordance with the revised target completion date.
83	Set Containment Vessel Ring #1 for Unit 2	1/7/2013	11/7/2013	Delayed 10 Months	The Containment Vessel Ring 1 sits atop the Containment Vessel Bottom Head ("CVBH"), which sits atop the CR10 module. The delays here are due to engineering and design approvals, notably design approvals related to the basemat concrete. The setting of the Containment Vessel Ring #1 previously also depended on the setting of the CA20 module, but a work around for this has been established. A bulkhead is being installed to allow concrete to be poured around the CVBH prior to the setting of the CA20 module.
84	Reactor Coolant Pump Fabricator Delivery of Casings to Port of Export - Unit 2	7/31/2012	6/13/2013	Delayed 11 Months	Delays are due to design changes to casings, modifications of welding preparation and schedule resequencing. The casings were delivered to the port of export and the vessel carrying the cases departed on July 6, 2013.
88	Set Nuclear Island Structural Module CA03 for Unit 2	6/26/2013	11/22/2014	Delayed 17 Months	Delays are due to delays associated with the fabrication and setting of the CA01 module, as well as schedule resequencing. Manufacturing of the sub-modules for the CA03 module was moved from CB&I Lake Charles to Pegasus Steel, LLC earlier in the year to allow CB&I Lake Charles to focus on the CA01 module. WEC also discovered a problem in the logic of the previous schedule, as the proper support for the CA03 module will not be available until both the placement of the CA01 module and the concrete pour associated with that activity have been completed.

**ORS Caution Milestones - July 2013**

**Attachment 1**

Activity No.	Milestone	Completion Date Approved in Order No. 2012-884	Revised Target Completion Date as of July 9, 2013	Deviation from Order No. 2012-884	Reason Given for Delay
92	Start Containment Large Bore Pipe Supports for Unit 2	6/28/2013	10/22/2014	Delayed 16 Months	Delays are due to delays associated with the fabrication and setting of the CA01 module, as well as schedule resequencing. WEC discovered a problem in the logic of the previous schedule, as the Containment Vessel Large Bore Pipe Supports cannot be installed until activities associated with the placement of the CA01 module have been completed. The revised date for the setting of the CA03 module still supports a target substantial completion date of December 15, 2017 for Unit 2.
93	Integrated Head Package - Shipment of Equipment to Site - Unit 2	3/31/2013	2/28/2014	Delayed 11 Months	The delay is due to design changes to the radial arm hoist to resolve issues with system integration.
97	Start Concrete Fill of Nuclear Island Structural Modules CA01 and CA02 for Unit 2	4/3/2014	5/28/2015	Delayed 13 Months	The delay is due to delays associated with the fabrication and setting of the CA01 module. This milestone is also impacted by a construction activity resequencing that calls for the welding of the Pressurizer and Steam Generator Supports to be welded to the CA01 wall prior to the placement of concrete after the setting of CA01.
98	Passive Residual Heat Removal Heat Exchanger - Delivery of Equipment to Port of Entry - Unit 2	12/31/2012	10/31/2013	Delayed 10 Months	The delay is due to schedule refinement and the need for engineering design approval prior to shipment.

**ORS Caution Milestones - July 2013**

**Attachment 1**

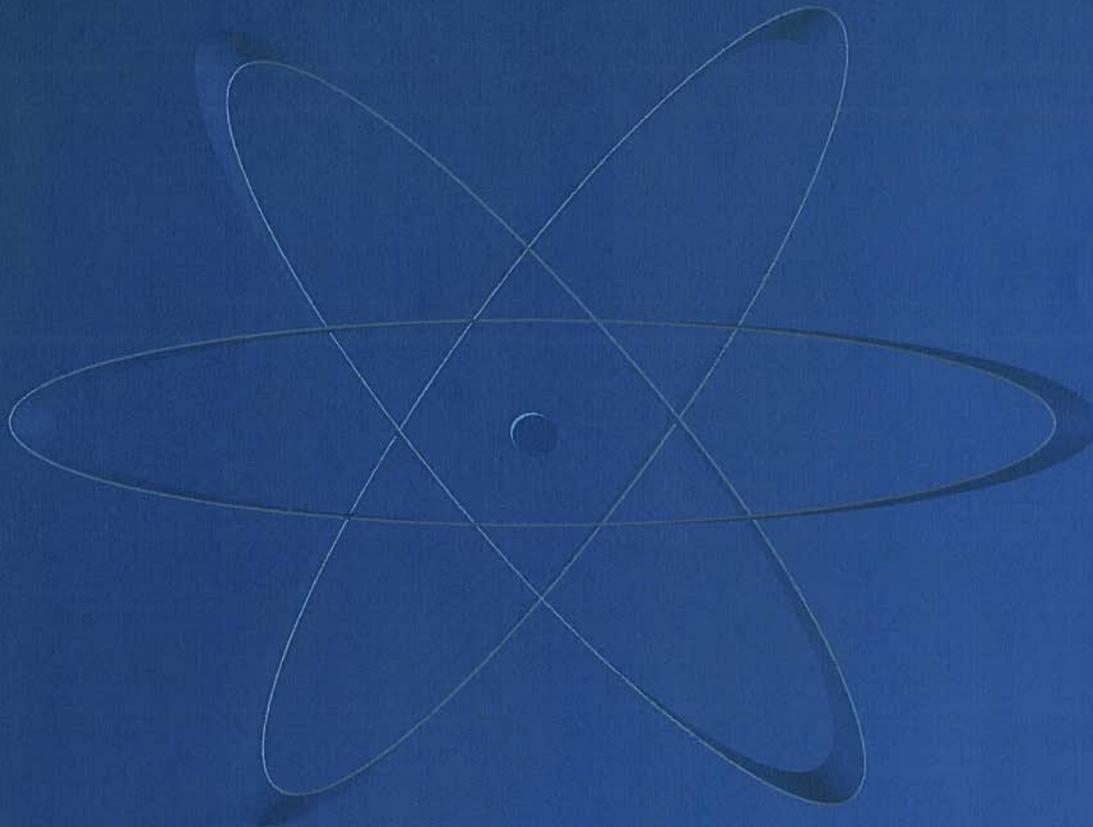
Activity No.	Milestone	Completion Date Approved in Order No. 2012-3884	Revised Target Completion Date as of July 9, 2013	Deviation from Order No. 2012-3884	Reason Given for Delay
101	Set Unit 2 Containment Vessel #3	4/24/2014	3/19/2015	Delayed 11 Months	The delay is due to delays associated with the fabrication and setting of the CA01 module.
107	Set Unit 2 Reactor Vessel	6/23/2014	6/7/2015	Delayed 12 Months	The delay is primarily due to delays associated with the fabrication and setting of the CA01 module. A portion of the delay is also due to a schedule change related to the installment of overlay plates for the supports for major components.
112	Set Unit 2 Steam Generator	10/23/2014	9/6/2015	Delayed 11 Months	The delay is due to delays associated with the fabrication and setting of the CA01 module.
116	Set Unit 2 Pressurizer Vessel	5/16/2014	6/17/2015	Delayed 13 Months	The delay is due to delays associated with the fabrication and setting of the CA01 module.

**ORS Caution Milestones - July 2013**

**Attachment 1**

Activity No.	Milestone	Completion Date Approved in Order No. 2012-3334	Revised Target Completion Date as of July 9, 2013	Deviation from Order No. 2012-3334	Reason Given for Delay
127	Start Electrical Cable Pulling in Unit 2 Auxiliary Building	8/14/2013	7/15/2014	Delayed 11 Months	The delay is due to overall schedule resequencing.
129	Activate Class 1E DC Power in Unit 2 Auxiliary Building	3/15/2015	1/16/2016	Delayed 10 Months	The delay is due to overall schedule resequencing.
132	Load Unit 2 Nuclear Fuel	9/15/2016	7/20/2017	Delayed 10 Months	The delay is due to overall schedule resequencing.

South Carolina Office of Regulatory Staff  
Review of South Carolina Electric & Gas Company's  
2013 3<sup>rd</sup> Quarter Report on  
V. C. Summer Units 2 and 3  
Status of Construction



*January 10, 2014*



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# Appendices

**Appendix A:** *Detailed Milestone Schedule as of September 30, 2013*

**Appendix B:** *Caution Milestones*

**Appendix C:** *Construction Site Photographs*

**Appendix D:** *License Amendment Requests*

**Appendix E:** *SCE&G Basemat Concrete Press Release*

## Executive Summary

On November 8, 2013, SCE&G submitted its 2013 3<sup>rd</sup> Quarter Report related to construction of V.C. Summer Units 2 & 3. The Report is filed in Commission Docket No. 2008-196-E and covers the quarter ending September 30, 2013. With reference to the Base Load Review Act, ORS's review of the Company's Report focuses on SCE&G's ability to adhere to the approved schedule and approved budget.

### **Approved Schedule Review**

ORS reported in its 2013 2<sup>nd</sup> Quarter Report that SCE&G announced that its Engineering, Procurement and Construction contract partners, Westinghouse Electric Company and Chicago Bridge and Iron, had preliminarily indicated to SCE&G that the substantial completion date of Unit 2 is expected to be delayed until the 4<sup>th</sup> quarter of 2017 or the 1<sup>st</sup> quarter of 2018, with the substantial completion date of Unit 3 expected to be delayed similarly<sup>1</sup>. This potential delay is primarily due to challenges in the project schedule related to delays in sub-module fabrication and delivery, specifically the CA01 module. CA01 is a structural module which sits inside the containment vessel and forms the refueling canal, steam generator compartments and pressurizer compartment. 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 from May 15, 2018 to December 15, 2018 in the Unit 3 substantial completion date. 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. As of September 30, 2013, 92 of the 146 milestone activities had been completed. Sixteen yet to be completed milestone activities had been delayed by 10 months or more, with two milestones indicating a delay of 15 months.

ORS has identified several ongoing construction challenges that pose a potential risk to the on-time completion of the Units. ORS continues to monitor these areas closely. The most significant issue is the continued delay in the delivery of the structural sub-modules. Despite continuing high-level management and executive focus from Chicago Bridge and Iron, Westinghouse Electric Company and SCE&G, the delivery and quality problems associated with these sub-modules are still not satisfactorily resolved. Delays in these sub-modules affect almost all subsequent critical path sequences in the construction schedule.

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<sup>1</sup> SCE&G has not agreed to any contractual change to the Guaranteed Substantial Completion Dates for the Units.

## **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). With escalation applied, the total cash flow budgeted for the project is \$5.422 billion. The cumulative amount spent on the project as of December 31, 2012 was \$1.773 billion. At the end of 2013, the cumulative project cash flow is forecasted to be approximately \$392 million below the capital cost schedule approved in Order No. 2012-884. Due to escalation, an increased project cash flow of approximately \$87.824 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. 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. As of September 30, 2013, the SCE&G forecasted gross construction cost of the plant is \$5.651 billion as compared to the approved gross construction cost of \$5.755 billion, which represents a decrease of approximately \$104 million.

As reported in ORS's 2013 2<sup>nd</sup> Quarter Report, SCE&G filed a petition and notice for an allowable ex parte communication briefing to address a regulatory accounting issue related to accumulated deferred income taxes on September 9, 2013 in Docket No. 2013-336-E. This tax issue arises as a result of the construction of the Units. In short, traditional accounting tax practices as compared to accounting tax treatment under the Base Load Review Act create a timing difference that temporarily causes SCE&G increased tax liability exposure. Subsequent to the end of the quarter, the Company conducted a briefing before the Commission on October 17, 2013 and the Commission approved the Company's petition in Order No. 2013-803 on November 26, 2013.

