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





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- **Appendix A:** Detailed Milestone Schedule as of September 30, 2013
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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 2nd 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.

<sup>&</sup>lt;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

<sup>&</sup>lt;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.

### **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
  - o 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  $3^{rd}$  quarter of 2013 and prior.<sup>3</sup>

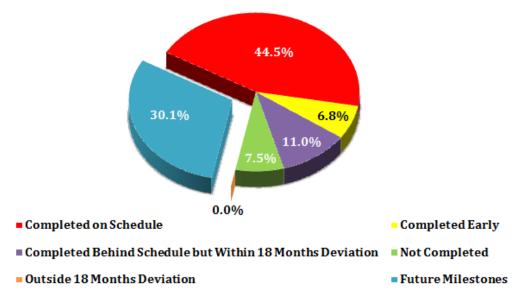
# Table 1:

<b>Historical Milestones</b> 3 <sup>rd</sup> Quarter 2013 and Prior							
102 of 146 Total Milest		0/ of All					
	# of Milestones	% of All Milestones <sup>4</sup>					
Completed on Schedule	65	44.5%					
Completed Early	10	6.8%					
Completed Behind Schedule but Within 18 Months Deviation	16	11.0%					
Not Completed	11	7.5%					
Outside 18 Months Deviation00.0%							
Total Historical Milestones	102	69.9%					

# <u>Chart 1:</u>



3<sup>rd</sup> Quarter 2013 and Prior



<sup>&</sup>lt;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.

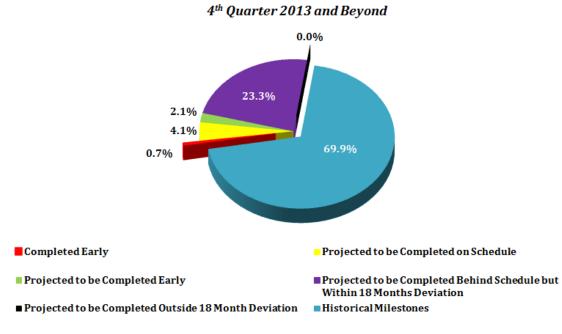
<sup>&</sup>lt;sup>4</sup> Slight variances may occur due to rounding.

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:**

Future Milestones 4 <sup>th</sup> Quarter 2013 and Beyond 44 of 146 Total Milestones							
# of% of AllMilestonesMilestones5							
Completed Early	1	0.7%					
Projected to be Completed on Schedule	6	4.1%					
Projected to be Completed Early	3	2.1%					
Projected to be Completed Behind Schedule but Within 18 Months Deviation	34	23.3%					
Projected to be Outside 18 Months Deviation	0	0.0%					
Total Future Milestones	44	30.1%					

# Chart 2:



**Future Milestone Status** 

<sup>&</sup>lt;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 submodule 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.

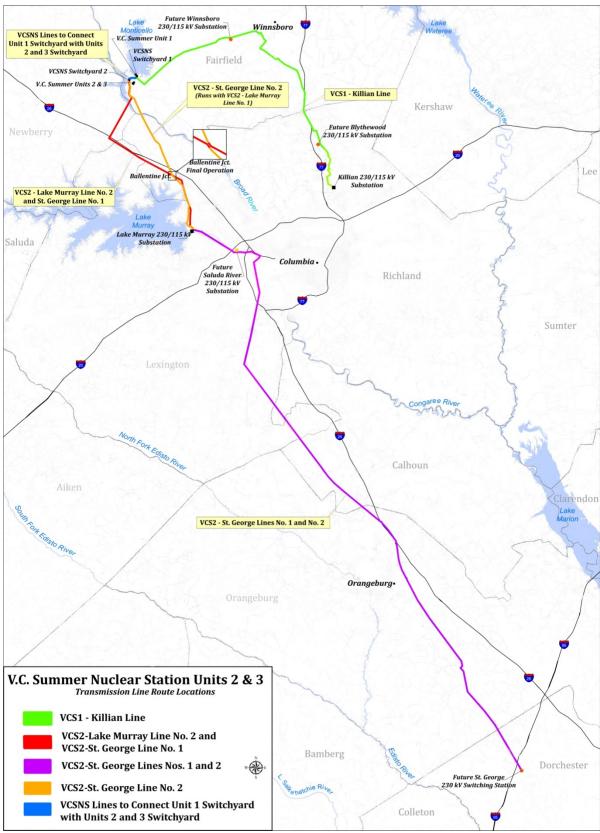
Phase 1 consists of construction of two new 230 kV transmission lines in support of Unit 2: the VCS1–Killian Line and the VCS2–Lake Murray Line #2. The VCS1–Killian Line will connect the existing V.C. Summer Switchyard ("Switchyard 1") to the Company's existing Killian Road 230 kV Substation. The VCS2–Lake 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.

