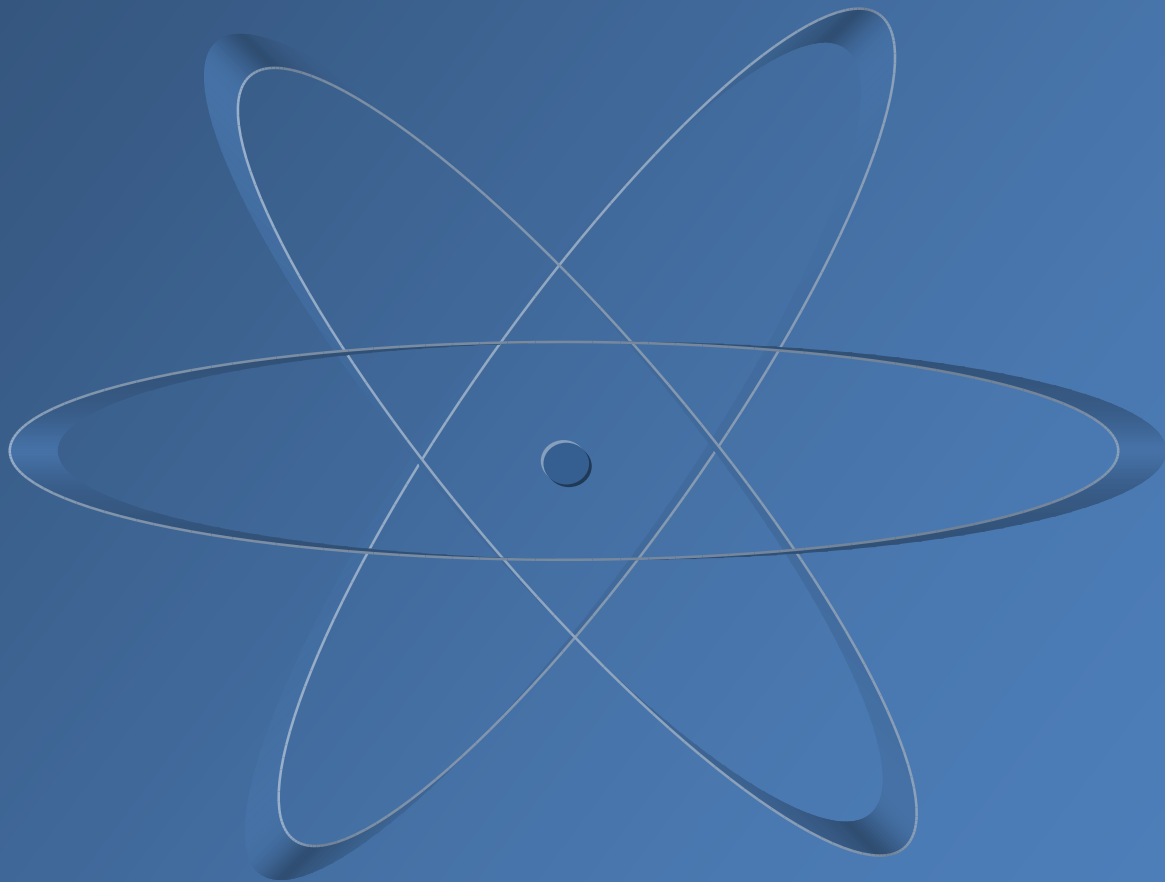


South Carolina Office of Regulatory Staff  
Review of South Carolina Electric & Gas Company's  
2012 2<sup>nd</sup> Quarter Report on  
V. C. Summer Units 2 and 3  
Status of Construction



*October 1, 2012*



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# Appendices

**Appendix A:** *Detailed Milestone Schedule as of June 30, 2012*

**Appendix B:** *Construction Site Photographs*

**Appendix C:** *DHEC Letter Concerning the Revised Draft NPDES Permit*

**Appendix D:** *CB&I News Release*

# Introduction

On March 2, 2009, the Public Service Commission of South Carolina (“Commission”) approved South Carolina Electric & Gas Company’s (“SCE&G” or the “Company”) request for the construction of V.C. Summer Nuclear Station Units 2 and 3 (the “Units”) and the Engineering, Procurement and Construction (“EPC”) Contract. This approval can be found in the Base Load Review Order No. 2009-104(A) filed in Docket No. 2008-196-E. On January 21, 2010, the Commission approved the Company’s request to update milestones and capital cost schedules in Order No. 2010-12, which is filed in Docket No. 2009-293-E. On May 16, 2011, the Commission approved SCE&G’s petition for revisions and updates to capital cost schedules in Order No. 2011-345, which is filed in Docket No. 2010-376-E.

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

In 2010, SCE&G reported that Santee Cooper began reviewing its level of ownership participation in the Units. Since then, Santee Cooper has sought partners in its 45% ownership. Santee Cooper signed a Letter of Intent with Duke Energy Carolinas, LLC in 2011. On April 13, 2012, Santee Cooper issued a press release announcing it had signed a Letter of Intent with South Mississippi Electric Power Association for the opportunity to secure 2 to 7 percent of the capacity and energy output from the Units (roughly 4 to 15 percent of Santee Cooper’s 45% interest). On April 24, 2012, Santee Cooper issued another press release announcing it signed a Letter of Intent to provide for negotiations for the purchase of 2 to 5 percent (roughly 4 to 11 percent of Santee Cooper’s 45% ownership) of the Units with American Municipal Power, Inc. These press releases can be found as Appendices C and D, respectively, in ORS’s 2012 1<sup>st</sup> Quarterly Report.

On May 15, 2012, SCE&G filed an application with Commission in Docket No. 2012-203-E for updates and revisions to schedules related to the construction of the Units (“Update Filing”). The Update Filing indicated that SCE&G intended to delay the substantial completion date of Unit 2 from April 2016 until March 2017, while advancing the substantial completion date for Unit 3 from January 2019 to May 2018. The costs associated with these new substantial completion dates will be updated in the Company’s EPC Contract with Westinghouse Electric Company (“WEC”) and The Shaw Group, Incorporated (“Shaw”). Cost forecasts were also updated for a total additional cost to the project in three (3) main

categories: Change Orders, Owners Costs and Transmission Costs. The Commission has scheduled a hearing regarding the Update Filing on October 2, 2012. The Update Filing was previously discussed in detail in ORS's review of SCE&G's 2012 1<sup>st</sup> Quarter Report.

On August 14, 2012, SCE&G submitted its 2012 2<sup>nd</sup> Quarter Report ("Report") related to construction of the Units. The Report is filed in Commission Docket No. 2008-196-E and covers the quarter ending June 30, 2012. The Company's Report is submitted pursuant to S.C. Code Ann. § 58-33-277 (Supp. 2011) of the Base Load Review Act ("BLRA"), which requires the Report to include the following information:

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

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

# Approved Schedule Review

## Milestone Schedule

As of June 30, 2012, ORS verified that of the Milestone Schedule's 146 activities:

- 76 milestone activities have been completed (includes 74 historical milestones and 2 future milestones)
- 70 milestone activities are yet to be completed (includes 13 delayed historical and 57 future milestones)

ORS also verified that during the 2<sup>nd</sup> Quarter of 2012:

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

Per the Base Load Review Order, overall construction is considered to be on schedule if the substantial completion dates are not accelerated more than twenty-four (24) months or delayed more than eighteen (18) months. As part of its review of the approved schedule, ORS identifies Caution Milestones. Caution Milestones are those that have been delayed ten (10) months or longer. If any Milestone is delayed sixteen (16) months or greater, ORS may issue a formal notification to the Commission of the delay.

As of the end of the 2<sup>nd</sup> Quarter of 2012, ORS identified eighteen (18) Caution Milestones. Sixteen (16) of the caution milestones identified are construction milestones associated with the delay in the issuance of the COL by the NRC as opposed to the original estimated schedule. Below is a status of these milestones:

- **Milestone Activity No. 61** – *Core Makeup Tank Fabricator Notice to Contractor of Satisfactory Completion of Hydrotest – Unit 2.*  
**Status:** Delayed 16 months.

This activity was scheduled to be completed by May 31, 2011. Its revised target completion date is September 30, 2012. Mangiarotti, located in Italy, is the manufacturer for several major components of the AP1000 reactor, including the core makeup tank. It was previously reported that WEC had identified quality assurance deficiencies during an audit of Mangiarotti related to its sub-suppliers. As previously reported, SCE&G continues to monitor the fabrication status of multiple major components at Mangiarotti to ensure related milestones remain within the time frame allowed by the Base Load Review Order. Although this Caution Milestone has been delayed sixteen (16) months, ORS elected not to

formally notify the Commission as these delays are addressed by the Company in the Update Filing pending before the Commission.

- **Milestone Activity No. 65** – *Start Placement of Mud Mat for Unit 2.*

**Status:** Delayed 12 months.

This activity was scheduled to be completed by July 14, 2011. Its revised target completion date is July 19, 2012. This milestone is a construction activity that is a prerequisite to placing the basemat concrete for the Auxiliary Building, Shield Building, and Containment Vessel (“Nuclear Island”) for Unit 2. This activity is impacted by the delay in issuance of the COL by the NRC and the need for additional fill concrete in the Nuclear Island for Unit 2.

- **Milestone Activity No. 69** – *Begin Unit 2 First Nuclear Concrete Placement.*

**Status:** Delayed 12 months.

This activity was scheduled to be completed by October 3, 2011. Its revised target completion date is October 5, 2012. This milestone is a construction activity initiating the placement of the first safety related concrete in the Nuclear Island for Unit 2. This activity is impacted by the delay in issuance of the COL by the NRC and the identification of additional fill concrete in the Nuclear Island for Unit 2.

- **Milestone Activity No. 78** – *Set Module CA04 For Unit 2.*

**Status:** Delayed 11 months.

This activity was scheduled to be completed by January 27, 2012. Its revised target completion date is December 26, 2012. This milestone is a construction activity associated with the placement of the CA04 module in the Unit 2 Nuclear Island. This activity is impacted by the delay in the pouring of safety related nuclear concrete resulting from the delay in the issuance of the COL by the NRC, as well as the sequence of other construction activities.

- **Milestone Activity No. 83** – *Set Containment Vessel Ring #1 for Unit 2.*

**Status:** Delayed 12 months.

This activity was scheduled to be completed by April 3, 2012. The revised target completion date is April 19, 2013. The Containment Vessel Ring is being constructed on site by Chicago Bridge and Iron (“CB&I”). This is a construction milestone for placement of the Containment Vessel Ring in the Unit 2 Nuclear Island. This activity is impacted by the delay in the pouring of safety related nuclear concrete resulting from the delay in the issuance of the COL by the NRC, as well as the sequence of other construction activities.

