ACCEPTED FOR PROCESSING - 2018 September 25 4:12 PM - SCPSC - 2017-207-E - Page 1 of 76

Summary of January 24 & 25, 2017

Gary C. Jones Site Visit and Meetings

The following provides the comments and observations by Gary C. Jones based on his construction site tour and meetings with SCANA/SCE&G senior management staff at the VCS Units 2 and 3 construction site on January 24 and 25, 2017.

1. There was a minor additional delay indicated during the past month in the projected Unit 2 completion date from January 23 to January 28, 2020. The Unit 3 completion date was unchanged from August 20, 2020. The primary critical path of Unit 2 shifted from the completion of the Shield Building to completion of concrete pours in the Containment. The improvements in the SB schedule appear to be a direct positive impact from the recently constituted High Impact Team (HIT) actions.
2. Several major construction activities were completed during this month, including:
    a. The setting of the first Unit 2 Steam Generator within the Containment,
    b. Completion of the repairs associated with the Unit 2 Shield Building concrete wall panel RC-01,
    c. Completion of the repairs to the Unit 2 Turbine Building First Bay,
    d. Installation of the 225-ton and 15-ton Turbine Building cranes in Unit 2 in preparation for setting the low pressure turbine lower casing,
    e. Placement of the concrete around the Main Steam/Feedwater weldment in the Unit 2 Shield Building,
    f. Setting of Unit 3 mechanical/floor module CA22 in the Auxiliary Building which is vital to permit backfilling against the Auxiliary Building, and
    g. The second and final Unit 3 Steam Generator has been shipped from Doosan in South Korea, and should be on-site in early February.
3. It was announced that the lead Fluor site executive, Jeff Hawkins (Vice President and Site Director), has been reassigned and his duties will be assumed by his deputy, John Shepherd. In addition, there will be additional management changes on the project which may involve individuals outside of the Fluor organization taking over key project roles. The details of these changes have not yet been finalized, but will be made very soon. The impact of these changes will be a primary focus during the next few months.
4. There was a lay-off of 193 craft personnel and there will be additional lay-offs through the end of February. These are primarily to address performance issues and are aimed at increasing productivity on the site. This will result in an overall reduction in the craft labor, but additional hiring is planned to bring the total back up to the December 2016 total of approximately 3600 by May 2017. Productivity still remains far below the targeted goals (0.6% per month vs. 3.0% per month target) and production is also

significantly below the target. Construction completion was reported at 25.7% for Unit 2 through the end of November and 30.9% overall for both units combined through the end of December.

5. A consultant, Vitale, conducted an on-site study and provided recommendations for improving site productivity. These include the banning of cell phones among the craft, defining shift start and quit times by a site whistle, measures to define and shorten lunch and break times and other such measures. The site is implementing these recommendations immediately.
6. SCE&G and ORS will not have access to the revised resource-loaded fully integrated project schedule until February 14 when Toshiba completes its financial assessment and announces its anticipated losses on the Vogtle and Summer projects. Auditors from Price Waterhouse Cooper and KPMG were on-site during the last month to provide Toshiba with their assessment of the project status and estimate to complete. It was stated that Toshiba will take a more direct and visible role in the Project with assigned site representatives to be in place before the February announcement.
7. The Dispute Resolution Board issued its decision on December 23, 2016 addressing the level of detail that will be provided to support the payment of the invoices for the milestone payments agreed upon last month. It appears that this will be a satisfactory approach; however, ORS Auditing should have its chance to make this determination in the coming weeks when it reviews the first 12 invoices submitted by Westinghouse and paid by SCE&G.
8. Several issues were identified during the Hot Functional Tests of the first Chinese AP1000 (Sanmen) that will require design changes on VCS. However, it does not appear that any of these will result in schedule delays or major cost impacts on VCS.
9. The NRC has provided satisfactory support to VCS thus far. However, the large volume of LARs and ITAAC submittals that will require NRC review and approval over the next two to three years is a cause for concern. Adequate NRC staff to support these reviews is essential for the successful completion of this project.

ACCEPTED FOR PROCESSING - 2018 September 25 4:12 PM - SCPSC - 2017-207-E - Page 2 of 76

G.J E-Mail.2015.Vol.2.001405

SCE&G VC Summer Units 2 & 3
October 27 & 28, 2015 ORS Site Visit Agenda
(Tuesday & Wednesday)

Cindy's fax (803) 933-7761 ***Shirley's fax (803) 933-7774***

I. Tuesday Site Tour @ 8:30 a.m.

SCANA

ORS

Allyn Powell, Gene Soult, Gaby Smith and Gary Jones

II. Construction Progress

a) Weekly Construction Metrics (*to include discussion of critical work fronts & status of project relative to the revised integrated schedule)*

i. *Discuss the apparent inconsistencies in the Unit 2 schedule in which the hydrotest and hot functionals are delayed 5 months and the fuel load is delayed 6 months, but the substantial completion is only delayed 3 months. (BLRA Milestone Tracking for September 2015).*

ii. *Discuss the apparent inconsistency in the Unit 3 schedule in which near term dates have slipped consistently for the past few months, but the substantial completion date has not changed. Note that the summary schedules indicate that Unit 3 AB/Containment activities are up to 6 months late. (WS of 2015-10-12, Summary Schedule)*

iii. *Discuss additional plans to improve the productivity of on-site construction labor. All areas continue to show productivity factors well above the stated goal of 1.15. Mitigation and improvement plans over the previous 6 months do not appear to have resulted in any significant improvement. (Commercial Review Meeting slides of 2015-09-17, Slides 9 – 15 and summary of the Construction Effectiveness and Efficiency program).*

iv. *Discuss the decline in the overall construction staffing from 3278 in June to 2485 in August and the impact on the schedule. (*Consortium 2015-09-17 MSMM, dated 2015-10-14, p. 79, Slide 134).

b) Unit 2 Nuclear Island

i. Discuss the schedule and status of completion of welding CA01 to the embedment plates. (Repeat from the September meeting).

ii. Provide the schedules for completing the remaining in-situ work on CA20, CA04 and CA05. (No specific reference).

ACCEPTED FOR PROCESSING - 2018 September 25 4:12 PM - SCPSC - 2017-207-E - Page 3 of 76

iii. Section III piping spools continue to be delivered late. At what point does this adversely impact the overall schedule and what mitigation measures are being pursued. (Consortium 2015-09-17 MSMM, dated 2015-10-14, p. 85, Slide 153).

c) Unit 2 Turbine Building

i. Discuss the schedule slippage in the TG concrete placement from 2015-11-18 to 2015-12-11 and potential mitigation measures or additional controls put in place. (WCM of 2015-10-12, p.22)

ii. Discuss the summary schedule that indicates that Condenser B is greater than 6 months behind schedule. (WS of 2015-10-12, Summary Schedule)

d) Unit 3 Nuclear Island, including the significant schedule slippages, especially of Line 1 from 2015-09-24 to 2015-12-30 and any mitigation and/or recovery activities. (WCM of 2015-10-12, p. 20).

e) Unit 3 Turbine Building

i. Discuss the extent and duration of the work suspension due to lack of labor forces. (WCM of 2015-10-12, p. 35).

ii. Discuss the overall plan to maintain sufficient resources to complete Unit TB. (No specific reference).

f) Cooling Towers

g) Raw Water System

h) Offsite Water System

i) Containment Vessels, *including the schedule for ring sets*

j) Shield Buildings

i. *Discuss the status and schedule of the NNI mitigation plan for accelerating delivery of the SB panels. (Repeat from previous meetings).*

ii. *Discuss the status and schedule for the SB roof fabrication. (Repeat from the September meeting).*

iii. *Clarify the status and schedule of the concrete placement in the first course of the SB panels (not clear from currently available information).*

iv. *Confirm that erection of course 2 of the SB panels has begun. (Consortium MSMM, p. 37, Slide 49 has it scheduled for 2015-10-10 and status on WCM is not clear).*

k) Onsite and offsite storage

i. Discuss the status of storage at the airport storage facility and the availability for an ORS visit. (Repeat from previous meetings)

l) Structural & mechanical modules fabrication and schedule (delivery schedules for all fabrication vendors; include a discussion of Unit 3)

ACCEPTED FOR PROCESSING - 2018 September 25 4:12 PM - SCPSC - 2017-207-E - Page 4 of 76

i. Discuss the mitigation plans for the critical U2/U3 mechanical modules. Schedules continue to be delayed. (Repeat from September meeting).

ii. Discuss the mitigation plan for the critical Greenberry mechanical and floor modules. (Repeat from September meeting). Also include a discussion of the actions taken to resolve issues identified in the 2015-09-10 facilities visit.

iii. Discuss the mitigation plan for the critical Dubose stair modules. (Repeat from September meeting).

iv. Confirm that the final sub-module kit from SMCI is due on site 2015-10-21 (Consortium 2015-09-17 MSMM, dated 2015-10-14, p. 50, Slide 76)

v. Discuss the module scope of work being performed by TANE. (Consortium 2015-09-17 MSMM, dated 2015-10-14, p. 34, Slide 44).

vi. Address the impact of and resolution schedule for the recently identified issue that piping weld locations did not account for pipe support locations. (WCM o 2015-10-12, p. 9).

vii. Discuss the Toshiba/IHI mitigation and schedule improvement plan on Unit 3 CA01 (Consortium 2015-09-17 MSMM, dated 2015-10-14, Item I.6, p. 1)

m) Annex Building

i. Discuss the schedule and constraints for the mudmat placement due 2015-11-18 and basement pour due 2016-01-21.(Consortium 2015-09-17 MSMM, dated 2015-10-14, p. 52, Slide 80).