# <u>Map 1:</u> 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:

<b>Change Orders and Amendments</b>								
No.	Nimmary 8 1 51		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	*Supplements Change Order No. 1* Increased training by two (2) weeks	Fixed Price with 0% escalation <sup>6</sup>	Owner Directed	5/4/2010				
6	Hydraulic Nuts	Fixed Price	Owner Directed	7/13/2010	Approved			
7	St. George Lines #1 & 2	Firm and Target Price Categories			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			

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

<sup>&</sup>lt;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.

Q3-13 Review

# **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").

### <u>Capital Costs</u>

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:

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

# <u>Table 5:</u>

<b>Requested vs. Approved Increases</b> SCE&G Revised Rate Filings									
Docket No.	Order No.	Requested Increase	ORS Examination	Approved Increase	Retail Increase				
2008-196-Е	2009-104(A)	\$8,986,000	(\$1,183,509)	\$7,802,491	0.43%				
2009-211-Е	2009-696	\$22,533,000	\$0	\$22,533,000	1.10%				
2010-157-Е	2010-625	\$54,561,000	(\$7,260,000)	\$47,301,000	2.31%				
2011-207-Е	2011-738	\$58,537,000	(\$5,753,658)	\$52,783,342	2.43%				
2012-186-Е	2012-761	\$56,747,000	(\$4,598,087)	\$52,148,913	2.33%				
2013-150-Е	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  $3^{rd}$  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 is 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.

# <u>Turbine Building</u>

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.

Detailed Milestone Schedule as of September 30, 2013

		Key:	Milestones Not Completed	Completed Prior to Q3-13	Current Quarter	Scheduled to Be Completed Q4-13	ORS Caution Milestone
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	

		Key:	Milestones Not Completed	Completed Prior to Q3-13	Current Quarter	Scheduled to Be Completed Q4-13	ORS Caution Milestone
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	

		Key:	Milestones Not Completed	Completed Prior to Q3-13	Current Quarter	Scheduled to Be Completed Q4-13	ORS Caution Milestone
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	

		Key:	Milestones Not Completed	Completed Prior to Q3-13	Current Quarter	Scheduled to Be Completed Q4-13	ORS Caution Milestone
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	

		Key:	Milestones Not Completed	Completed Prior to Q3-13	Current Quarter	Scheduled to Be Completed Q4-13	ORS Caution Milestone
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	

		Key:	Milestones Not Completed	Completed Prior to Q3-13	Current Quarter	Scheduled to Be Completed Q4-13	ORS Caution Milestone
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	

		Key:	Milestones Not Completed	Completed Prior to Q3-13	Current Quarter	Scheduled to Be Completed Q4-13	ORS Caution Milestone
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
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	

		Key:	Milestones Not Completed	Completed Prior to Q3-13	Current Quarter	Scheduled to Be Completed Q4-13	ORS Caution Milestone
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	

		Key:	Milestones Not Completed	Completed Prior to Q3-13	Current Quarter	Scheduled to Be Completed Q4-13	ORS Caution Milestone
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	

		Key:	Milestones Not Completed	Completed Prior to Q3-13	Current Quarter	Scheduled to Be Completed Q4-13	ORS Caution Milestone
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	

		Key:	Milestones Not Completed	Completed Prior to Q3-13	Current Quarter	Scheduled to Be Completed Q4-13	ORS Caution Milestone
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

		Key:	Milestones Not Completed	Completed Prior to Q3-13	Current Quarter	Scheduled to Be Completed Q4-13	ORS Caution Milestone
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
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

		Key:	Milestones Not Completed	Completed Prior to Q3-13	Current Quarter	Scheduled to Be Completed Q4-13	ORS Caution Milestone
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

		Key:	Milestones Not Completed	Completed Prior to Q3-13	Current Quarter	Scheduled to Be Completed Q4-13	ORS Caution Milestone
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

		Key:	Milestones Not Completed	Completed Prior to Q3-13	Current Quarter	Scheduled to Be Completed Q4-13	ORS Caution Milestone
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

		Key:	Milestones Not Completed	Completed Prior to Q3-13	Current Quarter	Scheduled to Be Completed Q4-13	ORS Caution Milestone
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

		Key:	Milestones Not Completed	Completed Prior to Q3-13	Current Quarter	Scheduled to Be Completed Q4-13	ORS Caution Milestone
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.

Caution Milestones

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.

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 placment 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.		