- **Milestone Activity No. 88** – *Set Nuclear Island Structural Module CA03 for Unit 2.*  
**Status:** Delayed 12 months.

This activity was scheduled to be completed by August 30, 2012. The revised target completion date is September 12, 2013. This milestone is a construction activity associated with the placement of the CA03 module in the Unit 2 Nuclear Island. This activity is impacted by the delay in the pouring of safety related nuclear concrete resulting from the delay in the issuance of the COL by the NRC, as well as the sequence of other construction activities.

- **Milestone Activity No. 92** – *Start Containment Large Bore Pipe Supports for Unit 2.*  
**Status:** Delayed 14 months.

This activity was scheduled to be completed by April 9, 2012. The revised target completion date is June 17, 2013. This milestone is a construction activity relating to the placement of the pipe supports that will hold the Containment Vessel in place as concrete is poured for Unit 2. This activity is impacted by the delay in the pouring of safety related nuclear concrete resulting from the delay in the issuance of the COL by the NRC, as well as the sequence of other construction activities.

- **Milestone Activity No. 97** – *Start Concrete Fill of Nuclear Island Structural Modules CA01 and CA02 for Unit 2.*  
**Status:** Delayed 14 months.

This activity was scheduled to be completed by February 26, 2013. The revised target completion date is May 12, 2014. This milestone is a construction activity associated with the pouring of concrete around and within the CA01 and CA02 modules within the Unit 2 Nuclear Island. This activity is impacted by the delay in the pouring of safety related nuclear concrete resulting from the delay in the issuance of the COL by the NRC, as well as the sequence of other construction activities.

- **Milestone Activity No. 101** – *Set Unit 2 Containment Vessel #3.*  
**Status:** Delayed 16 months.

This activity was scheduled to be completed by April 17, 2013. The revised target completion date is August 28, 2014. This milestone is a construction activity associated with the placement of the Containment Vessel in the Unit 2 Nuclear Island. This activity is impacted by the delay in the pouring of safety related nuclear concrete resulting from the delay in the issuance of the COL by the NRC, as well as the sequence of other construction activities. Although this Caution



Milestone has been delayed sixteen (16) months, ORS elected not to formally notify the Commission as these delays are addressed by the Company in the Update Filing pending before the Commission.

- **Milestone Activity No. 107** – *Set Unit 2 Reactor Vessel.*  
**Status:** Delayed 16 months.

This activity was scheduled to be completed by June 18, 2013. Its revised target completion date is October 28, 2014. This milestone is a construction activity associated with setting the Unit 2 Reactor Vessel in its location in the Nuclear Island for Unit 2. This activity is impacted by the delay in the placing of nuclear safety related concrete resulting from the delay in issuance of the COL by the NRC, additional fill concrete in the Nuclear Island for Unit 2, and schedule sequencing and detailing. Although this Caution Milestone has been delayed sixteen (16) months, ORS elected not to formally notify the Commission as these delays are addressed by the Company in the Update Filing pending before the Commission.

- **Milestone Activity No. 112** – *Set Unit 2 Steam Generator.*  
**Status:** Delayed 16 months.

This activity was scheduled to be completed by September 9, 2013. The revised target completion date is January 4, 2015. This milestone is a construction activity associated with the placement of the Steam Generator in the Unit 2 Nuclear Island. This activity is impacted by the delay in the pouring of safety related nuclear concrete resulting from the delay in the issuance of the COL by the NRC, as well as the sequence of other construction activities. Although this Caution Milestone has been delayed sixteen (16) months, ORS elected not to formally notify the Commission as these delays are addressed by the Company in the Update Filing pending before the Commission.

- **Milestone Activity No. 115** – *Set Unit 2 Containment Vessel Bottom Head on Basemat Legs.*  
**Status:** Delayed 12 months.

This activity was scheduled to be completed by November 21, 2011. Its revised target completion date is November 28, 2012. This milestone is a construction activity associated with setting the Unit 2 Containment Vessel Bottom Head on the support legs located on the Nuclear Island concrete basemat. This activity is impacted by the delay in the placing of nuclear safety related concrete resulting from the delay in issuance of the COL by the NRC, the need for additional fill concrete in the Nuclear Island for Unit 2, and schedule sequencing and detailing.

- **Milestone Activity No. 119** – *Main Transformers Fabricator Issue P.O. for Material - Unit 3.*

**Status:** Delayed 10 months.

This activity was scheduled to be completed by April 30, 2014. The revised target completion date is February 28, 2015. This milestone is associated with the issuance of the purchase order for the materials for the Unit 3 main transformer. The schedule for this milestone was refined to more closely match the site need date for the component.

- **Milestone Activity No. 120** – *Complete Welding of Unit 2 Passive Residual Heat Removal System Piping.*

**Status:** Delayed 15 months.

This activity was scheduled to be completed by March 19, 2014. The revised target completion date is June 15, 2015. This milestone is a construction activity associated with the welding of the Passive Residual Heat Removal System after it is installed in the Unit 2 Nuclear Island. This activity is impacted by the delay in the pouring of safety related nuclear concrete resulting from the delay in the issuance of the COL by the NRC, as well as the sequence of other construction activities.

- **Milestone Activity No. 122** – *Refueling Machine - Shipment of Equipment to Site - Unit 3.*

**Status:** Delayed 10 months.

This activity was scheduled to be completed by May 31, 2014. Its revised target completion date is March 31, 2015. This milestone is associated with the shipment of Unit 3 refueling equipment from the manufacturer. The schedule for delivery was refined to align the equipment shipment with the site need date in order to avoid the issue of storage.

- **Milestone Activity No. 123** – *Set Unit 2 Polar Crane.*

**Status:** Delayed 15 months.

This activity was scheduled to be completed by April 3, 2014. Its revised target completion date is June 30, 2015. This milestone is a construction activity associated with setting the Unit 2 Polar Crane inside the Nuclear Island Containment Vessel for Unit 2. This activity is impacted by schedule sequencing and detailing.

- **Milestone Activity No. 132** – *Load Unit 2 Nuclear Fuel.*

**Status:** Delayed 10 months.

This activity was scheduled to be completed by October 28, 2015. Its revised target completion date is September 15, 2016. This milestone is a Unit 2 start-up testing activity associated with loading the nuclear fuel for Unit 2 and initiating the start-up test program. This activity is impacted by: (1) the delay in issuance of the COL by the NRC, (2) the need for additional fill concrete in the Nuclear Island for Unit 2, (3) the additional duration for the Shield Building construction, and (4) schedule sequencing and detailing.

- **Milestone Activity No. 133** – *Unit 2 Substantial Completion.*

**Status:** Delayed 11 months.

This activity was scheduled to be completed by April 1, 2016. Its revised target completion date is March 15, 2017. This milestone is a Unit 2 start-up testing activity associated with satisfactory completion of the Unit 2 Performance Test. The substantial completion of Unit 2 is the last milestone associated with the unit. This activity is impacted by: (1) the delay in issuance of the COL by the NRC, (2) the need for additional fill concrete in the Nuclear Island for Unit 2, (3) the additional duration for the Shield Building construction, and (4) schedule sequencing and detailing.

SCE&G's Milestone Schedule attached to the Report indicates that overall construction does not allow Unit 2 to be completed by the EPC Contract substantial completion date of April 1, 2016. ORS's review of the schedule approved in Order No. 2010-12 and the EPC Contract confirms that the project remains on schedule with the schedule criteria established in the Base Load Review Order. ORS also confirms that the substantial completion date of April 1, 2016 for Unit 2 – as set forth in the EPC Contract – will be delayed due to a delay in the issuance of the COL. As previously stated, the Company filed its Update Filing with the Commission in Docket No. 2012-203-E. This filing addresses changes to the substantial completion dates for both Units. Appendix A shows details of the Milestone Schedule as of June 30, 2012.

ORS reviews all invoices associated with the Milestone Schedule and during the 2<sup>nd</sup> quarter of 2012, there were six (6) invoices paid. ORS reviews invoices to ensure that the invoice amounts are consistent with the EPC payment schedule and determines that, where applicable as outlined in the EPC Contract, the escalation applied is consistent with the updated Handy Whitman inflation indices.

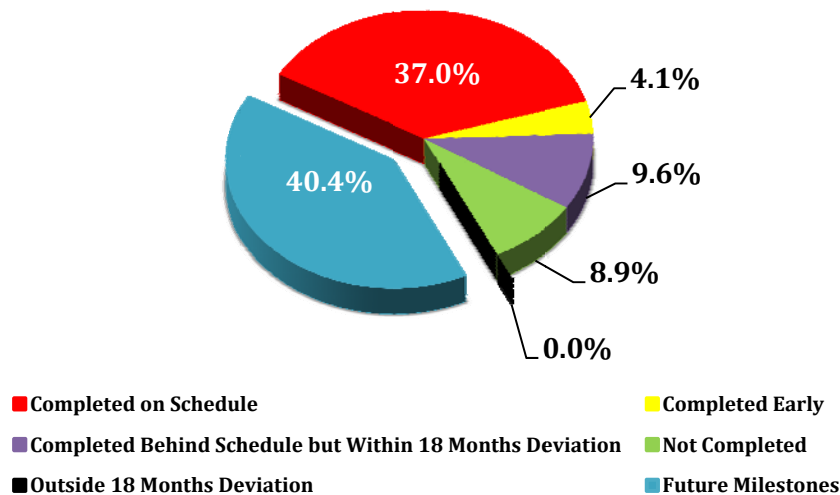
Table 1 shows the status of the 87 historical milestones and Chart 1 shows the status of all 146 milestones for the 2<sup>nd</sup> quarter of 2012 and prior.<sup>1</sup>

**Table 1:**

<b>Historical Milestones</b>		
<i>2<sup>nd</sup> Quarter 2012 and Prior</i>		
<b>87 of 146 Total Milestones</b>		
	<b># of Milestones</b>	<b>% of All Milestones<sup>2</sup></b>
<b>Completed on Schedule</b>	54	37.0%
<b>Completed Early</b>	6	4.1%
<b>Completed Behind Schedule but Within 18 Months Deviation</b>	14	9.6%
<b>Not Completed</b>	13	8.9%
<b>Outside 18 Months Deviation</b>	0	0.0%
<b>Total Historical Milestones</b>	<b>87</b>	<b>59.6%</b>

**Chart 1:**

**Milestone Status**  
*2<sup>nd</sup> Quarter 2012 and Prior*



<sup>1</sup> The numbers reported by ORS and SCE&G may vary. For reporting purposes, ORS applies a 30 day threshold before a milestone is deemed accelerated or delayed. SCE&G uses a threshold less than 30 days. For instance, if a milestone is scheduled to be completed January 2, 2012 and the actual completion date is December 29, 2011, 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>2</sup> Slight variances may occur due to rounding.