III. Licensing and Permitting

a) NRC visits/reviews

b) License Amendment Requests (LARs) and Preliminary Amendment Requests (PARs)

i. Discuss the content of the supplement to LAR 111 submitted 2015-09-23 and the NRC reaction thus far. (WS of 2015-10-12, p. 31).

ii. Discuss the status of LAR 30 and the results of the pre-submittal meeting held on 2015-10-22. (WS of 2015-10-12, p. 31).

iii. Discuss licensing status/schedule of CAS. (Follow up from previous meetings). What is meant by the redaction and affidavit? (MPSR for September, Item 10, p. 24).

iv. Discuss the changes resulting from the assessment plan update for regulatory compliance completed on 2015-07-31. (QESC of 2015-08-31, Slide 8).

IV. Equipment

a) Doosan

i) Unit 3 Steam Generators

ii) Unit 3 Reactor Vessel

ACCEPTED FOR PROCESSING - 2018 September 25 4:12 PM - SCPSC - 2017-207-E - Page 5 of 76

b) IBF/Tioga
   i) Unit 3 Reactor Coolant Pump Loop Piping
c) Mangiarotti
   i) Unit 3 Pressurizer
   ii) Passive Residual Heat Removal (PRHR) Heat Exchangers (discuss the status and schedule of repairs)
d) Curtiss Wright/EMD - Reactor Coolant Pumps, *including the status of the root cause analysis on the pump impeller issue (repeat from July meeting). Is a new endurance test required?*
e) SPX Copes Vulcan – Squib Valves (to include status of EQ test)
f) Switchyard
   i) Discuss the testing program on the capacitors and the status of the on-going investigation and resolution
   ii) Discuss the delivery schedule for the Unit 3 Tx and whether there is an adverse impact due to bridge damage from the recent flooding. (POD of 2015-10-15, p. 23)

V. Engineering

a) Discuss the results of the WEC/CB&I Engineering interface workshop held in Charlotte on 09/15 and 09/16. (MPSR for September, Item 4, p. 12).
b) Explain the role and composition of the Design Change Implementation Board (DCIB) and identify when meetings are held. (MPSR for September, Item 10, p. 23).
c) Discuss the findings from the summary of design changes since April 30, 2015 which was requested by SCE&G that WEC compile. (Consortium 2015-09-17 MSMM, dated 2015-10-14, Item III, p. 3).
d) Discuss the results from the Vendor Summit. (Consortium 2015-09-17 MSMM, dated 2015-10-14, *tem IV,* p. 4).

VI. Financial/Commercial

a) Overall Status of Budget
b) Status of Change Orders
   iii) Executed Change Orders
   iv) Pending/Potential Change Order
      (1) COL delay, design of shield buildings, design of structural modules, and Unit 2 rock condition (CO #16) (Schedule impact, changes to LT storage, any financial impacts?)
      (2) Commercial Settlement – resolves multiple outstanding issues, no increase to EPC costs (CO #17)

ACCEPTED FOR PROCESSING - 2018 September 25 4:12 PM - SCPSC - 2017-207-E - Page 6 of 76

G.J.E-Mail 2015.Vol.2 001409

(3) AP1000 Cyber Security remaining work scope
(4) Impacts to Westinghouse of 2010 Health Care Act
(5) Site Layout Changes
(6) Active Notices

c) BLRA milestones

VII. Quality Assurance

a) Discuss significant results of the 10/12 – 10/15 CB&I surveillance of CB&I-LC (September Consortium MSR, Item 3, p. 5)
b) Discuss significant results of the 10/05- 10/08 CB&I surveillance of Cives (September Consortium MSR, Item 3, p. 6)
c) Discuss significant results of the 10/19 – 10/22 CB&I audit of AECON (September Consortium MSR, Item 3, p. 5)
d) Discuss significant results of the 10/05 – 10/08 CB&I surveillance of Gerdau (September Consortium MSR, Item 3, p. 6)
e) Discuss significant results of the 10/12 – 10/15 CB&I audit of Dubose. (September Consortium MSR, Item 3, p. 6).
f) Discuss significant results of the 09/28 – 10/01 CB&I surveillance of SMCI (September Consortium MSR, Item 3, p. 7)

VIII. Operational Readiness

a) *Discuss the status of the following programs which were to be back on schedule by the date indicated (SCE&G June MSR, p. 32):*
   i. *EMI/RFI by 8/6*
   ii. *Pumps by 8/10*
   iii. *Breakers by 7/31*
   iv. *Motor Reliability by 8/10*
   v. *Batteries, Chargers and Support Systems by 7/23*
b) *Discuss the status of the following programs that were to start by the indicated date (SCE&G June MSR, p. 34)*
   i. *ISI by 8/1*
   ii. *Electrical Cable Aging Management by 5/1/2013*
   iii. *Irradiated Fuel Inspection by 8/1*
c) *Discuss the status of the labeling program (QESC* of 2015-08-31, *Slide 23).*
d) *Discuss lessons learned from meeting with SNDPC and WANO on Haiyang startup test program.(QESC* of 2015-08-31, *Slide 22)*

ACCEPTED FOR PROCESSING - 2018 September 25 4:12 PM - SCPSC - 2017-207-E - Page 7 of 76

IX. Training

a) Discuss impact and mitigation plans for the training staff attrition (QESC of 2015-08-31, Slides 25 and 28).

ACCEPTED FOR PROCESSING - 2018 September 25 4:12 PM - SCPSC - 2017-207-E - Page 8 of 76

ACCEPTED FOR PROCESSING - 2018 September 25 4:12 PM - SCPSC - 2017-207-E - Page 9 of 76

SCE&G VC Summer Units 2 & 3
May 23-24, 2017 ORS Site Visit Agenda
(Tuesday - Wednesday)

I. Wednesday Site Tour @ 8:30 a.m.

SCANA: Shirley Johnson, Cindy Lanier, Caroline Whatley, William Hutson,

ORS: Allyn Powell, Gene Soult, Gary Jones, Kelvin Major, plus 1

(Tours — MAB – U3 CA 03, U3 - CA20; U2 Containment; NI area with significant piping installation underway or completed; Annex Building;

II. Contractor Briefings

a) Project Status and Interim Agreement issues during the Project Transition (Carl Churchman, and John Shepherd)

1. Provide overview of project status to include emerging issues, challenges, improvements, etc.
2. Please discuss the current month's performance factors and the Project's plan for accelerating the production to an overall rate that supports the targeted completion date. What is that production rate overall production compared to targets? (Repeated from previous meeting).
3. Please provide an update of the current on-site staffing and the revised plan for attaining full construction staffing levels. Include added or reduced staffing levels. Please identify the project management personnel changes and provide an Organization Chart, if applicable. (Repeated from previous meeting).
4. Discuss the status and schedule for the site-wide implementation of a second shift. (Repeated from previous meeting).
5. Please provide an update on the status of the inventory review program. (Repeated from previous meeting).
6. Please identify any additional process or programmatic changes introduced during the Interim Agreement transition period. (Repeated from previous meeting).
7. Discuss any impacts on hiring or on craft labor attrition during the Interim Agreement transition period. (Repeated from previous meeting).
8. Discuss the impact of the new site rules and the revised Roles and Responsibilities for foreman and general foreman that were rolled out at the end of March. Has any change in production or safety compliance been manifested? Repeated from previous meeting).
9. Please provide an update on the current and planned blanket POs. (Repeated from previous meeting).

Comment Key
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Red – Gary Jones
Green – Gene Soult

10. Discuss the metrics developed for the 8 construction performance improvement areas and the status of the improvement actions identified. (WEC 2017-04-20 MSMM, p. 1, Section III.).
11. Discuss the actions taken from the Vitale Report and quantify the benefits. (WEC 2017-04-20 MSMM, p. 3, Section III.).
12. Discuss the project actions taken to assure that proper PPE is provided to employees irrespective of the WEC budget constraints. (Discussion of Slide 9 during 2017-04-20 Monthly Project Meeting).
13. Schedule adherence seems to be declining rather than improving. Scheduled starts were at 44% and scheduled finishes were at 42% during the last reporting period. Please discuss what you see as the primary reasons for this continuing decline. (POD Summary dated 2017-05-11, p. 17).
14. Discuss the results/recommendations of the multi-organizational team investigation on concrete reinforcement and concrete substantial repairs. (WEC MSMM of 2017-04-20 meeting, p. 3).

b) Scheduling/Risk Management (Terry Elam, Kyle Young, Mark Hagen) – Please take us through the primary, secondary and tertiary critical paths on each unit highlighting any activities which are being artificially constrained.
   1. Please identify those non-critical path areas that you perceive as the most risk to the project schedule. (Repeated from previous meeting).

III. Construction Progress

a) Provide overview of project status to include emerging issues, challenges, improvements, etc.
   1. Discuss the role and status of the bulk electrical order and storage HIT team. (POD Summary of 2017-05-11, p. 73).
   2. Discuss the impact of the annual inspection of the Bigge derrick begun on 2017-05-16. (POD Summary of 2017-05-16, p. 56).
   3. Is Gerdau being replaced as the primary rebar vendor or is another vendor being brought on in addition to them? (SCE&G discussion of Slide 16 at 2017-04-20 Project Monthly Meeting).
   4. Are there actual instances of vendors coming to the site to recover their stock? Discuss how this is being addressed. (SCE&G discussion of Slide 16 at 2017-04-20 Project Monthly Meeting).

b) Weekly Construction Metrics (to include discussion of critical work fronts & status of project relative to the revised integrated schedule).

c) Unit 2 Nuclear Island
   1. Good progress was demonstrated by completing the Layer 8 & 9 West, Room 12271, Room 12272 and Floor 12306 pours. However, many NI wall pours continue to fail to meet

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ACCEPTED FOR PROCESSING - 2018 September 25 4:12 PM - SCPSC - 2017-207-E - Page 10 of 76

target dates. Please discuss additional mitigation and improvement activities that are underway. (Repeated from previous meeting).