## 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 and 3 (the “Units”) and the Engineering, Procurement and Construction (“EPC”) Contract with Westinghouse Electric Company (“WEC”) and Chicago Bridge and Iron (“CB&I”) (collectively referred to as the “Consortium”). CB&I became a party to the EPC Contract via its acquisition of the Shaw Group, Inc (“Shaw”). This approval can be found in the Base Load Review Order No. 2009-104(A) filed in Docket No. 2008-196-E.

On January 21, 2010, the Commission approved the Company’s request to update milestones and capital cost schedules in Order No. 2010-12, which is filed in Docket No. 2009-293-E. On May 16, 2011, the Commission approved SCE&G’s petition for revisions and updates to capital cost schedules in Order No. 2011-345, which is filed in Docket No. 2010-376-E. On May 15, 2012, SCE&G filed an application with the Commission in Docket No. 2012-203-E for updates and revisions to schedules related to the construction of the Units. These requested schedule changes, along with an increase to the base project cost totaling \$278.05 million, were approved by the Commission in Order No. 2012-884 on November 15, 2012.<sup>2</sup>

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. 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.

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. Santee Cooper and Duke Energy Carolinas, LLC continue to negotiate regarding an ownership share in the Units.

On November 8, 2013, SCE&G submitted its 2013 3<sup>rd</sup> Quarter Report (“Report”) related to construction of the Units. The Report is filed in Commission Docket No. 2008-196-E and covers the quarter ending September 30, 2013. The Company’s Report is submitted pursuant

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<sup>2</sup> 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 are now pending.

to S.C. Code Ann. § 58-33-277 (Supp. 2012) of the Base Load Review Act ("BLRA"), which requires the 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 Report focuses on SCE&G's ability to adhere to the approved construction schedule and the approved capital cost schedule.

# Approved Schedule Review

## **Milestone Schedule**

As of September 30, 2013, ORS verified that of the Milestone Schedule's 146 activities:

- 92 milestone activities have been completed (includes 91 historical and 1 future milestones)
- 54 milestone activities are yet to be completed (includes 11 delayed historical and 43 future milestones)

ORS also verified that during the 3<sup>rd</sup> Quarter of 2013:

- Five milestone activities were scheduled to be completed
  - Three of these milestones have been completed
  - Two of these milestones have not been completed

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. As part of its review of the approved schedule, ORS identifies Caution Milestones. Caution Milestones are those that have been delayed ten months or longer. If any Milestone is delayed 16 months or longer, ORS may issue a formal notification to the Commission of the delay. As of the end of the 3<sup>rd</sup> quarter of 2013, ORS identified that the Company's notification of the change in Substantial Completion for the Units resulted in 16 milestones being delayed ten months or longer.

Appendix A shows details of SCE&G's Milestone Schedule as of September 30, 2013. A complete list of Caution Milestones, along with details regarding the delays provided by SCE&G and the Consortium is attached as Appendix B. ORS continues to review and monitor these milestones closely.

SCE&G's Milestone Schedule, attached to its 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. While delayed, the substantial completion dates fall within the parameters allowed by the Base Load Review Order. ORS continues to monitor this matter closely.

ORS reviews all invoices associated with the Milestone Schedule and during the 3<sup>rd</sup> quarter of 2013, there were four invoices paid. ORS reviews invoices to ensure that 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 Handy-Whitman inflation indices.

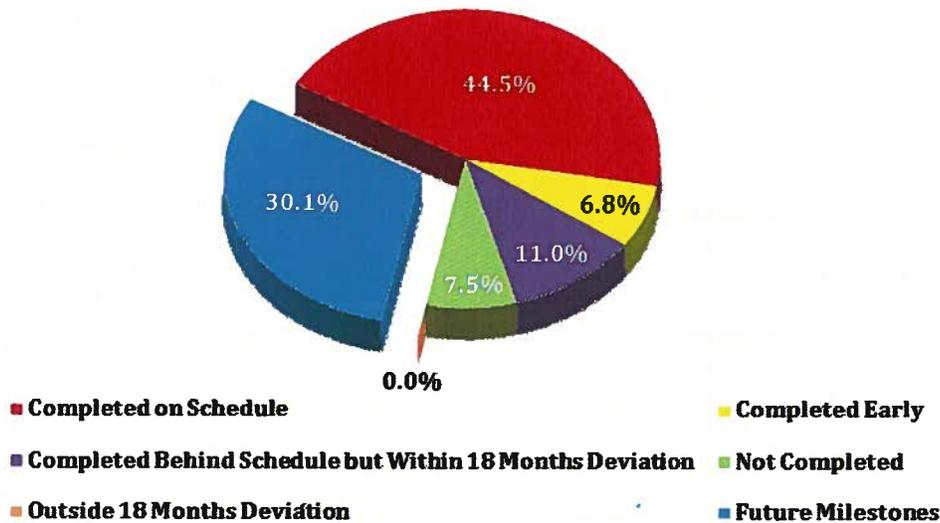
Table 1 shows the status of the 102 historical milestones and Chart 1 shows the status of all 146 milestones for the 3<sup>rd</sup> quarter of 2013 and prior.<sup>3</sup>

**Table 1:**

<b>Historical Milestones</b>		
<i>3<sup>rd</sup> Quarter 2013 and Prior</i>		
<b>102 of 146 Total Milestones</b>		
	<b># of Milestones</b>	<b>% of All Milestones<sup>4</sup></b>
<b>Completed on Schedule</b>	65	44.5%
<b>Completed Early</b>	10	6.8%
<b>Completed Behind Schedule but Within 18 Months Deviation</b>	16	11.0%
<b>Not Completed</b>	11	7.5%
<b>Outside 18 Months Deviation</b>	0	0.0%
<b>Total Historical Milestones</b>	<b>102</b>	<b>69.9%</b>

**Chart 1:**

**Historical Milestone Status**  
*3<sup>rd</sup> Quarter 2013 and Prior*



<sup>3</sup> The numbers reported by ORS and SCE&G may vary. For reporting purposes, ORS applies a 30-day threshold before a milestone is deemed accelerated or delayed. SCE&G uses a threshold less than 30 days. For instance, if a milestone is scheduled to be completed June 2, 2013, and the actual completion date is May 29, 2013, SCE&G deems the milestone as completed one month early since it is completed in a prior calendar month. ORS would report this milestone as being accomplished on schedule since it was completed within 30 days of the scheduled completion date.

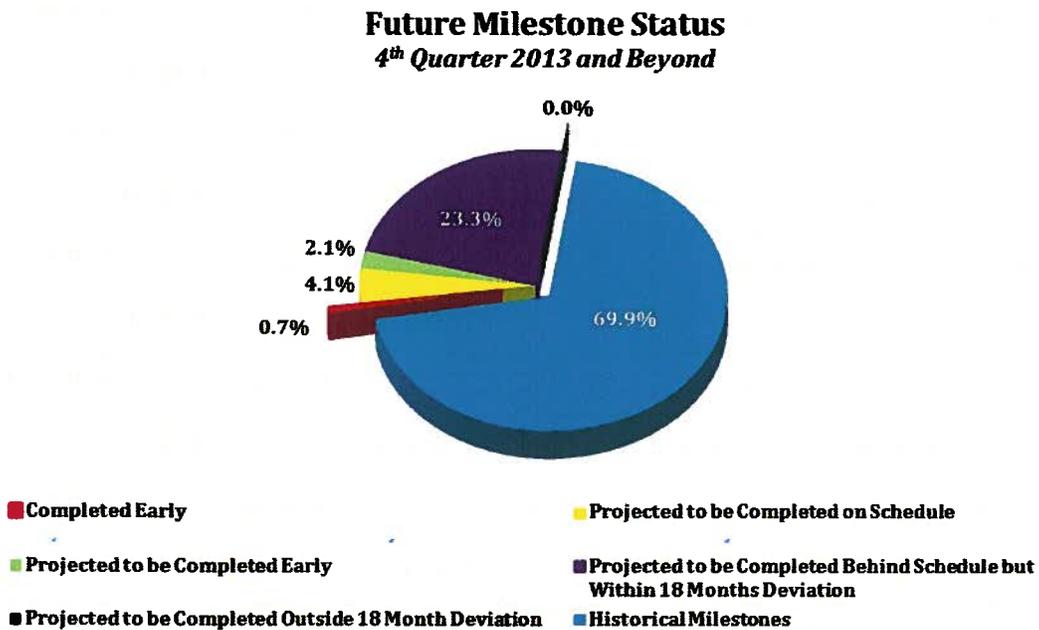
<sup>4</sup> Slight variances may occur due to rounding.

Table 2 shows the status of the 44 future milestones and Chart 2 shows the status of all 146 milestones for the 4<sup>th</sup> quarter 2013 and beyond.

**Table 2:**

<b>Future Milestones</b> <i>4<sup>th</sup> Quarter 2013 and Beyond</i> <b>44 of 146 Total Milestones</b>		
	# of Milestones	% of All Milestones <sup>5</sup>
<b>Completed Early</b>	1	0.7%
<b>Projected to be Completed on Schedule</b>	6	4.1%
<b>Projected to be Completed Early</b>	3	2.1%
<b>Projected to be Completed Behind Schedule but Within 18 Months Deviation</b>	34	23.3%
<b>Projected to be Outside 18 Months Deviation</b>	0	0.0%
<b>Total Future Milestones</b>	<b>44</b>	<b>30.1%</b>

**Chart 2:**



<sup>5</sup> Slight variances may occur due to rounding.

## **Specific Construction Activities**

Site construction activities continue to progress. A workforce of approximately 2,000 WEC/CB&I (including subcontractors) and 330 SCE&G personnel is currently on site. Major construction activities during the 3<sup>rd</sup> quarter of 2013 are listed below:

- The Unit 2 CA04 module was set in place in the Containment Vessel Bottom Head (“CVBH”) on September 27, 2013. The CA04 will house the lower portion of the Reactor Vessel (“RV”).
- Installation of the plates that make up the Unit 2 Containment Vessel (“CV”) Rings continued. Unit 2 CV Ring 1 fabrication and installation of internal stiffeners were largely complete. Welding was completed on the seams of the first three courses of plates for Unit 2 CV Ring 2. Unit 3 CVBH work also continued through the quarter.
- Significant progress was made on the Unit 2 Turbine Building. One of the three lower sections of the Unit 2 Main Condenser was installed in August 2013, and CH80, a major structural module for the turbine building, was installed in September 2013. These represent major advancements toward the completion of the Unit 2 Turbine Building. Additional information on this subject can be found in “Notable Activities Occurring After September 30, 2013” later in this report.
- Structural work for Cooling Tower 2A was substantially completed at the end of 3<sup>rd</sup> quarter of 2013. Approximately 60% of the precast panels for Cooling Tower 3A and 50% of the precast panels for Cooling Tower 3B have been set into place. Electrical and mechanical work continued throughout the quarter. The initial section of the basemat for Cooling Tower 2B was poured while support work continued on the remaining sections in preparation of concrete placement. Additionally, the basemat for the Unit 2 circulating water pump house was completed.
- Progress continued on the CA20 sub-modules inside the Module Assembly Building (“MAB”). A total of 44 of the 72 CA20 sub-modules had been delivered to the site from CB&I Lake Charles (“CB&I-LC”) as of the end of the 3<sup>rd</sup> quarter of 2013, with five of these arriving on site during the 3<sup>rd</sup> quarter of 2013. During the 3<sup>rd</sup> quarter of 2013, CB&I contractors continued repairing and re-welding the modules inside the MAB using full penetration welds as previously detailed in prior ORS Reports. The delivery and assembly of all structural modules, including CA20, is a critical path activity.
- CB&I-LC continues to be the focus of intense management attention. Delays in sub-module fabrication have contributed to the anticipated delay in the Unit 2 substantial completion date. CB&I has implemented a new leadership team and developed a new schedule for Unit 2 sub-module production. In an effort to improve delivery times, CB&I shifted work, including the CA04 module, the CA03 module, and Shield Building

modules, from CB&I-LC to other fabricators. Further delays in the sub-module fabrication schedule, particularly the CA01 module, may result in milestones exceeding the 18-month delay allowed by the Base Load Review Order. ORS continues to closely monitor the impact module delays have on cost and schedule.

