

## **V. C. Summer Nuclear Station Units 2 & 3**

### **Quarterly Report to the South Carolina Office of Regulatory Staff Submitted by South Carolina Electric & Gas Company Pursuant to Public Service Commission Order No. 2009-104(A)**

#### **Quarter Ending December 31, 2011**

#### **I. Introduction and Summary**

##### **A. Introduction**

This quarterly report is submitted by South Carolina Electric & Gas Company (SCE&G or the Company) to the Public Service Commission of South Carolina (the Commission) and the South Carolina Office of Regulatory Staff (ORS). It is submitted in satisfaction of the requirements of S.C. Code Ann. § 58-33-277 (Supp. 2011) and the terms of Commission Order No. 2009-104(A). This report provides updated information concerning the status of the construction of V. C. Summer Nuclear Station Units 2 & 3 (the Units) and updates the capital cost and construction schedules for the Units. The Commission approved updated construction schedules for the Units in Order No. 2010-12. The Commission approved updated capital cost schedules for the Units in Order No. 2011-345 issued on May 16, 2011.

##### **B. Structure of Report and Appendices**

The current reporting period is the quarter ending December 31, 2011. The report is divided into the following sections:

- Section I: Introduction and Summary;
- Section II: Progress of Construction of the Units;
- Section III: Anticipated Construction Schedules;
- Section IV: Schedules of the Capital Costs Incurred Including Updates to the Information Required by S.C. Code Ann. § 58-33-270(B)(6) (the Inflation Indices);
- Section V: Updated Schedule of Anticipated Capital Costs; and
- Section VI: Conclusion.

**Appendices 1, 2, and 4** to this report contain detailed financial, milestone and other information updating the schedules approved by the Commission in Order Nos. 2010-12 and 2011-345. For reference purposes, **Appendix 3** provides a copy of the approved capital cost schedule for the project in the form approved in Order No. 2011-345.

A confidential and a public version of this report and its attachments are being provided. All cost information presented reflects only SCE&G's share of the project's cost in 2007 dollars unless otherwise specified. Attached to the end of the report is a glossary of acronyms and defined terms used in it.

### **C. Construction Schedule and Milestones**

As the report indicates, the Company has met all current construction milestones approved by the Commission in Order No. 2010-12, as adjusted pursuant to contingencies authorized in Order No. 2009-104(A). There are 146 separate milestones. Of these, 68 have been completed as of December 31, 2011. Comparing the scheduled milestone completion dates as of the date of this report to the milestone completion dates approved by the Commission in Order No. 2010-12, the completion dates of 69 milestones have changed. Of these, 27 have been accelerated and 42 have been delayed for between one and 13 months.

### **D. Construction Costs and Cost Forecasts**

Spending through December 31, 2011 in current dollars is approximately \$148,937,000 below the capital cost schedule approved in Order No. 2011-345. The present cash flow forecast indicates that the Company will be able to complete the Units for \$4,288,638,000 in 2007 dollars, which is \$18,234,000 above the forecast approved in Order No. 2011-345. The current cost estimates include a) increased costs being passed on to SCE&G by its contractors Westinghouse (WEC)/Shaw as a result of new federal health care laws, b) increased costs for cyber security measures for the Units, c) incremental cost associated with the revision to the design of the water discharge system and d) new forecasts of Transmission cost. The specific items resulting in these increases are discussed in more detail in Section II.

Not included in these cost forecasts are costs related to claims being made by WEC/Shaw for additional cost recovery which SCE&G is challenging (Challenged Costs), and updated Owners cost forecasts, which are in the process of being finalized. As discussed in Section II, the amount of the increase in Owners costs is estimated to be approximately \$150 million and will be presented to the Commission for review and approval in a future filing under S.C. Code Ann. § 58-33-270(E) (Update Filing). The upper bound on the amount of Challenged Costs being claimed by WEC/Shaw is

approximately \$188 million in 2007 dollars. SCE&G has not accepted the validity of this claim and is hopeful that this will be resolved through negotiations.

In Order No. 2009-104(A), the Commission recognized that forecasts of Allowance for Funds Used During Construction (AFUDC) expense and escalation would vary over the course of the project and required those forecasts to be updated with each quarterly report. The current escalation indices were issued in November of 2011 for the period of January-June of 2011 and current indices have been used in forecasting the construction costs for the project that are presented here. **Chart A** below compares the current capital cost forecast to the forecast presented in the last quarterly report.

**Chart A: Reconciliation of Capital Cost (\$000)**

<b><u>Forecast Item</u></b>	<b><u>Projected @ 12/31/11 (Five-Year Average Escalation Rates)</u></b>	<b><u>Projected @ 9/30/11 (Five-Year Average Escalation Rates)</u></b>	<b><u>Change</u></b>
<b>Gross Construction</b>	<b>\$5,605,886</b>	<b>\$5,571,665</b>	<b>\$34,221</b>
<b>Less: AFUDC</b>	<b>\$212,314</b>	<b>\$246,726</b>	<b>(\$34,412)</b>
<b>Total Project Cash Flow</b>	<b>\$5,393,572</b>	<b>\$5,324,939</b>	<b>\$68,633</b>
<b>Less: Escalation</b>	<b>\$1,104,934</b>	<b>\$1,054,638</b>	<b>\$50,296</b>
<b>Capital Cost, 2007 Dollars</b>	<b>\$4,288,638</b>	<b>\$4,270,301</b>	<b>\$18,337</b>

**Chart B** compares the current forecast of gross construction costs, including current escalation, to the forecast on which the Commission relied in adopting Order No. 2011-345. Chart B shows that the forecasted capital cost of the Units in 2007 dollars has increased by approximately \$18,234,000. This increase reflects the additions to the budget referenced in Section I. D above and is explained in more detail in Section II of this report. It is offset by the voluntary decision by the Company, communicated to the Commission by letter dated April 25, 2011, that it would not seek recovery for \$103,000 in Community Support/Outreach costs that WEC/Shaw had included in costs to be

charged under the Engineering, Procurement and Construction Agreement (EPC Contract) for the Units. Due to the changes in forecasted escalation, when netted against changes in AFUDC, see Section I. F, below, the cost of the plant in future dollars has decreased by \$181 million since Order No. 2011-345 was issued.

**Chart B: Reconciliation of Capital Cost (\$000)**

<b><u>Forecast Item</u></b>	<b><u>Projected @ 12/31/11 (Five-Year Average Escalation Rates)</u></b>	<b><u>As Forecasted Or Approved In Order 2011-345</u></b>	<b><u>Change</u></b>
<b>Gross Construction</b>	<b>\$5,605,886</b>	<b>\$5,786,943</b>	<b>(\$181,057)</b>
<b>Less: AFUDC</b>	<b>\$212,314</b>	<b>\$255,684</b>	<b>(\$43,370)</b>
<b>Total Project Cash Flow</b>	<b>\$5,393,572</b>	<b>\$5,531,259</b>	<b>(\$137,687)</b>
<b>Less: Escalation</b>	<b>\$1,104,934</b>	<b>\$1,260,855</b>	<b>(\$155,921)</b>
<b>Capital Cost, 2007 Dollars</b>	<b>\$4,288,638</b>	<b>\$4,270,404</b>	<b>\$18,234</b>

#### **E. Escalation Rates**

As provided in Order No. 2009-104(A), the most current one year inflation indices are used to escalate costs occurring in the twelve-month period after the date of each quarterly report. The most current escalation indices are found in the Handy-Whitman July 2011 update which was issued in November 2011 and reports data for the period January-June of 2011. Those rates are reflected in this report.

As shown on **Appendix 4**, utility construction cost escalation rates were at historically high levels during the period 2005-2008, and since then have dropped. The current one-year averages and five-year averages are now closer to historical ten-year rates than they have been in certain past periods. Current escalation rates are shown on **Chart C**, below. When compared to the previous quarter, the current update shows an upward trend in rates.

**Chart C: Handy-Whitman Escalation Rates**

<u><b>Escalation Rate Comparison</b></u>		
	<b>Q3 2011</b>	<b>Q4 2011</b>
<b><u>HW All Steam Index:</u></b>		
One-Year Rate	<b>3.36%</b>	<b>4.75%</b>
Five-Year Average	<b>4.73%</b>	<b>4.75%</b>
Ten-Year Average	<b>4.45%</b>	<b>4.75%</b>
<b><u>HW All Steam/Nuclear Index:</u></b>		
One-Year Rate	<b>3.17%</b>	<b>4.76%</b>
Five-Year Average	<b>4.74%</b>	<b>4.76%</b>
Ten-Year Average	<b>4.46%</b>	<b>4.76%</b>
<b><u>HW All Transmission Plant Index:</u></b>		
One-Year Rate	<b>1.44%</b>	<b>4.84%</b>
Five-Year Average	<b>4.33%</b>	<b>4.36%</b>
Ten-Year Average	<b>4.55%</b>	<b>4.81%</b>

**F. AFUDC**

The AFUDC for the project is currently projected to be approximately \$43 million lower than the forecast on which Order No. 2011-345 was based. Consistent with Order No. 2009-104(A), SCE&G computes AFUDC based on the Federal Energy Regulatory Commission (FERC) approved methodology as applied to the balance of Construction Work in Progress (CWIP) that is outstanding between rate adjustments. SCE&G's projected AFUDC rate is currently 4.88% versus a rate of 5.87% that applied when Order No. 2011-345 was issued.

**G. Compliance with the Commission Approved Cumulative Project Cash Flow Target**

The current approved Cumulative Project Cash Flow target for the project was adopted by the Commission in Order No. 2011-345. In Order No. 2009-104(A), the

Commission provided that the applicable Cumulative Project Cash Flow target would be adjusted with each quarterly report to reflect updated escalation data.

**Appendix 2** provides the approved Cumulative Project Cash Flow target updated for current escalation data. The cash flow targets up until June 30, 2011, have been updated to reflect actual escalation rates. The cash flow targets for the third quarter of 2011 and beyond have been updated based on the most recently available inflation indices, which for purposes of this report, are the indices provided in November of 2011 that report data through June 30, 2011. When actual indices for the period July 1, 2011, to December 31, 2011, become available, the cash flow data for the third and fourth quarters of 2011 will be revised to reflect the actual escalation rates.

**Appendix 2** compares the approved Cumulative Project Cash Flow target to the current cumulative cash flow schedules for the project, which include actual costs where available and SCE&G's working forecasts of annual cash flows for future years. In addition, the figures presented on **Appendix 2** for 2011 have been adjusted to reflect timing differences between the billing methodology under the EPC Contract and the calculation of the escalated cash flow targets under Order No. 2009-104(A). Under the EPC Contract, for periods where actual escalation rates are not available, WEC/Shaw bills SCE&G based on a rolling 2-year average of the applicable Handy-Whitman rate and provides adjustments to reflect the actual rate when it is known. An adjustment has been made to **Appendix 2** to offset the timing differences that arise as a result of WEC/Shaw's approach to estimated billings and credits. This adjustment applies to those EPC contract cost categories that are subject to indexed escalation.

## **II. Progress of Construction of the Units**

The substantive reviews and key procedural steps have been completed for issuance by the Nuclear Regulatory Commission (NRC) of the Combined Operating License (COL) for the Units. Action by the Commission is expected in early 2012. Issuance of the COL will represent the successful completion of a major milestone in the construction project. The substantive reviews and key procedural steps required for issuance of the 404 Wetlands permit for the project are also complete and issuance of that permit is also expected in early 2012.

Construction work on site is proceeding safely and efficiently. The project has completed the work necessary to allow the first nuclear safety-related construction to commence on site when the COL is issued. This was an important goal for the project. Nuclear safety-related work can only begin after the COL is issued and SCE&G authorizes WEC/Shaw to proceed.