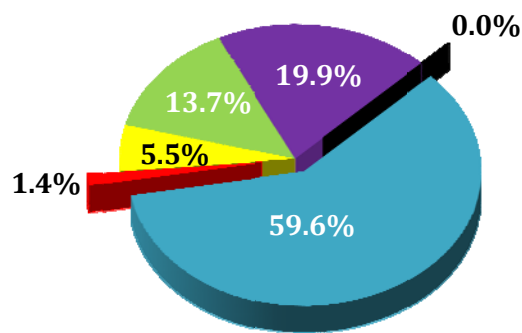
Table 2 shows the status of the 59 future milestones and Chart 2 shows the status of all 146 milestones for the 2<sup>nd</sup> quarter 2012 and beyond.<sup>3</sup>

**Table 2:**

<b>Future Milestones</b>		
<i>3<sup>rd</sup> Quarter 2012 and Beyond</i>		
<b>59 of 146 Total Milestones</b>		
	<b># of Milestones</b>	<b>% of All Milestones<sup>4</sup></b>
<b>Completed Early</b>	2	1.4%
<b>Projected to be Completed on Schedule</b>	8	5.5%
<b>Projected to be Completed Early</b>	20	13.7%
<b>Projected to be Completed Behind Schedule but Within 18 Months Deviation</b>	29	19.9%
<b>Projected to be Outside 18 Months Deviation</b>	0	0.0%
<b>Total Future Milestones</b>	<b>59</b>	<b>40.4%</b>

**Chart 2:**

**Milestone Status**  
*3<sup>rd</sup> Quarter 2012 and Beyond*



- Completed Early
- Projected to be Completed on Schedule
- Projected to be Completed Early
- Projected to be Completed Behind Schedule but Within 18 Months Deviation
- Projected to be Completed Outside 18 Month Deviation
- Historical Milestones

<sup>3</sup> The numbers reported by ORS and SCE&G may vary. For reporting purposes, ORS applies a 30 day threshold before a milestone is deemed accelerated or delayed. SCE&G uses a threshold less than 30 days. For instance, if a milestone is scheduled to be completed January 2, 2012 and the actual completion date is December 29, 2011, SCE&G deems the milestone as completed one month early since it is completed in a prior calendar month. ORS would report this milestone as being accomplished on schedule since it was completed within 30 days of the scheduled completion date.

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

## **Specific Construction Activities**

Major construction activities during the 2<sup>nd</sup> quarter of 2012 are listed below:

- Final load and functionality testing of the Heavy Lift Derrick (“HLD”) were completed during the 2<sup>nd</sup> quarter of 2012. The HLD is in full operational service.
- Construction of the electrical switchyard continued throughout the quarter and is ahead of schedule. It is anticipated that the switchyard will be energized on schedule in the 1<sup>st</sup> half of 2013. This date supports the project schedule.
- The first safety related concrete for the project was placed in the Unit 2 area for the Nuclear Island. This included the complete placement of the additional fill concrete needed for the deeper than expected excavation and the beginning of the placement of the mud mat concrete. As of June 30, 2012, over 10,000 cubic yards of concrete had been placed in the Unit 2 Nuclear Island. Additionally, over 8,000 cubic yards of safety related concrete was poured for the Unit 2 Turbine Building as of June 30, 2012.
- Unit 3 excavation activities continued to make progress this quarter, with the drilling and blasting of bedrock continuing through 2<sup>nd</sup> quarter 2012. It is anticipated that Unit 3 excavation will be completed by the end of the summer, and that the NRC will conduct geologic mapping of the rock surface shortly thereafter. This is a critical path activity for Unit 3.
- Containment Vessel (“CV”) construction activities continued, with CB&I turning the bottom head plates over to Shaw during the 2<sup>nd</sup> quarter of 2012. Welding of the first course of the 1<sup>st</sup> CV ring began during this quarter.
- Several CA20 submodules were installed on the CA20 Platen inside the Module Assembly Building (“MAB”) during the quarter in preparation for welding. A total of Eleven (11) CA20 submodules had been delivered to the site as of the end of the 2<sup>nd</sup> quarter of 2012, with four (4) of these arriving on site during the 2<sup>nd</sup> quarter of 2012. However, pending unresolved issues relating to module design precluded the welding of the submodules inside of the MAB. Assembly of the CA20 module is a critical path activity.
- Construction of the CA01 Platen inside the MAB was completed during 2<sup>nd</sup> quarter 2012. As of June 30, 2012, no CA01 submodules have been received on site. Assembly of the CA01 module is a critical path activity.

- Construction of the Unit 2 CR-10 Module (Nuclear Island CV support structure) was completed during 2<sup>nd</sup> quarter 2012. Construction of the module was conducted outside of the MAB next to the Unit 2 Nuclear Island.
- Work continued on the Cooling Towers throughout the quarter. Circulating Water System (“CWS”) piping was set in Cooling Towers 2A, 3A, and 3B. Additionally, concrete wall placement and installation of CWS duct banks continued in Cooling Towers 2A, 3A, and 3B. Installation of erosion controls and grading work began in the area where Cooling Tower 2B is to be placed.
- Waterproof membrane testing was completed during 2<sup>nd</sup> quarter 2012. Reporting on and analysis of the testing began in 3<sup>rd</sup> quarter 2012. Horizontal waterproof membrane materials are being stored pending the completion of concrete work necessary for installation. Installation of the waterproof membrane is a critical path activity.

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

### **Critical Path Activities**

The following activities are identified on the construction schedule as critical path activities scheduled to begin before June 30, 2012. The status of these critical path activities is based on a July 1, 2011 COL issue date.

- **Unit 2 Basemat**

As previously stated, the pouring concrete in the Unit 2 Nuclear Island began during the 2<sup>nd</sup> quarter of 2012. This consists of leveling concrete, followed by the mud mat, and finally the basemat. The pouring of the mud mat was scheduled to begin in June 2011, but is now scheduled for completion during the 3<sup>rd</sup> quarter of 2012. Pouring of the basemat is expected to begin during the 4<sup>th</sup> quarter of 2012. This critical path activity is behind schedule.

In ORS’s 2012 1<sup>st</sup> Quarter Report, it was reported that an issue had developed concerning the basemat rebar cages under construction at the site. In May 2012, the NRC challenged changes that were made to the design of the rebar cages, and whether these changes should have been approved by the NRC prior to their implementation. During the 2<sup>nd</sup> quarter of 2012, the rebar cages were disassembled and reassembly began to fully conform to the NRC licensed design.

- **Unit 2 CA01 Module**

Field assembly of the Unit 2 CA01 module was scheduled to begin in June 2011 but has not yet begun. The module segments required for the CA01 module are to be fabricated

by Shaw Modular Solutions (“SMS”), and the delivery of these segments is behind schedule.

In previous quarterly reports, ORS discussed deficiencies related to SMS’s Quality Assurance Program (“QAP”). Additionally, production of the module segments has been repeatedly delayed due to module redesign and production issues. Since March 2012, SCE&G is maintaining a full-time presence at the SMS facility to monitor production and QAP issues. On April 4, 2012, the NRC issued a Request for Additional Information (“RAI”) addressing one of the Notice of Nonconformance areas addressed by SMS. Additional documentation was provided by SMS to the NRC on May 23, 2012 and a follow-up telephone call with the NRC was conducted on June 12, 2012. The NRC closed out the last remaining issue on June 13, 2012.

The continued issues at SMS affect construction of the CA01 and CA20 modules inside the MAB. Efforts continue to re-baseline the schedule. ORS will continue to closely monitor and report on SMS. This critical path activity is behind schedule.

- **Unit 2 CA20 Module**

Site assembly of the CA20 module was scheduled to begin in November 2010 and the module was scheduled to be set prior to the end of the 4<sup>th</sup> quarter of 2011. However, as of the end of the 2<sup>nd</sup> quarter of 2012 a sufficient quantity of sub-modules had not been received to begin assembly of the module. These sub-module segments are being fabricated by SMS. ORS will continue to closely monitor and report on SMS. This critical path activity is behind schedule.

- **Unit 2 Containment Vessel and Shield Building**

The Containment Vessel bottom head segments were delivered early, and assembly is currently on schedule. However, the critical path activity specific to the delivery of the components for the first ring of the Containment Vessel scheduled for August 2011 was delayed. As previously mentioned, welding of the first ring of the Containment Vessel began during the 2<sup>nd</sup> quarter 2012. The critical path also indicated that the Containment Vessel bottom head for Unit 2 should be set in the Nuclear Island prior to the end of the 1<sup>st</sup> quarter 2012. This activity is dependent on the placement of the Unit 2 mud mat and basemat, which in turn have been dependent on the issuance of the COL. As such, this critical path activity is behind schedule.

- **Unit 3 Basemat**

Excavation and blasting of the Nuclear Island and Turbine Building are ongoing. This critical path activity is on schedule.



## **Transmission**

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

Phase 1 will consist of construction of two (2) new 230 kV transmission lines in support of Unit 2: the VCS1–Killian Line and the VCS2–Lake Murray Line. 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 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, two new 230 kV interconnections between Switchyard 1 and Switchyard 2 will be constructed. Construction of the Phase 1 lines continued during the 2<sup>nd</sup> quarter of 2012. As of June 30, 2012, the VCS1–Killian Line was approximately forty percent (40%) complete and the VCS2–Lake Murray Line was approximately five percent (5%) complete, respectively.