2. Please discuss the status of the FW bellows. (Repeated from previous meeting).
3. The dates associated with the installation of the second U2 steam generator and the pressurizer continue to slip. Please discuss the reasons and any mitigation. (Repeated from previous meeting).
4. The

d) Unit 2 Turbine Building

1. Discuss the status and issues associated with the next major construction milestone in the Unit 2 TB (No specific reference). (Repeated from previous meeting).
2. Are the TB overhead cranes still on schedule for turnover for use on 2017-06-12? What are the potential impediments to meeting this goal? (POD Summary of 2017-05-11, p. 53).
3. Elaborate on the status and benefit of the Bay #1 mock-up. Why does this appear to be taking so long to implement? (No specific reference).
4. Several status summaries indicate the need for additional welders in order to maintain schedule. Is there any specific action being directed toward this? (No specific reference).

e) Unit 3 Nuclear Island

1. Concrete pour dates for walls and floors continue to slip. Please provide the recovery plan to maintain the schedule. Please note that status is available, but no plan to improve or recover has been made available. (Repeated from previous meeting).

f) Unit 3 Turbine Building

1. TB work still delayed due to lack of manpower? What is the date for resolving this issue? (Repeated from previous meeting).

g) Cooling Towers

h) Waste Water System

i) Offsite Water System – Please identify the system turnover date (Repeated from previous meetings).

j) Containment Vessels, including the schedule for ring sets

1. Discuss the reasons for the delay of the Unit 3 Ring # 2 to 2018-03-03 (POD Summary of 2017-05-11, p. 60) and the delay in authorizing the HVAC ductwork via CO #31 for Ring #2. (WCM dated 2017-05-15, p. 24).

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ACCEPTED FOR PROCESSING - 2018 September 25 4:12 PM - SCPSC - 2017-207-E - Page 11 of 76

2. Confirm Unit 2 CV Ring #3 set date is scheduled for 2015-06-09. (POD Summary of 2015-05-11, p. 37).

k) Shield Buildings
   1. Progress was demonstrated via the concrete placement of Unit 2 RC-04B. However, delays still persist in remaining U2 RC panels. These have continued to significantly slip for the last several few months and progress has been very slow. What additional actions are warranted? (Repeated from previous meeting).
   2. Has a final decision been made on whether the Vogtle split lift approach for SB panels is under consideration at VCS. (Repeated from last meeting).
   3. Is hydrolasing and repair of Unit 2 RC-01still scheduled to begin 2017-05-29? How does this impact the installation of other RC panels. (POD Summary of 2017-05-1, p. 24).

l) Onsite and offsite storage

m) Structural & mechanical modules fabrication and schedule (delivery schedules for all fabrication vendors; include a discussion of Unit 3)
   1. Discuss any new developments in the mitigation plans for the critical U2/U3 mechanical modules. Schedules continue to slip. Focus specifically on Unit 2 CA33, CA 35 and CA37. (Repeated from previous meeting).

n) Annex Building
   1. Discuss the grid grounding plan and the impact on the schedule for initialization. Why is this plan not yet finalized? (Repeated from previous meeting).
   2. Discuss the status of Unit 3 backfill and its impact on the Unit 3 Annex Building schedule. (WCM dated 2017-05-15, p. 36).

Misc.:
   1. Vendor Site Tours: None to be scheduled during the Interim Agreement period.
   2. What are your biggest challenges and/or concerns?

IV. Licensing and Permitting

a) Provide overview of project status to include emerging issues, challenges, improvements, etc.- discuss the status of the Special Nuclear Materials.
b) NRC visits/reviews – include the NRC inspection on concrete
c) License Amendment Requests (LARs) and Preliminary Amendment Requests (PARs)

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ACCEPTED FOR PROCESSING - 2018 September 25 4:12 PM - SCPSC - 2017-207-E - Page 12 of 76

1. Please address the status of LAR14-13 and WEC LARs 74, 93, 49, 129, and 140 at this and subsequent meetings until each is resolved. All these appear to be of concern to construction efforts. (Repeated from previous meeting).
2. Please discuss any other relevant LARs currently under review by the NRC.
3. Please summarize and discuss the status of recent LARs 17-06, 17-07 (WEC 66), 17-08 (WEC 10), 17-09 (WEC 133) and 17-10 (WEC 57). Also include LARs 17-11 (WEC 152), 17-12 (WEC 176) and 17-13 (WEC 169).

Misc.: What are your biggest challenges and/or concerns?

V. Equipment

a) Mangiarotti – Any changes to the delivery dates? (Repeated from previous meeting).
b) Curtiss Wright/EMD - Reactor Coolant Pumps – Any changes to the delivery dates?
c) SPX Copes Vulcan – Squib Valves - – Any changes to the delivery dates?

VI. Engineering

a) Provide overview of project status to include emerging issues, challenges, improvements, etc.
b) Discuss the domestic tornado missile effect draft DCP. (Repeated from Previous meeting).
c) Discuss the ADS vibration issue identified in China and its potential impact on VCS. Provide an update on the status of all design issues identified during the China HFT or subsequently. (Repeated from previous meeting).
d) Discuss changes to the engineering metrics to be presented at the Project Review Meetings. (Repeated from previous meeting).
e) Discuss the status/results of Engineering's review of the WEC escrow information. (Repeated from previous meeting).
f) Discuss any significant issues from the 2017-05-16 thru 2017-05-18 meeting with WEC in Cranberry on issue related to critical digital assets. (WCM dated 2017-05-15, p. 6).
g) Discuss the significant issues from the WEC technical audit of SPX Flow Tech. (WCM dated 2017-05-15, p. 5).
h) Discuss any significant issues from the WECTED Supplier Quality Committee meeting. (WCM dated 2017-05-15, p. 5).
i) Discuss the issues associated with the CA20 floor connection fixity analysis. (WCM dated 2017-05-15, p. 6).
j) Discuss the changes to the MES tower and related cyber security issues. (WCM dated 2017-05-15, p. 6).
k) Summarize the scope of and business case for the electrical One-Line drawings. (WCM dated 2017-05-15, p. 6).
l)

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ACCEPTED FOR PROCESSING - 2018 September 25 4:12 PM - SCPSC - 2017-207-E - Page 13 of 76

ACCEPTED FOR PROCESSING - 2018 September 25 4:12 PM - SCPSC - 2017-207-E - Page 14 of 76

Misc.: What are your biggest challenges and/or concerns?

VII. Procurement Quality (Brad/Billy Campbell)

VIII. Financial/Commercial

a) Provide overview of project status to include emerging issues, challenges, improvements, etc.

b) BLRA Milestones – Report dated 2017-02-27 still has old dates – when will these be updated?

c) Overall Status of Budget

d) Status of Change Orders/New Notices. What path will the Company take to resolve the below items under the Bankruptcy filing?

   i. Roof warranties (2 years vs. 25 years)
   ii. High mast lighting to comply with a rule published in March 2009
   iii. RMS portal monitoring and whole body counters
   iv. Impacts from Hurricane Matthew
   v. SES integration
   vi. Site Layout Phase 3
   vii. Service Building credit
   viii. Exhibit C issues (5 remaining)

e) Update the status of liens and any changes to SCE&G's approach to this issue.

f) Discuss the results of the verification of source code review performed in April.

Misc.: What are your biggest challenges and/or concerns?

IX. Quality Assurance

a) Provide overview of project status to include emerging issues, challenges, improvements, etc.

b) Provide an update on the status of the closeout of the preventive maintenance/storage issues. (Repeated from previous meetings).

c) Provide an update on the Nelson QA Program issues. (Repeated from previous meeting).

Misc.: What are your biggest challenges and/or concerns?

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ACCEPTED FOR PROCESSING - 2018 September 25 4:12 PM - SCPSC - 2017-207-E - Page 15 of 76

C. Dukes Scott
Executive Director

STATE OF SOUTH CAROLINA
OFFICE OF REGULATORY STAFF

1401 Main Street
Suite 850
Columbia, SC 29201

December 29, 2016

Mr. Kevin Marsh
Chairman and Chief Executive Officer
SCANA Corporation
220 Operation Way
Mail Code: D302
Cayce, SC 29033-3701

Re: SCE&G Petition for Updates and Revisions to Schedules Related to the Construction of a Nuclear Base Load Generation Facility at Jenkinsville, South Carolina - Docket No. 2016-223-E.

Dear Mr. Marsh,

I am writing to follow up on the production by SCE&G to ORS of the revised fully resource-loaded integrated project schedule ("Revised Project Schedule") and related information that is the result of the comprehensive review conducted earlier this year by Fluor after it was brought into the V.C. Summer project. ORS requested the production of this Revised Project Schedule early last spring and again during our review of SCE&G's application in Docket No. 2016-223-E. Although we were told initially that the Revised Project Schedule would be available to Westinghouse in the 3rd quarter of 2016[1], it was not.

Our interest in seeing the Revised Project Schedule has been intensified by recent events. ORS has been closely following news in financial publications regarding Toshiba Corporation ("Toshiba"), the parent company of Westinghouse Electric Company, LLC ("Westinghouse") which holds the Engineering, Procurement and Construction contract ("EPC Contract") for V.C. Summer Units 2 & 3 ("the Units" or "the Summer Project"). ORS is deeply concerned regarding statements in Toshiba's December 27, 2016 press release that indicate it is facing massive losses relating to the nuclear operations of Westinghouse[2].