- Shipment of the completed squib valves for the Units is on hold as their manufacturer addresses anomalies uncovered during qualification testing of the valves and deficiencies identified by the NRC in document packages related to work performed by sub-contractors.

Photographs of 3<sup>rd</sup> quarter construction activities are shown in Appendix C.

### **Critical Path Activities**

Critical path activities are those that drive the construction schedule. These assessments are based on previous critical paths and projected future critical paths.

- **Unit 2 CA01 Module**

Fabrication and delivery of the sub-modules being manufactured at CB&I-LC continues to challenge the schedule. Of the sub-modules required to be assembled, the CA01 module remains one of the major critical concerns and challenges to the schedule of the project. None of these sub-modules have been completed or shipped to the site. There are various options being pursued by SCE&G and the Consortium, including work-arounds and re-sequencing of the installation, to reduce the impact of the delay of these sub-modules. The CA01 module is currently the most critical activity in the assembly of the nuclear island building because it must be placed before setting of the CV rings can progress beyond the first ring. This critical path activity is behind schedule and could further delay the completion date.

- **Unit 2 CA20 Module**

Delays also continue with the fabrication and delivery of the CA20 sub-modules from CB&I-LC. The sub-modules needed to proceed with the final assembly of module CA20 are not yet on site. This may impact the construction of the shield building and further delay the project. However, the weld repairs on the sub-modules, as discussed in ORS's 2013 1<sup>st</sup> Quarter Report, are nearing completion. Additional information on the Unit 2 CA20 Module can be found in "Notable Activities Occurring After September 30, 2013" later in this report. This critical path activity is behind schedule.

- **Unit 2 Shield Building**

Because of the production and quality issues associated with CB&I-LC, fabrication of the Shield Building modules has been reassigned to Newport News Industries ("NNI") in Virginia. Mobilization and preparation for production continued at NNI throughout the

quarter. Although fabrication is now underway, no sub-modules have been delivered to the site. A detailed schedule for their delivery is not yet available. In addition, work associated with completing the mock-ups to field test activities associated with the installation of the shield building modules has now been scheduled to be completed in early 2014.

- **Unit 3 Basemat**

Significant progress has been made in this area. Installation of the reinforcing steel and the embedded components continued throughout the quarter with an expected concrete pour of the basemat to occur in mid-October 2013. This is the current critical path activity for Unit 3 and is on schedule. Additional information on the Unit 3 basemat can be found in “Notable Activities Occurring After September 30, 2013” later in this report.

- **Unit 3 Modules**

Module assembly is a future critical path activity for Unit 3. As of September 30, 2013, a revised sub-module delivery schedule has been not released for Unit 3. These sub-modules, and therefore the associated modules, are behind schedule. Additional information on the Unit 3 CA01, CA03, and CA20 modules can be found in “Notable Activities Occurring After September 30, 2013” later in this report.

## **Transmission**

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

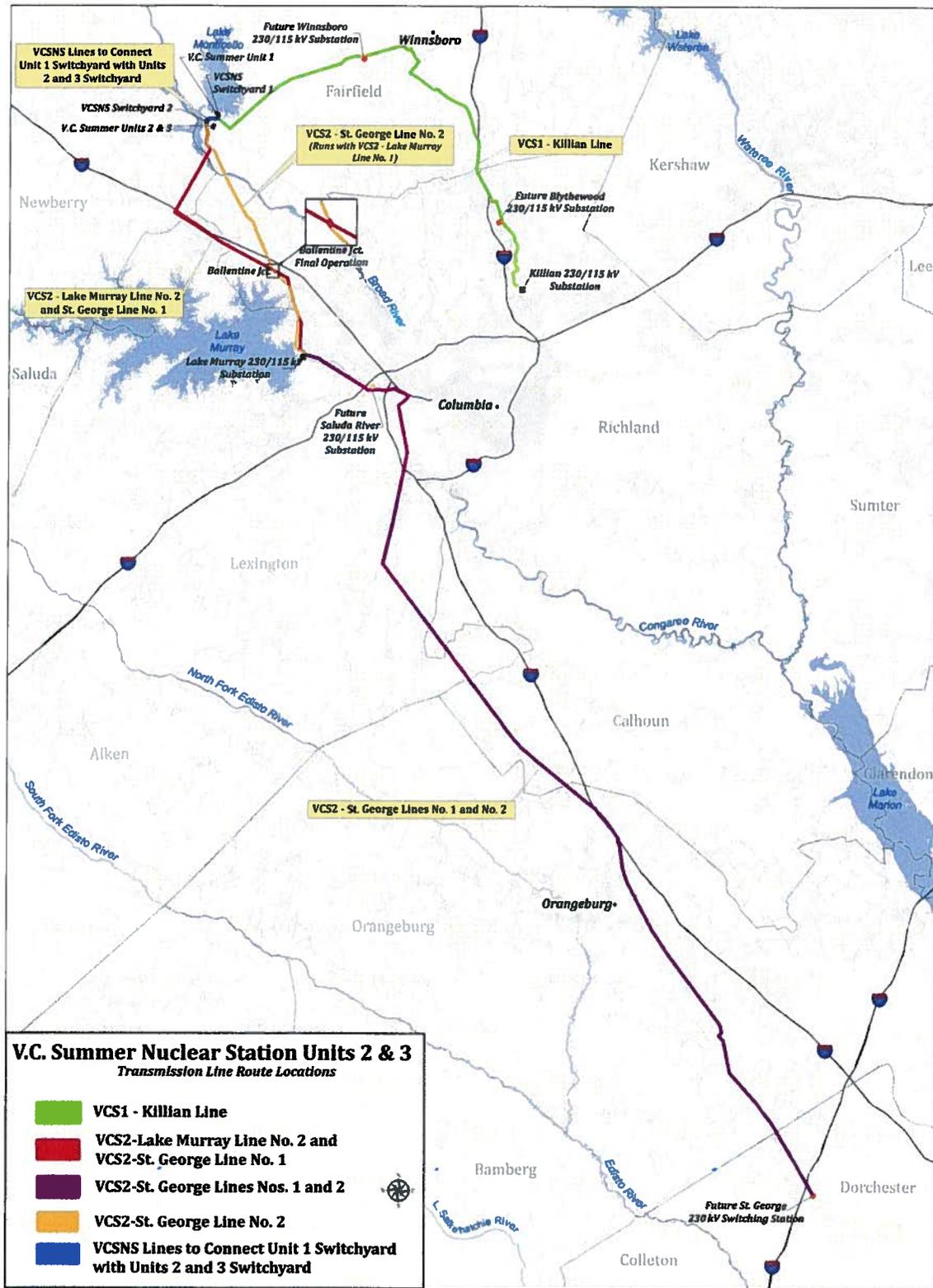
Phase 1 consists of construction of two new 230 kV transmission lines in support of Unit 2: the VCS1–Killian Line and the VCS2–Lake Murray Line #2. The VCS1–Killian Line will connect the existing V.C. Summer Switchyard ("Switchyard 1") to the Company's existing Killian Road 230 kV Substation. The VCS2–Lake Murray Line #2 will connect the newly-constructed Switchyard ("Switchyard 2") to the Company's existing Lake Murray 230 kV Substation. Switchyard 2 will allow the connection of both the Unit 2 and Unit 3 generators to the grid. Also, for Phase 1, two new 230 kV interconnections between Switchyard 1 and Switchyard 2 have been constructed. Construction of the Phase 1 lines continued during the 3<sup>rd</sup> quarter of 2013. As of September 30, 2013, the VCS1–Killian Line was nearing completion and the VCS2–Lake Murray Line #2 was approximately 95% complete.

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, and St. George 230 kV Switching Station, and Saluda River 230/115 kV Substation. Preliminary construction activities have begun on the VCS2–St. George Lines #1 and #2 including erosion control measures and spotting and framing of structures. Additionally, the overall engineering layout of the St. George 230 kV Switching Station was completed.

Both the VCS2–St. George Line #1 and VCS2–St. George Line #2 will connect Switchyard 2 to the yet-to-be constructed St. George 230 kV Switching Station. Construction on these lines began during the quarter; however, construction of the St. George 230 kV Switching Station has not yet begun. A third new 230 kV interconnection between Switchyard 1 and Switchyard 2 will be required for Phase 2. SCE&G has acquired the land for the Saluda River 230/115 kV Substation, to be built adjacent to and interconnect with the VCS2–St. George lines. The preliminary environmental assessment of this site has been completed and lay out of the substation is progressing.

Map 1 shows the geographical location of SCE&G's new transmission lines and other associated facilities to support the Units.

# Map 1: New SCE&G Transmission Lines and Facilities Supporting V.C. Summer Units 2 & 3



## **Change Orders and Amendments**

During the 3<sup>rd</sup> quarter of 2013, no Change Orders or Amendments were executed. No Change Orders or Amendments have been executed since early 2012, despite continued negotiations for four Change Orders.

Execution of Change Order #16 has been delayed pending the resolution of a question regarding the application of the Handy-Whitman inflation indices. The Company is withholding payment of disputed amounts on invoices that are affected by these indices pending resolution of this matter.

The second Change Order under negotiation would incorporate Phase II of the cyber security changes previously catalogued in Change Order #14. The third incorporates potential design changes to the offsite water treatment system. The final Change Order under negotiation would address WEC's costs associated with recent federal health care legislation.

Table 3 details all Change Orders and Amendments. 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.

**Table 3:**

Change Orders and Amendments					
No.	Summary	Cost Categories Involved	Type of Change	Date Approved	Status
1	Operator training for WEC RV Systems and Simulator training	Fixed Price with 0% escalation <sup>6</sup>	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	<i>*Supplements Change Order No. 1*</i> Increased training by two (2) weeks	Fixed Price with 0% escalation <sup>6</sup>	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 (Shaw)	Firm	Entitlement	11/14/2011	Approved
13	Ovation Workstations	No Cost	Owner Directed	3/12/2012	Approved
14	Cyber Security Phase I	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
16	Resolves WEC/CB&I claims related to COL Delay & other items	Target & Firm Price	Entitlement	N/A	Pending

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

<sup>6</sup> 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.