In addition, the project has compiled a safety record that is unprecedented for a heavy construction site of its size, totaling approximately 5 million safe-work hours, with few recordable injuries (all minor) and only two lost time incidences since construction began over three years ago.

Fabrication of forgings and other equipment continues to proceed well and is on a schedule that supports the on-site construction schedule. A significant area for focus related to the project involves module fabrication work at Shaw Modular Solutions (SMS). This work has been delayed due to module redesign, production issues, manpower issues and Quality Assurance and Quality Control (QA/QC) issues. SMS reports that these issues have been resolved, but SCE&G continues to monitor this area carefully and considers it to be a focus area for the project.

As previously reported, WEC/Shaw has conducted a COL Delay Impact study as authorized in Change Order No. 11. As indicated in prior reports, the current construction schedule was based on the anticipated issuance of a COL in mid-2011. Issuance of the COL in early 2012 will not allow Unit 2 to be completed by the previously established substantial completion date without changes to the construction schedule. In response, WEC/Shaw performed a COL Delay Impact Study to assess strategies for mitigating the delay. A total of three alternative approaches are presented in the study. One scenario compresses the construction schedule for Unit 2 to retain the current substantial completion date, and does not change the substantial completion date of Unit 3. The second scenario pushes the substantial completion date for Unit 2 out to accommodate the COL delay and again does not change the substantial completion date of Unit 3. The third scenario (Scenario 3) considers delaying the substantial completion date for Unit 2 and accelerating the substantial completion date for Unit 3 to create economies and efficiencies in the construction schedule. Better synchronizing the construction schedules between the two units can allow crews to move seamlessly from one unit to the next, thereby avoiding demobilization and remobilization cost. SCE&G has informed WEC/Shaw that it intends to pursue Scenario 3 and accelerate the substantial completion date for Unit 3. SCE&G has also begun discussions with WEC/Shaw concerning the need to prepare updated cash flow forecasts and schedules on that basis. Those updated forecasts and cash flow schedules will be presented to the Commission in a future Update Filing.

WEC/Shaw has asserted the right to additional cost recovery under the EPC Contract for certain Challenged Costs, which include claims by WEC/Shaw for additional cost recovery associated with delays in NRC licensing, unanticipated rock conditions where the foundation for the Unit 2 Nuclear Island (NI) will be constructed, design modifications to the shield building, and design modifications to certain prefabricated structural modules that will be used in building the Units, (including resulting increases in construction costs for both redesigns). While the parties have not reached agreement,

SCE&G's portion of the claims as presented by WEC/Shaw is approximately \$188 million in 2007 dollars. This figure represents the upper bound of known claims for the items identified. SCE&G has not accepted the validity of these claims and is hopeful that they will be resolved through negotiations.

At present all milestone completion dates are within approved schedule contingencies.

A more detailed presentation of the status of the project is addressed in Section II.A-Section II.G below.

## **A. Licensing and Permitting**

### **1. Design Control Document (DCD) Revisions**

In December 2011, the NRC voted unanimously in support of approval of Revision 19 to the Design Control Document for the AP1000 reactor. On December 30, 2011, following the affirmative vote on Revision 19, the rulemaking for the AP1000 reactor design was published in the Federal Register. The NRC waived the customary 30-day waiting period for the rule to become effective immediately after publication.

### **2. The Combined Operating License Application (COLA)**

In October 2011, the NRC held its Mandatory Hearing on the V.C. Summer Units 2 & 3 site-specific COLA. On February 9, 2012, the NRC voted to grant a COL for the AP1000 Reference Plant, which is Vogtle Units 3 and 4 being constructed by Southern Company. The NRC is now in a position to vote on issuing the site specific COL to SCE&G which is expected to happen in the next several weeks. The issuance of the COL for the Units will provide SCE&G with the authority required under the statutes administered by the NRC to construct and operate the Units and will allow nuclear safety-related construction work to begin.

### **3. NRC Response to the Japanese Earthquake and Tsunami of March 2011**

As previously reported, the NRC established a senior level agency task force to conduct a review of the NRC processes and regulations currently in place in light of the lessons learned from the 2011 earthquake and tsunami in Japan and the subsequent core-damaging accident at the Fukushima Daiichi nuclear plant. The task force issued a report in July 2011 that set forth twelve (12) comprehensive safety recommendations for a balanced approach to accident mitigation during low-likelihood, high consequence events such as prolonged



station power outages resulting from naturally occurring phenomena. The safety recommendations were prioritized, and seven (7) were recommended for implementation immediately by the NRC Staff. Regarding new plant licensing, the task force stated in its report that “[t]he Task Force notes that the two design certifications currently in the rulemaking process (i.e., the AP1000 and the economic simplified boiling-water reactor (ESBWR)) have passive safety systems. By nature of their passive designs and inherent 72-hour coping capability for core, containment, and spent fuel pool cooling with no operator action required, the ESBWR and AP1000 designs have many of the design features and attributes necessary to address the Task Force recommendations. The Task Force supports completing those design certification rulemaking activities without delay.” The Nuclear Energy Institute, other stakeholders, and the NRC have been working together to finalize Fukushima-related requirements. NRC orders and 10 CFR 50.54(f) letters will be issued to licensees in 2012. New plants will fall under these same requirements once a license is issued.

#### **4. Major Construction Permits**

##### **a) 404 Wetlands Permit and 401 Water Quality Certification**

On December 16, 2011, the South Carolina Department of Health and Environmental Control (SCDHEC) issued the 401 Water Quality Certification for the project, which was required as a basis for the COL and certain other licensing actions related to the Units. The Army Corps of Engineers (ACOE) is now in the process of making a final decision on the 404 Wetlands Permit for the project, which ACOE is anticipated to issue in early 2012.

##### **b) Other Permits**

On November 18, 2010, SCE&G submitted to SCDHEC a National Pollutant Discharge Elimination System (NPDES) permit application, which would allow SCE&G to discharge blowdown water into the Parr Reservoir. Approval of this application will allow construction to begin on the Raw Water System (RWS) intake structure, the Wastewater System (WWS) and other appurtenances associated with the system.

On multiple occasions during its review process, SCDHEC has requested additional information from SCE&G to address internal comments regarding the application. In September 2011, SCDHEC requested an update to SCE&G’s permit application to address temperature and chemical mixing regarding 7Q10 water flows in the Broad River. As a result, SCE&G will resubmit an updated copy of the NPDES application in February 2012.

No other major permits are outstanding. Other construction-related permits are anticipated to be obtained in the ordinary course of administering the project.

## **5. Base Load Review Act (BLRA) Regulatory Proceedings**

a) On September 30, 2011, the Commission issued Order No. 2011-738 in Docket No. 2011-207-E which approved SCE&G's annual request for revised rates under the terms of the BLRA. The total rate adjustment authorized was \$52,783,342 and reflected an incremental investment by the Company in the Units of \$436,725,000.

b) In early 2012, SCE&G plans to make an Update Filing with the Commission under the authority of S.C. Code Ann. § 58-33-270(E). The Update Filing will provide the Commission the opportunity to review and approve revised project construction and cash flow schedules which will reflect an early 2012 issuance date for the COL. SCE&G has discussed with WEC/Shaw the need to prepare cash flow and milestone schedules for filing in this docket that reflect the Scenario 3 completion dates for the Units. The updated cash flow forecasts will also include the change orders discussed in Section II, E below, as well as the revised Transmission cost forecasts and the revised Owners cost forecasts that SCE&G is currently finalizing. The total amount of additional costs that are anticipated to be reflected in this filing is in the range of \$170 million. Under S.C. Code Ann. § 58-33-270(E), the Update Filing is to be approved unless shown to be the result of imprudence by the utility.

## **6. Utility Facility Siting and Environmental Protection Act Proceedings**

On January 12, 2012, subsequent to this reporting period, the Commission issued Order No. 2011-978 under the Utility Facility Siting and Environmental Protection Act. That order granted SCE&G's application for a certificate of environmental compatibility and public convenience and necessity for construction of three transmission lines associated with the Units. These transmission lines are necessary to route power from Unit 2 to the grid, and to ensure system reliability while Unit 3 lines are constructed. The three lines are the VCS1 – Killian Line (Killian Line), the VCS2 – Lake Murray Line No. 2 (Lake Murray No. 2 Line), and that segment of the VCS2 – St. George No. 1 Line that runs between the plant site and the Lake Murray 230/115 kV substation (St. George Segment). No party has appealed this Order.

## **B. Engineering**

### **1. Engineering Completion Status**

The V.C. Summer Units 2 & 3 Total Plant Design Completion Status is as follows:

- a) Site Specific Design – 87.6% complete.
- b) Standard Plant Issued For Construction (IFC) Drawings – 35.5% complete.

### **2. Site Specific Design Activities**

Site Specific Design work is ongoing in support of Site Specific Systems, to include the Circulating Water System, Yard Fire System, Potable Water System, RWS, Sanitary Drain System and WWS. Shaw Engineering has substantially completed the main switchyard design for the Units.

### **3. Procurement/Fabrication**

a) As previously reported, SMS has been working since 2010 to correct and recover from QA/QC issues and other issues related to module fabrication at its facility in Lake Charles, Louisiana.

In December 2011, SMS provided a re-baselined module fabrication and delivery schedule. WEC/Shaw management is reviewing this schedule. CA20 is one of the largest modules to be fabricated and will be installed early in the construction process. According to the latest module schedule, the on-hook date of Unit 2 module CA20 (*i.e.*, the date by which fabrication is complete and the module is ready to be lifted into place) is now scheduled for November 2012, a delay of 11 months from the current milestone date. The module schedule continues to be reviewed and optimized and is being coordinated with the overall schedule review taking place under Change Order No. 11. The delays associated with fabrication and delivery of the modules continues to be an important area of focus for the project.

In its quarterly report for the quarter ending March 31, 2011, and in each quarterly report thereafter, SCE&G informed the Commission and ORS that in January 2011, the NRC was unable to complete a vendor inspection audit of SMS due to the lack of actual production work ongoing. During the time period November 14, 2011 through November 18, 2011, the NRC conducted a follow-up

inspection to the inspection in January 2011 that was terminated early. By letter dated January 6, 2012, the NRC provided its inspection report to SMS.

**b)** Improvements have been made in the QA/QC matters previously identified by WEC in the production and fabrication of AP1000 components by its supplier, Mangiarotti (MN), and MN sub-suppliers. MN currently is meeting revised schedule requirements. Additional WEC QA/QC personnel have been located at the facility to emphasize the importance of maintaining a schedule that supports accomplishment of relevant BLRA milestones within applicable contingencies. Several BLRA milestones related to MN plant components that were delayed by 12 to 14 months, as indicated in **Appendix 1**, were completed during the fourth quarter of 2011 and others remain on track. Delays in the MN milestones are not expected to affect the substantial completion dates of the Units.

**c)** Endurance testing of the lead Reactor Coolant Pump (RCP) began in April 2011, but was suspended to investigate unexpected temperature data in a localized area within the stator core. A subsequent investigation was performed and resulted in design improvements to the motor to address the unexpected temperature data. A Proof of Principal Test was then completed, and inspection results confirmed that the improvements in design were successful. Design changes were then incorporated into production, and the second Endurance Test began in December 2011. That test was on-going in January 2012. No delay in the site delivery of the V.C. Summer RCPs is anticipated.