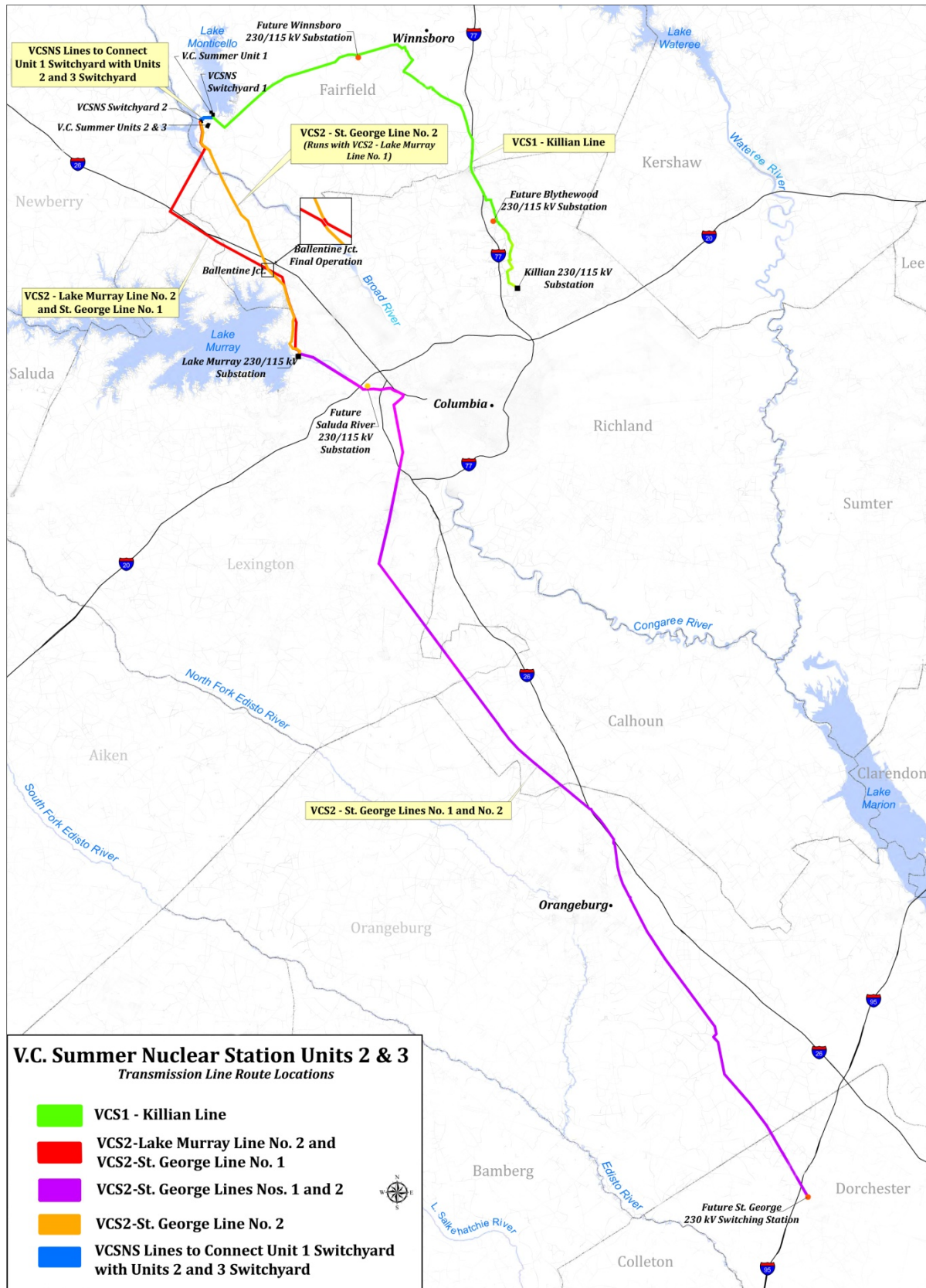
Phase 2 will consist of construction of two (2) new 230 kV transmission lines and associated facilities in support of Unit 3. These consist of the VCS2–St. George Line #1, VCS2–St. George Line #2, St. George 230 kV Switching Station, and Saluda River 230/115 kV Substation. Both the VCS2–St. George Line #1 and VCS2–St. George Line #2 will connect Switchyard 2 to the yet-to-be constructed St. George 230 kV Switching Station.

On June 1, 2012, the Company filed its application for Phase 2 of the project with the Commission in Docket No. 2012-225-E. A hearing was conducted subsequent to the end of the quarter on August 22, 2012, and the application was approved by the Commission on September 12, 2012.

Additionally, three (3) new 230 kV transmission lines will provide an interconnection between Switchyard 1 and Switchyard 2. These lines will be constructed throughout the project as scheduling allows. These lines are completely contained within the construction site, and as such do not require siting authorization from the Commission.

Map 1 shows the geographical location of the new transmission lines and other associated facilities to support the Units.

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



## **Change Orders and Amendments**

During the 2<sup>nd</sup> quarter of 2012, no Change Orders were executed. One (1) Change Order was under negotiation at the end of the 2<sup>nd</sup> quarter 2012. This Change Order would incorporate the settlement agreement with WEC/Shaw into the EPC Contract. The costs associated with this change order are incorporated in the Company's Update Filing.

Amendment No. 3 to the EPC Contract was executed and finalized during the 2<sup>nd</sup> quarter of 2012. This amendment defines and clarifies the terms of the Company's builders risk policy. The amendment is procedural, and there are no new costs associated with the execution of the amendment.

Table 3 details all Change Orders and Amendments. A list of definitions for each type of Change Order is found below.

- **Contractor Convenience:** These changes are requested by the contractor. They are undertaken at the contractor's own expense, and are both generally consistent with the contract and reasonably necessary to meet the terms of the contract.
- **Entitlement:** The contractor is entitled to a Change Order in the event certain actions occur, including changes in law, uncontrollable circumstances, and other actions as defined in the contract.
- **Owner Directed:** These changes are requested by the Company.

**Table 3:**

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

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

<sup>5</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 commensurate amount.

# Licensing and Inspection Activities

## **Federal Activities**

As reported in ORS's 2012 1<sup>st</sup> Quarter Report, the NRC issued the COL for the Units to SCE&G on March 30, 2012. Additionally, the 404 Clean Water Act Permit was issued by the United States Army Corps of Engineers on March 30, 2012.

During the 2<sup>nd</sup> Quarter 2012, the NRC conducted three (3) inspections related to the Units. Two (2) of these inspections were conducted on site. These inspections resulted in one (1) green finding. The NRC inspection manual defines a green finding as a finding of very low safety significance. This finding was due to several pages of a report being stuck together while being scanned. This resulted in those pages not being transmitted to the NRC in a timely manner. The Company has corrected the issue. The third inspection was conducted at the SMS site in Lake Charles, Louisiana. The NRC inspection at SMS was terminated early because the number of safety-related activities being performed during the week of the inspection was insufficient for the NRC to collect the data needed to complete the inspection.

## **State Activities**

SCE&G submitted a National Pollutant Discharge Elimination System ("NPDES") permit application to the South Carolina Department of Health and Environmental Control ("DHEC") during the 1<sup>st</sup> Quarter of 2012. The permit was publicly noticed on March 30, 2012 for a thirty (30) day public comment period. The NPDES permit is required to discharge water into the Parr Reservoir, and must be obtained before the construction of the Raw Water System and Wastewater System. The Company's NPDES permit application is further discussed in the Section "Notable Activities Occurring After June 30, 2012," which is located on page 23 of this review.

# Approved Budget Review

ORS's budget review includes an analysis of the 2<sup>nd</sup> quarter 2012 capital costs, project cash flow, escalation and Allowance for Funds Used During Construction ("AFUDC").

## **Capital Costs**

To determine how consistently the Company adheres to the budget approved by the Commission in Order No. 2011-345, ORS evaluates nine (9) major cost categories for variances. These cost categories are:

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

ORS monitors variances due to project changes (e.g., shifts in work scopes, payment timetables, construction schedule adjustments, Change Orders). At the end of the 2<sup>nd</sup> quarter of 2012, SCE&G's total base project cost (in 2007 dollars) is \$4.553 billion. The Report shows the total base project cost has increased by approximately \$283 million over the Commission approved budget amount. This includes a decision by the Company that it would not seek recovery for \$103,000 in Community/Support Outreach costs that WEC and Shaw have included in costs to be charged under the EPC Contract.

## **Project Cash Flow**

As shown in Appendix 2 of the Company's Report, the cumulative amount spent on the project as of December 31, 2011 is \$1.210 billion. The cumulative forecasted amount to be spent on the project by December 31, 2012 is \$1.921 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. 2011-345. To produce a common basis for the comparison, line 16 adjusts the approved cash flow schedule to reflect the current escalation rates. As of June 30, 2012, the comparison shows the yearly maximum annual

variance above and below 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 \$262.030 million under budget at the end of 2012. At the completion of the project in 2018, the cumulative project cash flow is forecasted to be approximately \$313.889 million over budget.

Table 4 shows the annual and cumulative project cash flows as compared to those approved in Order No. 2011-345.

**Table 4:**

<b>Project Cash Flow Comparison</b>			
<i>\$'s in Thousands <sup>6</sup></i>			
		<b>Annual Over/(Under)</b>	<b>Cumulative Over/(Under)</b>
<b>Actual <sup>7</sup></b>	<b>2007</b>	-	-
	<b>2008</b>	\$0	\$0
	<b>2009</b>	\$0	\$0
	<b>2010</b>	\$0	\$0
	<b>2011</b>	(\$140,100)	(\$140,100)
<b>Projected</b>	<b>2012</b>	(\$121,930)	(\$262,030)
	<b>2013</b>	<b>\$138,143</b>	(\$123,887)
	<b>2014</b>	<b>\$379,797</b>	<b>\$255,910</b>
	<b>2015</b>	<b>\$251,615</b>	<b>\$507,525</b>
	<b>2016</b>	<b>\$85,454</b>	<b>\$592,979</b>
	<b>2017</b>	(\$65,071)	<b>\$527,908</b>
	<b>2018</b>	(\$214,019)	<b>\$313,889</b>

In summary, the Report shows an increase in the total base project cost of approximately \$282.951 million (in 2007 dollars). Due to escalation, a project cash flow of approximately \$313.889 million more is necessary to complete the project in 2018. These

<sup>6</sup> Slight variances may occur due to rounding.

<sup>7</sup> The actual comparison amounts for 2007 through 2010 equate to zero in accordance with the updated capital cost schedules approved in Order No. 2011-345

forecasts reflect the updated capital cost schedules approved in Order No. 2011-345, the current construction schedule and the inflation indices in the Company's Appendix 4.

### **AFUDC and Escalation**

The forecasted AFUDC for the total project as of the end of the 2<sup>nd</sup> quarter of 2012 is \$238.326 million and is based on a forecasted 5.28% AFUDC rate. This is an increase of approximately \$400,000 from the Company's 2012 1<sup>st</sup> Quarter Report.

As previously reported by ORS in its reviews of SCE&G's Quarterly Reports, the decline in the five-year average escalation rates reduces the projected project cash flow. Current worldwide economic conditions continue to reduce the projected escalation cost of the project. Primarily due to the decrease in escalation rates, the overall project is considered under budget. More specifically, as of June 30, 2012, the SCE&G forecasted gross construction cost of the plant is \$5.764 billion as compared to the approved gross construction cost of \$5.787 billion, which reflects a decrease of approximately \$23 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 ("Request") with the Commission in Docket No. 2012-186-E on May 30, 2012, the anniversary date of SCE&G's previous request for revised rates. The Request sets forth an increase in retail rates totaling \$56.747 million.