ORS has had ongoing concerns regarding the project schedule since it was informed last spring that Fluor and Westinghouse were undertaking an effort to produce a revised fully resource-loaded Revised Project Schedule using Fluor's construction metrics. Now that Toshiba has announced significant

[1] In response to Question 1-33 of ORS's AIR dated March 4, 2015 regarding the October 2015 Amendment to the EPC Contract, SCE&G indicated that the target schedule for the completion of Fluor's Assessment and recommendations for changes to the schedule was the 3rd quarter of 2016.

[2] In particular, ORS is concerned regarding the statement that reads: "Currently, as the timing reaches the deadline (December 31, 2016) for the procedure, the possibility has been found that the goodwill will reach a level of several 100 billion yen or several billion US dollars, resulting in a negative impact on Toshiba's financial results, as a result of impairment of all or part of the goodwill."

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ACCEPTED FOR PROCESSING - 2018 September 25 4:12 PM - SCPSC - 2017-207-E - Page 16 of 76

charges to be written off against the Westinghouse nuclear operations, ORS's concerns about the status of the Summer Project are renewed and increased. These developments call into question the ability of Toshiba to stand behind the additional losses that may need to be incurred to complete the Units.

ORS has no direct authority over Westinghouse or Toshiba to compel the production of information relating to the Revised Project Schedule. However, ORS does have a relationship with SCE&G and has been promised by SCE&G that it will provide the Revised Project Schedule to ORS. The time has come for SCE&G to insist that Westinghouse produce the Revised Project Schedule, including Fluor's input, to SCE&G so that SCE&G can provide it to ORS. As reflected in paragraph 10 of the settlement agreement in Docket 2016-223-E, the Revised Project Schedule is critical to the preparation by SCE&G of revised milestones that are intended to guide the completion of the Units and to provide ORS a way of monitoring the progress of the project. It is imperative that ORS be provided with the Revised Project Schedule so that we can do our job in monitoring the project.

ORS believes that the only major project activity that could have resulted in Toshiba's announcement is Westinghouse's analysis of Fluor's input to the Revised Project Schedule. We are aware that Fluor's input has already been developed and reviewed by Westinghouse on-site management and we have been told that the Revised Project Schedule is currently under review by Westinghouse corporate management. During our December meetings with project personnel, ORS was informed that the Revised Project Schedule would not be available until at least late January or February 2017. In view of recent developments, this delay is unacceptable. Both SCE&G and ORS deserve to understand the schedule and budget risks identified by Fluor's review and the potential impacts these may have on the project. It is difficult for ORS to do our job, and for SCE&G to do its due diligence as an Owner, without timely access to this critical information regarding budget and schedule risks. We can no longer wait to learn the potential impacts of this Revised Project Schedule, and we need to be privy to the information developed by Fluor without the refinements and proposed mitigations that may result from Westinghouse corporate review.

Therefore, we ask that SCE&G request from Westinghouse the input provided by Fluor regarding the Revised Project Schedule immediately, including input regarding unit rates and labor man hours, and initiate all necessary actions to ensure that ORS is provided with this input by January 10, 2017. As soon as the entire Revised Project Schedule, including Westinghouse's input, is available, ORS requests that it be provided as well. This request is made pursuant to S.C. Code Ann. § 58-27-40, which requires each electrical utility to obey and comply with all requirements of every direction prescribed by the ORS in relation to any matter relating to or affecting the business of the electrical utility.

Sincerely,

C. Dukes Scott
Executive Director

From: Gary Jones
Sent: Saturday, October 8, 2016 1:48 PM
To: Powell, Allyn; Soult, Gene
Subject: Problem with VCS ITAAC Submittal
Attachments: ITAAC Issue July 2016.pdf

Allyn/Gene,

Have either of you heard of the ITAAC submittal problem discussed in this article from the September issue of Nuclear News? If not, I don't understand why SCE&G did not bring this to our attention and I think we should discuss it with them.

Gary C. Jones
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ACCEPTED FOR PROCESSING - 2018 September 25 4:12 PM - SCPSC - 2017-207-E - Page 17 of 76

ACCEPTED FOR PROCESSING - 2018 September 25 4:12 PM - SCPSC - 2017-207-E - Page 18 of 76

Continued from page 16

CONSTRUCTION

Summer-2 and -3 ITAAC needs more information

Westinghouse Electric Company's AP1000 pressurized water reactor has a certified standard design, and although AP1000 customers have sought many amendments to the design, they have asked for the same ones, partly as a result of their cooperation in an owners' group. Progress on Summer-2 and -3 in South Carolina and Vogtle-3 and -4 in Georgia has been almost identical, with completion dates at both sites currently set for 2019 and 2020. It was unusual, therefore, that in July, the Nuclear Regulatory Commission requested more information from Summer's owner on its submittal of an inspections, tests, analyses, and acceptance criteria (ITAAC) closure notification, when it had already verified the closure of the same ITAAC for Vogtle based on its owner's submittal.

The ITAAC is for verification that any algorithms, logic, program architecture, executable operating systems, and executable software/logic in the Diverse Actuation System (DAS) will be different from those items in the Protection and Safety

Focus on Finance

by Linda C. Byus

Market uncertainty

The tumultuous summer of 2016 resulted in attractive returns for utility equity investors. Economic, political, and social unrest in the United States and around the world drove financial market volatility. The June 23 vote by the United Kingdom to leave the European Union—known as Brexit—shocked world economies, including that of the United States. The upcoming U.S. presidential election has created financial policy uncertainty. Terrorist attacks in the United States and abroad contribute to the perception of global risk. Amid all the uncertainty, investors have been buying utility stocks. Why has the utility sector performed so well year-to-date, and what does the future hold?

The outcome of the United Kingdom's vote to leave the EU sent shockwaves through world financial markets on June 24, and the market reaction carried over into trading on June 27. While the United States is not a member of the EU, and trade between the United Kingdom and the United States makes up only about 0.5 percent of U.S. economic activity, the U.S. stock market participated in the equity market selloff. This, however, was a reaction to the drop in world markets rather than a specific reaction to Brexit. Over the two days of trading, June 24 and June 27, the S&P 500 dropped more than 5 percent, with other major indexes experiencing similar losses. But the S&P 500 utilities sector rose 1.4 percent over those two days.

Those working in the utility industry are well aware of the spectrum of challenges facing individual companies, specifically regulatory and environmental uncertainty. But the financial markets are focused on the big picture. Utilities have maintained their identity as low-risk investments with a relatively high yield. As a regulated industry that provides an essential service, earnings and cash flow are fairly predictable. In addition, utilities continue to provide an attractive yield. Low interest rates provide a boost to the value of utility stocks. Utilities are capital intensive, and low interest rates result in a lower cost of capital for utilities accessing the capital markets. As of July 29, the yield on the S&P utilities was 3.08 percent, compared to the 1.46 percent yield on 10-year U.S. Treasury bonds.

The U.S. stock market rebounded sharply after the Brexit selloff and has regained the lost value, and more. At the same time, the utilities have retained their value and continue to outperform the market. At the end of July, the S&P 500 was up 7.6 percent year-to-date as compared to the S&P utilities, which are up 22.56 percent for the same time period.

Since the U.S. presidential election campaign is a process rather than an event, the market impact of the upcoming November election is as yet unknown. Candidate Clinton offers a continuation of current financial policy; Candidate Trump promises change to create economic growth, including a cut in tax rates. With regard to energy policy, Clinton supports renewables, while Trump believes generation should include an "all-of-the-above" approach. Trump supports renewable energy sources, but he would be friendlier to both fossil fuel and nuclear generation than his opponent. Overall, the election creates financial uncertainty, and Trump's lack of experience and lack of a track record escalate the level of uncertainty.

The occurrence of international terrorist attacks, especially in large cities, could disrupt financial markets in the short run, but the major impact of such attacks on investors is uncertainty and a sense that events are not within our control. Political unrest, such as the failed coup in Turkey, could cause a shift in political allies, with significant trade implications longer term. Any political disruption in oil-producing nations could have economic implications in the United States, as well as a direct impact on energy companies.

The ultimate impact of the United Kingdom's separation from the EU is expected to take years, but the participants are determined to make the process efficient and structured in order to avoid economic and political disruption. The dramatic financial reaction to the vote in June illustrated the fragility of economic markets. While the markets fully recovered from that initial reaction, as the process goes on, more volatility can be expected. The uncertainty of the presidential election will be resolved in early November, but a Trump victory would not likely lead to economic stability. The level of international political risk is a reality the financial markets will continue to deal with.

Utility investors have benefited from the uncertainty of the financial markets and the view of utility stocks as a safe investment with an attractive yield. But the run-up in utility stock prices as a defensive play may not have recognized the challenges facing the industry, especially regulation and market structure issues. At current valuation levels, the utility industry does not offer fundamental investment value based on sales growth prospects or innovation. Interest rates are at record lows, and the eventual increase in rates will hurt the valuation of utility stocks. The outlook for financial markets in the United States includes a high level of uncertainty. While utility investments are viewed as a safe haven, there is significant downside risk going forward. **FoF**

Linda C. Byus (<LCByus@aol.com>) is a Chartered Financial Analyst and currently runs her own business, BYI Consulting, established in 2004. As a consultant, she provides feedback to utilities' senior management regarding industry trends and investor concerns as a basis for their strategic discussions and planning.