**d)** Reactor Coolant Loop (RCL) Piping for the Reactor Coolant System (RCS) being manufactured by Tioga has experienced delays in hot leg manufacturing due primarily to deviation in grain size. A contingency plan was put in place to accept piping with grain size larger than the current specification requirements should revised manufacturing techniques fail to achieve desired results; however, the revised manufacturing process appears to have resolved the issue. One BLRA milestone related to RCL piping, as indicated in **Appendix 1**, was delayed by 13 months, as of December 31, 2011. However, this delay does not exceed the contingency specified in the BLRA and is not expected to affect the substantial completion dates for the Units.

## **C. Construction**

**1.** Switchyard construction work was previously impacted due to weather delays, late issuance of construction documents for review, and delayed resolution of issues associated with design compliance to the approved Switchyard specifications. However, Shaw has since taken action to correct these issues, and

the Switchyard is on schedule to be energized in March 2013, a date which fully supports the project schedule.

2. During the excavation of the Unit 2 power block, the layer of granite bedrock for the NI was found to be deeper than expected. Changes in the elevation of bedrock are not entirely unusual; however, the resulting impact of this discovery is that additional concrete fill placement will be required to create the level surface necessary prior to placing the mud mat and vapor barrier for the NI.

3. Unit 3 excavation continues on schedule. The top of bedrock was reached for the NI at the beginning of the fourth quarter of 2011, and geologic mapping is complete. An NRC Geologic Inspection of the Unit 3 top of surface rock and the geologic mapping program was conducted in October 2011, with favorable results.

4. Welding of the CA20-01 prototypes (Prototypes 5 and 6) on the CA20 Platen continued onsite for training purposes.

5. Assembly of the Heavy Lift Derrick (HLD) continued, and attachment of the boom and back mast to the carriage was completed. The reeving subcontract to set up cables for load testing was awarded, and this effort began in January 2012, subsequent to this reporting period.

6. The horizontal waterproof membrane material was received onsite at the end of November 2011. Additional testing of the product at the off-site lab in Boston, MA continues. The subcontract for installation of waterproof membrane was awarded to Comanco. Because installation of the membrane is a critical path item for readiness to pour nuclear safety-related concrete, this is an area of focus for the project.

7. Testing and quality approvals for safety-related concrete mixes continue to prepare for the pouring of the first nuclear concrete for Unit 2 during the first quarter of 2012. The first three concrete mixes have been redesigned, and the 28-day break for compressive strength was deemed satisfactory. All mixes necessary for the initial nuclear safety work, i.e., leveling and mudmats, have been approved. In November of 2011, to prepare for nuclear safety concrete production, structural concrete production was placed on hold and the on-site batch plants began to purge non-safety qualified materials such as aggregate, admixtures, fly-ash, and cement. The purge of non-safety related concrete materials has been completed. All these activities are on schedule, but because they are part of the critical path to allow the placement of the first nuclear concrete, they remain a focus area.

8. Significant improvements have been made by Chicago Bridge & Iron (CB&I) with regard to onsite Containment Vessel (CV) fabrication. Safety-related welding began in July 2011. During the final quarter of 2011, CB&I performed buffing and grinding of the bottom head plates, final fit-up and welding of the bottom head plates mounted on the Bottom Head Erection Stand, and Radiographic Testing of pressure boundary welds. Though work is progressing, SCE&G continues to monitor CV fabrication closely.

#### **D. Training**

1. Twelve training instructors for the Units completed Instructor Simulator Training on December 16, 2011, at WEC in Cranberry, PA. The second group of twelve began this training on January 9, 2012. The training is scheduled to end in April 2012, which will complete WEC Senior Reactor Operator Certification training for SCE&G instructors.

2. Potential schedule impacts to simulator delivery, testing, and subsequent certification of the Plant Reference Simulator (PRS) continue to be an area of focus for the project.

As reported in previous quarterly reports, in 2011 SCE&G identified issues with the WEC AP1000 Limited Scope Simulators (LSS) that could potentially impact operator training schedules. Management at SCE&G and WEC/Shaw has been working to resolve these issues, and will continue to monitor the progress closely to ensure training objectives remain on track.

3. In preparation for receipt of the LSS, work on the simulator rooms of the Nuclear Learning Center (NLC) Annex at Unit 1 is scheduled to be completed during the first quarter of 2012. Delivery of hardware for the LSS will continue through the month of January 2012. Installation and testing of this hardware will occur to meet the March 2012 date of when it is anticipated that the AP1000 simulators will be ready to begin use for training activities.

#### **E. Change Control/Owners Cost Forecast**

1. **EPC Contract Amendment No. 2** – Amendment No. 2 to the EPC Contract was fully executed on November 15, 2011, incorporating Change Orders 3 and 5-11 into the body of the EPC Contract. The amendment is procedural, and there are no new costs associated with the execution of the amendment.

2. **Health Care Mandate Costs (EPC Contract Change Order No. 12)** – During the last quarter of 2011, WEC/Shaw initiated Change Order No. 12 requesting reimbursement for Shaw's increased costs as a result of a change in law

related to portions of the Health Care and Education Reconciliation Act of 2010 (the Health Care Act). SCE&G approved the change order in December 2011. The total costs associated with this action are \$135,573 and are spread throughout the remaining period of the project. These costs have been included in the cost forecasts presented here. Although at this time WEC has not quantified any additional costs related to the Health Care Act, additional change orders may be generated by WEC/Shaw to cover future cost impacts associated with the act.

**3. Cyber Security** – An agreement was reached between SCE&G and WEC/Shaw on a phased approach to the costs associated with strengthening the Units’ defenses against cyber-attack (Cyber Security) as mandated by the NRC. The change order proposal includes a firm price scope of work in the amount of \$914,422 that will involve review of the specific equipment and software at issue to identify vulnerabilities and devise a scope of work to protect against cyber-attack. A change order for the first phase of work is being prepared. The above costs for implementing the resulting scope of work are estimated to be \$4.95 million. These costs have been included in the cost forecasts presented here.

**4. Liquid Radwaste System** – On December 9, 2011, WEC/Shaw presented SCE&G with an estimate for a detailed scope of work and associated costs for a revision to the design of the LRW discharge piping for gravity drainage, as specified in SCE&G’s COL application. SCE&G currently is reviewing this proposal from WEC/Shaw. WEC/Shaw has presented a cost for this work of \$8,250. This cost has been included in the cost forecasts for the Units.

**5. Operational Readiness and Other Owners Costs** – SCE&G is completing the comprehensive review of its New Nuclear Deployment and Operational Readiness Staffing Plans which has been ongoing since 2008. The current staffing plan reflects the additional skills, training and experience that will be required for a staff that can safely and efficiently operate the Units. In addition, the plan reflects the cost for the accelerated hiring and training of staff to meet the Scenario 3 schedule. The updated Owners cost projections also include the costs of facilities, equipment and information technology (IT) systems required to support the Units and their personnel. These cost forecasts are being finalized at this time but are anticipated to result in increases to the project cash flow forecast of approximately \$150 million.

**6. Regulatory Delay/New Requirements Costs and Other Associated Costs** – As a result of the study related to COL Delay that was authorized by Change Order No. 11, and other issues subsequently identified by the parties, WEC/Shaw are negotiating potential change orders related to claims

by WEC/Shaw for additional compensation associated with design modifications to the shield building and the structural modules (including resulting increases in construction costs for both), delays in NRC licensing, and unanticipated rock conditions where the foundations for the Unit 2 NI will be constructed. SCE&G has not accepted the validity of these claims. Costs associated with these items are being negotiated and have not been included in the cost forecast for the Units.

**7. Transmission Costs** – SCE&G has re-forecasted transmission costs associated with the Units based on additional design and engineering work, evaluation of power flows, and more current information about right-of-way costs and property requirements. As discussed in Section II, F below, SCE&G has determined that it is preferable to construct a new Saluda River 230/115 kV Substation as opposed to installing additional autobanks at the Lake Murray 230/115 kV Substation and the Denny Terrace 230/115 kV Substation. Accommodating power flows from the Units under this new configuration will require upgrading the 115 kV line between the Saluda River substation and the Lyles substation. Furthermore, SCE&G will add an underground section to the Parr-VCSN Safeguard 115 kV line where that line will be crossed by new lines being built to support the Units. Undergrounding this section of line will enhance safety and reliability. As a result of these and other changes and upgrades, transmission cost forecasts have increased by \$12.3 million. These costs have been included in the cost forecast for the Units.

## **F. Transmission**

**1. Killian Line** – In early January 2012, in accordance with Order No. 2011-978, SCE&G began construction on the VCS/Winnsboro segment of the Killian Line. Right-of way acquisition for the Killian Line continues with 26 of 51 parcels required having been acquired as of December 31, 2011 and another 6 parcels accessible through condemnation.

**2. Lake Murray #2-230KV Line** – The engineering work on this line is approximately 20% complete. The segment of the St. George #1-230kV Line from VCS2 to the Lake Murray Substation will be designed and constructed concurrently with this line. No construction on either line has commenced.

**3. Unit 3 Lines** – SCE&G anticipates filing an application under the Utility Facility Siting and Environmental Protection Act for approval of the Unit 3 lines (VCS2-St. George 230 kV Lines No. 1 & 2, excluding the segment of the No. 1 line filed with the Unit 2 lines) and the St. George Switching Station in the second quarter of 2012.



**4. St. George Switching Station** – The site for this switching station was purchased in 2009 and is currently undergoing environmental assessment.

**5. Saluda River Substation** – Based on further review of system conditions and requirements, SCE&G has determined that its original plan to install additional autobanks at the Lake Murray 230/115 kV Substation and the Denny Terrace 230/115 kV Substation would require SCE&G to construct new substations adjacent to the two existing substations due to the space limitations at those existing substations. Because reliability and operations considerations make it preferable not to place numerous transformers in a single location, SCE&G instead will construct a new Saluda River 230/115 kV Substation; the autobanks will not then be required. One of the St. George lines will fold-in to the new Saluda River 230/115 kV Substation. Accommodating power flows from the Units under this new configuration (*i.e.*, the Saluda River 230/115 kV Substation configuration), will require upgrading and fold-in of the 115 kV line between the Saluda River substation and the Lyles substation and the 115 kV line between the Saluda Hydro Substation and the Williams Street Substation. SCE&G is currently in the process of purchasing the site for the new Saluda River 230/115 kV Substation.

**6. Parr-VCSN Safeguard Line** – The Parr-VCSN Safeguard 115 kV line provides back up power to VCS Unit 1. Design work for other transmission lines supporting the Units has raised reliability and safety issues concerning the multiple 230 kV lines which will cross the 115 kV safeguard line within the VCS plant property. To alleviate these reliability and safety concerns, a short segment of the Parr-VCSN Safeguard 115 kV line will be rebuilt underground at the site of these multiple crossings. The associated cost impacts of this work have been estimated and are being further evaluated.

#### **G. Agreement with Santee Cooper**

In October 2011, SCE&G and its co-owner in the project, Santee Cooper, executed the permanent construction and operating agreements, which will govern the construction and operation of the new nuclear facilities. Under these agreements, SCE&G will have primary responsibility for oversight of the construction of the Units and will be responsible for the operation of the Units as they come on line.

### **III. Anticipated Construction Schedules**

As of December 31, 2011, the Company and its contractors remain on schedule to complete all required milestones as adjusted pursuant to the milestone schedule contingencies approved by the Commission in Order No. 2009-104(A). Each of those

adjustments is itemized in the BLRA Milestone section that follows. Accordingly, the project is in compliance with the construction schedules approved by the Commission in Order No. 2010-12 and with the provisions of S.C. Code Ann. § 58-33-275(A)(1).