SCE&G may file with the Commission annual requests for revised rates as long as the project is being constructed in accordance with the construction schedules and cumulative cost forecasts as approved by the Commission. Pursuant to the BLRA, until a nuclear plant enters commercial operation, the rate adjustments related to the plant include only recovery of the weighted average cost of capital applied to the outstanding balance of Construction Work in Progress ("CWIP") and shall not include depreciation or other items constituting a return of capital to the utility.

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



**Table 5:**

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

## **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
- Performs 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

## Notable Activities Occurring after June 30, 2012

The BLRA allows SCE&G forty-five (45) days from the end of the current quarter to file its Report. Items of importance that occurred subsequent to the closing of the 2<sup>nd</sup> quarter of 2012 are reported below.

### **NPDES Permit Application**

As previously stated, the Company filed an application for a NPDES permit during the 1<sup>st</sup> quarter of 2012 with DHEC. The public comment period for the application ended on July 9, 2012, subsequent to the end of the quarter. DHEC held a public hearing for the permit on June 19, 2012. On September 4, 2012, subsequent to the Company submitting its Report, DHEC issued a letter opening the public comment period through September 17, 2012. DHEC made four (4) changes to the draft permit. The letter from DHEC concerning the revised draft permit<sup>8</sup> is attached as Appendix C. SCE&G anticipates the permit will be issued during 4<sup>th</sup> quarter 2012. The Company needs to obtain the permit before it begins construction of the Raw Water System and Wastewater System.

### **Mangiarotti**

In ORS's 2012 1<sup>st</sup> Quarter Report, it was reported that a design issue had developed with the Core Makeup Tank. There was an error with the calculations for the temperature of the inlet nozzle diffuser during heat up and cool down. Subsequent to the end of the 2<sup>nd</sup> quarter, SCE&G reported that the inlet nozzle diffuser redesign to correct this issue was complete. Although complete, this redesign may further impact Milestone Activity No. 61 - Core Makeup Tank Fabricator Notice to Contractor of Satisfactory Completion of Hydrotest - Unit 2.

### **Structural Module Welding**

SCE&G has advised ORS that WEC has identified a discrepancy regarding welds in certain structural modules between WEC's technical drawings and the NRC approved design. SCE&G reports to ORS that this will not impact the cost of the construction of the Units; however, there may be a schedule impact. ORS will continue to monitor these issues as part of its ongoing monitoring of the construction of V.C. Summer Units 2 & 3. This issue is part of a larger class of issues relating to discrepancies between the design specification and the NRC approved design. Westinghouse has undertaken a comprehensive review of these issues.

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<sup>8</sup> <http://www.scdhec.gov/environment/water/publicnote/html/PublicNotice.ashx?pnid=960>

## **SMS**

SCE&G took delivery of fifteen (15) CA20 submodules during July and August 2012, bringing the total number of submodules on site to twenty-six (26). There are a total of seventy-two (72) submodules that make up the CA20 module. Submodules of a sufficient number and type had arrived on site such that welding activities would have been able to begin during the month of August. However, pending unresolved issues relating to structural module welding precluded the welding of the submodules inside of the MAB.

## **CB&I / Shaw**

On July 30, 2012, CB&I announced that it had entered into an agreement to acquire Shaw. CB&I will operate Shaw as a business sector under the name CB&I Shaw. The Company does not anticipate that the construction of the Units will be materially affected by the acquisition. CB&I's news release is attached as Appendix D.

*SCE&G's 2012 3<sup>rd</sup> Quarter Report is due forty-five (45) days after June 30, 2012. ORS expects to continue publishing a review evaluating SCE&G's quarterly reports.*

## **Appendix A**

*Detailed Milestone Schedule as of June 30, 2012*

Key:

Milestones Not Completed	Completed Prior to Q2-12	Current Quarter	Scheduled to Be Completed Q3-12	ORS Caution Milestone
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Activity Number	Milestone	Completion Date Approved in Order No. 2010-12	Scheduled Completion Date as of Q2-12	Outside 18 - 24 Month Contingency?	Impact to Substantial Completion Date? <sup>1</sup>	Actual Completion Date	Deviation from Order No. 2010-12
1	Approve Engineering, Procurement and Construction Agreement	5/23/2008		No	No	5/23/2008	
2	Issue Purchase Orders ("P.O.") to Nuclear Component Fabricators for Units 2 and 3 Containment Vessels	12/3/2008		No	No	12/3/2008	
3	Contractor Issue P.O. to Passive Residual Heat Removal Heat Exchanger Fabricator - First Payment - Unit 2	8/31/2008		No	No	8/18/2008	
4	Contractor Issue P.O. to Accumulator Tank Fabricator - Unit 2	7/31/2008		No	No	7/31/2008	
5	Contractor Issue P.O. to Core Makeup Tank Fabricator - Units 2 & 3	9/30/2008		No	No	9/30/2008	
6	Contractor Issue P.O. to Squib Valve Fabricator- Units 2 & 3	3/31/2009		No	No	3/31/2009	
7	Contractor Issue P.O. to Steam Generator Fabricator - Units 2 & 3	6/30/2008		No	No	5/29/2008	1 Month Early
8	Contractor Issue Long Lead Material P.O. to Reactor Coolant Pump Fabricator - Units 2 & 3	6/30/2008		No	No	6/30/2008	
9	Contractor Issue P.O. to Pressurizer Fabricator - Units 2 & 3	8/31/2008		No	No	8/18/2008	
10	Contractor Issue P.O. to Reactor Coolant Loop Pipe Fabricator - First Payment - Units 2 & 3	6/30/2008		No	No	6/20/2008	

Key:

Milestones Not Completed	Completed Prior to Q2-12	Current Quarter	Scheduled to Be Completed Q3-12	ORS Caution Milestone
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Activity Number	Milestone	Completion Date Approved in Order No. 2010-12	Scheduled Completion Date as of Q2-12	Outside 18 - 24 Month Contingency?	Impact to Substantial Completion Date? <sup>1</sup>	Actual Completion Date	Deviation from Order No. 2010-12
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	Stream Generator - Issue Final P.O. to Fabricator for Units 2 & 3	6/30/2008		No	No	6/30/2008	
19	Reactor Vessel Internals - Contractor Issue P.O. for Long Lead Material (Heavy Plate and Heavy Forgings) to Fabricator - Units 2 & 3	1/31/2010		No	No	1/29/2010	
20	Contractor Issue Final P.O. to Reactor Vessel Fabricator - Units 2 & 3	9/30/2008		No	No	9/30/2008	

Key:

Milestones Not Completed	Completed Prior to Q2-12	Current Quarter	Scheduled to Be Completed Q3-12	ORS Caution Milestone
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Activity Number	Milestone	Completion Date Approved in Order No. 2010-12	Scheduled Completion Date as of Q2-12	Outside 18 - 24 Month Contingency?	Impact to Substantial Completion Date? <sup>1</sup>	Actual Completion Date	Deviation from Order No. 2010-12
21	Variable Frequency Drive Fabricator Issue Transformer P.O. - Units 2 & 3	4/30/2009		No	No	4/30/2009	
22	Start Clearing, Grubbing and Grading	1/26/2009		No	No	1/26/2009	
23	Core Makeup Tank Fabricator Issue Long Lead Material P.O. - Units 2 & 3	10/31/2008		No	No	10/31/2008	
24	Accumulator Tank Fabricator Issue Long Lead Material P.O. - Units 2 & 3	10/31/2008		No	No	10/31/2008	
25	Pressurizer Fabricator Issue Long Lead Material P.O. - Units 2 & 3	10/31/2008		No	No	10/31/2008	
26	Reactor Coolant Loop Pipe - Contractor Issue P.O. to Fabricator - Second Payment - Units 2 & 3	4/30/2009		No	No	4/30/2009	
27	Integrated Head Package - Issue P.O. to Fabricator - Units 2 & 3 - Second Payment	7/31/2009		No	No	7/31/2009	
28	Control Rod Drive Mechanism - Contractor Issue P.O. for Long Lead Material to Fabricator - Units 2 & 3	6/30/2008		No	No	6/30/2008	
29	Contractor Issue P.O. to Passive Residual Heat Removal Heat Exchanger Fabricator - Second Payment - Units 2 & 3	10/31/2008		No	No	10/31/2008	
30	Start Parr Road Intersection Work	2/13/2009		No	No	2/13/2009	

Key:

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



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

Key:

Milestones Not Completed	Completed Prior to Q2-12	Current Quarter	Scheduled to Be Completed Q3-12	ORS Caution Milestone
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Activity Number	Milestone	Completion Date Approved in Order No. 2010-12	Scheduled Completion Date as of Q2-12	Outside 18 - 24 Month Contingency?	Impact to Substantial Completion Date? <sup>1</sup>	Actual Completion Date	Deviation from Order No. 2010-12
50	Reactor Vessel Internals - Fabricator Start Weld Neutron Shield Spacer Pads to Assembly - Unit 2	10/31/2011	7/31/2012	No	No		Delayed 9 Months
51	Control Rod Drive Mechanisms - Fabricator to Start Procurement of Long Lead Material - Unit 2	6/30/2009		No	No	6/30/2009	
52	Contractor Notified that Pressurizer Fabricator Performed Cladding on Bottom Head - Unit 2	11/30/2010		No	No	12/23/2010	
53	Start Excavation and Foundation Work for the Standard Plant for Unit 2	3/15/2010		No	No	3/15/2010	
54	Steam Generator Fabricator Notice to Contractor of Receipt of 2nd Steam Generator Tubesheet Forging - Unit 2	2/28/2010		No	No	4/30/2010	Delayed 2 Months
55	Reactor Vessel Fabricator Notice to Contractor of Outlet Nozzle Welding to Flange Nozzle Shell Completion - Unit 2	2/28/2010		No	No	12/30/2010	Delayed 10 Months
56	Turbine Generator Fabricator Notice to Contractor Condenser Fabrication Started - Unit 2	5/31/2010		No	No	5/17/2010	
57	Complete Preparations for Receiving the First Module On Site for Unit 2	8/18/2010		No	No	1/22/2010	6 Months Early
58	Steam Generator Fabricator Notice to Contractor of Receipt of 1st Steam Generator Transition Cone Forging - Unit 2	4/30/2010		No	No	4/21/2010	
59	Reactor Coolant Pump Fabricator Notice to Contractor of Manufacturing of Casing Completion - Unit 2	11/30/2010		No	No	11/16/2010	

Key:

Milestones Not Completed	Completed Prior to Q2-12	Current Quarter	Scheduled to Be Completed Q3-12	ORS Caution Milestone
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Activity Number	Milestone	Completion Date Approved in Order No. 2010-12	Scheduled Completion Date as of Q2-12	Outside 18 - 24 Month Contingency?	Impact to Substantial Completion Date? <sup>1</sup>	Actual Completion Date	Deviation from Order No. 2010-12
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	<b>Core Makeup Tank Fabricator Notice to Contractor of Satisfactory Completion of Hydrotest - Unit 2</b>	<b>5/31/2011</b>	<b>9/30/2012</b>	<b>No</b>	<b>No</b>		<b>Delayed 16 Months</b>
62	Polar Crane Fabricator Issue P.O. for Main Hoist Drum and Wire Rope - Units 2 & 3	2/28/2011		No	No	2/1/2011	
63	Control Rod Drive Mechanisms - Fabricator to Start Procurement of Long Lead Material - Unit 3	6/30/2011		No	No	6/14/2011	
64	Turbine Generator Fabricator Notice to Contractor Condenser Ready to Ship - Unit 2	10/31/2011		No	No	3/26/2012	Delayed 4 Months
65	<b>Start Placement of Mud Mat for Unit 2</b>	<b>7/14/2011</b>	<b>7/19/2012</b>	<b>No</b>	<b>No</b>		<b>Delayed 12 Months</b>
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	<b>Reactor Vessel Fabricator Notice to Contractor of Closure Head Cladding Completion - Unit 3</b>	<b>2/28/2012</b>		<b>No</b>	<b>No</b>	<b>6/28/2012</b>	<b>Delayed 4 Months</b>

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

Key:

Milestones Not Completed	Completed Prior to Q2-12	Current Quarter	Scheduled to Be Completed Q3-12	ORS Caution Milestone
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Activity Number	Milestone	Completion Date Approved in Order No. 2010-12	Scheduled Completion Date as of Q2-12	Outside 18 - 24 Month Contingency?	Impact to Substantial Completion Date? <sup>1</sup>	Actual Completion Date	Deviation from Order No. 2010-12
78	Set Module CA04 For Unit 2	1/27/2012	12/26/2012	No	No		Delayed 11 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	1/31/2011		No	No	5/29/2012	Delayed 16 Months
81	Polar Crane Fabricator Notice to Contractor of Girder Fabrication Completion - Unit 2	2/28/2012	11/30/2012	No	No		Delayed 9 Months
82	Turbine Generator Fabricator Notice to Contractor Condenser Ready to Ship - Unit 3	8/31/2013	11/30/2013	No	No		Delayed 3 Months
83	Set Containment Vessel Ring #1 for Unit 2	4/3/2012	4/19/2013	No	No		Delayed 12 Months
84	Reactor Coolant Pump Fabricator Delivery of Casings to Port of Export - Unit 2	3/31/2012	9/30/2012	No	No		Delayed 6 Months
85	Reactor Coolant Pump Fabricator Notice to Contractor of Stator Core Completion - Unit 3	8/31/2013	4/30/2013	No	No		4 Months 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

Key:

Milestones Not Completed	Completed Prior to Q2-12	Current Quarter	Scheduled to Be Completed Q3-12	ORS Caution Milestone
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Activity Number	Milestone	Completion Date Approved in Order No. 2010-12	Scheduled Completion Date as of Q2-12	Outside 18 - 24 Month Contingency?	Impact to Substantial Completion Date? <sup>1</sup>	Actual Completion Date	Deviation from Order No. 2010-12
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	<b>Set Nuclear Island Structural Module CA03 for Unit 2</b>	<b>8/30/2012</b>	<b>9/12/2013</b>	<b>No</b>	<b>No</b>		<b>Delayed 12 Months</b>
89	<b>Squib Valve Fabricator Notice to Contractor of Completion of Assembly and Test for Squib Valve Hardware - Unit 2</b>	<b>5/31/2012</b>		<b>No</b>	<b>No</b>	<b>5/10/2012</b>	
90	Accumulator Tank Fabricator Notice to Contractor of Satisfactory Completion of Hydrotest - Unit 3	12/31/2012	6/30/2013	No	No		Delayed 6 Months
91	<b>Polar Crane Fabricator Notice to Contractor of Electric Panel Assembly Completion - Unit 2</b>	<b>7/31/2012</b>	<b>4/30/2013</b>	<b>No</b>	<b>No</b>		<b>Delayed 9 Months</b>
92	<b>Start Containment Large Bore Pipe Supports for Unit 2</b>	<b>4/9/2012</b>	<b>6/17/2013</b>	<b>No</b>	<b>No</b>		<b>Delayed 14 Months</b>
93	Integrated Head Package - Shipment of Equipment to Site - Unit 2	10/31/2012	3/31/2013	No	No		Delayed 5 Months
94	Reactor Coolant Pump Fabricator Notice to Contractor of Final Stator Assembly Completion - Unit 2	11/30/2012	7/31/2013	No	No		Delayed 8 Months
95	Steam Generator Fabricator Notice to Contractor of Completion of 2nd Steam Generator Tubing Installation - Unit 3	5/31/2013	4/30/2013	No	No		1 Month Early

Key:	Milestones Not Completed	Completed Prior to Q2-12	Current Quarter	Scheduled to Be Completed Q3-12	ORS Caution Milestone
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Activity Number	Milestone	Completion Date Approved in Order No. 2010-12	Scheduled Completion Date as of Q2-12	Outside 18 - 24 Month Contingency?	Impact to Substantial Completion Date? <sup>1</sup>	Actual Completion Date	Deviation from Order No. 2010-12
96	Steam Generator Fabricator Notice to Contractor of Satisfactory Completion of 1st Steam Generator Hydrotest - Unit 2	5/31/2012	12/31/2012	No	No		Delayed 7 Months
97	Start Concrete Fill of Nuclear Island Structural Modules CA01 and CA02 for Unit 2	2/26/2013	5/12/2014	No	No		Delayed 14 Months
98	Passive Residual Heat Removal Heat Exchanger - Delivery of Equipment to Port of Entry - Unit 2	4/30/2012	9/30/2012	No	No		Delayed 5 Months
99	Refueling Machine Fabricator Notice to Contractor of Satisfactory Completion of Factory Acceptance Test - Unit 2	2/28/2013	11/30/2013	No	No		Delayed 9 Months
100	Deliver Reactor Vessel Internals to Port of Export - Unit 2	7/31/2013	4/30/2014	No	No		Delayed 9 Months
101	Set Unit 2 Containment Vessel #3	4/17/2013	8/28/2014	No	No		Delayed 16 Months
102	Steam Generator - Contractor Acceptance of Equipment at Port of Entry - Unit 2	3/31/2013	5/31/2013	No	No		Delayed 2 Months
103	Turbine Generator Fabricator Notice to Contractor Turbine Generator Ready to Ship - Unit 2	4/30/2013	3/31/2013	No	No		1 Month Early
104	Pressurizer Fabricator Notice to Contractor of Satisfactory Completion of Hydrotest - Unit 3	2/28/2014	12/31/2013	No	No		2 Months Early

Key:

Milestones Not Completed	Completed Prior to Q2-12	Current Quarter	Scheduled to Be Completed Q3-12	ORS Caution Milestone
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Activity Number	Milestone	Completion Date Approved in Order No. 2010-12	Scheduled Completion Date as of Q2-12	Outside 18 - 24 Month Contingency?	Impact to Substantial Completion Date? <sup>1</sup>	Actual Completion Date	Deviation from Order No. 2010-12
105	Polar Crane - Shipment of Equipment to Site - Unit 2	5/31/2013	2/28/2014	No	No		Delayed 9 Months
106	Receive Unit 2 Reactor Vessel On Site From Fabricator	5/20/2013	4/30/2013	No	No		
107	Set Unit 2 Reactor Vessel	6/18/2013	10/28/2014	No	No		<b>Delayed 16 Months</b>
108	Steam Generator Fabricator Notice to Contractor of Completion of 2nd Channel Head to Tubesheet Assembly Welding - Unit 3	12/31/2013	11/30/2013	No	No		1 Month Early
109	Reactor Coolant Pump Fabricator Notice to Contractor of Final Stator Assembly Completion - Unit 3	8/31/2014	8/31/2014	No	No		
110	Reactor Coolant Pump - Shipment of Equipment to Site (2 Reactor Coolant Pumps) - Unit 2	9/30/2013	9/30/2013	No	No		
111	Place First Nuclear Concrete for Unit 3	8/1/2013	10/9/2013	No	No		Delayed 2 Months
112	Set Unit 2 Steam Generator	9/9/2013	1/4/2015	No	No		<b>Delayed 16 Months</b>
113	Main Transformers Ready to Ship - Unit 2	9/30/2013	7/31/2013	No	No		2 Months Early



Key:

Milestones Not Completed	Completed Prior to Q2-12	Current Quarter	Scheduled to Be Completed Q3-12	ORS Caution Milestone
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Activity Number	Milestone	Completion Date Approved in Order No. 2010-12	Scheduled Completion Date as of Q2-12	Outside 18 - 24 Month Contingency?	Impact to Substantial Completion Date? <sup>1</sup>	Actual Completion Date	Deviation from Order No. 2010-12
114	Complete Unit 3 Steam Generator Hydrotest at Fabricator	2/28/2014	3/31/2014	No	No		Delayed 1 Month
115	Set Unit 2 Containment Vessel Bottom Head on Basemat Legs	11/21/2011	11/28/2012	No	No		<b>Delayed 12 Months</b>
116	Set Unit 2 Pressurizer Vessel	1/24/2014	5/27/2014	No	No		Delayed 4 Months
117	Reactor Coolant Pump Fabricator Notice to Contractor of Satisfactory Completion of Factory Acceptance Test - Unit 3	2/28/2015	3/31/2015	No	No		Delayed 1 Month
118	Deliver Reactor Vessel Internals to Port of Export - Unit 3	6/30/2015	5/31/2015	No	No		1 Month Early
119	Main Transformers Fabricator Issue P.O. for Material - Unit 3	4/30/2014	2/28/2015	No	No		<b>Delayed 10 Months</b>
120	Complete Welding of Unit 2 Passive Residual Heat Removal System Piping	3/19/2014	6/15/2015	No	No		<b>Delayed 15 Months</b>
121	Steam Generator - Contractor Acceptance of Equipment At Port of Entry - Unit 3	4/30/2015	4/30/2015	No	No		
122	Refueling Machine - Shipment of Equipment to Site - Unit 3	5/31/2014	3/31/2015	No	No		<b>Delayed 10 Months</b>
123	Set Unit 2 Polar Crane	4/3/2014	6/30/2015	No	No		<b>Delayed 15 Months</b>

Key:

Milestones Not Completed	Completed Prior to Q2-12	Current Quarter	Scheduled to Be Completed Q3-12	ORS Caution Milestone
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Activity Number	Milestone	Completion Date Approved in Order No. 2010-12	Scheduled Completion Date as of Q2-12	Outside 18 - 24 Month Contingency?	Impact to Substantial Completion Date? <sup>1</sup>	Actual Completion Date	Deviation from Order No. 2010-12
124	Reactor Coolant Pumps - Shipment of Equipment to Site - Unit 3	6/30/2015	6/30/2015	No	No		
125	Main Transformers Ready to Ship - Unit 3	9/30/2014	6/30/2015	No	No		Delayed 9 Months
126	Spent Fuel Storage Rack - Shipment of Last Rack Module - Unit 3	12/31/2014	7/31/2014	No	No		5 Months Early
127	Start Electrical Cable Pulling in Unit 2 Auxiliary Building	12/26/2014	7/18/2013	No	No		17 Months Early
128	Complete Unit 2 Reactor Coolant System Cold Hydro	8/3/2015	12/22/2015	No	No		Delayed 4 Months
129	Activate Class 1E DC Power in Unit 2 Auxiliary Building	3/5/2015	4/2/2015	No	No		
130	Complete Unit 2 Hot Functional Test	9/21/2015	4/21/2016	No	No		Delayed 7 Months
131	Install Unit 3 Ring 3 for Containment Vessel	7/30/2015	8/28/2014	No	No		11 Months Early
132	Load Unit 2 Nuclear Fuel	10/28/2015	9/15/2016	No	No		<b>Delayed 10 Months</b>
133	Unit 2 Substantial Completion	4/1/2016	3/15/2017	No	No		<b>Delayed 11 Months</b>

Key:

Milestones Not Completed	Completed Prior to Q2-12	Current Quarter	Scheduled to Be Completed Q3-12	ORS Caution Milestone
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Activity Number	Milestone	Completion Date Approved in Order No. 2010-12	Scheduled Completion Date as of Q2-12	Outside 18 - 24 Month Contingency?	Impact to Substantial Completion Date? <sup>1</sup>	Actual Completion Date	Deviation from Order No. 2010-12
134	Set Unit 3 Reactor Vessel	10/1/2015	10/22/2015	No	No		
135	Set Unit 3 Steam Generator #2	12/22/2015	2/25/2016	No	No		Delayed 2 Months
136	Set Unit 3 Pressurizer Vessel	5/16/2016	7/16/2015	No	No		10 Months Early
137	Complete Welding of Unit 3 Passive Residual Heat Removal System Piping	6/20/2016	6/16/2016	No	No		
138	Set Unit 3 Polar Crane	7/18/2016	5/9/2016	No	No		2 Months Early
139	Start Unit 3 Shield Building Roof Slab Rebar Placement	1/16/2017	5/26/2016	No	No		7 Months Early
140	Start Unit 3 Auxiliary Building Electrical Cable Pulling	4/6/2017	5/15/2015	No	No		23 Months Early
141	Activate Unit 3 Auxiliary Building Class 1E DC Power	6/9/2017	6/2/2016	No	No		12 Months Early
142	Complete Unit 3 Reactor Coolant System Cold Hydro	1/1/2018	2/22/2017	No	No		10 Months Early
143	Complete Unit 3 Hot Functional Test	2/15/2018	6/21/2017	No	No		7 Months Early

Key:

Milestones Not Completed	Completed Prior to Q2-12	Current Quarter	Scheduled to Be Completed Q3-12	ORS Caution Milestone
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Activity Number	Milestone	Completion Date Approved in Order No. 2010-12	Scheduled Completion Date as of Q2-12	Outside 18 - 24 Month Contingency?	Impact to Substantial Completion Date? <sup>1</sup>	Actual Completion Date	Deviation from Order No. 2010-12
144	Complete Unit 3 Nuclear Fuel Load	7/31/2018	11/15/2017	No	No		8 Months Early
145	Begin Unit 3 Full Power Operation	10/31/2018	4/26/2018	No	No		6 Months Early
146	Unit 3 Substantial Completion	1/1/2019	5/15/2018	No	No		7 Months Early

<sup>1</sup> While these milestone activities remain within the variance allowed under the BLRA, the substantial completion date of the Units has changed in this schedule.

**Notes:**

White highlighting represents Future or Historical Milestones that have not been completed.
Grey highlighting represents Future or Historical Milestones that were completed prior to the 2nd Quarter 2012.
Yellow highlighting represents those Milestones that are scheduled to be or have been completed during the 2nd Quarter 2012. This is based on the schedule approved by the Commission in Order No. 2010-12
Green highlighting represents Future Milestones that are scheduled to be completed in the 3rd Quarter of 2012. This is based on the schedule approved by the Commission in Order No. 2010-12
Red highlighting represents "Caution Milestones." Caution Milestones are those that are delayed by 10 months or greater.

## **Appendix B**

*Construction Site Photographs*

# Unit 2 Nuclear Island



# Unit 2 Turbine Island



# Unit 2 Containment Vessel Bottom Head





# Unit 2 Main Condenser



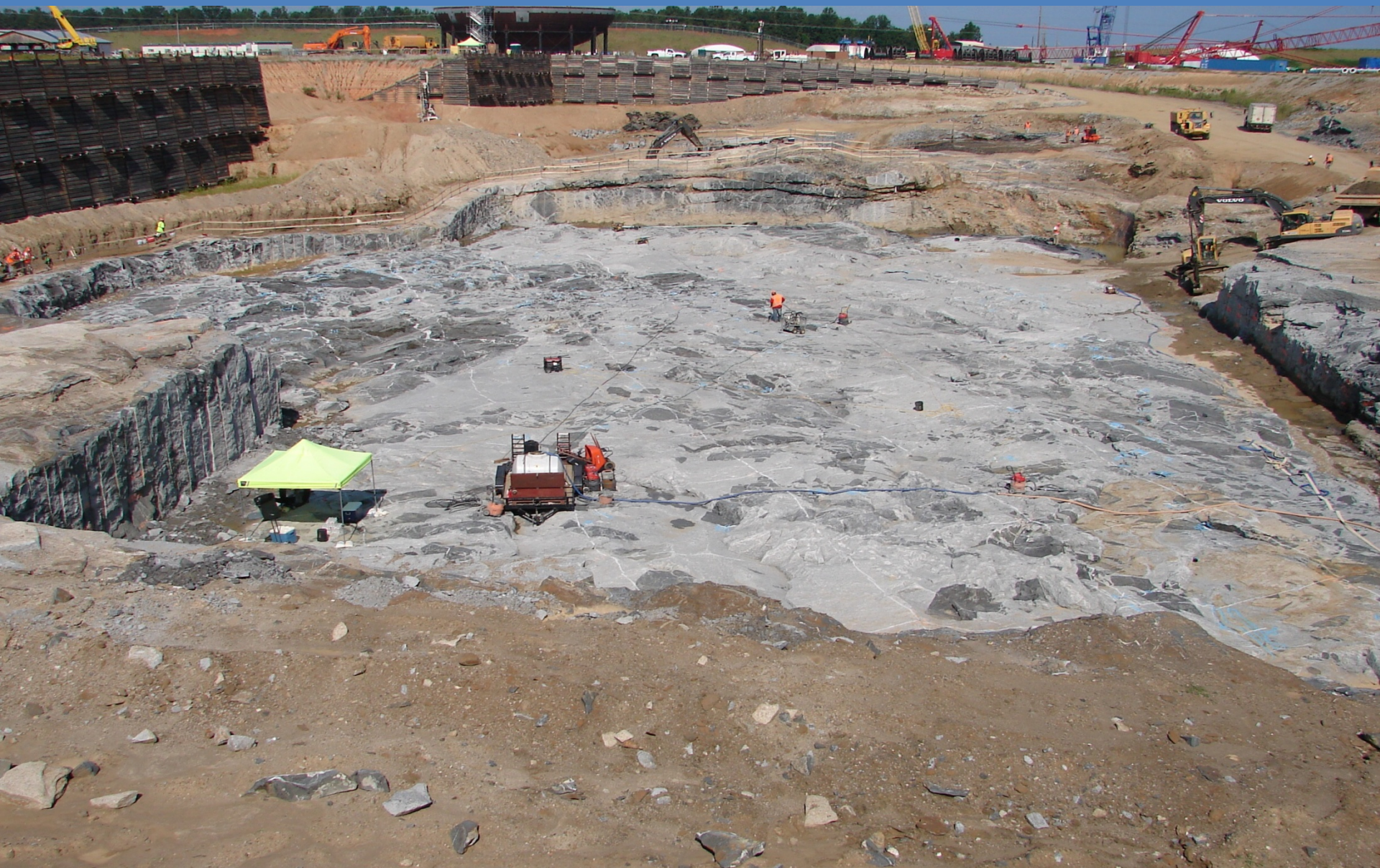
# Unit 2 Main Condenser



# Unit 2 Main Condenser



# Unit 3 Excavation



# Switchyard



## **Appendix C**

*DHEC Letter Concerning the Revised Draft NPDES Permit*

MEMO

Notice: 12-112-N

September 4, 2012



TO: Interested Citizens

FROM: Jeffrey deBessonnet, Director  
Water Facilities Permitting Division

RE: ADDITIONAL COMMENT PERIOD THROUGH SEPTEMBER 17, 2012  
SCE&G/VC Summer Nuclear Station Units 2 & 3 Revised Draft Permit  
NPDES permit: SC0049131

DHEC proposes four (4) changes to the draft permit as summarized below:

1. *Changes related to a revised 7Q10 flow value.* After review of additional data, a lowered 7Q10 value (from 807 to 720 cfs) was determined to be appropriate, which resulted in changes to the calculation of certain limits in the permit (toxicity testing and zinc limits).
2. *An adjusted phosphorus limit.* Because the water quality monitoring station in Parr downstream of the discharge was meeting standards, a factor not considered in the initial draft permit, a new phosphorus effluent limit of 0.47 mg/l was established.
3. *Water supply notification.* The draft permit contained a requirement to notify affected downstream water supply owners of any emergency condition or plant upset. The revised draft permit includes language identifying specific owners to notify: Cities of Columbia and Cayce.
4. *Adjusted pH monitoring frequency.* After further review, it was determined that monitoring frequency of weekly (in lieu of daily) at the outfalls would be sufficient to adequately characterize the effluent and is consistent with other operations.

Therefore, DHEC has decided to open the comment period until September 17, 2012 (close of business) to receive written comments on a revised draft NPDES permit for the proposed SCE&G/VC Summer Nuclear Facility Units 2 & 3 (SC0049131). See our web page for details (including a copy of the revised draft permit and rationale) at:

[http://www.scdhec.gov/environment/water/ww\\_sceg.htm](http://www.scdhec.gov/environment/water/ww_sceg.htm)

Forward comments to Melanie Townley (note permit number SC0049131): SCDHEC/Bureau of Water, 2600 Bull Street, Columbia, SC 29201 or at [townlemk@dhec.sc.gov](mailto:townlemk@dhec.sc.gov).