ACCEPTED FOR PROCESSING - 2018 September 25 4:12 PM - SCPSC - 2017-207-E - Page 19 of 76

Monitoring System (PMS). The purpose of this difference is to achieve software diversity. Southern Nuclear Operating Company's submittal for Vogtle, dated May 31, contained more than twice as much text on the differences between DAS and PMS components as South Carolina Electric & Gas Company's (SCE&G) submittal for Summer, dated May 3.

In its July 15 letter to SCE&G, the NRC cited a few examples of the information it still needed: details on the logic gate structures of the DAS and the component interface module (CIM), specific differences in field programmable gate array technology between the DAS and the CIM, and executable logic differences in gate structure and hardware description language between the DAS and the CIM.

An SCE&G spokesperson told *Nuclear News* that the level of detail in its ITAAC closure notice was based on information provided in the NRC's Regulatory Guide 1.215 and the Nuclear Energy Institute's document 08-01, and that the closure notice will be resubmitted with the additional detail requested by the NRC.

Whether Southern Nuclear had been consulted before, or would be now, through the AP1000 owners' group was not stated. Installation and testing of the DAS and PMS have not yet been done at either Summer reactor, but the extra work needed to verify the closure of the ITAAC was not likely to affect the overall schedule of the construction project.

SMALL MODULAR REACTORS

Preferred site chosen for first NuScale project

Utah Associated Municipal Power Systems (UAMPS) announced on August 9 that it has chosen a parcel of land on the property of Idaho National Laboratory as its preferred site for the licensing and construction of a power plant based on the NuScale Power Module, the small modular reactor design under development by NuScale Power. While UAMPS had been considering four locations at INL, the preferred site is described as 35 acres to the south of the intersection of U.S. Routes 20 and 26, about 35 miles west of Idaho Falls.

Many regulatory reviews still remain to be conducted, along with a great deal of work, before UAMPS and its partners (including Energy Northwest, the proposed plant's operator) can build the plant, which would include 12 of the 50-MWe (gross) integral pressurized water reactor modules within a single nuclear island. UAMPS plans to apply to the Nuclear Regulatory Commission for licensing in early 2018, according to the most recent reports.

NuScale Power expects to apply to the NRC for design certification by the end of this year, and the agency might be ready to conduct technical reviews by then. The NRC has been issuing sections of its final design-specific review standard (DSRS) for the NuScale Power Module. From early July to early August, sections were issued for some or all of chapters 3, 5, 6, 7, 11, 14, and 15 of the DSRS. These go with the earlier releases in chapters 4, 8, 9, 10, 12, and 16. There will be at least 20 chapters, mostly following on the agency's standard review plan categories and adding a chapter on post-Fukushima issues.

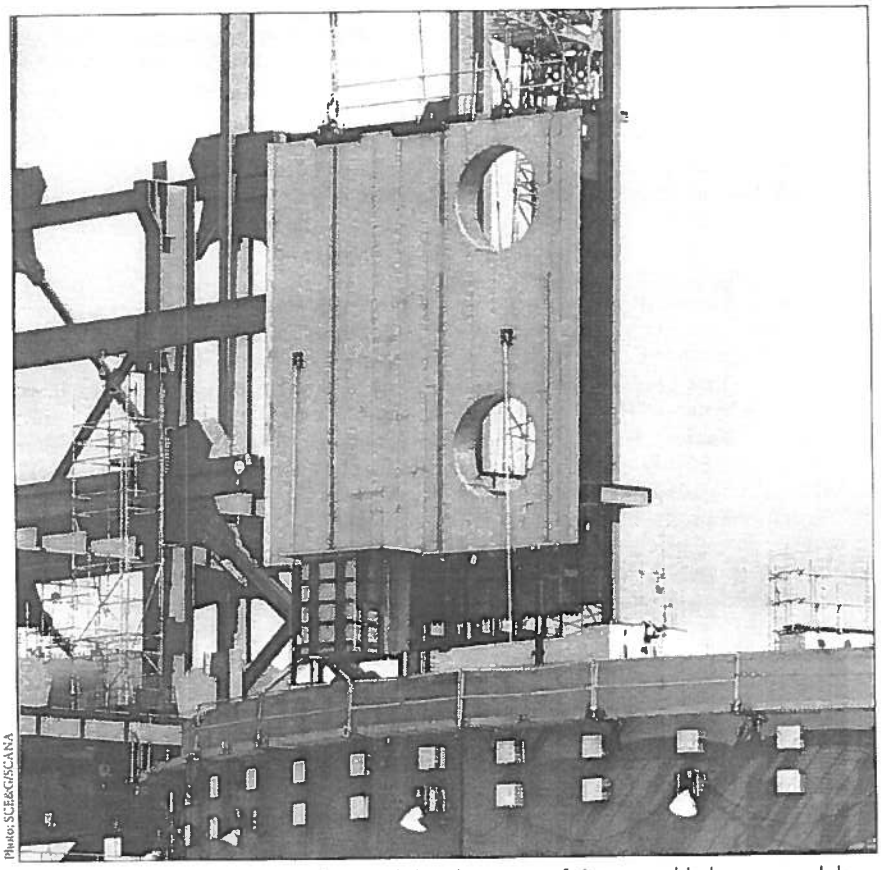


Photo: SCE&G/SCANA

Recent work on Summer-2 has included the placement of site-assembled super-modules in the containment vessel. The last of six lifts, for the CA02 super-module (shown above), was completed on August 5.

PLANNING

Georgia PSC allows new-site spending

In the course of approving Georgia Power Company's most recent revised integrated resource plan, the Georgia Public Service Commission (PSC) on July 28 also approved the company's request to be allowed to incur up to $99 million in costs through mid-2019 on site suitability and license application development work for a proposed nuclear power plant in Stewart County. Georgia Power's parent company, Southern Company, has been exploring the possibility of a new plant, in addition to the new reactors being built at the Vogtle site in Georgia, and has indicated to the Nuclear Regulatory Commission that a license application might be submitted within the next few years.

Stewart County is on the western edge of Georgia, on the border with Alabama, and south of the city of Columbus. A site there would actually be closer to Southern's Alabama nuclear site, the two-unit Farley plant, than it would be to either of Southern's Georgia nuclear sites, Vogtle and Hatch. In its previous public statements on the possibility of a nuclear project in Stewart County, Southern indicated that it would likely be at a greenfield site and could include two Westinghouse AP1000 pressurized water reactors, like the two being built at Vogtle.

The Georgia PSC approved the Stewart County study costs by a 4–1 vote. Dissenting was Commissioner Lauren "Bubba" McDonald, who issued a statement calling for such costs to be assumed by the company and not passed along to ratepayers. He also cited two unresolved issues for the Stewart County project: water withdrawal from the Chattahoochee River, and the lack of a national disposal site for high-level nuclear waste. NN

ACCEPTED FOR PROCESSING - 2018 September 25 4:12 PM - SCPSC - 2017-207-E - Page 20 of 76

Summary of July 26 – 28, 2016 VCS 2 & 3

Site Visit and Recommendations

The following provides a summary of Gary C. Jones's observations and comments regarding the July 26 - 28, 2016 site visit to the VCS 2 & 3 construction site. It also addresses issues and recommendations associated with the SCANA/SCE&G filing under Docket Number 2016-223-E for changes to the cost and completion schedules.

Observations and Comments

1. Construction progress was significantly more evident during this visit than last month. The Unit 2 Module CA03 has been set inside the containment. This was a very precise setting that appears to have been well executed. This leaves only the CA02 module as the sole remaining major structural module to be installed in Unit 2. In addition, readily discernible progress was seen in the Unit 2 Annex Building and the Unit 2 Turbine Building. There are now completed and in-progress walls in the Annex Building whereas only the basemat was completed last month. The top section of structural steel in the Turbine Building also has progressed well.
2. Very informative briefings were held with Carl Churchman (Westinghouse Site Project Director) and Jeff Hawkins (Fluor Site Lead). They provided their views on the status and improvements underway on site industrial safety, the nuclear safety culture among the workforce, procurement, the project schedule, labor productivity and staffing, module fabrication and installation, field engineering and other aspects of the construction of the plant. Each voiced their deep commitment to completing the project and recognized the challenges that must be overcome to meet the project schedule.
3. An additional special briefing was held with Dan Magnarelli (Westinghouse) who heads up the Functional Area Assessments, and Rob Carlon and Mike Valore (Fluor) who are also working in this area. The status of the reviews and implementation of the recommended actions were determined to be much more advanced than we had previously thought. Our briefing concentrated on the procurement area and we were pleased to learn the minimum/maximum program on construction commodities was being implemented in several areas which should result in decreased construction delays due to material unavailability. An extensive inventory of on-site commodities and an assessment of their construction readiness are also well underway. We agreed to pursue the areas or

ACCEPTED FOR PROCESSING - 2018 September 25 4:12 PM - SCPSC - 2017-207-E - Page 21 of 76

quality control, welding/NDE, field engineering and subcontracting at future meetings.