## **Licensing and Inspection Activities**

### **Federal Activities**

As of September 30, 2013, SCE&G has identified the need to submit more than 60 License Amendment Requests (“LAR”) to the NRC. The exact number of LARs required varies, as a single LAR may address multiple issues. A LAR is the process by which a licensee requests changes to the COL issued by the NRC. The licensee may request a Preliminary Amendment Request (“PAR”) to accompany a LAR. PARs allow the licensee to continue with construction at its own risk while awaiting final dispensation of the LAR. A total of 19 LARs had been submitted through the end of the 3<sup>rd</sup> quarter of 2013 with seven of these submitted during the quarter. A table of LARs submitted to the NRC, and accompanying PARs, if requested, is attached as Appendix D. Issues surrounding the approval of LARs are discussed in more detail in the section entitled “Construction Challenges.”

The NRC conducts monthly site inspections to monitor construction progress. No additional issues were identified during the 3<sup>rd</sup> quarter of 2013.

On July 29, 2013 the NRC issued an inspection report for the period of April 1, 2013 to June 30, 2013 with no findings.

On August 1, 2013, the NRC completed an annual inspection of the Company's corrective action program. The report documenting the inspection results was published on August 29, 2013. There were no findings identified during the inspection.

On September 30, 2013, the NRC completed a quarterly inspection covering the period of July 1, 2013 through September 30, 2013. Additional information on this inspection can be found in “Notable Activities Occurring After September 30, 2013” later in this report.

### **State Activities**

As of September 30, 2013, there are currently no major state construction-related permits outstanding.

## Approved Budget Review

ORS's budget review includes an analysis of the 3<sup>rd</sup> Quarter 2013 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 nine major cost categories for variances. These cost categories are:

- Fixed with No Adjustment
- Firm with Fixed Adjustment A
- Firm with Fixed Adjustment B
- Firm with Indexed Adjustment
- Actual Craft Wages
- Non-Labor Cost
- Time & Materials
- Owners Costs
- Transmission Projects

ORS monitors variances due to project changes (e.g., shifts in work scopes, payment timetables, construction schedule adjustments, Change Orders). At the end of the 3<sup>rd</sup> quarter of 2013, SCE&G's total base project cost (in 2007 dollars) is \$4.548 billion.

### **Project Cash Flow**

As shown in Appendix 2 of the Company's Report, the cumulative amount spent on the project as of December 31, 2012 was \$1.773 billion. The cumulative amount forecasted to be spent on the project by December 31, 2013 is \$2.453 billion.

With reference to Appendix 2, ORS evaluated 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. As of December 31, 2012, the comparison shows the yearly maximum annual variance from the approved cash flow schedule through the life of the project. The comparison also shows that the cumulative project cash flow is forecasted to be approximately \$392.1

million under budget at the end of 2013. Due to escalation, at the completion of the project in 2018 the cumulative project cash flow is forecasted to be approximately \$87.8 million over budget.

Table 4 shows the annual and cumulative project cash flows as compared to those approved in Order No. 2012-884.

**Table 4:**

<b>Project Cash Flow Comparison</b>			
<i>\$'s in Thousands<sup>7</sup></i>			
		<b>Annual Over/(Under)</b>	<b>Cumulative Over/(Under)</b>
<b>Actual</b>	<b>2007</b>	-	-
	<b>2008</b>	\$0	\$0
	<b>2009</b>	\$0	\$0
	<b>2010</b>	\$0	\$0
	<b>2011</b>	\$0	\$0
	<b>2012</b>	(\$142,003)	(\$142,003)
<b>Projected</b>	<b>2013</b>	(\$250,126)	(\$392,129)
	<b>2014</b>	(\$61,220)	(\$453,349)
	<b>2015</b>	\$63,947	(\$389,402)
	<b>2016</b>	\$157,237	(\$232,165)
	<b>2017</b>	\$210,969	(\$21,196)
	<b>2018</b>	\$109,019	\$87,823

In summary, the Report shows no increase in the total base project cost (in 2007 dollars). Due to escalation, an increase in project cash flow of approximately \$87.8 million will be necessary to complete the project in 2018. These forecasts reflect the updated capital cost schedules approved in Order No. 2012-884, the current construction schedule and the inflation indices in the Company's Appendix 4. The increase in project cash flow is due to an increase in escalation resulting from construction delays and short-term escalation rate increases. 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. Since SCE&G has not accepted responsibility for

<sup>7</sup> Slight variances may occur due to rounding.

these costs, this report includes no increases to the project cash flow attributable to the delay in the substantial completion dates.

### **AFUDC and Escalation**

The forecasted AFUDC for the total project as of the end of the 3<sup>rd</sup> quarter of 2013 is \$229.7 million and is currently based on a forecasted 6.09% 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. More specifically, as of September 30, 2013, SCE&G's forecast gross construction cost of the plant is \$5.651 billion as compared to the approved gross construction cost of \$5.755 billion, which represents a decrease of approximately \$104 million.

### **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. SCE&G filed its Annual Request for Revised Rates with the Commission in Docket No. 2013-150-E on May 30, 2013, the anniversary date of SCE&G's previous request for revised rates. The Commission approved an increase of \$67,240,232 (2.87%) in Order No. 2013-680(A) on October 2, 2013.

Table 5 below shows the requested increases and approved increases from all prior Revised Rate Filings with the Commission.

**Table 5:**

<b>Requested vs. Approved Increases</b> <i>SCE&amp;G Revised Rate Filings</i>					
<b>Docket No.</b>	<b>Order No.</b>	<b>Requested Increase</b>	<b>ORS Examination</b>	<b>Approved Increase</b>	<b>Retail Increase</b>
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%

## **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 CWIP
- Physically observes construction activities
- Bi-monthly on-site review of construction documents
- Holds monthly update meetings with SCE&G
- Meets quarterly with representatives of WEC
- Participates in NRC Public Meetings regarding SCE&G COL and other construction activities

## Summary of ORS Visit to CB&I-LC Facility

On September 25, 2013, ORS visited the CB&I-LC facility in Lake Charles, Louisiana to review the fabrication and shipping status of the Units' structural sub-modules. SCE&G and CB&I-LC representatives were also present during this visit. The visit was comprised of presentations by several CB&I-LC staff and a site tour. ORS toured the shop floor and observed the work in progress on several structural sub-modules, including those for the Unit 2 CA20 and CA01 modules.

Since assuming responsibility for the facility from Shaw in late 2012, CB&I has made several management changes; increased the staff from 700 in February 2013 to 1,205 as of September 25, 2013; revamped the shop processes and procedures (including instituting an electronic tracking system); implemented a planning and scheduling system that tracks all activities associated with the fabrication process; instituted a program to promote a safety conscious work environment; and expanded the number of shifts and work hours of the facility. These changes are designed to improve the quality and schedule adherence; however, the facility must demonstrate a sustained record of compliance in order to determine whether these efforts have been successful.

The expansive shop area was filled with large steel plates and structural steel. The number of "flat tables" where the final fabrication activities were underway had recently been increased and several more were in various stages of completion. Welding activities were underway throughout the facility. However, the overall shop layout appeared to require multiple movements of the large plates by the overhead crane to transfer the plates to the proper work area. Also, on each sub-module ORS observed, there were multiple "red tags" indicating non-conformances that required re-work. CB&I indicated that most of these were legacy issues inherited from Shaw and that CB&I's new processes and procedures should reduce these non-conformances on future sub-modules.

## Construction Challenges

Based upon the information provided by the Company in its Report, as well as information obtained via additional ORS monitoring activities, ORS identifies the following ongoing challenges in the construction of the Units.

### **Structural Modules**

As identified in previous ORS quarterly reports, the most significant, current challenge to the project remains the continued inability of CB&I-LC to reliably and predictably meet the quality and schedule requirements of the project. The critical path to completion of Unit 2 runs through the completion of modules CA01 and CA20, and is dependent upon the delivery of the sub-modules that comprise the components of these modules from CB&I-LC. The CV and the structures associated with the main Nuclear Island ("NI") building cannot be completed until these modules are fabricated and installed. The BLRA milestone (Milestone Activity No. 97) most closely associated with this activity currently shows a 12-month delay, and it is concerning that none of the significant sub-modules associated with the CA01 module have been delivered to the site. There has been progress made, as stated in the following summary and as discussed in the "Notable Activities Occurring After September 30, 2013" section, but this area remains a primary focus of ORS.

- CA04 sub-modules were transferred to the site for final fabrication and the completed module for Unit 2 was set in place inside the CVBH on September 27, 2013.
- CB&I-LC has established an on-site work area at the site to perform the final inspection, documentation review and completion of any additional final work.
- All sub-modules required for the assembly of Unit 2 module CA20 for placement in the NI have been delivered to the site for final inspection and fabrication. This freed up shop space at the main CB&I-LC facility which should permit them to focus on the completion of the fabrication of the Unit 2 CA01 sub-modules.
- CB&I-LC is now working two 12-hour shifts, seven days a week to try to recover the schedule for the sub-modules and reduce the impact on the substantial completion dates.
- Fabrication of the sub-modules for CA03 was transferred to Pegasus Steel in North Charleston, SC in order to further reduce the burden on the CB&I-LC facility.
- Repair work to remove and replace the incorrect fillet welds with full penetration welds on the Unit 2 CA20 sub-modules was nearly complete at the end of the reporting period.

## **Shield Building Modules**

As previously reported, shield building module fabrication has been reassigned to NNI. However, NNI's sustained, reliable performance has not yet been demonstrated and a delivery schedule had not yet been provided as of September 30, 2013. ORS remains concerned about the significant fabrication and erection challenges that will be presented by the complex configurations of the shield building modules. A firm delivery schedule for all the shield building modules needs to be established in the near future, and NNI needs to begin the delivery of high quality modules to the site. In addition, the results of test pours associated with Southern Company's Vogtle and the Unit #2 & #3 mock-ups should provide an indication of how the erection process will progress. The next few months present a critical challenge to the project in this area, and will be closely monitored by ORS.

## **Structural Design Compliance**

The design reviews and modifications required to address the issues identified by the review discussed in ORS's 2013 2<sup>nd</sup> Quarter Report have not resulted in any stated impact to the project schedule or cost. However, the construction of the Auxiliary Building walls has recently fallen behind schedule. ORS continues to monitor the delay closely.

## **Instrumentation and Control Design**

During this reporting period, SCE&G announced a 5½ month delay in the delivery schedule of the Plant Reference Simulator ("PRS") due to additional time required for WEC to complete the Human Factors Engineering/Integrated Systems Validation testing. This delay also resulted in a delay in the examination dates for the first class of licensed reactor operators.

Completion of the design of the PRS by WEC, and review of these design changes by the NRC, are key activities required to support this revised schedule and the substantial completion dates. In an effort to accelerate the review of the PRS, the NRC has agreed to review the completion of the designs of the PRS on a piece-meal, system-by-system basis rather than the originally planned single comprehensive review of the completed software. However, any further delays in the completion of the design by WEC or any major issues identified in the NRC review could jeopardize the commercial operation dates of the Units.

## **Overlapping Unit 2 & Unit 3 Construction Schedules**

The delays in the progress on Unit 2 construction, in particular those associated with sub-module fabrication and erection, have begun to challenge the ability of SCE&G and the Consortium to work on both Units simultaneously while adhering to the approved schedules. This was recently demonstrated by shifting work crews from the cooling tower foundations to complete the Unit 3 NI basemat. This is an area that will be monitored closely and will become more relevant and challenging over the coming months.