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



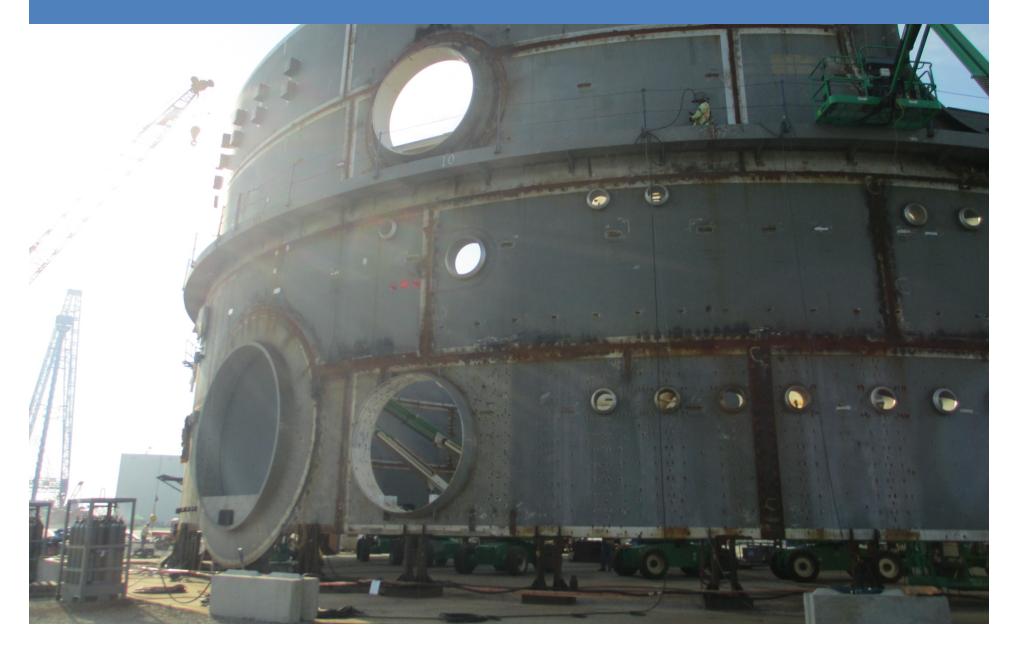
## **Unit 2 CH80 and Condenser B**



## **Unit 2 CA04 Placement**



# **Unit 2 CV Ring 1**

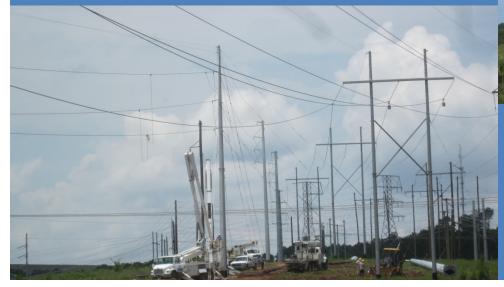






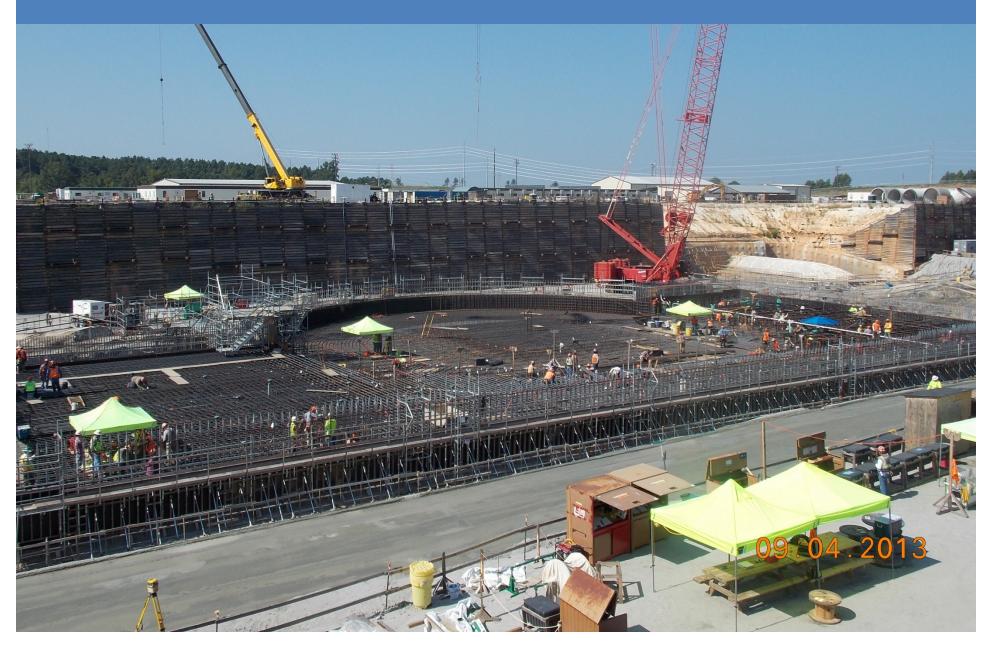
## **Transmission Line Construction**







## **Unit 3 Nuclear Island**



### Appendix D

License Amendment Requests

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			

NRC LAR No.	Summary	LAR Submittal Date	LAR Status	LAR Approval Date	PAR Status	PAR No Objection Letter Date
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

SCANA Media Contact: Rhonda O'Banion 800-562-9308 rhonda.obanion@scana.com SCANA Investor Contact: Christina Putnam 803-217-7512 cputnam@scana.com

#### 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 <u>www.scana.com</u>. 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 <u>www.sceg.com</u>.

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 <u>www.scana.com</u>.