4. A third special briefing was held at the end of our visit on Wednesday with Ron Jones, Byron Hinson and Jeff Archie. ORS provided a candid assessment of our concerns, especially with regard to schedule performance and the bases for their cost increases in the current filing. SCANA/SCE&G stated their appreciation of our comments and agreed that these briefings should continue.
5. Craft labor productivity still continues to be an issue on the project. The target direct craft labor performance factors are still not being met and the overall productivity is still falling significantly short of the goals set by Westinghouse and Fluor earlier this year. Monthly production for June was to be at approximately 1.25% completed during the month and the actual value was 0.6%. The project construction was scheduled to be at about 25% complete by the end of June and it was actually at about 22% complete. This remains a very serious issue.
6. Craft staffing also continues to be problematic. Flour was scheduled to have added about 1000 craft to the project as of the end of June and the net increase has only been about 700. Attrition of the existing staff and the inability to attract qualified craftsmen, especially welders, is continuing to hamper the effort to increase the workforce.
7. The project faces several significant challenges within the next month. The project performance in meeting these challenges will be a key indicator of future performance. These challenges include the concrete placement in Unit 2 RC-01 and RC-02 (reinforced concrete portions of the Shield Building), setting Unit 2 module CA02, the concrete placement of Layers 6 East in the Unit 2 containment and the setting of Unit 3 CA20 (Subassemblies 1&2). If these activities all occur at or near schedule, it would be a significant indicator that the project has turned the corner on productivity and schedule adherence.
8. It was somewhat distressing to learn that the fabrication of the sub-modules for Unit 3 CA03 is to remain with CB&I-Lake Charles. Although the logic (material availability, primarily) for this decision appears to be sound, the past performance of CB&I-LC does not inspire confidence.
9. The project performance in all areas other than civil-structural still has not been demonstrated and remains a concern. As previously stated, these areas have been the most difficult in past projects and sustained performance is still an important issue for project success.
10. The submittal and processing of Licensing Amendment Requests (LARs) will need to double from 4 or 5 per month to 8 to 10 per month over the next several months in order to support construction. This presents another major challenge for the project.

ACCEPTED FOR PROCESSING - 2018 September 25 4:12 PM - SCPSC - 2017-207-E - Page 22 of 76

Additional Issues Associated with the Filing

The issues identified in my summary to you last month still remain valid. However, the following updates apply:

1. The justifications and bases of the change orders to the EPC identified by SCE&G remain inadequate, and in at least one case have deteriorated. Subsequent documentation submitted to justify the cost of the third floor addition to the Service Building indicates that SCE&G's current plan is to descope the entire Service Building from the EPC contract and assume this responsibility on their own. This not only brings into question the validity of the third floor addition estimate, but now means that the entire cost of the Service Building would be transferred from the EPC contract to the Owner's Cost. No currently valid cost estimates exist for this option.
2. Agreement between Westinghouse and SCE&G has still not been reached on the revised milestone payment schedule. However, we were informed that the July transition payment of $100 million will be the last such payment and if agreement was not reached by August 1, the issue would be referred to the Dispute Resolution Board.

Recommendations

The recommendations provided in my June summary remain valid. I recommend that a settlement agreement be negotiated based on the previously defined options. My only addition is that based on the above described issue with the Service Building, I recommend that this cost be withdrawn from the submittal unless a better defined and correctly allocated basis can be provided by SCE&G.

ACCEPTED FOR PROCESSING - 2018 September 25 4:12 PM - SCPSC - 2017-207-E - Page 23 of 76

Summary of June 2016 VCS 2 & 3Site Visit and Recommendations

The following provides a summary of Gary C. Jones's observations and comments regarding the June 21, 2 and 23, 2016 site visit to the VCS 2 & 3 construction site. It also addresses issues and recommendations associated with the recent SCANA/SCE&G filing under Docket Number 2016-223-E for changes to the cost and completion schedules and the contract structure for the VCS nuclear power plant units 2 and 3.

Observations and Comments

1) Westinghouse and Fluor continue to struggle with craft labor productivity. While a slight improvement was shown during the first three months of Fluor's tenure on site, the most recent two months have trended negatively, with a performance factor now hovering around 2.0, meaning only about half the work is being done for the labor hours expended. The project has never attained the revised 1.15 performance factor that was the basis of the approval of Order Number 2015-661. Fluor's efforts to implement process changes through their Functional Area Assessments and subsequent improvement recommendations appear to be a step in the right direction; however, the efforts and the implementation of the improvements are moving much too slowly. This effort needs to accelerate dramatically if the project is to meet its scheduled completion dates.
2) Fluor's recruitment efforts to increase craft labor are not meeting the required targets, and the year-end goal of increasing on-site craft labor by 1000 is in jeopardy. Fewer numbers than needed are applying, rejection rates are higher than expected due to lack of qualifications, failed background checks, no-shows and other reasons and candidates are taking other jobs they consider more attractive. In addition, the attrition rate among existing craft employees is higher than expected, primarily due to termination due to continued absenteeism and resignations for other employment. This shortage of needed labor also places the completion dates in jeopardy.
3) Although not yet reflected in the latest project progress reports, SCE&G is concerned about the recent upturn in job related injuries and incidents. In some instances, this appears to be the result of a declining safety culture attitude among the craft workers and discontent and disillusionment with the new project management structure and the divisions of responsibility. This issue has the very

real possibility of resulting in a work stoppage, either by the NRC, the craft or the project management, and needs to be immediately addressed and resolved.

4) Unavailability of key commodities continues to plague the project and result in construction work delays. Note that this is not tied to major components, as most of these are now on-site far ahead of their actual construction need date. The commodities in question are rebar, welding rod, standard structural steel, bolting, lubricants, steel plates, Nelson studs and other standard construction commodities. These shortages appear to be the result of Westinghouse's so-called "just-in-time" approach to ordering and delivery of these commodities. This has proven to be an ineffective approach as the components are not available when required. In my experience, such commodities are routinely stocked in sufficient quantity to ensure they do not delay construction, and I can definitely state that I have never worked on a nuclear project that was delayed by standard rebar availability. This has not been the case at VCS, where standard rebar unavailability has resulted in multiple construction delays of critical path activities.
5) Other procurement issues, primarily associated with the negotiation of subcontracts and change orders are becoming critical. Despite the fact that ten issues requiring change orders were identified in Exhibit C the October 2015 Agreement, SCE&G and Westinghouse have been able to reach agreement on only a handful of these in the intervening eight months and these resolutions were recently. In addition, delays in the full authorization of several key subcontracts are putting the completion dates of the project in doubt.
6) Lack of schedule performance continues be a significant issue on the project. Even short term goals are seldom met on schedule. For example, of the nine 1Q2016 goals set at the end of 2015 and tracked in the Plan of the Day meeting, only three were met within a week of their target date and two were not met within the designated first quarter. A similar pattern appears with the ten 2Q2016 goals, with no goals being met within a week of their target date, two met within the second quarter and three more that appear will be met within the second quarter and five that will not be met during the second quarter. This despite daily management focus and attention. This is an area that must improve if any credibility is to be assigned to the interim completion dates and mitigation strategies that must be implemented in order to meet the plant completion.
7) Module fabrication and delivery continue to determine the critical paths on the project, although the focus is gradually shifting from structural modules to mechanical modules and structural steel modules in the nuclear island. In addition, the transition areas at the Shield Building to Auxiliary Building roof and the air inlet/tension ring areas of the upper Shield Building are becoming increasingly important. Contracts need to be finalized and fabrication releases need to be expeditiously forthcoming.

ACCEPTED FOR PROCESSING - 2018 September 25 4:12 PM - SCPSC - 2017-207-E - Page 24 of 76

ACCEPTED FOR PROCESSING - 2018 September 25 4:12 PM - SCPSC - 2017-207-E - Page 25 of 76

8) Concerns about piping erection, cable raceway installation and cable pulling, instrumentation and tubing installation, HVAC equipment and ductwork installation, and wiring and termination remain to be addressed. Historically, these have been the most difficult areas in completing the construction of nuclear power plants; however, very little of this effort has been completed on VCS. The module construction may prove beneficial in these areas, but that remains to be proven at VCS. Sustained installation rates will need to be demonstrated before these areas can be considered ameliorated.
9) Design changes continue to adversely impact fabrication and construction schedules. The number of changes appears to be high considering the purported design completion status. The causes of these changes need to be further investigated and additional management controls need to be established with the goal of reducing these changes to only those that are absolutely required.
10) Operational readiness is developing as a major concern. It is not at all clear at this point whether the requisite number of operations staff will be ready to perform the required testing and start-up support activities that will be required. The operational readiness schedule has not yet been incorporated into the integrated project schedule, so the true impact is not yet known. In addition, questions remain regarding the availability of the final Plant Reference Simulator in time for operator training. Testing and operations procedure completion are also in question.

Issues Associated with Filing

Currently, the information provided in the original filing and responses to ORS AIRs have not provided sufficient information to form an opinion on the acceptability of the schedule and budget changes requested by SCE&G. It may be that the additional information provided in SCE&G's upcoming testimony due on July 1, 2016 will provide sufficient justification for these changes, but I believe there may need to be additional stipulations in order to ensure the ORS can recommend approval of these changes by the PSC. Outlined below are my concerns.

1) It is readily apparent that the departure of CB&I from the project was necessary and prudent. CB&I's relationship with Westinghouse had deteriorated into an adversarial and contentious conflict, they were losing money and they wanted out. Their exit is a positive step for the project. Similarly, Fluor's addition is a positive step, although it would have ideally been as a full member of the consortium, rather than a sub-contractor to Westinghouse. However, it is easy to understand Fluor's potential reluctance to step into that role considering the status of the project. The transition to and successful implementation of these project management changes remain a concern.