A detailed construction schedule for Unit 3 was developed by the Consortium during this period, and resulted in the approximately 7-month delay presented as BLRA Milestone Activity No. 146. However, this schedule was not based on firm commitment dates from CB&I-LC for the Unit 3 structural sub-modules. SCE&G indicated in its Report that the Unit 3 substantial completion date may slip further into the first quarter of 2019. CB&I-LC is to present a firm schedule and work plan to the Consortium and SCE&G during the 4<sup>th</sup> quarter of 2013, and the Unit 3 schedule will then be revised to reflect these commitments. The work represented on this revised schedule will challenge the resources available to the project, and will require coordinated efforts to ensure the work progresses in accordance with the approved schedules on the Units.

## **Manufacturing of Major Equipment**

Factors such as design changes, labor conditions, shipping conditions and the financial stability of foreign manufacturers due to financial market conditions still present significant challenges to the on-time delivery of equipment to the project. It is encouraging that the final shipment of major components for the Unit 2 Turbine Generator was received during this period, and several more major components are in the final processes or en route to the site. However, the extensive and expansive supply chains for major components remain an issue that requires continued attention.

## **License Amendment Reviews**

The current total number of identified LARs by SCE&G was over 60 as of September 30, 2013, and this number continues to increase each month. Of the total number, 19 LARs have been submitted to the NRC for review. SCE&G provides a summary of the LARs that have been submitted to the NRC in Appendix 5 of its Report. The preparation and review of these LARs requires significant efforts by both SCE&G and the NRC. In some cases, the approval of these LARs is beginning to challenge the construction schedule and will need to be monitored closely.

## **Notable Activities Occurring after September 30, 2013**

The BLRA allows SCE&G 45 days from the end of the current quarter to file its Report. Items of importance that occurred subsequent to the closing of the 3<sup>rd</sup> quarter of 2013 are reported below.

### **Accumulated Deferred Income Tax Timing Difference**

As reported in ORS's 2013 2<sup>nd</sup> Quarter Report, SCE&G filed a petition and notice for an allowable ex parte communication briefing to address a regulatory accounting issue related to accumulated deferred income taxes on September 9, 2013 in Docket No. 2013-336-E. This tax issue arises as a result of the construction of the Units. In short, traditional accounting tax practices as compared to accounting tax treatment under the Base Load Review Act create a timing difference that temporarily causes SCE&G increased tax liability exposure. Subsequent to the end of the quarter, the Company conducted a briefing before the Commission on October 17, 2013, and the Commission approved the Company's petition in Order No. 2013-803 on November 26, 2013.

### **Caution Milestones**

Although module CA04 was reported as set in place as of September 27, 2013, issues with the allowable tolerances for the final set have delayed the completion of this milestone (BLRA Milestone No. 78). As of December 10, 2013, non-conformances associated with the completion of this milestone remain unresolved, and the milestone is not complete.

As of the end of November 2013, there were 17 BLRA milestones with targeted completion dates at 10 months or more beyond the Order No. 2012-884 approved milestone completion dates. Three of these had completion dates delayed by 15 months or more. These are Milestone No. 88 (Set Unit 2 NI structural module CA03) with a delay of 16 months, Milestone No. 92 (Start Unit 2 containment large bore pipe supports) with a delay of 15 months, and Milestone No. 98 (Delivery of Unit 2 Passive Residual Heat Removal Heat Exchanger to Port of Entry) with a delay of 15 months. ORS previously filed a letter notifying the Commission of the delay in Milestone No. 88 on July 26, 2013. This letter is attached to ORS's 2013 2<sup>nd</sup> Quarter Report as Appendix E.

## **Equipment Delivery**

The Unit 2 Core Make-Up Tanks were delivered to the site on November 3, 2013, and Unit 2 Accumulator Tanks were delivered to the site from Mangiarotti on November 24, 2013. These tanks are now in storage at the site.

## **NRC Licensing**

On September 30, 2013, the NRC completed a quarterly inspection covering the period of July 1, 2013 through September 30, 2013. The report documenting the inspection results was published after the quarter on October 30, 2013. There were no findings identified during the inspection. The NRC conducted an inspection of the Unit 3 NI basemat concrete pour, and had two minor findings which had no impact on the construction activities.

As of December 11, 2013, the Company has identified 72 LARs for the Units. Of these, 24 have been submitted to the NRC for their review. Nine of these have been approved and incorporated into the license. Currently, one LAR has been identified as critical to the construction schedule and will require a PAR in order to maintain the current project schedule. The LAR, LAR 13-41, was submitted by the Company to the NRC on November 26, 2013. This LAR addresses thermal conductivity of the CV coating.

## **Site Facilities**

The Emergency Response Building was structurally completed and now houses the new fire equipment purchased for the site.

## **Structural Modules**

As reported above, the CA04 module has been set inside the CVBH, but is not yet considered to be in its final position because of unresolved non-conformances with regard to the allowable tolerances on its final location and orientation.

All sub-modules associated with module CA20 have been delivered to the site; however, many of these still require rework/repair and final inspection by the on-site extension of CB&I-LC before they are released to the site construction crew for final assembly of the module in the MAB. All weld repair work associated with replacing the non-conforming fillet welds with full penetration welds has now been completed and is undergoing final inspection. Work on the CA20 continues in the MAB, and the module is scheduled to be lifted onto the NI during the 1<sup>st</sup> quarter of 2014.

The Consortium has proposed to shift sub-module fabrication for the Unit 3 CA01, CA03, and CA20 modules to other vendors to reduce the burden on CB&I-LC and to improve the delivery schedule of the sub-modules to the site. SCE&G has agreed to this proposal and is working with the Consortium in vendor selection.

Mock-up test pours for the shield building walls have been made at Southern Company's Vogtle Site and are currently in the process of being destructively tested to determine whether the construction methodology and approach is satisfactory. SCE&G is actively participating in this activity, and plans to use these results in performing their own mock-up test pours during the 1<sup>st</sup> quarter of 2014.

### **Turbine Building**

Subsequent to the end of the quarter, significant progress was made on the Unit 2 Turbine Building. The major turbine building structural module CH81A was set on October 3, 2013, and the lower shell of condenser section C was set on October 24, 2013. As of December 12, 2013, the upper shells of condenser sections A, B and C have been set. Condensate A and B pumps are also set in place in the turbine building. These represent major activities toward the completion of the Unit 2 Turbine Building.

### **Unit 3 Nuclear Island**

The pouring of the NI basemat for Unit 3 was completed on November 4, 2013. This represented the completion of BLRA Milestone 111. A press release regarding the placement of the basemat was issued by the Company and is included as Appendix E.

*SCE&G's 2013 4<sup>th</sup> quarter report is due 45 days after December 31, 2013. ORS expects to continue publishing a review evaluating SCE&G's quarterly reports.*

## **Appendix A**

*Detailed Milestone Schedule as of September 30, 2013*

Appendix A

Key:

Milestones Not Completed	Completed Prior to Q3-13	Current Quarter	Scheduled to Be Completed Q4-13	ORS Caution Milestone
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Activity No.	Milestone	Completion Date Approved in Order No. 2012-884	Scheduled Completion Date as of Q3-13	Outside 18 - 24 Month Contingency?	Impact to Substantial Completion Date? <sup>1</sup>	Actual Completion Date	Deviation from Order No. 2012-884
1	Approve Engineering, Procurement and Construction Agreement	5/23/2008		No	No	5/23/2008	
2	Issue Purchase Orders ("P.O.") to Nuclear Component Fabricators for Units 2 and 3 Containment Vessels	12/3/2008		No	No	12/3/2008	
3	Contractor Issue P.O. to Passive Residual Heat Removal Heat Exchanger Fabricator - First Payment - Unit 2	8/31/2008		No	No	8/18/2008	
4	Contractor Issue P.O. to Accumulator Tank Fabricator - Unit 2	7/31/2008		No	No	7/31/2008	
5	Contractor Issue P.O. to Core Makeup Tank Fabricator - Units 2 & 3	9/30/2008		No	No	9/30/2008	
6	Contractor Issue P.O. to Squib Valve Fabricator- Units 2 & 3	3/31/2009		No	No	3/31/2009	
7	Contractor Issue P.O. to Steam Generator Fabricator - Units 2 & 3	6/30/2008		No	No	5/29/2008	1 Month Early
8	Contractor Issue Long Lead Material P.O. to Reactor Coolant Pump Fabricator - Units 2 & 3	6/30/2008		No	No	6/30/2008	
9	Contractor Issue P.O. to Pressurizer Fabricator - Units 2 & 3	8/31/2008		No	No	8/18/2008	

Appendix A

Key:

Milestones Not Completed	Completed Prior to Q3-13	Current Quarter	Scheduled to Be Completed Q4-13	ORS Caution Milestone
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Activity No.	Milestone	Completion Date Approved in Order No. 2012-884	Scheduled Completion Date as of Q3-13	Outside 18 - 24 Month Contingency?	Impact to Substantial Completion Date? <sup>1</sup>	Actual Completion Date	Deviation from Order No. 2012-884
10	Contractor Issue P.O. to Reactor Coolant Loop Pipe Fabricator - First Payment - Units 2 & 3	6/30/2008		No	No	6/20/2008	
11	Reactor Vessel Internals - Issue Long Lead Material P.O. to Fabricator - Units 2 & 3	11/21/2008		No	No	11/21/2008	
12	Contractor Issue Long Lead Material - P.O. to Reactor Vessel Fabricator - Units 2 & 3	6/30/2008		No	No	5/29/2008	1 Month Early
13	Contractor Issue P.O. to Integrated Head Package Fabricator - Units 2 & 3	7/31/2009		No	No	7/31/2009	
14	Control Rod Drive Mechanism - Issue P.O. for Long Lead Material to Fabricator - Units 2 & 3 - First Payment	6/21/2008		No	No	6/21/2008	
15	Issue P.O.'s to Nuclear Component Fabricators for Nuclear Island Structural CA20 Modules	7/31/2009		No	No	8/28/2009	
16	Start Site Specific and Balance of Plant Detailed Design	9/11/2007		No	No	9/11/2007	
17	Instrumentation & Control Simulator - Contractor Place Notice to Proceed - Units 2 & 3	10/31/2008		No	No	10/31/2008	
18	Steam Generator - Issue Final P.O. to Fabricator for Units 2 & 3	6/30/2008		No	No	6/30/2008	

Appendix A

Key:

Milestones Not Completed	Completed Prior to Q3-13	Current Quarter	Scheduled to Be Completed Q4-13	ORS Caution Milestone
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Activity No.	Milestone	Completion Date Approved in Order No. 2012-884	Scheduled Completion Date as of Q3-13	Outside 18 - 24 Month Contingency?	Impact to Substantial Completion Date? <sup>1</sup>	Actual Completion Date	Deviation from Order No. 2012-884
19	Reactor Vessel Internals - Contractor Issue P.O. for Long Lead Material (Heavy Plate and Heavy Forgings) to Fabricator - Units 2 & 3	1/31/2010		No	No	1/29/2010	
20	Contractor Issue Final P.O. to Reactor Vessel Fabricator - Units 2 & 3	9/30/2008		No	No	9/30/2008	
21	Variable Frequency Drive Fabricator Issue Transformer P.O. - Units 2 & 3	4/30/2009		No	No	4/30/2009	
22	Start Clearing, Grubbing and Grading	1/26/2009		No	No	1/26/2009	
23	Core Makeup Tank Fabricator Issue Long Lead Material P.O. - Units 2 & 3	10/31/2008		No	No	10/31/2008	
24	Accumulator Tank Fabricator Issue Long Lead Material P.O. - Units 2 & 3	10/31/2008		No	No	10/31/2008	
25	Pressurizer Fabricator Issue Long Lead Material P.O. - Units 2 & 3	10/31/2008		No	No	10/31/2008	
26	Reactor Coolant Loop Pipe - Contractor Issue P.O. to Fabricator - Second Payment - Units 2 & 3	4/30/2009		No	No	4/30/2009	
27	Integrated Head Package - Issue P.O. to Fabricator - Units 2 & 3 - Second Payment	7/31/2009		No	No	7/31/2009	