#### **A. Construction Schedule**

The Project Licensing and Permitting, Engineering, Procurement and Construction work remains on schedule to meet the Units' Substantial Completion dates taking into account the schedule contingencies approved in Order 2009-104(A). Rescheduling of the milestones is envisioned as part of the negotiations with WEC/Shaw related to the Change Order No. 11 study.

#### **B. BLRA Milestones**

**Appendix 1** to this quarterly report lists and updates each of the specific milestones constituting the anticipated construction schedule for the Units pursuant to S.C. Code Ann. § 58-33-270(B)(1) and Order No. 2010-12. Comparing the milestone dates in this quarter to the reset milestone dates in Order No. 2010-12, 27 milestones have been advanced and 42 have been delayed. None of the reset milestones are outside of the parameters established by Order No. 2009-104(A).

### **IV. Schedules of the Capital Costs Incurred Including Updates to the Information Required by S.C. Code Ann. § 58-33-270(B)(6) (the Inflation Indices)**

The Capital Cost section of this report (Section IV.A) provides an update of the cumulative capital costs incurred and forecasted to be incurred in completing the project. These costs are compared to the cumulative capital cost targets approved by the Commission in Order No. 2011-345. The approved capital cost targets have been adjusted to reflect the currently reported historical escalation rates. There has not been any use by the Company of the capital cost timing contingencies that were approved by the Commission in Order No. 2009-104(A). The Inflation Indices section (Section IV.B) of this report provides updated information on inflation indices and the changes in them.

#### **A. Capital Costs**

**Appendix 2** shows the Cumulative Project Cash Flow target as approved in Order No. 2011-345 and as updated for escalation and other Commission approved adjustments under the heading **“Per Order 2011-345 Adjusted.”**

**Appendix 2** also shows the cumulative cash flow for the project based on actual expenditures to date and the Company's current forecast of cost and construction schedule under the heading **“Actual through December 2011\* plus Projected.”**

As shown on **Appendix 2**, the actual expenditure for the project during the 12 months ended December 31, 2011 was approximately \$349 million. As shown on **Appendix 2**, line 39, the cumulative amount spent on the project as of December 31, 2011 is approximately \$1.210 billion. As shown on **Appendix 2**, line 18, the Cumulative Project Cash Flow target approved by the Commission for year-end 2011 adjusted for current escalation and WEC/Shaw billing differences is approximately \$1.351 billion. As a result, the cumulative cash flow at year-end 2011 is forecasted to be approximately \$141 million less than the target.

For comparison purposes, **Appendix 3** sets out the cash flow schedule for the project as it was approved in Order No. 2011-345. **Appendix 3** does not include any adjustments to the cash flow schedule for changes in inflation indices or adjustments in capital cost schedules made by the Company. The AFUDC forecast presented on **Appendix 3** is the AFUDC forecast that was current at the time of Order No. 2011-345.

## **B. Inflation Indices**

**Appendix 4** shows the updated inflation indices approved in Order No. 2009-104(A). Included is a history of the annual Handy Whitman All Steam Index, South Atlantic Region; the Handy Whitman All Steam and Nuclear Index, South Atlantic Region; the Handy Whitman All Transmission Plant Index, South Atlantic Region; and the Chained GDP Index for the past 10 years. The changes in these indices and the escalation-related effects of cost rescheduling resulted in a decrease in the projected cost of the Units in future dollars from \$5.8 billion as forecast in Order No. 2011-345 to a forecast of \$5.6 billion using current inflation data.

## **V. Updated Schedule of Anticipated Capital Costs**

The updated schedule of anticipated capital costs for Units 2 & 3 is reflected in **Appendix 2**.

## **VI. Conclusion**

The construction project is proceeding safely and efficiently. Since the last quarterly report, the project has met major milestones with the issuance of the 401 permit and the completion of site work required to allow nuclear safety-related construction work to begin. The Units are currently anticipated to be completed at a cost of approximately \$4.3 billion (not including anticipated Owner's Cost adjustment and Challenged Costs) in 2007 dollars. The Company maintains an extensive staff of experts that monitors and oversees the work of its contractors and has identified and continues to monitor closely all areas of concern related to either cost or schedule for the project. The

Company will continue to update the Commission and ORS of progress and concerns as the project proceeds.

# ATTACHMENT 1

## GLOSSARY OF ACRONYMS OR DEFINED TERMS

<b>Acronym or Defined Term</b>	<b>Reference</b>
ACOE	The United States Army Corps of Engineers.
ACRS	Advisory Committee on Reactor Safeguards - a committee organized to independently review license applications and advise the NRC.
AECOM	A private engineering firm that works for Norfolk Southern railroad.
AFUDC	Allowance for Funds Used During Construction.
AP1000	The WEC designed Advanced Pressurized water nuclear reactor of approximately 1000 megawatts generating capacity.
ASER	Advanced Safety Evaluation Report—a report by the NRC staff concerning its evaluation of the safety aspects of a nuclear license application.
ASLB	The Atomic Safety Licensing Board of the Nuclear Regulatory Commission.
BLRA	The Base Load Review Act, S.C. Code Ann. § 58-33-210 et seq. (Supp. 2009).
CA	The designation for a specific pre-fabricated construction module that forms part of the reactor building, such as Module CA20.
CAR	A Corrective Action Report related to design, engineering or construction of the Units, or related processes, that must be corrected.
CB&I	Chicago Bridge & Iron, a sub-contractor on the project.
CFC	Certified For Construction—engineering and design drawings that are ready for construction to begin.
Challenged Costs	Costs for which WEC/Shaw has asserted the right to additional cost recovery under the EPC Contract including costs associated with a) NRC licensing delays, b) redesign of the shield building, c) redesign of certain pre-fabricated modules for the Units, and d) unanticipated rock conditions.
COL	A Combined Operating License for construction and operation of a nuclear unit issued by the NRC.
COLA	A Combined Operating License Application.
Commission	The Public Service Commission of South Carolina.
Consortium	The joint venture between WEC Electric Company, LLC and the Shaw Group to construct the Units under the terms of the EPC Contract.
CR	A Condition Report communicating and memorializing concerns with the design, engineering or construction of the Units, or related processes, which report in some cases can become the basis for a Corrective Action Report.
CV	The Containment Vessel which provides containment for the reactor vessel and associated equipment.
CVBH	The Containment Vessel Bottom Head that forms the bottom of the Containment Vessel.
CWIP	Construction Work in Progress.
CWS	The Circulating Water System—the system that will transport waste heat from the turbines to the cooling towers.
DCD	Design Control Document which is approved by the Nuclear Regulatory Commission document and sets forth the approved design of a nuclear reactor.
DSM	Demand Side Management—programs to reduce the demand for electrical capacity and energy.
EIS	An Environmental Impact Statement as required by the National Environmental Policy Act of 1969.
EMD	The sub-contractor for the Reactor Cooling Pump.

## ATTACHMENT 1

### GLOSSARY OF ACRONYMS OR DEFINED TERMS

<b>Acronym or Defined Term</b>	<b>Reference</b>
EPA	The United States Environmental Protection Agency.
EPC Contract	The Engineering, Procurement and Construction Agreement for construction of the Units entered into by SCE&G and WEC/Shaw.
FEIS	A Final Environmental Impact Statement as required by the National Environmental Policy Act of 1969.
FERC	The Federal Energy Regulatory Commission.
Fixed/Firm	Prices under the EPC Contract which are either fixed or are firm but subject to defined escalation rates.
FSER	A Final Safety Evaluation Report—a report by the NRC staff concerning its evaluation of the safety aspects of a nuclear license application.
GDP	Gross Domestic Product.
HL or Hot Leg	That part of the Reactor Cooling Loop that transports steam to the steam generators.
HLD	Heavy Lift Derrick - the derrick that will be erected on site to move large modules and equipment.
IFC	Issued for Construction –engineering drawings that include information necessary for construction of specific structures, systems and components.
IPS	Integrated Project Schedule for licensing and construction of the Units.
ISV	Integrated Systems Validation –part of the development of a training simulator for the Units.
LNTP	Limited Notice to Proceed authorizing a vendor to commence specific work.
LRW	Liquid RadWaste System, the system for collection and removing liquid radiological waste from the Units.
LSS	Limited Scope Simulator –a training simulator with limited functionality that can be used for the initial stages of operator training.
MAB	Module Assembly Building -a building on site where large modules will be constructed and equipment will be prepared for installation in a space that is protected from the elements.
MN	Mangiarotti –a supplier of nuclear components headquartered in Sedegliano, Italy.
Nelson Studs	Metal studs used in composite construction to secure concrete to steel components. The studs project out of the steel components and are surrounded by the concrete when it is poured.
NI	Nuclear Island, comprising the steel containment vessel, the reactor building, and the auxiliary building.
NLC	Nuclear Learning Center - a training facility operated by SCE&G at the Jenkinsville site.
NN or NND	The New Nuclear Deployment Team within SCE&G.
NPDES	National Pollutant Discharge Elimination System.
NRC	The United States Nuclear Regulatory Commission.
Opinion	The opinion in South Carolina Energy Users Comm. v. South Carolina Pub. Serv. Comm’n, 388 S.C. 486, 697 S.E.2d 587 (2010).
ORS	South Carolina Office of Regulatory Staff.
Pike	Pike Energy Solutions, a contractor for transmission and switchyard related work.
PRA	Probabilistic Risk Assessment.

## ATTACHMENT 1

### GLOSSARY OF ACRONYMS OR DEFINED TERMS

Acronym or Defined Term	Reference
PRS	Plant Reference Simulator – a training simulator with full functionality that can be used in all stages of operator training.
QA	Quality Assurance – The planned and systematic activities implemented in a quality system so that the quality requirements for a product or service will be fulfilled.
QA/QC	Quality Assurance/Quality Control.
QC	Quality Control – The observation techniques and activities used to fulfill requirements for quality.
RAI	Requests for Additional Information issued by the NRC staff to license applicants.
RCA	Root Cause Analysis – identification and evaluation of the reason for non-conformance, an undesirable condition, or a problem which (when solved) restores the status quo.
RCL	The Reactor Coolant Loop –the piping and related equipment that transports heat from the reactor to the steam generator.
RCP	The Reactor Cooling Pump which forms part of the Reactor Coolant System.
RCS	The Reactor Coolant System -the complete system for transferring and transporting heat from the reactor to the steam generator.
ROW	Right of way.
RWS	Raw Water System –the system for withdrawing and transporting raw water from the Monticello Reservoir.
SCDHEC	The South Carolina Department of Health and Environmental Control.
SCDNR	The South Carolina Department of Natural Resources.
SCE&G	South Carolina Electric & Gas Company.
Scenario 3	A construction schedule where Unit 2’s completion date is December 31, 2016 and Unit 3’s is February 1, 2018.
SCEUC	The South Carolina Energy Users Committee.
SER	Safety Evaluation Report—a report by the NRC staff concerning its evaluation of the safety aspects of a nuclear license application.
Shaw	The Shaw Group.
SMS	Shaw Module Solutions, LLC.
SRO-C	Senior Reactor Operator Certification.
Target	Costs under the EPC Contract where targets have been established but where SCE&G pays actual costs as incurred.
Units	V. C. Summer Nuclear Station Units 2 & 3.
Update Filing or Update Proceedings	A filing or proceeding under S.C. Code Ann. § 58-33-270(E) with the Commission to update the cost schedules or construction schedules approved by the Commission for a project. By law such updates are required to be approved unless they are the result of imprudence by the utility.
VCSNS or VCSN	V. C. Summer Nuclear Station.
WEC	WEC Electric Company, LLC.
WEC/Shaw	The consortium formed by WEC Electric Company, LLC and the Shaw Group.
WTP	The Off-Site Water Treatment Plant which will take water from Lake Monticello and treat it to potable water standards.
WWS	The Waste Water System –the system for collection, treatment and disposal of domestic waste water generated on site.