ACCEPTED FOR PROCESSING - 2018 September 25 4:12 PM - SCPSC - 2017-207-E - Page 26 of 76

2) The revised terms negotiated by Westinghouse and SCE&G including the increased liquidated damages, expanded warranty coverage, more specific definition of the change-in-law provision, inclusion of Revision 19 of the DCD, implementation of the dispute resolution board, elimination of calendar-based payments and their replacement by specific project milestone payments and positive incentives for performance are all generally considered improvements and advancements, although the associated costs are still not adequately justified.
3) I have no confidence that the stated completion schedules will be met. In the case of Unit 2, I still believe that the schedule can be met within the 18 month window allowed by the PSC, and that the unit can qualify for the Federal Production Tax Credits that expire on December 31, 2020. However, this will require implementation of many of the recommendations I outline below in order to ensure this extended completion date is met. For Unit 3, my confidence level is much lower for meeting the 18 month window and I have no confidence that the December 31, 2020 Production Tax Credit deadline will be achieved. My reasons for this skepticism can be deduced from the lack of performance in multiple areas cited in the preceding section. In addition, Fluor has not completed their schedule assessment and has not prepared a resourced integrated project schedule. This makes the validity of the current schedule highly suspect and premature in my opinion. I believe that SCE&G should have delayed their filing until Fluor had completed their assessment, which is due in the third quarter of this year.
4) I have no confidence that the budget cited by SCE&G in their filing represents the final costs of the project, and neither do they as stated in their filing. Changes have already been identified and change orders beyond those cited in Exhibit C of the October 2015 Agreement are already in progress. I also cannot yet justify these costs. If the upcoming testimony by SCE&G does not provide significant clarification, additional information from SCE&G will need to be provided. It is possible that some of these cost increases will not be recommended for approval.
5) It is not apparent that the so-called "fixed-price option" presented in the filing represents the best value for SCE&G or the South Carolina rate payers. Insufficient justification for the premium associated with exercising this option has been provided by SCE&G. In addition, the loss of control associated with accepting a fixed price contract is not in the best interest of the project. SCE&G has already experienced this through the change in the level of detail that Westinghouse is willing to provide in change orders. There is much less detail in the fixed price change orders that Westinghouse has submitted, and they have been unwilling to provide a sufficient basis for their costs. Westinghouse is maintaining that such detail is not required for fixed price changes. Ultimately,

SCE&G will have very little leverage over Westinghouse to affect day-to-day changes and to guide the direction of the project. Their only recourse will come at the end of the project when it will be too late.

6) Westinghouse and SCE&G have not been able to agree on a milestone payment schedule after five months of negotiation. This has resulted in SCE&G making an additional $100 million payment (the sixth payment) to Westinghouse and will probably result in a seventh $100 million payment in July. This issue needs to be resolved because making unsubstantiated payments needs to end.

Recommendations

1) SCE&G needs to pursue a contract structure that provides them with more active involvement and control, rather than assigning all control to Westinghouse through a fixed price contract. Westinghouse has not proven to be an adequate construction contractor. The addition of Fluor as a subcontractor is a good step; however, Westinghouse still retains all control as the sole contractor and controls the entire project budget and approach. This is not a good arrangement, and SCE&G should pursue a contract that addresses partnership, rather than attempting to off-load responsibility. The fixed price approach is more about affixing blame and establishing a basis for litigation rather than expeditiously and efficiently completing the project.
2) The process changes identified through the Functional Area Assessments need to be accelerated. These changes should result in improving the productivity of the work force. In addition, the impact of these changes needs to be quickly assessed and any further improvements need to be expeditiously implemented. The first priority here should be the implementation of the so-called "Min/Max" approach on commodities so that construction delays are not caused by lack of readily available construction commodities.
3) Design changes need further management review and control. Changes should be assessed as to absolute need and impact on construction, and those not meeting these requirements should not be implemented. SCE&G should be a part of this process.
4) In order to better attract craft labor, Fluor should consider additional actions such as housing assistance in the local area, changing the shift schedule to permit longer home visitation and other incentives to attract and retain craft labor.
5) SCE&G and Westinghouse need to come to an agreement on the milestone payment schedule during the month of July. All necessary management and executive focus required to accomplish this needs to be exerted.
6) Approval of any increased budget associated with this filing needs to be accompanied by increased oversight of project progress by the PSC. It may be necessary to stage the increases by measuring the project progress before

ACCEPTED FOR PROCESSING - 2018 September 25 4:12 PM - SCPSC - 2017-207-E - Page 27 of 76

granting approval. The details on this arrangement would require additional development and discussion with SCE&G.

7) The project might even consider the seemingly drastic step of deferring Unit 3 construction in order to concentrate resources on Unit 2 completion. Support for this actions is as follows:
    a. There is little likelihood of Unit 3 qualifying for the current production tax credits; therefore, citing this as a reason for continuing is not valid. Concentrate on getting the tax credits extended so that Unit 3 would later qualify.
    b. Craft labor, engineering and management would benefit from concentrating on completion of a single unit.
    c. There is little need for the power from Unit 3 as outlined in SCEG's resource planning. Delaying Unit 3 would have little impact on meeting the needs of the electrical system.
    d. The costs associated with Unit 3 construction would be deferred so that the rate increases would be extended and would be reduced until Unit 3 construction was restarted.
    e. The Unit 3 construction schedule once restarted could be accelerated because of the lessons learned on Unit 2 and because more resources could be focused on Unit 3.
    f. Engineering design could be completed so as not to interfere or delay construction. All needed material would be known and could be available.
    g. Credibility among the financial community and the public would be enhanced because one unit would be completed and potentially producing power.
    h. Financial premiums being paid to fabricators of modules and other components could potentially be reduced due to extending the schedule and not requiring expedient measures.
8) It is **not** recommended that any action that totally excludes Westinghouse from participation in the project be pursued. Westinghouse has key design responsibilities for all safety-related and almost all other key systems and components. In addition, they are the primary designers for the physical plant itself, including the structural and mechanical modules. They must be a part of the project if there is any hope of successfully completing it. There may be some areas where a more experienced architect/engineer might provide needed assistance. This could be pursued with Westinghouse, but there is no successful scenario that totally excludes their participation.

Some of these recommendations may need to be revised based on the testimony to be provided by SCE&G next week, and some of them may not be able to be implemented

ACCEPTED FOR PROCESSING - 2018 September 25 4:12 PM - SCPSC - 2017-207-E - Page 28 of 76

due to unknown constraints. They will all probably require additional discussion with SCE&G. However, they are offered here for your consideration.

ACCEPTED FOR PROCESSING - 2018 September 25 4:12 PM - SCPSC - 2017-207-E - Page 29 of 76

ACCEPTED FOR PROCESSING - 2018 September 25 4:12 PM - SCPSC - 2017-207-E - Page 30 of 76

Jones Concerns re. SCE&G Responses to ORS AIRs

The following summarizes my major concerns with regard to SCE&G's responses thus far to the ORS AIRs on the VCS EPC October 2015Agreement:

1) The cost basis presented by SCE&G has not been provided in sufficient detail to permit a rigorous assessment of the efficacy of the numbers and an informed conclusion cannot be drawn as to the reasonableness or prudence of the proposed costs. This applies to both options presented in the Agreement. It appears from SCE&G's responses and from discussions with knowledgeable members of their staff that no such detail is available and will not be forthcoming, and that the cost was strictly a negotiated amount determined by senior executives during a series of meetings in the fall of 2015. Therefore, it does not appear that ORS can support the cost basis to the PSC as it now stands.
2) The currently available Project Integrated Schedule which supports the project completion dates of August 31, 2019 for Unit 2 and August 31, 2020 for Unit 3 has several major activities with arbitrarily held and constrained dates that do not adequately reflect the impacts of delayed precursor activities and consequently the schedule does not reflect the proper logic sequence that would provide more realistic completion dates. In addition, the schedule has not received a detailed review by Fluor, the new construction subcontractor, and the planned review will not be completed in time to support the filing. This also brings into question whether ORS can support the current schedule basis as it now stands.
3) It is disconcerting that the SCE&G 1Q2016 Quarterly Report filed within the past few days presents significant cost increases beyond those addressed in the Agreement that have not been previously presented to ORS. Although ORS was aware of the issues giving rise to these cost increases, the actual values were not made known to us prior to inclusion in the quarterly report. These include the $20.8 M Owner's Cost, the $52.7M in change orders to the EPC contract and the $4.3 M in Unit 1 switchyard costs. Discussion of these costs with ORS prior to issuing of the quarterly report would have been a better approach.
4) Quality, productivity and schedule adherence issues continue to cause concern. The recently identified Mangiarotti quality issues involving major safety-related equipment already delivered to the site and being readied for installation are a disturbing example of the continuing issues on overall quality. Productivity and construction performance continue to lag, and the rates needed to support the current completion schedule are not being met. Delivery of critical sub-modules and other needed components and commodities continue to experience delays and further jeopardize the completion schedule.

All of the above represent major challenges to ORS confidently supporting SCE&G in its upcoming filing on VCS, and support a conclusion that the filing may be premature and should be postponed until there is more clarity in resolving the above issues.

ACCEPTED FOR PROCESSING - 2018 September 25 4:12 PM - SCPSC - 2017-207-E - Page 31 of 76

ACCEPTED FOR PROCESSING - 2018 September 25 4:12 PM - SCPSC - 2017-207-E - Page 32 of 76

Jones Summary of April 26 and 27, 2016 Visit to VCS Site

The following provides my comments and recommendations resulting from the site tour, meetings with senior site personnel and document reviews performed at the VCS Units 2 & 3 construction site on April 26 and 27, 2016:

1. We met late in the afternoon on April 26 with the lead project scheduling staff for the first time in almost two years. This afforded us the opportunity to review the current revised integrated project schedule in more detail and to get a better understanding of the assumptions and bases of the schedule and its development over the past few months. We learned that the initial schedule presented by WEC in August 2015 had over 130 arbitrarily held constraints that resulted in an unreliable and unrealistic depiction of the schedule for the remaining work. SCE&G and the on-site WECTEC project schedulers have worked with WEC to refine and more accurately represent the remaining work and the logic ties among the work activities and have reduced the arbitrary constraints to a more reasonable value of 35. We also got a better understanding of where more detailed information was available in the documentation available to us and at the Project Plan-of-the Day Meetings. However, I remain concerned that the schedule still needs refinement and has not yet received a complete detailed review and revision by Fluor. This will not be completed until the third quarter of this year, and I am almost certain that additional delays will then be identified in the project completion dates, especially on Unit 3.