Appendix A

Key:

Milestones Not Completed	Completed Prior to Q3-13	Current Quarter	Scheduled to Be Completed Q4-13	ORS Caution Milestone
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Activity No.	Milestone	Completion Date Approved in Order No. 2012-884	Scheduled Completion Date as of Q3-13	Outside 18 - 24 Month Contingency?	Impact to Substantial Completion Date? <sup>1</sup>	Actual Completion Date	Deviation from Order No. 2012-884
28	Control Rod Drive Mechanism - Contractor Issue P.O. for Long Lead Material to Fabricator - Units 2 & 3	6/30/2008		No	No	6/30/2008	
29	Contractor Issue P.O. to Passive Residual Heat Removal Heat Exchanger Fabricator - Second Payment - Units 2 & 3	10/31/2008		No	No	10/31/2008	
30	Start Parr Road Intersection Work	2/13/2009		No	No	2/13/2009	
31	Reactor Coolant Pump - Issue Final P.O. to Fabricator - Units 2 & 3	6/30/2008		No	No	6/30/2008	
32	Integrated Heat Packages Fabricator Issue Long Lead Material P.O. - Units 2 & 3	10/31/2009		No	No	10/1/2009	1 Month Early
33	Design Finalization Payment 3	1/31/2009		No	No	1/30/2009	
34	Start Site Development	6/23/2008		No	No	6/23/2008	
35	Contractor Issue P.O. to Turbine Generator Fabricator - Units 2 & 3	2/28/2009		No	No	2/19/2009	
36	Contractor Issue P.O. to Main Transformers Fabricator - Units 2 & 3	9/30/2009		No	No	9/25/2009	

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Milestones Not Completed	Completed Prior to Q3-13	Current Quarter	Scheduled to Be Completed Q4-13	ORS Caution Milestone
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Activity No.	Milestone	Completion Date Approved in Order No. 2012-884	Scheduled Completion Date as of Q3-13	Outside 18 - 24 Month Contingency?	Impact to Substantial Completion Date? <sup>1</sup>	Actual Completion Date	Deviation from Order No. 2012-884
37	Core Makeup Tank Fabricator Notice to Contractor Receipt of Long Lead Material - Units 2 & 3	11/30/2010		No	No	12/30/2010	Delayed 1 Month
38	Design Finalization Payment 4	4/30/2009		No	No	4/30/2009	
39	Turbine Generator Fabricator Issue P.O. for Condenser Material - Unit 2	8/31/2009		No	No	8/28/2009	
40	Reactor Coolant Pump Fabricator Issue Long Lead Material Lot 2 - Units 2 & 3	4/30/2009		No	No	4/30/2009	
41	Passive Residual Heat Removal Heat Exchanger Fabricator Receipt of Long Lead Material - Units 2 & 3	5/31/2010		No	No	5/27/2010	
42	Design Finalization Payment 5	7/31/2009		No	No	7/31/2009	
43	Start Erection of Construction Buildings to include Craft Facilities for Personnel, Tools, Equipment; First Aid Facilities; Field Offices for Site Management and Support Personnel; Temporary Warehouses; and Construction Hiring Office	10/9/2009		No	No	12/18/2009	Delayed 2 Months
44	Reactor Vessel Fabricator Notice to Contractor of Receipt of Flange Nozzle Shell Forging - Unit 2	7/31/2009		No	No	8/28/2009	

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Key:

Milestones Not Completed	Completed Prior to Q3-13	Current Quarter	Scheduled to Be Completed Q4-13	ORS Caution Milestone
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Activity No.	Milestone	Completion Date Approved in Order No. 2012-884	Scheduled Completion Date as of Q3-13	Outside 18 - 24 Month Contingency?	Impact to Substantial Completion Date? <sup>1</sup>	Actual Completion Date	Deviation from Order No. 2012-884
45	Design Finalization Payment 6	10/31/2009		No	No	10/7/2009	
46	Instrumentation and Control Simulator - Contractor Issue P.O. to Subcontractor for Radiation Monitor System - Units 2 & 3	12/31/2009		No	No	12/17/2009	
47	Reactor Vessel Internals - Fabricator Start Fit and Welding of Core Shroud Assembly - Unit 2	6/30/2011		No	No	7/29/2011	
48	Turbine Generator Fabricator Issue P.O. for Moisture Separator Reheater/Feedwater Heater Material - Unit 2	4/30/2010		No	No	4/30/2010	
49	Reactor Coolant Loop Pipe Fabricator Acceptance of Raw Material - Unit 2	4/30/2010		No	No	2/18/2010	2 Months Early
50	Reactor Vessel Internals - Fabricator Start Weld Neutron Shield Spacer Pads to Assembly - Unit 2	7/31/2012		No	No	8/28/2012	
51	Control Rod Drive Mechanisms - Fabricator to Start Procurement of Long Lead Material - Unit 2	6/30/2009		No	No	6/30/2009	
52	Contractor Notified that Pressurizer Fabricator Performed Cladding on Bottom Head - Unit 2	11/30/2010		No	No	12/23/2010	
53	Start Excavation and Foundation Work for the Standard Plant for Unit 2	3/15/2010		No	No	3/15/2010	

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Key:

<b>Milestones Not Completed</b>	<b>Completed Prior to Q3-13</b>	<b>Current Quarter</b>	<b>Scheduled to Be Completed Q4-13</b>	<b>ORS Caution Milestone</b>
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Activity No.	Milestone	Completion Date Approved in Order No. 2012-8884	Scheduled Completion Date as of Q3-13	Outside 18 - 24 Month Contingency?	Impact to Substantial Completion Date? <sup>1</sup>	Actual Completion Date	Deviation from Order No. 2012-8884
54	Steam Generator Fabricator Notice to Contractor of Receipt of 2nd Steam Generator Tubesheet Forging - Unit 2	2/28/2010		No	No	4/30/2010	Delayed 2 Months
55	Reactor Vessel Fabricator Notice to Contractor of Outlet Nozzle Welding to Flange Nozzle Shell Completion - Unit 2	2/28/2010		No	No	12/30/2010	Delayed 10 Months
56	Turbine Generator Fabricator Notice to Contractor Condenser Fabrication Started - Unit 2	5/31/2010		No	No	5/17/2010	
57	Complete Preparations for Receiving the First Module On Site for Unit 2	8/18/2010		No	No	1/22/2010	6 Months Early
58	Steam Generator Fabricator Notice to Contractor of Receipt of 1st Steam Generator Transition Cone Forging - Unit 2	4/30/2010		No	No	4/21/2010	
59	Reactor Coolant Pump Fabricator Notice to Contractor of Manufacturing of Casing Completion - Unit 2	11/30/2010		No	No	11/16/2010	
60	Reactor Coolant Loop Pipe Fabricator Notice to Contractor of Machining, Heat Treating & Non-Destructive Testing Completion - Unit 2	12/31/2010		No	No	3/20/2012	Delayed 14 Months
61	Core Makeup Tank Fabricator Notice to Contractor of Satisfactory Completion of Hydrotest - Unit 2	9/30/2012		No	No	11/26/2012	Delayed 1 Month
62	Polar Crane Fabricator Issue P.O. for Main Hoist Drum and Wire Rope - Units 2 & 3	2/28/2011		No	No	2/1/2011	

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Milestones Not Completed	Completed Prior to Q3-13	Current Quarter	Scheduled to Be Completed Q4-13	ORS Caution Milestone
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Activity No.	Milestone	Completion Date Approved in Order No. 2012-884	Scheduled Completion Date as of Q3-13	Outside 18 - 24 Month Contingency?	Impact to Substantial Completion Date? <sup>1</sup>	Actual Completion Date	Deviation from Order No. 2012-884
63	Control Rod Drive Mechanisms - Fabricator to Start Procurement of Long Lead Material - Unit 3	6/30/2011		No	No	6/14/2011	
64	Turbine Generator Fabricator Notice to Contractor Condenser Ready to Ship - Unit 2	10/31/2011		No	No	3/26/2012	Delayed 4 Months
65	Start Placement of Mud Mat for Unit 2	6/29/2012		No	No	7/20/2012	
66	Steam Generator Fabricator Notice to Contractor of Receipt of 1st Steam Generator Tubing - Unit 2	1/31/2011		No	No	9/28/2010	4 Months Early
67	Pressurizer Fabricator Notice to Contractor of Welding of Upper and Intermediate Shells Completion - Unit 2	10/31/2010		No	No	10/28/2011	Delayed 12 Months
68	Reactor Vessel Fabricator Notice to Contractor of Closure Head Cladding Completion - Unit 3	6/30/2012		No	No	6/28/2012	
69	Begin Unit 2 First Nuclear Concrete Placement	8/24/2012		No	No	3/9/2013	Delayed 6 Months
70	Reactor Coolant Pump Fabricator Notice to Contractor of Stator Core Completion - Unit 2	9/30/2011		No	No	12/1/2011	Delayed 2 Months
71	Fabricator Start Fit and Welding of Core Shroud Assembly - Unit 2	6/30/2011		No	No	7/29/2011	

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Key:	Milestones Not Completed	Completed Prior to Q3-13	Current Quarter	Scheduled to Be Completed Q4-13	ORS Caution Milestone
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Activity No.	Milestone	Completion Date Approved in Order No. 2012-884	Scheduled Completion Date as of Q3-13	Outside 18 - 24 Month Contingency?	Impact to Substantial Completion Date? <sup>1</sup>	Actual Completion Date	Deviation from Order No. 2012-884
72	Steam Generator Fabricator Notice to Contractor of Completion of 1st Steam Generator Tubing Installation - Unit 2	5/31/2011		No	No	1/27/2012	Delayed 8 Months
73	Reactor Coolant Loop Pipe - Shipment of Equipment to Site - Unit 2	12/31/2012	10/21/2013	No	No		Delayed 9 Months
74	Control Rod Drive Mechanism - Ship Remainder of Equipment (Latch Assembly & Rod Travel Housing) to Head Supplier - Unit 2	6/30/2012		No	No	7/16/2012	
75	Pressurizer Fabricator Notice to Contractor of Welding of Lower Shell to Bottom Head Completion - Unit 2	10/31/2010		No	No	12/22/2011	Delayed 13 Months
76	Steam Generator Fabricator Notice to Contractor of Completion of 2nd Steam Generator Tubing Installation - Unit 2	5/31/2012		No	No	5/4/2012	
77	Design Finalization Payment 14	10/31/2011		No	No	10/31/2011	
78	Set Module CA04 For Unit 2	11/6/2012	9/10/2013	No	No		Delayed 10 Months
79	Passive Residual Heat Removal Heat Exchanger Fabricator Notice to Contractor of Final Post Weld Heat Treatment - Unit 2	6/30/2010		No	No	5/24/2011	Delayed 10 Months
80	Passive Residual Heat Removal Heat Exchanger Fabricator Notice to Contractor of Completion of Tubing - Unit 2	5/31/2012		No	No	5/29/2012	