## APPENDIX 1

### V. C. Summer Nuclear Station Units 2 & 3

#### **Quarterly Report to the South Carolina Office of Regulatory Staff Submitted by South Carolina Electric & Gas Company Pursuant to Public Service Commission Order No. 2009-104(A)**

#### **Quarter Ending December 31, 2011**

**Appendix 1** lists and updates each of the milestones which the Commission adopted as the Approved Construction Schedule for the Units, pursuant to S.C. Code Ann. § 58-33-270(B)(1) in Order No. 2010-12. **Appendix 1** provides columns with the following information:


1. Milestone tracking ID number.
2. The description of the milestone as updated in Order No. 2010-12.
3. The BLRA milestone date, both by year and quarter and the specific calendar date for the milestone, as approved by the Commission in Order No. 2010-12.
4. The current milestone date, both by year and quarter and the specific calendar date for the milestone.
5. For each actual completed milestone, the date by which it was completed. For milestones completed prior to the current reporting quarter, the milestone entry is shaded in gray. For milestones completed during the current reporting quarter, the milestone entry is shaded in green. For milestones with planned completion dates that vary in days instead of months, the milestone entry is shaded in yellow.
6. Information showing the number of months, if any, by which a milestone has been shifted.
7. Information as to whether any milestone has been shifted outside of the 18/24 Month Contingency approved by the Commission.
8. Information as to whether any current change in this milestone is anticipated to impact the substantial completion date.
9. Notes.

On the final page of the document, there is a chart summarizing milestone completion and movement comparing the current milestone date to the milestone date approved in Order No. 2010-12. This movement is shown for only the milestones that have not been completed.




**Appendix 1  
VC Summer Units 2 and 3**

Tracking ID	Order No. 2010-12 Description	Order No. 2010-12 Date	11-4Q Targeted Milestone Completion Date	Actual Completion Date	Delta Months from Order No. 2010-12 Date	Outside +18/-24 Months Contingency?	Substantial Completion Date Impact?	Notes
1	08-2Q-1: Approve Engineering Procurement and Construction Agreement	5/23/2008		5/23/2008		No	No	
2	08-2Q-2: Issue P.O.'s to nuclear component fabricators for Units 2 and 3 Containment Vessels	12/3/2008		12/3/2008		No	No	
3	08-2Q-2: Contractor Issue PO to Passive Residual Heat Removal Heat Exchanger Fabricator - First Payment - Unit 2	8/31/2008		8/18/2008		No	No	
4	08-2Q-2: Contractor Issue PO to Accumulator Tank Fabricator - Unit 2	7/31/2008		7/31/2008		No	No	
5	08-2Q-2: Contractor Issue PO to Core Makeup Tank Fabricator - Units 2 & 3	9/30/2008		9/30/2008		No	No	
6	08-2Q-2: Contractor Issue PO to Squib Valve Fabricator - Units 2 & 3	3/31/2009		3/31/2009		No	No	
7	08-2Q-2: Contractor Issue PO to Steam Generator Fabricator - Units 2 & 3	6/30/2008		5/29/2008		No	No	
8	08-2Q-2: Contractor Issue Long Lead Material PO to Reactor Coolant Pump Fabricator - Units 2 & 3	6/30/2008		6/30/2008		No	No	
9	08-2Q-2: Contractor Issue PO to Pressurizer Fabricator - Units 2 & 3	8/31/2008		8/18/2008		No	No	
10	08-2Q-2: Contractor Issue PO to Reactor Coolant Loop Pipe Fabricator - First Payment - Units 2 & 3	6/30/2008		6/20/2008		No	No	
11	08-2Q-2: Reactor Vessel Internals - Issue Long Lead Material PO to Fabricator - Units 2 and 3	11/21/2008		11/21/2008		No	No	
12	08-2Q-2: Contractor Issue Long Lead Material PO to Reactor Vessel Fabricator - Units 2 & 3	6/30/2008		5/29/2008		No	No	
13	08-2Q-2: Contractor Issue PO to Integrated Head Package Fabricator - Units 2 & 3	7/31/2009		7/31/2009		No	No	

Color Legend     = Completed     = Completed this Quarter     = Movement in Days Only

**Appendix 1  
VC Summer Units 2 and 3**


Tracking ID	Order No. 2010-12 Description	Order No. 2010-12 Date	11-4Q Targeted Milestone Completion Date	Actual Completion Date	Delta Months from Order No. 2010-12 Date	Outside +18/-24 Months Contingency?	Substantial Completion Date Impact?	Notes
14	08-2Q-2: Control Rod Drive Mechanism Issue PO for Long Lead Material to Fabricator - Units 2 and 3 - first payment	6/21/2008		6/21/2008		No	No	
15	08-2Q-2: Issue P.O.'s to nuclear component fabricators for Nuclear Island structural CA20 Modules	7/31/2009		8/28/2009		No	No	
16	08-3Q-1: Start Site Specific and balance of plant detailed design	9/11/2007		9/11/2007		No	No	
17	08-3Q-2: Instrumentation & Control Simulator - Contractor Place Notice to Proceed - Units 2 & 3	10/31/2008		10/31/2008		No	No	
18	08-3Q-3: Steam Generator - Issue Final PO to Fabricator for Units 2 and 3	6/30/2008		6/30/2008		No	No	
19	08-3Q-3: Reactor Vessel Internals - Contractor Issue PO for Long Lead Material (Heavy Plate and Heavy Forgings) to Fabricator - Units 2 & 3	1/31/2010		1/29/2010		No	No	
20	08-3Q-3: Contractor Issue Final PO to Reactor Vessel Fabricator - Units 2 & 3	9/30/2008		9/30/2008		No	No	
21	08-3Q-4: Variable Frequency Drive Fabricator Issue Transformer PO - Units 2 & 3	4/30/2009		4/30/2009		No	No	
22	08-4Q-1: Start clearing, grubbing and grading	1/26/2009		1/26/2009		No	No	
23	08-4Q-2: Core Makeup Tank Fabricator Issue Long Lead Material PO - Units 2 & 3	10/31/2008		10/31/2008		No	No	
24	08-4Q-2: Accumulator Tank Fabricator Issue Long Lead Material PO - Units 2 & 3	10/31/2008		10/31/2008		No	No	
25	08-4Q-2: Pressurizer Fabricator Issue Long Lead Material PO - Units 2 & 3	10/31/2008		10/31/2008		No	No	
26	08-4Q-2: Reactor Coolant Loop Pipe - Contractor Issue PO to Fabricator - Second Payment - Units 2 & 3	4/30/2009		4/30/2009		No	No	

Color Legend     = Completed     = Completed this Quarter     = Movement in Days Only

**Appendix 1  
VC Summer Units 2 and 3**

Tracking ID	Order No. 2010-12 Description	Order No. 2010-12 Date	11-4Q Targeted Milestone Completion Date	Actual Completion Date	Delta Months from Order No. 2010-12 Date	Outside +18/-24 Months Contingency?	Substantial Completion Date Impact?	Notes
27	08-4Q-2: Integrated Head Package - Issue PO to Fabricator - Units 2 and 3 - second payment	7/31/2009		7/31/2009		No	No	
28	08-4Q-2: Control Rod Drive Mechanisms - Contractor Issue PO for Long Lead Material to Fabricator - Units 2 & 3	6/30/2008		6/30/2008		No	No	
29	08-4Q-2: Contractor Issue PO to Passive Residual Heat Removal Heat Exchanger Fabricator - Second Payment - Units 2 & 3	10/31/2008		10/31/2008		No	No	
30	9-1Q-1: Start Parr Road intersection work.	2/13/2009		2/13/2009		No	No	
31	09-1Q-2: Reactor Coolant Pump - Issue Final PO to Fabricator - Units 2 and 3	6/30/2008		6/30/2008		No	No	
32	09-1Q-3: Integrated Heat Packages Fabricator Issue Long Lead Material PO - Units 2 & 3	10/31/2009		10/1/2009		No	No	
33	09-1Q-4: Design Finalization Payment 3	1/31/2009		1/30/2009		No	No	
34	09-2Q-1: Start site development	6/23/2008		6/23/2008		No	No	
35	09-2Q-2: Contractor Issue PO to Turbine Generator Fabricator - Units 2 & 3	2/28/2009		2/19/2009		No	No	
36	09-2Q-2: Contractor Issue PO to Main Transformers Fabricator - Units 2 & 3	9/30/2009		9/25/2009		No	No	
37	09-2Q-3: Core Makeup Tank Fabricator Notice to Contractor Receipt of Long Lead Material - Units 2 & 3	11/30/2010		12/30/2010		No	No	
38	09-2Q-4: Design Finalization Payment 4	4/30/2009		4/30/2009		No	No	
39	09-3Q-1: Turbine Generator Fabricator Issue PO for Condenser Material - Unit 2	8/31/2009		8/28/2009		No	No	
40	09-3Q-2: Reactor Coolant Pump Fabricator Issue Long Lead Material Lot 2 - Units 2 & 3	4/30/2009		4/30/2009		No	No	

Color Legend

 = Completed

 = Completed this Quarter

 = Movement in Days Only


**Appendix 1  
VC Summer Units 2 and 3**

Tracking ID	Order No. 2010-12 Description	Order No. 2010-12 Date	11-4Q Targeted Milestone Completion Date	Actual Completion Date	Delta Months from Order No. 2010-12 Date	Outside +18/-24 Months Contingency?	Substantial Completion Date Impact?	Notes
41	09-3Q-2: Passive Residual Heat Removal Heat Exchanger Fabricator Receipt of Long Lead Material - Units 2 & 3	5/31/2010		5/27/2010		No	No	
42	09-3Q-3: Design Finalization Payment 5	7/31/2009		7/31/2009		No	No	
43	09-4Q-1: 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		12/18/2009		No	No	
44	09-4Q-2: Reactor Vessel Fabricator Notice to Contractor of Receipt of Flange Nozzle Shell Forging - Unit 2	7/31/2009		8/28/2009		No	No	
45	09-4Q-3: Design Finalization Payment 6	10/31/2009		10/7/2009		No	No	
46	09-4Q-4: Instrumentation and Control Simulator - Contractor Issue PO to Subcontractor for Radiation Monitor System - Units 2 & 3	12/31/2009		12/17/2009		No	No	
47	10-1Q-1: Reactor Vessel Internals - Fabricator Start Fit and Welding of Core Shroud Assembly - Unit 2	6/30/2011		7/29/2011		No	No	
48	10-1Q-2: Turbine Generator Fabricator Issue PO for Moisture Separator Reheater/Feedwater Heater Material - Unit 2	4/30/2010		4/30/2010		No	No	
49	10-1Q-3: Reactor Coolant Loop Pipe Fabricator Acceptance of Raw Material - Unit 2	4/30/2010		2/18/2010		No	No	
50	10-2Q-1: Reactor Vessel Internals - Fabricator Start Weld Neutron Shield Spacer Pads to Assembly - Unit 2	11-4Q 10/31/2011	12-1Q 1/31/2012		+3 Month(s)	No	No	The delay is due to schedule refinement and review.
51	10-2Q-2: Control Rod Drive Mechanisms - Fabricator to Start Procurement of Long Lead Material - Unit 2	6/30/2009		6/30/2009		No	No	

Color Legend     = Completed     = Completed this Quarter     = Movement in Days Only