DHEC will review any comments on this draft permit prior to making a permit decision. All prior comments received have already been made a part of the official permit record.

## **Appendix D**

*CB&I News Release*





## NEWS RELEASE

For Immediate Release:  
July 30, 2012

For Further Information Contact:  
Media: [www.CBI.com](http://www.CBI.com)  
Investors: Christi Thoms +1 832 513 1200

### **CB&I ANNOUNCES AGREEMENT TO ACQUIRE THE SHAW GROUP** **A powerful combination – Creating a leading Energy Focused EPC Company globally**

**THE WOODLANDS, Texas** – July 30, 2012 -- CB&I (NYSE: CBI) announced today that it has entered into a definitive agreement to acquire Shaw Group (NYSE: SHAW), a Fortune 500 company primarily focused on serving clients in the power generation and government services sector. The acquisition is expected to close in early 2013.

Combining CB&I and Shaw will create one of the most complete energy focused technology, engineering, procurement, fabrication, construction, maintenance, and associated services companies in the world. With a global workforce of nearly 50,000 employees, backlog of over \$28 billion, and engineering and fabrication facilities strategically located on all continents, the company will have the critical mass necessary to execute the largest energy infrastructure projects now and into the future.

"This is a highly compelling transaction that we believe will create significant value for our shareholders," said Philip K. Asherman, President and CEO of CB&I. "Shaw is a great company with tremendously talented employees. By adding them into the CB&I family, we will become fully diversified across the entire energy sector, from Power Generation to LNG, from Refining to Gas Processing, from Offshore to Oil Sands, and beyond. We will have the capabilities and the expertise to provide our clients with the full range of solutions, wherever they are in the world. Most important, we will have the experience and relationships necessary to successfully meet and exceed our clients' expectations."

CB&I will acquire Shaw for \$46.00 per share in cash and stock. Shareholders will receive \$41.00 in cash and \$5.00 in CB&I equity (0.12883 shares based on an agreed upon recent average stock price of \$38.81 per share) for each share of Shaw stock at closing. CB&I will use cash on the balance sheets of both companies, along with approximately \$1.9 billion in debt to finance the acquisition. Based on the estimated cash position of Shaw at the end of its August 31, 2012 fiscal year, this equates to an enterprise value of approximately \$2.0 billion. Using consensus estimates, the implied transaction multiple is 7.0x Shaw's fiscal 2012 adjusted EBITDA. First year earnings per share are anticipated to be double-digit accretive before transaction related costs.

"I am extremely proud of the company we have built and operated for the last 25 years. Shaw's leadership position in the power, environmental and infrastructure industries will complement CB&I's current business, and I am confident that, together, these two companies will continue to excel," said J.M. Bernhard Jr., Chairman, President and Chief Executive Officer of Shaw. "While Shaw has been growing in our business and has many opportunities ahead of us, we believe this transaction is in the best interest of and creates significant value for our shareholders, our employees and our customers."

The acquisition of Shaw Group by CB&I has been unanimously approved by the Directors of the respective company's boards. The transaction is subject to approval by each company's shareholders, along with the receipt of certain regulatory approvals and the satisfaction of other customary closing conditions. Philip K. Asherman will continue as President and CEO of the combined company.

CB&I plans to operate Shaw as a business sector under the brand name CB&I Shaw. This will enable the company to retain Shaw's brand equity, particularly in the power industry, and it will allow the combined organization to capitalize on the resources, capabilities, and best practices from each group for the benefit of all stakeholders.

Bank of America Merrill Lynch is acting as the financial advisor to CB&I, and Wachtell, Lipton, Rosen & Katz is acting as the Company's legal counsel.

## **KEY TAKEAWAYS**

- Create one of the most complete Energy Focused company in the world
- Broaden relationships with clients and partners worldwide
- Expand in growth areas including power generation from nuclear, gas, coal and associated retrofit
- Diversify further, adding greater revenue and earnings stability from Plant Services, F&M and E&I businesses
- Expected to be EPS Accretive in 2013 and beyond
- Committed to deleveraging and maintaining a strong balance sheet
- Add skilled resources globally, notably engineers and field personnel and fabrication capacity

## **NOTICE**

CB&I will host a conference call Monday, July 30, 2012 at 7:30 a.m. CDT (8:30 a.m. EDT) to discuss the acquisition.

The webcast will be available at [www.CBI.com](http://www.CBI.com) *Investor Relations*. Please log on to the website at least 15 minutes prior to the start of the call to register and download any necessary audio software.

The conference call also can be accessed by telephone at 1-800-301-8321 (U.S.) or +1-706-634-2259 (outside the U.S.). ID#: 16199456.

A replay of the conference call will be available at [www.CBI.com](http://www.CBI.com) *Investor Relations* or by calling 1-855-859-2056 (U.S.) or +1-404-537-3406 (outside the U.S.) through October 31, 2012. ID#: 16199456.

## **CONTACTS**

Investors: Christi Thoms, +1 832 513 1200  
Director, Investor Relations  
[Investor-relations@cbi.com](mailto:Investor-relations@cbi.com)

or

Media: Visit [www.CBI.com](http://www.CBI.com) to access an online media kit regarding the acquisition.

## **ABOUT CB&I**

[CB&I](http://www.CBI.com) (NYSE:CBI) engineers and constructs some of the world's largest energy infrastructure projects. With premier [process technology](#), proven [EPC](#) expertise, and unrivaled [storage tank](#) experience, CB&I executes projects from concept to completion. Safely. Reliably. Globally. For more information, visit [www.CBI.com](http://www.CBI.com).

## **ABOUT SHAW**

The Shaw Group Inc. (NYSE: SHAW) is a leading global provider of engineering, construction, technology, fabrication, remediation and support services for clients in the energy, chemicals, environmental, infrastructure and emergency response industries. A Fortune 500 company with fiscal year 2011 annual revenues of \$5.9 billion, Shaw has approximately 27,000 employees around the world and is a power sector industry leader according to Engineering News-Record's list of Top 500 Design Firms. For more information, please visit Shaw's website at [www.shawgrp.com](http://www.shawgrp.com).

### **Important Information For Investors And Shareholders**

This communication does not constitute an offer to sell or the solicitation of an offer to buy any securities or a solicitation of any vote or approval. In connection with the proposed transaction, Chicago Bridge & Iron Company N.V. ("CB&I") expects to file with the Securities and Exchange Commission ("SEC") a registration statement on Form S-4 that will include a joint proxy statement of The Shaw Group Inc. ("Shaw") and CB&I that also constitutes a prospectus of CB&I. CB&I and Shaw also plan to file other documents with the SEC regarding the proposed transaction. A definitive joint proxy statement/prospectus will be mailed to shareholders of Shaw and CB&I. INVESTORS AND SECURITY HOLDERS OF SHAW AND CB&I ARE URGED TO READ THE JOINT PROXY STATEMENT/PROSPECTUS (INCLUDING ANY AMENDMENTS OR SUPPLEMENTS THERETO) AND OTHER DOCUMENTS THAT WILL BE FILED WITH THE SEC CAREFULLY AND IN THEIR ENTIRETY WHEN THEY BECOME AVAILABLE BECAUSE THEY WILL CONTAIN IMPORTANT INFORMATION ABOUT THE PROPOSED TRANSACTION. Investors and shareholders will be able to obtain free copies of the joint proxy statement/prospectus and other relevant documents filed by CB&I and Shaw, once such documents are filed with the SEC, through the website maintained by the SEC at <http://www.sec.gov>. Copies of the documents filed with the SEC by CB&I will be available free of charge on CB&I's internet website at [www.cbi.com](http://www.cbi.com) under the tab "Investor Relations" and then under the tab "SEC Documents" or by contacting CB&I's Investor Relations Department at 832-513-1200. Copies of the documents filed with the SEC by Shaw will be available free of charge on Shaw's internet website at [www.Shawgrp.com](http://www.Shawgrp.com) under the tab "Investor Relations" and then under the tab "SEC Filings" or by contacting Shaw's Investor Relations Department at 225-987-7372.

### **Participants in the Solicitation**

CB&I, Shaw, and their respective directors and executive officers may be deemed to be participants in the solicitation of proxies from the shareholders of Shaw and CB&I in connection with the proposed transaction. Information about the directors and executive officers of Shaw is set forth in Shaw's proxy statement for its 2011 annual meeting of shareholders, which was filed with the SEC on December 15, 2011. Information about the directors and executive officers of CB&I is set forth in CB&I's proxy statement for its 2012 annual meeting of shareholders, which was filed with the SEC on March 22, 2012. Other information regarding the participants in the proxy solicitation and a description of their direct and indirect interests, by security holdings or otherwise, will be contained in the joint proxy statement/prospectus and other relevant materials to be filed with the SEC in connection with the proposed transaction if and when they become available.

### **Cautionary Statement Regarding Forward-Looking Statements**

This press release contains forward-looking statements and information about our current and future prospects and our operations and financial results, which are based on currently available information. Actual future results and financial performance could vary significantly from those anticipated in such statements. The forward looking statements include assumptions about our operations, such as cost controls and market conditions, and the proposed merger (including its benefits, results, effects and timing) that may not be realized. Risks and uncertainties related to the merger include, but are not limited to: the failure of the shareholders of CB&I or the shareholders of Shaw to approve the merger; the risk that the conditions to the closing of the merger are not satisfied; the risk that regulatory approvals required for the merger are not obtained or are obtained subject to conditions that are not anticipated; potential adverse reactions or changes to business relationships resulting from the announcement or completion of the merger; uncertainties as to the timing of the merger; competitive responses to the proposed merger; costs and difficulties related to the integration of Shaw's businesses and operations with CB&I's business and operations; the inability to obtain, or delays in obtaining,

cost savings and synergies from the merger; unexpected costs, charges or expenses resulting from the merger; litigation relating to the merger; the inability to retain key personnel; and any changes in general economic and/or industry specific conditions. Additional factors that could cause future results or events to differ from those we expect are those risks discussed under Item 1A "Risk Factors" in our Annual Report on Form 10-K for the fiscal year ended December 31, 2011, our Quarterly Reports on Form 10-Q for the quarters ended March 31, 2012, and June 30, 2012, and other reports filed with the Securities and Exchange Commission (SEC). Please read our "Risk Factors" and other cautionary statements contained in these filings.

We undertake no obligation to update or revise any forward-looking statements, whether as a result of new information, the occurrence of certain events or otherwise. As a result of these risks and others, actual results could vary significantly from those anticipated in this press release, and our financial condition and results of operations could be materially adversely affected.

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