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Milestones Not Completed	Completed Prior to Q3-13	Current Quarter	Scheduled to Be Completed Q4-13	ORS Caution Milestone
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Activity No.	Milestone	Completion Date Approved in Order No. 2012-884	Scheduled Completion Date as of Q3-13	Outside 18 - 24 Month Contingency?	Impact to Substantial Completion Date? <sup>1</sup>	Actual Completion Date	Deviation from Order No. 2012-884
81	Polar Crane Fabricator Notice to Contractor of Girder Fabrication Completion - Unit 2	10/31/2012		No	No	10/23/2012	
82	Turbine Generator Fabricator Notice to Contractor Condenser Ready to Ship - Unit 3	8/31/2013		No	No	8/26/2013	
83	Set Containment Vessel Ring #1 for Unit 2	1/7/2013	1/10/2014	No	No		Delayed 12 Months
84	Reactor Coolant Pump Fabricator Delivery of Casings to Port of Export - Unit 2	7/31/2012		No	No	7/6/2013	Delayed 11 Months
85	Reactor Coolant Pump Fabricator Notice to Contractor of Stator Core Completion - Unit 3	8/31/2013		No	No	7/18/2013	1 Month Early
86	Reactor Vessel Fabricator Notice to Contractor of Receipt of Core Shell Forging - Unit 3	9/30/2012		No	No	3/29/2012	6 Months Early
87	Contractor Notified that Pressurizer Fabricator Performed Cladding on Bottom Head - Unit 3	1/31/2013		No	No	11/9/2011	14 Months Early
88	Set Nuclear Island Structural Module CA03 for Unit 2	6/26/2013	10/5/2014	No	No		Delayed 15 Months
89	Squib Valve Fabricator Notice to Contractor of Completion of Assembly and Test for Squib Valve Hardware - Unit 2	5/31/2012		No	No	5/10/2012	

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Activity No.	Milestone	Completion Date Approved in Order No. 2012-884	Scheduled Completion Date as of Q3-13	Outside 18 - 24 Month Contingency?	Impact to Substantial Completion Date? <sup>1</sup>	Actual Completion Date	Deviation from Order No. 2012-884
90	Accumulator Tank Fabricator Notice to Contractor of Satisfactory Completion of Hydrotest - Unit 3	3/31/2013		No	No	9/16/2013	Delayed 5 Months
91	Polar Crane Fabricator Notice to Contractor of Electric Panel Assembly Completion - Unit 2	3/31/2013		No	No	3/6/2013	
92	Start Containment Large Bore Pipe Supports for Unit 2	6/28/2013	9/22/2014	No	No		Delayed 15 Months
93	Integrated Head Package - Shipment of Equipment to Site - Unit 2	3/31/2013	2/14/2014	No	No		Delayed 10 Months
94	Reactor Coolant Pump Fabricator Notice to Contractor of Final Stator Assembly Completion - Unit 2	5/31/2013	1/21/2014	No	No		Delayed 7 Months
95	Steam Generator Fabricator Notice to Contractor of Completion of 2nd Steam Generator Tubing Installation - Unit 3	6/30/2013	10/30/2013	No	No		Delayed 4 Months
96	Steam Generator Fabricator Notice to Contractor of Satisfactory Completion of 1st Steam Generator Hydrotest - Unit 2	1/31/2013		No	No	1/14/2013	
97	Start Concrete Fill of Nuclear Island Structural Modules CA01 and CA02 for Unit 2	4/3/2014	4/6/2015	No	No		Delayed 12 Months
98	Passive Residual Heat Removal Heat Exchanger - Delivery of Equipment to Port of Entry - Unit 2	12/31/2012	1/22/2014	No	No		Delayed 12 Months

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Activity No.	Milestone	Completion Date Approved in Order No. 2012-884	Scheduled Completion Date as of Q3-13	Outside 18 - 24 Month Contingency?	Impact to Substantial Completion Date?	Actual Completion Date	Deviation from Order No. 2012-884
99	Refueling Machine Fabricator Notice to Contractor of Satisfactory Completion of Factory Acceptance Test - Unit 2	11/30/2013	3/20/2014	No	No		Delayed 3 Months
100	Deliver Reactor Vessel Internals to Port of Export - Unit 2	1/31/2014	7/28/2014	No	No		Delayed 5 Months
101	Set Unit 2 Containment Vessel #3	4/24/2014	4/8/2015	No	No		Delayed 11 Months
102	Steam Generator - Contractor Acceptance of Equipment at Port of Entry - Unit 2	7/31/2013	5/26/2014	No	No		Delayed 10 Months
103	Turbine Generator Fabricator Notice to Contractor Turbine Generator Ready to Ship - Unit 2	4/30/2013		No	No	5/28/2013	
104	Pressurizer Fabricator Notice to Contractor of Satisfactory Completion of Hydrotest - Unit 3	3/31/2014	3/28/2014	No	No		
105	Polar Crane - Shipment of Equipment to Site - Unit 2	1/31/2014	2/6/2015	No	No		Delayed 12 Months
106	Receive Unit 2 Reactor Vessel On Site From Fabricator	5/13/2014		No	No	7/31/2013	9 Months Early
107	Set Unit 2 Reactor Vessel	6/23/2014	5/18/2015	No	No		Delayed 11 Months

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Activity No.	Milestone	Completion Date Approved in Order No. 2012-884	Scheduled Completion Date as of Q3-13	Outside 18 - 24 Month Contingency?	Impact to Substantial Completion Date? <sup>1</sup>	Actual Completion Date	Deviation from Order No. 2012-884
108	Steam Generator Fabricator Notice to Contractor of Completion of 2nd Channel Head to Tubesheet Assembly Welding - Unit 3	12/31/2013	4/30/2014	No	No		Delayed 4 Months
109	Reactor Coolant Pump Fabricator Notice to Contractor of Final Stator Assembly Completion - Unit 3	8/31/2014	12/1/2014	No	No		Delayed 3 Months
110	Reactor Coolant Pump - Shipment of Equipment to Site (2 Reactor Coolant Pumps) - Unit 2	10/31/2013	6/11/2014	No	No		Delayed 7 Months
111	Place First Nuclear Concrete for Unit 3	10/9/2013	10/25/2013	No	No		
112	Set Unit 2 Steam Generator	10/23/2014	8/18/2015	No	No		Delayed 10 Months
113	Main Transformers Ready to Ship - Unit 2	9/30/2013		No	No	7/31/2013	2 Months Early
114	Complete Unit 3 Steam Generator Hydrotest at Fabricator	2/28/2014	10/30/2014	No	No		Delayed 8 Months
115	Set Unit 2 Containment Vessel Bottom Head on Basemat Legs	10/11/2012		No	No	5/22/2013	Delayed 7 Months
116	Set Unit 2 Pressurizer Vessel	5/16/2014	5/29/2015	No	No		Delayed 12 Months

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Milestones Not Completed	Completed Prior to Q3-13	Current Quarter	Scheduled to Be Completed Q4-13	ORS Caution Milestone
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Activity No.	Milestone	Completion Date Approved in Order No. 2012-884	Scheduled Completion Date as of Q3-13	Outside 18 - 24 Month Contingency?	Impact to Substantial Completion Date? <sup>1</sup>	Actual Completion Date	Deviation from Order No. 2012-884
117	Reactor Coolant Pump Fabricator Notice to Contractor of Satisfactory Completion of Factory Acceptance Test - Unit 3	2/28/2015	1/16/2015	No	No		1 Month Early
118	Deliver Reactor Vessel Internals to Port of Export Unit 3	6/30/2015	6/12/2015	No	No		
119	Main Transformers Fabricator Issue P.O. for Material - Unit 3	2/28/2015	2/2/2015	No	No		
120	Complete Welding of Unit 2 Passive Residual Heat Removal System Piping	2/5/2015	10/30/2015	No	No		Delayed 8 Months
121	Steam Generator - Contractor Acceptance of Equipment At Port of Entry - Unit 3	4/30/2015	1/2/2015	No	No		3 Months Early
122	Refueling Machine - Shipment of Equipment to Site - Unit 3	2/28/2015	4/3/2015	No	No		Delayed 1 Month
123	Set Unit 2 Polar Crane	1/9/2015	9/28/2015	No	No		Delayed 8 Months
124	Reactor Coolant Pumps - Shipment of Equipment to Site - Unit 3	6/30/2015	6/8/2015	No	No		
125	Main Transformers Ready to Ship - Unit 3	7/31/2015	4/13/2015	No	No		3 Months Early

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Milestones Not Completed	Completed Prior to Q3-13	Current Quarter	Scheduled to Be Completed Q4-13	ORS Caution Milestone
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Activity No.	Milestone	Completion Date Approved in Order No. 2012-884	Scheduled Completion Date as of Q3-13	Outside 18 - 24 Month Contingency?	Impact to Substantial Completion Date? <sup>1</sup>	Actual Completion Date	Deviation from Order No. 2012-884
126	Spent Fuel Storage Rack - Shipment of Last Rack Module - Unit 3	7/31/2014	7/4/2014	No	No		
127	Start Electrical Cable Pulling in Unit 2 Auxiliary Building	8/14/2013	9/24/2014	No	No		Delayed 13 Months
128	Complete Unit 2 Reactor Coolant System Cold Hydro	1/22/2016	10/5/2016	No	No		Delayed 8 Months
129	Activate Class 1E DC Power in Unit 2 Auxiliary Building	3/15/2015	1/12/2016	No	No		Delayed 10 Months
130	Complete Unit 2 Hot Functional Test	5/3/2016	2/8/2017	No	No		Delayed 9 Months
131	Install Unit 3 Ring 3 for Containment Vessel	8/25/2015	12/9/2015	No	No		Delayed 3 Months
132	Load Unit 2 Nuclear Fuel	9/15/2016	7/25/2017	No	No		Delayed 10 Months
133	Unit 2 Substantial Completion	3/15/2017	12/15/2017	No	No		Delayed 9 Months
134	Set Unit 3 Reactor Vessel	10/22/2015	2/16/2016	No	No		Delayed 3 Months

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Activity No.	Milestone	Completion Date Approved in Order No. 2012-884	Scheduled Completion Date as of Q3-13	Outside 18 - 24 Month Contingency?	Impact to Substantial Completion Date? <sup>1</sup>	Actual Completion Date	Deviation from Order No. 2012-884
135	Set Unit 3 Steam Generator #2	2/25/2016	5/17/2016	No	No		Delayed 2 Months
136	Set Unit 3 Pressurizer Vessel	7/16/2015	2/2/2016	No	No		Delayed 6 Months
137	Complete Welding of Unit 3 Passive Residual Heat Removal System Piping	6/16/2016	7/27/2016	No	No		Delayed 1 Month
138	Set Unit 3 Polar Crane	5/9/2016	7/11/2016	No	No		Delayed 2 Months
139	Start Unit 3 Shield Building Roof Slab Rebar Placement	5/26/2016	9/22/2016	No	No		Delayed 4 Months
140	Start Unit 3 Auxiliary Building Electrical Cable Pulling	11/7/2014	6/2/2015	No	No		Delayed 6 Months
141	Activate Unit 3 Auxiliary Building Class 1E DC Power	5/15/2016	11/8/2016	No	No		Delayed 5 Months
142	Complete Unit 3 Reactor Coolant System Cold Hydro	3/22/2017	8/21/2017	No	No		Delayed 5 Months
143	Complete Unit 3 Hot Functional Test	7/3/2017	12/26/2017	No	No		Delayed 5 Months

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Activity No.	Milestone	Completion Date Approved in Order No. 2012-884	Scheduled Completion Date as of Q3-13	Outside 18 - 24 Month Contingency?	Impact to Substantial Completion Date? <sup>1</sup>	Actual Completion Date	Deviation from Order No. 2012-884
144	Complete Unit 3 Nuclear Fuel Load	11/15/2017	6/22/2018	No	No		Delayed 7 Months
145	Begin Unit 3 Full Power Operation	4/8/2018	11/28/2018	No	No		Delayed 7 Months
146	Unit 3 Substantial Completion	5/15/2018	12/15/2018	No	No		Delayed 7 Months

**Notes:**

White highlighting represents Future or Historical Milestones that have not been completed.
Grey highlighting represents Future or Historical Milestones that were completed prior to the 3rd Quarter 2013.
Yellow highlighting represents those Milestones that are scheduled to be or have been completed during the 3rd Quarter 2013. This is based on the schedule approved by the Commission in Order No. 2012-884.
Green highlighting represents Future Milestones that are scheduled to be completed in the 4th Quarter of 2013. This is based on the schedule approved by the Commission in Order No. 2012-884.
Red highlighting represents "Caution Milestones." Caution Milestones are those that are delayed by 10 months or greater.