**Appendix 1  
VC Summer Units 2 and 3**

Tracking ID	Order No. 2010-12 Description	Order No. 2010-12 Date	11-4Q Targeted Milestone Completion Date	Actual Completion Date	Delta Months from Order No. 2010-12 Date	Outside +18/-24 Months Contingency?	Substantial Completion Date Impact?	Notes
52	10-2Q-3: Contractor Notified that Pressurizer Fabricator Performed Cladding on Bottom Head - Unit 2	11/30/2010		12/23/2010		No	No	
53	10-3Q-1: Start excavation and foundation work for the standard plant for Unit 2	3/15/2010		3/15/2010		No	No	
54	10-3Q-2: Steam Generator Fabricator Notice to Contractor of Receipt of 2nd Steam Generator Tubesheet Forging - Unit 2	2/28/2010		4/30/2010		No	No	
55	10-3Q-3: Reactor Vessel Fabricator Notice to Contractor of Outlet Nozzle Welding to Flange Nozzle Shell Completion - Unit 2	2/28/2010		12/30/2010		No	No	
56	10-3Q-4: Turbine Generator Fabricator Notice to Contractor Condenser Fabrication Started - Unit 2	5/31/2010		5/17/2010		No	No	
57	10-4Q-1: Complete preparations for receiving the first module on site for Unit 2.	8/18/2010		1/22/2010		No	No	
58	10-4Q-2: Steam Generator Fabricator Notice to Contractor of Receipt of 1st Steam Generator Transition Cone Forging - Unit 2	4/30/2010		4/21/2010		No	No	
59	10-4Q-3: Reactor Coolant Pump Fabricator Notice to Contractor of Manufacturing of Casing Completion - Unit 2	11/30/2010		11/16/2010		No	No	
60	10-4Q-4: Reactor Coolant Loop Pipe Fabricator Notice to Contractor of Machining, Heat Treating & Non-Destructive Testing Completion - Unit 2	10-4Q 12/31/2010	12-1Q 1/31/2012		+13 Month(s)	No	No	The delay is due to schedule refinement and review.
61	11-1Q-1: Core Makeup Tank Fabricator Notice to Contractor of Satisfactory Completion of Hydrotest - Unit 2	11-2Q 5/31/2011	12-2Q 5/31/2012		+12 Month(s)	No	No	The delay is due to schedule refinement and review.

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**Appendix 1  
VC Summer Units 2 and 3**


Tracking ID	Order No. 2010-12 Description	Order No. 2010-12 Date	11-4Q Targeted Milestone Completion Date	Actual Completion Date	Delta Months from Order No. 2010-12 Date	Outside +18/-24 Months Contingency?	Substantial Completion Date Impact?	Notes
62	11-1Q-2: Polar Crane Fabricator Issue PO for Main Hoist Drum and Wire Rope - Units 2 & 3	2/28/2011		2/1/2011		No	No	
63	11-2Q-1: Control Rod Drive Mechanisms - Fabricator to Start Procurement of Long Lead Material - Unit 3	6/30/2011		6/14/2011		No	No	
64	11-2Q-2: Turbine Generator Fabricator Notice to Contractor Condenser Ready to Ship - Unit 2	11-4Q 10/31/2011	12-1Q 2/29/2012		+4 Month(s)	No	No	The delay is due to schedule refinement and review.
65	11-3Q-1: Start placement of mud mat for Unit 2	11-3Q 7/14/2011	12-1Q 1/23/2012		+6 Month(s)	No	No	The delay is due to schedule refinement and review.
66	11-3Q-2: Steam Generator Fabricator Notice to Contractor of Receipt of 1st Steam Generator Tubing - Unit 2	1/31/2011		9/28/2010		No	No	
67	11-3Q-3: Pressurizer Fabricator Notice to Contractor of Welding of Upper and Intermediate Shells Completion - Unit 2	10/31/2010		10/28/2011		No	No	
68	11-3Q-4: Reactor Vessel Fabricator Notice to Contractor of Closure Head Cladding Completion - Unit 3	12-1Q 2/28/2012	12-2Q 5/31/2012		+3 Month(s)	No	No	The delay is due to schedule refinement and review.
69	11-4Q-1: Begin Unit 2 first nuclear concrete placement	11-4Q 10/3/2011	12-2Q 5/1/2012		+7 Month(s)	No	No	The delay is due to schedule refinement and review.
70	11-4Q-2: Reactor Coolant Pump Fabricator Notice to Contractor of Stator Core Completion - Unit 2	9/30/2011		12/1/2011		No	No	
71	11-4Q-3: Fabricator Start Fit and Welding of Core Shroud Assembly - Unit 2	6/30/2011		7/29/2011		No	No	
72	11-4Q-4: Steam Generator Fabricator Notice to Contractor of Completion of 1st Steam Generator Tubing Installation - Unit 2	11-2Q 5/31/2011	12-1Q 2/29/2012		+9 Month(s)	No	No	The delay is due to schedule refinement and review.

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**Appendix 1  
VC Summer Units 2 and 3**

Tracking ID	Order No. 2010-12 Description	Order No. 2010-12 Date	11-4Q Targeted Milestone Completion Date	Actual Completion Date	Delta Months from Order No. 2010-12 Date	Outside +18/-24 Months Contingency?	Substantial Completion Date Impact?	Notes
73	11-4Q-5: Reactor Coolant Loop Pipe - Shipment of Equipment to Site - Unit 2	12-4Q 12/31/2012	12-2Q 5/31/2012		-7 Month(s)	No	No	Schedule ahead of plan.
74	11-4Q-6: Control Rod Drive Mechanism - Ship Remainder of Equipment (Latch Assembly & Rod Travel Housing) to Head Supplier - Unit 2	11-4Q 12/31/2011	12-2Q 6/30/2012		+6 Month(s)	No	No	The delay is due to schedule refinement and review.
75	11-4Q-7: Pressurizer Fabricator Notice to Contractor of Welding of Lower Shell to Bottom Head Completion - Unit 2	10/31/2010		12/22/2011		No	No	
76	11-4Q-8: Steam Generator Fabricator Notice to Contractor of Completion of 2nd Steam Generator Tubing Installation - Unit 2	11-2Q 6/30/2011	12-1Q 2/29/2012		+8 Month(s)	No	No	The delay is due to schedule refinement and review.
77	11-4Q-9: Design Finalization Payment 14	10/31/2011		10/31/2011		No	No	
78	12-1Q-1: Set module CA04 for Unit 2	12-1Q 1/27/2012	12-4Q 11/7/2012		+10 Month(s)	No	No	The delay is due to schedule refinement and review.
79	12-1Q-2: Passive Residual Heat Removal Heat Exchanger Fabricator Notice to Contractor of Final Post Weld Heat Treatment - Unit 2	6/30/2010		5/24/2011		No	No	
80	12-1Q-3: Passive Residual Heat Removal Heat Exchanger Fabricator Notice to Contractor of Completion of Tubing - Unit 2	11-1Q 1/31/2011	12-1Q 2/29/2012		+13 Month(s)	No	No	The delay is due to schedule refinement and review.
81	12-1Q-4: Polar Crane Fabricator Notice to Contractor of Girder Fabrication Completion - Unit 2	12-1Q 2/28/2012	12-4Q 12/31/2012		+10 Month(s)	No	No	The delay is due to schedule refinement and review.
82	12-1Q-5: Turbine Generator Fabricator Notice to Contractor Condenser Ready to Ship - Unit 3	13-3Q 8/31/2013	13-3Q 7/31/2013		-1 Month(s)	No	No	Schedule ahead of plan.
83	12-2Q-1: Set Containment Vessel ring #1 for Unit 2	12-2Q 4/3/2012	13-1Q 3/19/2013		+11 Month(s)	No	No	The delay is due to schedule refinement and review.

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**Appendix 1  
VC Summer Units 2 and 3**

Tracking ID	Order No. 2010-12 Description	Order No. 2010-12 Date	11-4Q Targeted Milestone Completion Date	Actual Completion Date	Delta Months from Order No. 2010-12 Date	Outside +18/-24 Months Contingency?	Substantial Completion Date Impact?	Notes
84	12-2Q-2: Reactor Coolant Pump Fabricator Delivery of Casings to Port of Export - Unit 2	12-1Q 3/31/2012	12-1Q 3/31/2012			No	No	
85	12-2Q-3: Reactor Coolant Pump Fabricator Notice to Contractor of Stator Core Completion - Unit 3	13-3Q 8/31/2013	13-1Q 1/31/2013		-7 Month(s)	No	No	Schedule ahead of plan.
86	12-2Q-4: Reactor Vessel Fabricator Notice to Contractor of Receipt of Core Shell Forging - Unit 3	12-3Q 9/30/2012	12-1Q 3/31/2012		-6 Month(s)	No	No	Schedule ahead of plan.
87	12-2Q-5: Contractor Notified that Pressurizer Fabricator Performed Cladding on Bottom Head - Unit 3	1/31/2013		11/9/2011		No	No	
88	12-3Q-1: Set Nuclear Island structural module CA03 for Unit 2	12-3Q 8/30/2012	13-3Q 7/5/2013		+11 Month(s)	No	No	The delay is due to schedule refinement and review.
89	12-3Q-2: Squib Valve Fabricator Notice to Contractor of Completion of Assembly and Test for Squib Valve Hardware - Unit 2	12-2Q 5/31/2012	12-2Q 5/31/2012			No	No	
90	12-3Q-3: Accumulator Tank Fabricator Notice to Contractor of Satisfactory Completion of Hydrotest - Unit 3	12-4Q 12/31/2012	12-4Q 10/31/2012		-2 Month(s)	No	No	Schedule ahead of plan.
91	12-3Q-4: Polar Crane Fabricator Notice to Contractor of Electric Panel Assembly Completion - Unit 2	12-3Q 7/31/2012	13-2Q 6/30/2013		+11 Month(s)	No	No	The delay is due to schedule refinement and review.
92	12-4Q-1: Start containment large bore pipe supports for Unit 2	12-2Q 4/9/2012	13-1Q 3/1/2013		+11 Month(s)	No	No	The delay is due to schedule refinement and review.
93	12-4Q-2: Integrated Head Package - Shipment of Equipment to Site - Unit 2	12-4Q 10/31/2012	13-1Q 2/28/2013		+4 Month(s)	No	No	The delay is due to schedule refinement and review.