**Appendix B**  
*Caution Milestones*

**Appendix B**

Activity No.	Milestone	Completion Date Approved in Order No. 2012-884	Scheduled Completion Date as of Q3-13	Deviation from Order No. 2012-884	Reason Given for Delay
78	Set Module CA04 For Unit 2	11/6/2012	9/10/2013	Delayed 10 Months	The delays are associated with the delivery, receipt and fabrication of the CA04 module.
83	Set Containment Vessel Ring #1 for Unit 2	1/7/2013	1/10/2014	Delayed 12 Months	The Containment Vessel Ring 1 sits atop the Containment Vessel Bottom Head, which sits atop the CR10 module. The delays here are due to engineering and design approvals, notably design approvals related to the basemat concrete. The setting of the Containment Vessel Ring #1 previously also depended on the setting of the CA20 module, but a work around for this has been established. A bulkhead is being installed to allow concrete to be poured around the CVBH prior to the setting of the CA20 module.
88	Set Nuclear Island Structural Module CA03 for Unit 2	6/26/2013	10/5/2014	Delayed 15 Months	Delays are due to delays associated with the fabrication and setting of the CA01 module, as well as schedule resequencing. Manufacturing of the sub-modules for the CA03 module was moved from CB&I-LC to Pegasus Steel, LLC earlier in the year to allow CB&I-LC to focus on the CA01 module. WEC also discovered a problem in the logic of the previous schedule, as the proper support for the CA03 module will not be available until both the placement of the CA01 module and the concrete pour associated with that activity have been completed.

**Appendix B**

Activity No.	Milestone	Completion Date Approved in Order No. 2012-884	Scheduled Completion Date as of Q3-13	Deviation from Order No. 2012-884	Reason Given for Delay
92	Start Containment Large Bore Pipe Supports for Unit 2	6/28/2013	9/22/2014	Delayed 15 Months	Delays are due to delays associated with the fabrication and setting of the CA01 module, as well as schedule resequencing. WEC discovered a problem in the logic of the previous schedule, as the Containment Vessel Large Bore Pipe Supports cannot be installed until activities associated with the placement of the CA01 module have been completed. The revised date for the setting of the CA03 module still supports a target substantial completion date of December 14, 2017 for Unit 2.
93	Integrated Head Package - Shipment of Equipment to Site - Unit 2	3/31/2013	2/14/2014	Delayed 10 Months	The delay is due to design changes to the radial arm hoist to resolve issues with system integration.
97	Start Concrete Fill of Nuclear Island Structural Modules CA01 and CA02 for Unit 2	4/3/2014	4/6/2015	Delayed 12 Months	The delay is due to delays associated with the fabrication and setting of the CA01 module. This milestone is also impacted by a construction activity resequencing that calls for the welding of the Pressurizer and Steam Generator Supports to be welded to the CA01 wall prior to the placement of concrete after the setting of CA01.
98	Passive Residual Heat Removal Heat Exchanger - Delivery of Equipment to Port of Entry - Unit 2	12/31/2012	1/22/2014	Delayed 12 Months	The delay is due to schedule refinement and the need for engineering design approval prior to shipment.
101	Set Unit 2 Containment Vessel #3	4/24/2014	4/8/2015	Delayed 11 Months	The delay is due to delays associated with the fabrication and setting of the CA01 module.

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Activity No.	Milestone	Completion Date Approved in Order No. 2012-884	Scheduled Completion Date as of Q3-13	Deviation from Order No. 2012-884	Reason Given for Delay
102	Steam Generator - Contractor Acceptance of Equipment at Port of Entry - Unit 2	7/31/2013	5/26/2014	Delayed 10 Months	The delay is due to overall schedule resequencing.
105	Polar Crane - Shipment of Equipment to Site - Unit 2	1/31/2014	2/6/2015	Delayed 12 Months	The delay is due to overall schedule resequencing.
107	Set Unit 2 Reactor Vessel	6/23/2014	5/18/2015	Delayed 11 Months	The delay is primarily due to delays associated with the fabrication and setting of the CA01 module. A portion of the delay is also due to a schedule change related to the installment of overlay plates for the supports for major components.
112	Set Unit 2 Steam Generator	10/23/2014	8/18/2015	Delayed 10 Months	The delay is due to delays associated with the fabrication and setting of the CA01 module.
116	Set Unit 2 Pressurizer Vessel	5/16/2014	5/29/2015	Delayed 12 Months	The delay is due to delays associated with the fabrication and setting of the CA01 module.
127	Start Electrical Cable Pulling in Unit 2 Auxiliary Building	8/14/2013	9/24/2014	Delayed 13 Months	The delay is due to overall schedule resequencing.
129	Activate Class 1E DC Power in Unit 2 Auxiliary Building	3/15/2015	1/12/2016	Delayed 10 Months	The delay is due to overall schedule resequencing.
132	Load Unit 2 Nuclear Fuel	9/15/2016	7/25/2017	Delayed 10 Months	The delay is due to overall schedule resequencing.

## **Appendix C**

### *Construction Site Photographs*

# V.C. Summer Units 2 & 3

August, 2013



# Unit 2 CH80 and Condenser B



# Unit 2 CA04 Placement



# Unit 2 CV Ring 1



## Unit 2 CA20



# Transmission Line Construction



# Unit 3 Nuclear Island



## **Appendix D**

### *License Amendment Requests*

**Appendix D**

NRC LAR No.	Summary	LAR Submittal Date	LAR Status	LAR Approval Date	PAR Status	PAR No Objection Letter 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	9/26/2012	Approved	5/30/2013	Approved	1/16/2013
13-01	Basemat Shear Reinforcement Design Spacing	1/15/2013	Approved	2/26/2013	Approved	1/29/2013
13-02	Basemat Shear Reinforcement Design Details	1/18/2013	Approved	3/1/2013	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	Pending			
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	Pending			
13-08	Module Obstructions and Details	2/28/2013	Withdrawn			
13-10	Human Factors Engineering Integrated Plan	3/13/2013	Pending			
13-11	Nuclear Island Walls Reinforcement Criteria	3/26/2013	Approved	6/6/2013	Approved	4/10/2013
13-12	Fire Area Boundary Changes	7/17/2013	Pending			
13-13	Turbine Building Layout Changes	7/30/2013	Pending			

**Appendix D**

<b>NRC LAR No.</b>	<b>Summary</b>	<b>LAR Submittal Date</b>	<b>LAR Status</b>	<b>LAR Approval Date</b>	<b>PAR Status</b>	<b>PAR No Objection Letter Date</b>
13-16	Human Factors Engineering Verification Plan	9/25/2013	Pending			
13-17	Human Factors Engineering Verification Plan	9/25/2013	Pending			
13-20	Module/Stud Channel Obstructions Revisions	7/17/2013	Pending			
13-25	Tier 1 Editorial and Consistency Changes	7/2/2013	Pending			
13-32	Liquid Waste System Changes	8/30/2013	Pending			

## **Appendix E**

*SCE&G Basemat Concrete Press Release*



## ***For Immediate Release***

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## **SCE&G Completes Nuclear Island Basemat Placement for V.C. Summer Unit 3**

**CAYCE, S.C., Nov. 4, 2013**—South Carolina Electric & Gas Company (SCE&G), principal subsidiary of SCANA Corporation (NYSE:SCG), completed on Nov. 4, 2013 placement of the nuclear island basemat for V.C. Summer Unit 3 in Fairfield County, S.C. This major milestone comes just seven months after SCE&G poured the first new construction nuclear concrete in the U.S. in three decades for its Unit 2 nuclear island.

"We are again proud to have accomplished such a significant milestone as our new nuclear construction project progresses," said Kevin Marsh, chairman and CEO of SCANA. "This is another example of our outstanding collaboration with Santee Cooper, CB&I, Westinghouse Electric Company and the many other stakeholders who play a role in providing South Carolina with the best solution for meeting the long-term need for clean, safe, and reliable power."

"This successful basemat placement is a testament to the hard work by all involved," said Lonnie Carter, president and CEO of Santee Cooper. "We have come a long way since getting our combined construction and operating licenses in March 2012, and this milestone gets us one step closer to the finish line and the many benefits these units will provide for our state."

The basemat provides a foundation for the containment and auxiliary buildings that are within the nuclear island. Measuring 6 feet in thickness, the basemat required approximately 7,000 cubic yards of concrete to cover an area about 250 feet long and 160 feet at its widest section. This approximately 43-hour continuous pour of concrete covered a surface totaling 32,000 square feet.

About 2,000 workers are currently involved in constructing two new reactors at V.C. Summer, where Unit 1 has operated safely and reliably for 30 years. The new nuclear project will peak at about 3,000 workers over the course of three to four years. The two 1,117-megawatt units will add 600 to 800 permanent jobs. Once the two units are complete—Unit 2 currently scheduled to be in late 2017 or early 2018, followed by Unit 3—SCE&G anticipates its generation mix will be about 30 percent nuclear, 30 percent natural gas, and 30 percent scrubbed coal, with the balance in hydro, solar and biomass.

SCANA and SCE&G post information from time to time regarding developments relating to SCE&G's new nuclear project on SCANA's website at [www.scana.com](http://www.scana.com). On SCANA's homepage, there is a yellow box containing a link to the New Nuclear Development section of the website. That section in turn contains a yellow box with a link to project news and updates. Some of the information that is posted from time to time may be deemed to be material information that has not otherwise become public, and investors, media and others interested in SCE&G's new nuclear project are encouraged to review this information.

### **PROFILE**

South Carolina Electric & Gas Company is a regulated public utility engaged in the generation, transmission, distribution and sale of electricity to approximately 675,000 customers in 24 counties in the central, southern

and southwestern portions of South Carolina. The company also provides natural gas service to approximately 325,000 customers in 38 counties in the state. More information about SCE&G is available at [www.sceg.com](http://www.sceg.com).

SCANA Corporation, headquartered in Cayce, SC, is an energy-based holding company principally engaged, through subsidiaries, in electric and natural gas utility operations and other energy-related businesses. Information about SCANA is available on the Company's website at [www.scana.com](http://www.scana.com).