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**Appendix 1  
VC Summer Units 2 and 3**

Tracking ID	Order No. 2010-12 Description	Order No. 2010-12 Date	11-4Q Targeted Milestone Completion Date	Actual Completion Date	Delta Months from Order No. 2010-12 Date	Outside +18/-24 Months Contingency?	Substantial Completion Date Impact?	Notes
94	12-4Q-3: Reactor Coolant Pump Fabricator Notice to Contractor of Final Stator Assembly Completion - Unit 2	12-4Q 11/30/2012	13-2Q 5/31/2013		+6 Month(s)	No	No	The delay is due to schedule refinement and review.
95	12-4Q-4: Steam Generator Fabricator Notice to Contractor of Completion of 2nd Steam Generator Tubing Installation - Unit 3	13-2Q 5/31/2013	13-2Q 4/30/2013		-1 Month(s)	No	No	Schedule ahead of plan.
96	12-4Q-5: Steam Generator Fabricator Notice to Contractor of Satisfactory Completion of 1st Steam Generator Hydrotest - Unit 2	12-2Q 5/31/2012	12-4Q 10/31/2012		+5 Month(s)	No	No	The delay is due to schedule refinement and review.
97	13-1Q-1: Start concrete fill of Nuclear Island structural modules CA01 and CA02 for Unit 2	13-1Q 2/26/2013	14-1Q 1/9/2014		+11 Month(s)	No	No	The delay is due to schedule refinement and review.
98	13-1Q-2: Passive Residual Heat Removal Heat Exchanger - Delivery of Equipment to Port of Entry - Unit 2	12-2Q 4/30/2012	12-2Q 6/30/2012		+2 Month(s)	No	No	The delay is due to schedule refinement and review.
99	13-1Q-3: Refueling Machine Fabricator Notice to Contractor of Satisfactory Completion of Factory Acceptance Test - Unit 2	13-1Q 2/28/2013	13-3Q 8/31/2013		+6 Month(s)	No	No	The delay is due to schedule refinement and review.
100	13-1Q-4: Deliver Reactor Vessel Internals to Port of Export - Unit 2	13-3Q 7/31/2013	13-3Q 7/31/2013			No	No	
101	13-2Q-1: Set Unit 2 Containment Vessel #3	13-2Q 4/17/2013	14-1Q 2/25/2014		+10 Month(s)	No	No	The delay is due to schedule refinement and review.
102	13-2Q-2: Steam Generator - Contractor Acceptance of Equipment at Port of Entry - Unit 2	13-1Q 3/31/2013	13-1Q 2/28/2013		-1 Month(s)	No	No	Schedule ahead of plan.
103	13-2Q-3: Turbine Generator Fabricator Notice to Contractor Turbine Generator Ready to Ship - Unit 2	13-2Q 4/30/2013	13-1Q 3/31/2013		-1 Month(s)	No	No	Schedule ahead of plan.
104	13-2Q-4: Pressurizer Fabricator Notice to Contractor of Satisfactory Completion of Hydrotest - Unit 3	14-1Q 2/28/2014	13-4Q 12/31/2013		-2 Month(s)	No	No	Schedule ahead of plan.

Color Legend



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**Appendix 1  
VC Summer Units 2 and 3**

Tracking ID	Order No. 2010-12 Description	Order No. 2010-12 Date	11-4Q Targeted Milestone Completion Date	Actual Completion Date	Delta Months from Order No. 2010-12 Date	Outside +18/-24 Months Contingency?	Substantial Completion Date Impact?	Notes
105	13-2Q-5: Polar Crane - Shipment of Equipment to Site - Unit 2	13-2Q 5/31/2013	14-1Q 1/31/2014		+8 Month(s)	No	No	The delay is due to schedule refinement and review.
106	13-2Q-6: Receive Unit 2 Reactor Vessel on site from fabricator	13-2Q 5/20/2013	13-4Q 12/9/2013		+7 Month(s)	No	No	The delay is due to schedule refinement and review.
107	13-3Q-1: Set Unit 2 Reactor Vessel	13-2Q 6/18/2013	14-1Q 3/18/2014		+9 Month(s)	No	No	The delay is due to schedule refinement and review.
108	13-3Q-2: Steam Generator Fabricator Notice to Contractor of Completion of 2nd Channel Head to Tubesheet Assembly Welding - Unit 3	13-4Q 12/31/2013	13-4Q 11/30/2013		-1 Month(s)	No	No	Schedule ahead of plan.
109	13-3Q-3: Reactor Coolant Pump Fabricator Notice to Contractor of Final Stator Assembly Completion - Unit 3	14-3Q 8/31/2014	14-1Q 2/28/2014		-6 Month(s)	No	No	Schedule ahead of plan.
110	13-3Q-4: Reactor Coolant Pump - Shipment of Equipment to Site (2 Reactor Coolant Pumps) - Unit 2	13-3Q 9/30/2013	13-3Q 8/31/2013		-1 Month(s)	No	No	Schedule ahead of plan.
111	13-3Q-5: Place first nuclear concrete for Unit 3	13-3Q 8/1/2013	13-3Q 8/1/2013			No	No	
112	13-4Q-1: Set Unit 2 Steam Generator	13-3Q 9/9/2013	14-3Q 7/21/2014		+10 Month(s)	No	No	The delay is due to schedule refinement and review.
113	13-4Q-2: Main Transformers Ready to Ship - Unit 2	13-3Q 9/30/2013	13-2Q 6/30/2013		-3 Month(s)	No	No	Schedule ahead of plan.
114	13-4Q-3: Complete Unit 3 Steam Generator Hydrotest at fabricator	14-1Q 2/28/2014	14-2Q 4/30/2014		+2 Month(s)	No	No	The delay is due to schedule refinement and review.
115	13-4Q-4: Set Unit 2 Containment Vessel Bottom Head on basemat legs	11-4Q 11/21/2011	12-3Q 7/23/2012		+8 Month(s)	No	No	The delay is due to schedule refinement and review.

Color Legend



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**Appendix 1  
VC Summer Units 2 and 3**


Tracking ID	Order No. 2010-12 Description	Order No. 2010-12 Date	11-4Q Targeted Milestone Completion Date	Actual Completion Date	Delta Months from Order No. 2010-12 Date	Outside +18/-24 Months Contingency?	Substantial Completion Date Impact?	Notes
116	14-1Q-1: Set Unit 2 Pressurizer Vessel	14-1Q 1/24/2014	14-3Q 9/25/2014		+8 Month(s)	No	No	The delay is due to schedule refinement and review.
117	14-1Q-2: Reactor Coolant Pump Fabricator Notice to Contractor of Satisfactory Completion of Factory Acceptance Test - Unit 3	15-1Q 2/28/2015	15-1Q 3/31/2015		+1 Month(s)	No	No	The delay is due to schedule refinement and review.
118	14-1Q-3: Deliver Reactor Vessel Internals to Port of Export - Unit 3	15-2Q 6/30/2015	15-2Q 4/30/2015		-2 Month(s)	No	No	Schedule ahead of plan.
119	14-1Q-4: Main Transformers Fabricator Issue PO for Material - Unit 3	14-2Q 4/30/2014	14-3Q 7/31/2014		+3 Month(s)	No	No	The delay is due to schedule refinement and review.
120	14-2Q-1: Complete welding of Unit 2 Passive Residual Heat Removal System piping	14-1Q 3/19/2014	15-1Q 1/13/2015		+10 Month(s)	No	No	The delay is due to schedule refinement and review.
121	14-2Q-2: Steam Generator - Contractor Acceptance of Equipment at Port of Entry - Unit 3	15-2Q 4/30/2015	14-3Q 8/31/2014		-8 Month(s)	No	No	Schedule ahead of plan.
122	14-2Q-3: Refueling Machine - Shipment of Equipment to Site - Unit 3	14-2Q 5/31/2014	14-2Q 5/31/2014			No	No	
123	14-3Q-1: Set Unit 2 Polar Crane	14-2Q 4/3/2014	14-4Q 11/25/2014		+7 Month(s)	No	No	The delay is due to schedule refinement and review.
124	14-3Q-2: Reactor Coolant Pumps - Shipment of Equipment to Site - Unit 3	15-2Q 6/30/2015	15-3Q 8/31/2015		+2 Month(s)	No	No	The delay is due to schedule refinement and review.
125	14-3Q-3: Main Transformers Ready to Ship - Unit 3	14-3Q 9/30/2014	15-2Q 6/30/2015		+9 Month(s)	No	No	The delay is due to schedule refinement and review.
126	14-4Q-1: Spent Fuel Storage Rack - Shipment of Last Rack Module - Unit 3	14-4Q 12/31/2014	14-2Q 6/30/2014		-6 Month(s)	No	No	Schedule ahead of plan.
127	15-1Q-1: Start electrical cable pulling in Unit 2 Auxillary Building	14-4Q 12/26/2014	15-3Q 9/25/2015		+9 Month(s)	No	No	The delay is due to schedule refinement and review.

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**Appendix 1  
VC Summer Units 2 and 3**

Tracking ID	Order No. 2010-12 Description	Order No. 2010-12 Date	11-4Q Targeted Milestone Completion Date	Actual Completion Date	Delta Months from Order No. 2010-12 Date	Outside +18/-24 Months Contingency?	Substantial Completion Date Impact?	Notes
128	15-1Q-2: Complete Unit 2 Reactor Coolant System cold hydro	15-3Q 8/3/2015	15-4Q 12/4/2015		+4 Month(s)	No	No	The delay is due to schedule refinement and review.
129	15-2Q-1: Activate class 1E DC power in Unit 2 Auxiliary Building.	15-1Q 3/5/2015	14-3Q 8/1/2014		-7 Month(s)	No	No	Schedule ahead of plan.
130	15-3Q-1: Complete Unit 2 hot functional test.	15-3Q 9/21/2015	16-1Q 3/1/2016		+6 Month(s)	No	No	The delay is due to schedule refinement and review.
131	15-3Q-2: Install Unit 3 ring 3 for containment vessel	15-3Q 7/30/2015	15-2Q 4/15/2015		-3 Month(s)	No	No	Schedule ahead of plan.
132	15-4Q-1: Load Unit 2 nuclear fuel	15-4Q 10/28/2015	15-4Q 10/28/2015			No	No	
133	16-1Q-1: Unit 2 Substantial Completion	16-2Q 4/1/2016	16-2Q 4/1/2016			No	No	
134	16-2Q-1: Set Unit 3 Reactor Vessel	15-4Q 10/1/2015	15-2Q 4/21/2015		-6 Month(s)	No	No	Schedule ahead of plan.
135	16-3Q-1: Set Unit 3 Steam Generator #2	15-4Q 12/22/2015	15-4Q 10/16/2015		-2 Month(s)	No	No	Schedule ahead of plan.
136	16-4Q-1: Set Unit 3 Pressurizer Vessel	16-2Q 5/16/2016	16-1Q 3/9/2016		-2 Month(s)	No	No	Schedule ahead of plan.
137	16-4Q-1: Complete welding of Unit 3 Passive Residual Heat Removal System piping	16-2Q 6/20/2016	16-2Q 4/21/2016		-2 Month(s)	No	No	Schedule ahead of plan.
138	17-2Q-1: Set Unit 3 polar crane	16-3Q 7/18/2016	16-2Q 4/27/2016		-3 Month(s)	No	No	Schedule ahead of plan.

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**Appendix 1  
VC Summer Units 2 and 3**

Tracking ID	Order No. 2010-12 Description	Order No. 2010-12 Date	11-4Q Targeted Milestone Completion Date	Actual Completion Date	Delta Months from Order No. 2010-12 Date	Outside +18/-24 Months Contingency?	Substantial Completion Date Impact?	Notes
139	17-3Q-1: Start Unit 3 Shield Building roof slab rebar placement	17-1Q 1/16/2017	16-3Q 8/2/2016		-5 Month(s)	No	No	Schedule ahead of plan.
140	17-4Q-1: Start Unit 3 Auxiliary Building electrical cable pulling	17-2Q 4/6/2017	16-4Q 10/10/2016		-6 Month(s)	No	No	Schedule ahead of plan.
141	18-1Q-1: Activate Unit 3 Auxiliary Building class 1E DC power	17-2Q 6/9/2017	16-3Q 7/1/2016		-11 Month(s)	No	No	Schedule ahead of plan.
142	18-2Q-1: Complete Unit 3 Reactor Coolant System cold hydro	18-1Q 1/1/2018	17-4Q 11/17/2017		-2 Month(s)	No	No	Schedule ahead of plan.
143	18-2Q-1: Complete Unit 3 hot functional test	18-1Q 2/15/2018	18-1Q 3/8/2018		+1 Month(s)	No	No	The delay is due to schedule refinement and review.
144	18-3Q-1: Complete Unit 3 nuclear fuel load	18-3Q 7/31/2018	18-3Q 7/12/2018			No	No	Due to schedule refinement.
145	18-4Q-1: Begin Unit 3 full power operation	18-4Q 10/31/2018	18-4Q 11/15/2018		+1 Month(s)	No	No	The delay is due to schedule refinement and review.
146	19-1Q-1: Unit 3 Substantial Completion	19-1Q 1/1/2019	19-1Q 1/1/2019			No	No	
<b>SUMMARY</b>								
Total Milestones Completed			68	out of	146 =	47%		
Milestone Movement - Order No. 2010-12 vs. 11-4Q:								
a) Forward Movement			42	out of	146 =	29%		
b) Backward Movement			27	out of	146 =	18%		
Milestones Within +12 to +17 Month range			3	out of	146 =	2%		

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## APPENDIX 2

### V. C. Summer Nuclear Station Units 2 & 3

#### **Quarterly Report to the South Carolina Office of Regulatory Staff Submitted by South Carolina Electric & Gas Company Pursuant to Public Service Commission Order No. 2009-104(A)**

#### **Quarter Ending December 31, 2011**

**Appendix 2** is an updated and expanded version of the information contained in the capital cost schedule approved by the Commission in Order No. 2011-345.

**Appendix 2** shows:

1. The actual expenditures on the project by plant cost category through the current period.
2. The changes in capital costs reflecting the Company's current forecast of expenditures on the project for each future period by plant cost category. In updating its cost projections the Company has used the current construction schedule for the project and the Commission-approved inflation indices as set forth in **Appendix 4** to this report.
3. The cumulative CWIP for the project and the balance of CWIP that is not yet reflected in revised rates.
4. The current rate for calculating AFUDC computed as required under applicable FERC regulations.

The Cumulative Project Cash Flow target as approved in Order No. 2011-345 and as updated for escalation and other Commission-approved adjustments is found under the heading "**Per Order 2011-345 Adjusted.**" The adjustments reflect:

1. Changes in inflation indices.
2. Budget Carry-Forward Adjustments used, where appropriate to track the effect of lower-than-expected cumulative costs on the future cumulative cash flow of the project.

**Appendix 2** also shows the cumulative cash flow for the project based on actual expenditures to date and the current construction schedule and forecast of year-by-year costs going forward. This information is found under the heading "**Actual through December 2011\* plus Projected.**"

**Appendix 2**

**RESTATED and UPDATED CONSTRUCTION EXPENDITURES**

(Thousands of \$)

**V.C. Summer Units 2 and 3 - Summary of SCE&G Capital Cost Components**

<b>Per Order 2011-345 Adjusted</b>	<b>Total</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>
Annual Project Cash Flow(per order)	5,531,259	21,723	100,905	340,003	398,552	497,994	856,993	871,748	664,760	627,604	494,501	304,676	351,800
Capital Cost Rescheduling Contingency	-	-	-	-	-	-	-	-	-	-	-	-	-
Budget Carry-Forward Adjustment	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Net</b>	<b>5,531,259</b>	<b>21,723</b>	<b>100,905</b>	<b>340,003</b>	<b>398,552</b>	<b>497,994</b>	<b>856,993</b>	<b>871,748</b>	<b>664,760</b>	<b>627,604</b>	<b>494,501</b>	<b>304,676</b>	<b>351,800</b>
Adjusted for Change in Escalation	5,377,534	21,723	100,905	340,003	398,552	490,321	839,287	850,650	644,656	605,205	471,208	287,759	327,265
Cumulative Project Cash Flow(Target)		21,723	122,628	462,631	861,183	1,351,504	2,190,791	3,041,441	3,686,097	4,291,302	4,762,510	5,050,269	5,377,534

**Actual through December 2011\* plus Projected**

Plant Cost Categories	Total	Actual					Projected						
		2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Fixed with No Adjustment													
Firm with Fixed Adjustment A													
Firm with Fixed Adjustment B													
Firm with Indexed Adjustment													
Actual Craft Wages													
Non-Labor Costs													
Time & Materials													
Owners Costs													
Transmission Costs	333,921	-	26	724	927	11,189	58,197	32,021	50,294	44,128	74,004	48,983	13,428
<b>Total Base Project Costs(2007 \$)</b>	<b>4,288,638</b>	<b>21,723</b>	<b>97,386</b>	<b>319,073</b>	<b>374,810</b>	<b>312,882</b>	<b>797,059</b>	<b>712,992</b>	<b>510,739</b>	<b>513,502</b>	<b>353,419</b>	<b>161,578</b>	<b>113,473</b>
<b>Total Project Escalation</b>	<b>1,104,934</b>	<b>-</b>	<b>3,519</b>	<b>20,930</b>	<b>23,741</b>	<b>36,177</b>	<b>157,383</b>	<b>200,240</b>	<b>168,133</b>	<b>196,260</b>	<b>161,207</b>	<b>77,923</b>	<b>59,421</b>
<b>Total Revised Project Cash Flow</b>	<b>5,393,572</b>	<b>21,723</b>	<b>100,905</b>	<b>340,003</b>	<b>398,551</b>	<b>349,058</b>	<b>954,442</b>	<b>913,232</b>	<b>678,872</b>	<b>709,762</b>	<b>514,627</b>	<b>239,501</b>	<b>172,894</b>
Cumulative Project Cash Flow(Revised)		21,723	122,629	462,632	861,183	1,210,241	2,164,684	3,077,916	3,756,788	4,466,550	4,981,177	5,220,678	5,393,572
AFUDC(Capitalized Interest)	212,314	645	3,497	10,564	17,150	14,218	25,150	38,618	33,709	27,825	18,991	13,224	8,723
<b>Gross Construction</b>	<b>5,605,886</b>	<b>22,368</b>	<b>104,403</b>	<b>350,567</b>	<b>415,701</b>	<b>363,276</b>	<b>979,593</b>	<b>951,849</b>	<b>712,582</b>	<b>737,587</b>	<b>533,618</b>	<b>252,725</b>	<b>181,617</b>
<b>Construction Work in Progress</b>		<b>22,368</b>	<b>126,771</b>	<b>477,338</b>	<b>893,039</b>	<b>1,256,315</b>	<b>2,235,907</b>	<b>3,187,756</b>	<b>3,900,338</b>	<b>4,637,925</b>	<b>5,171,543</b>	<b>5,424,269</b>	<b>5,605,886</b>
<b>CWIP Currently in Rates</b>					<b>1,100,196</b>								
<b>December 31, 2011 Actual Incremental CWIP Not Currently in Rates</b>					<b>156,070</b>								

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\*Applicable index escalation rates for 2011 are estimated. Escalation is subject to restatement when actual indices for 2011 are final.

Notes:  
2011-2018 AFUDC rate applied 4.88%

The AFUDC rate applied is the current SCE&G rate. AFUDC rates can vary with changes in market interest rates, SCE&G's embedded cost of capital, capitalization ratios, construction work in process, and SCE&G's short-term debt outstanding.

## **APPENDIX 3**

### **V. C. Summer Nuclear Station Units 2 & 3**

**Quarterly Report to the South Carolina Office of Regulatory Staff  
Submitted by South Carolina Electric & Gas Company  
Pursuant to Public Service Commission Order No. 2009-104(A)**

#### **Quarter Ending December 31, 2011**

For comparison purposes, **Appendix 3** provides the schedule of capital costs for the project which was approved by the Commission in Order No. 2011-345 as the Approved Capital Cost of the Units, pursuant to S.C. Code Ann. § 58-33-270(B)(2). **Appendix 3** also reflects the forecast of AFUDC expense based on these adjusted schedules and the AFUDC rates that were current at the time of Order No. 2011-345. **Appendix 3** is intended to provide a fixed point of reference for future revisions and updating. While the schedule of costs contained on **Appendix 3** is subject to revision for escalation, changes in AFUDC rates and amounts, capital cost scheduling contingencies and other contingency adjustments as authorized in Order No. 2009-104(A), no such adjustments have been made to the schedules presented here.





## **APPENDIX 4**

### **V. C. Summer Nuclear Station Units 2 & 3**

**Quarterly Report to the South Carolina Office of Regulatory Staff  
Submitted by South Carolina Electric & Gas Company  
Pursuant to Public Service Commission Order No. 2009-104(A)**

**Quarter Ending December 31, 2011**

**Appendix 4** shows the changes in the inflation indices approved in Order No. 2009-104(A). Included is a ten year history of the Handy Whitman All Steam Index, South Atlantic Region; the Handy Whitman All Steam and Nuclear Index, South Atlantic Region; the Handy Whitman All Transmission Plant Index, South Atlantic Region; and the Chained GDP Index. The change in the relevant indices from the Combined Application is also provided.







### Appendix 4 Inflation Indices, Chart D

GDP Chained Price Index, 2011

SERIESTYPE	UNIT	SHORT LABEL	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
<b>Chained Price Index--Gross Domestic Product</b>														
U.S. Macro - 10 Year Baseline	(2005=100)	Chained price index-gross domestic product , Source: BEA , Units: index- 2005=100.0	88.65	90.65	92.11	94.10	96.77	100.00	104.21	106.23	108.56	109.73	111.00	112.74
Annual Percent change			2.17%	2.26%	1.61%	2.16%	2.84%	3.34%	4.21%	<b>1.94%</b>	<b>2.19%</b>	<b>1.08%</b>	<b>1.16%</b>	<b>1.57%</b>
3-Year Annual Percent change					2.01%	2.01%	2.20%	2.78%	3.46%	3.16%	2.78%	1.74%	1.47%	1.27%
<b>5-Year Annual Percent change</b>							<b>2.21%</b>	<b>2.44%</b>	<b>2.83%</b>	<b>2.89%</b>	<b>2.90%</b>	<b>2.55%</b>	<b>2.11%</b>	<b>1.59%</b>
10-Year Annual Percent change														2.20%
<b>Consumer Price Index, All-Urban</b>														
U.S. Macro - 10 Year Baseline	Index	Consumer price index, all-urban , Source: BLS , Units: - 1982-84=1.00	1.72	1.77	1.80	1.84	1.89	1.95	2.02	2.07	2.15	2.15	2.18	2.23
Percent change			3.37%	2.82%	1.60%	2.30%	2.67%	3.37%	3.23%	2.86%	3.69%	0.00%	1.40%	2.29%
3-Year Annual Percent change					2.59%	2.24%	2.19%	2.78%	3.09%	3.15%	3.26%	2.17%	1.68%	1.23%
5-Year Annual Percent change							2.55%	2.55%	2.63%	2.88%	3.16%	2.62%	2.23%	2.04%
10-Year Annual Percent change														2.33%
<b>Producer Price Index--Finished Goods</b>														
U.S. Macro - 10 Year Baseline	(1982=1.0)	Producer price index-finished goods , Source: BLS , Units: index- 1982=1.0	1.38	1.41	1.39	1.43	1.49	1.56	1.60	1.67	1.77	1.73	1.80	1.89
Percent change			3.76%	1.94%	-1.30%	3.18%	3.98%	4.70%	2.56%	4.38%	5.99%	-2.26%	4.05%	5.00%
3-Year Annual Percent change					1.44%	1.26%	1.93%	3.95%	3.74%	3.87%	4.30%	2.64%	2.53%	2.21%
5-Year Annual Percent change							2.29%	2.48%	2.60%	3.76%	4.31%	3.03%	2.90%	3.39%
10-Year Annual Percent change														2.99%

BLRA Filing Jul-07	Order 2010-12 Jan-09	Order 2011-345 Jul-10	Update Jul-11
2.66%	2.24%	0.43%	1.57%
2.81%	2.86%	1.97%	1.59%

**GDP Chained Price Index**

One year  
Five Year