2. We also met on April 27, 2016 with SCE&G staff who participated in support of senior SCANA/SCE&G executives during the negotiations with WEC that culminated in the October 2015 EPC Contract Agreement that has been provided to the South Carolina Public Service Commission. This meeting provided additional insight into the financial bases of the final settlement and aided in gaining a better understanding of the relationship between the project completion costs presented in the October Agreement and those represented in Order 2015-661. However, it is clear from this meeting and the responses from SCE&G thus far that no rigorous and detailed comparative roll-up of the final costs are available and that the costs presented in the October 2015 Agreement are the result of a high-level negotiation and not a detailed accounting of the costs associated with each and every remaining project activity. This indicates that the pending responses to ORS AIRs will probably not provide the detail we are seeking and present us with a challenge as to how to evaluate and assess the project costs presented in October Agreement.

3. With regard to construction progress on the project, I have the following observations and comments:

Positives

a. Since my last report, SCE&G completed the concrete fill of Unit 2 CA20 module on April 5. This is a significant accomplishment because it represents the first concrete fill of a major structural module on the site.

ACCEPTED FOR PROCESSING - 2018 September 25 4:12 PM - SCPSC - 2017-207-E - Page 33 of 76

b. All 17 submodules on Unit 2 CA03 are now stood up on the plenum in the fabrication tent on site and final welding and outfitting of the module are underway. It appears the module is on-track for its placement in the containment in June.

c. NNI appears to have made good strides in meeting their most recent schedules for delivery of Shield Building (SB) panels and the site has completed the erection of Course 4 of the SB panels.

d. Significant progress has been made on the on-site fabrication of Unit 3 CA20, subassemblies 1 & 2 module in the Module Assembly Building (MAB) and appears to support the July 2016 placement date. All 72 sub-modules for this module have been delivered to the site, and as you may recall, the subassemblies 3 & 4 have already been placed in the Unit 3 Auxiliary Building.

e. Similarly, significant progress was evident in the MAB on the Unit 3 CA01 module. There were 6 sub-modules stood-up on the plenum in a single week in April, representing the highest production yet on this activity.

f. Unit 3 Containment Vessel (CV) Ring # 1 installation was completed on April 13.

Concerns

g. SCE&C received notification on April 21 from WEC of a quality issue with Mangiarotti components already delivered to the site. The issue involves 11 of the 26 sub-suppliers of safety-related pressure boundary materials and may impact the accumulator tanks, core make-up tanks, pressurizers, PRHR heat exchangers, flued heads and guard pipes. An action plan is due by May 31, and this may be a 10CFR Part 21 reportable infraction. This is especially disconcerting because the accumulator tanks were due to be installed in the next couple of weeks and were to be the first major NSSS component installed in the plant. This may delay their installation.

h. The repairs to Turbine Building Bay 1 to remove and repair the unacceptable concrete cold joint have been significantly delayed and are not progressing well. The hydro-lasing contractor is not meeting his promised productivity and does not appear to be able to recover or improve. SCE&G is pursuing alternate paths to resolve this issue.

i. Progress in the Turbine Buildings continues to be significantly behind schedule (up to 6 months late in some cases), primarily due to craft labor shortages and diversion of labor to Nuclear Island work. SCE&G is working with Fluor and WECTEC to address this issue.

j. Continuing commodity shortages have resulted in delays in all areas. Fluor is to assume greater responsibilities in commodities purchasing and control, and SCE&G hopes to see improvements soon.

k. Construction labor productivity rates and overall productivity improvements have not yet significantly increased, although it appears from casual observation that activity levels have increased. Craft labor manpower increases will need to be manifested soon if there is to be a chance of meeting project completion dates. Process changes in several areas such as welding, procurement, and work package preparation and closure will also soon need to be implemented in order to meet completion schedules.

l. Progress in completing the so-called "RC" areas of the Unit 2 Auxiliary Building that support the Shield Building panels has been problematic, primarily due to design changes and commodity shortages. This area is very near critical path, and needs additional focus and effort.

m. Mechanical module delivery continues to fall behind schedule and SCE&G and WECTEC are considering moving fabrication to the site. While this may improve quality and better support construction, it will increase the demands on site craft labor and project costs.

As noted more activity and project progress are visible and apparent during this site visit, but the challenges remain and the fruits of the transition to the new contracting arrangements are still in bloom and not yet ripe.

ACCEPTED FOR PROCESSING - 2018 September 25 4:12 PM - SCPSC - 2017-207-E - Page 34 of 76

ACCEPTED FOR PROCESSING - 2018 September 25 4:12 PM - SCPSC - 2017-207-E - Page 35 of 76

Status of the V. C. Summer Units 2 & 3 Nuclear Power Plants

Presentation to the Electric Cooperatives of South Carolina

Gary C. Jones, President of Jones Partners, Ltd.

March 3, 2016

ACCEPTED FOR PROCESSING - 2018 September 25 4:12 PM - SCPSC - 2017-207-E - Page 36 of 76

Brief CV of Gary C. Jones

- 45+ years in the nuclear power industry
- 32 years with Sargent & Lundy (S&L) in Chicago, Illinois
- 16 years as an Owner/Senior Vice President of S&L
- 2 ½ years with the International Atomic Energy Agency (IAEA) in Vienna, Austria
- Led the design and engineering on 3 major nuclear power plants
  - LaSalle County (Commonwealth Edison)
  - Marble Hill (Public Service Indiana)
  - Braidwood (Commonwealth Edison)
- Provided engineering, design and consulting services to over 50 nuclear power plants in the United States
- Professional project experience in Armenia, Canada, China, El Salvador, Finland, Hungary, Mexico, South Korea and Ukraine as well as throughout the United States
- Retained by South Carolina Office of Regulatory Staff (ORS) since August 2011
- Registered Professional Engineer in Missouri and South Carolina

ACCEPTED FOR PROCESSING - 2018 September 25 4:12 PM - SCPSC - 2017-207-E - Page 37 of 76

A Very Good Idea in 2008

G J E-Mails 2016 Vol 1 002317

Why?

- Updated NRC regulatory environment under 10 CFR 52, which allows for a combined license to both construct and operate a plant
- Modular Construction
- Certified Design
- Success in Asia
- Base Load Review Act (BLRA) in South Carolina
- Source of non-GHG emitting and diverse power
- Engineering, Procurement and Construction (EPC) Contract

ACCEPTED FOR PROCESSING - 2018 September 25 4:12 PM - SCPSC - 2017-207-E - Page 38 of 76

Experience Since 2008

G J E-Mails 2016 Vol 1 002318

Regulatory environment not as good as hoped

- Combined Construction and Operating License (COL) was delayed
  - 9 months until March 30, 2012
- "Build what you license vs. license what you build"
- Very strict literal compliance via NRC oversight
- License Amendment Requests (LARs)
- First plants through the Inspection, Tests, Analyses and Acceptance Criteria (ITAAC) process
- Not as much credit for previous experience in China as hoped
- Impact of changes from Fukushima accident

ACCEPTED FOR PROCESSING - 2018 September 25 4:12 PM - SCPSC - 2017-207-E - Page 39 of 76

Experience Since 2008

G J E-Mails 2016 Vol 1 002319

Modular Construction

- Fabricators unable to reliably meet schedule and quality requirements
- Continuing design changes
- Inadequate constructability reviews
- Reassignment and de-scoping of fabricators

Certified Design

- Not as complete as anticipated
- Lessons learned at Chinese and sister plants
- Compliance issues with codes, standards and commitments
- SCE&G requested changes

ACCEPTED FOR PROCESSING - 2018 September 25 4:12 PM - SCPSC - 2017-207-E - Page 40 of 76

Experience Since 2008

G J E-Mails 2016 Vol 1 002320

Asian Schedules Could Not Be Duplicated

- More rigorous regulatory environment
- Construction productivity rates lower than planned

BLRA Remains an Essential Element to Success

- Stable environment ensures project financing
- Independent study shows plant is still a positive

Still a Source of Non-GHG Emitting Power

- More focus on this issue due to EPA 111d
- Diversity in power supply remains important

ACCEPTED FOR PROCESSING - 2018 September 25 4:12 PM - SCPSC - 2017-207-E - Page 41 of 76

Experience Since 2008

G.J.E-Mails.2016.Vol.1.002321

EPC Contract

- Multiple Changes in Ownership
  - Westinghouse/Shaw Stone & Webster
  - Westinghouse/CB&I Stone & Webster
  - Westinghouse (with Fluor as a sub-contracted construction manager)
- Multiple Amendments
- "Change in Law" provision interpretation led to disagreements
- Designer vs. Constructor

ACCEPTED FOR PROCESSING - 2018 September 25 4:12 PM - SCPSC - 2017-207-E - Page 42 of 76

Current Status

G.J.E-Mails 2016 Vol.1 002322

Most of the following information is taken directly from a December 9, 2015 SCANA presentation at the 2015 Wells Fargo Energy Symposium. Some information, including the photograph on the first slide, was taken from a presentation given by SCANA on its February 18, 2015 Fourth Quarter and Full Year 2015 Earnings Conference Call.

These presentations are available from the SCANA website at

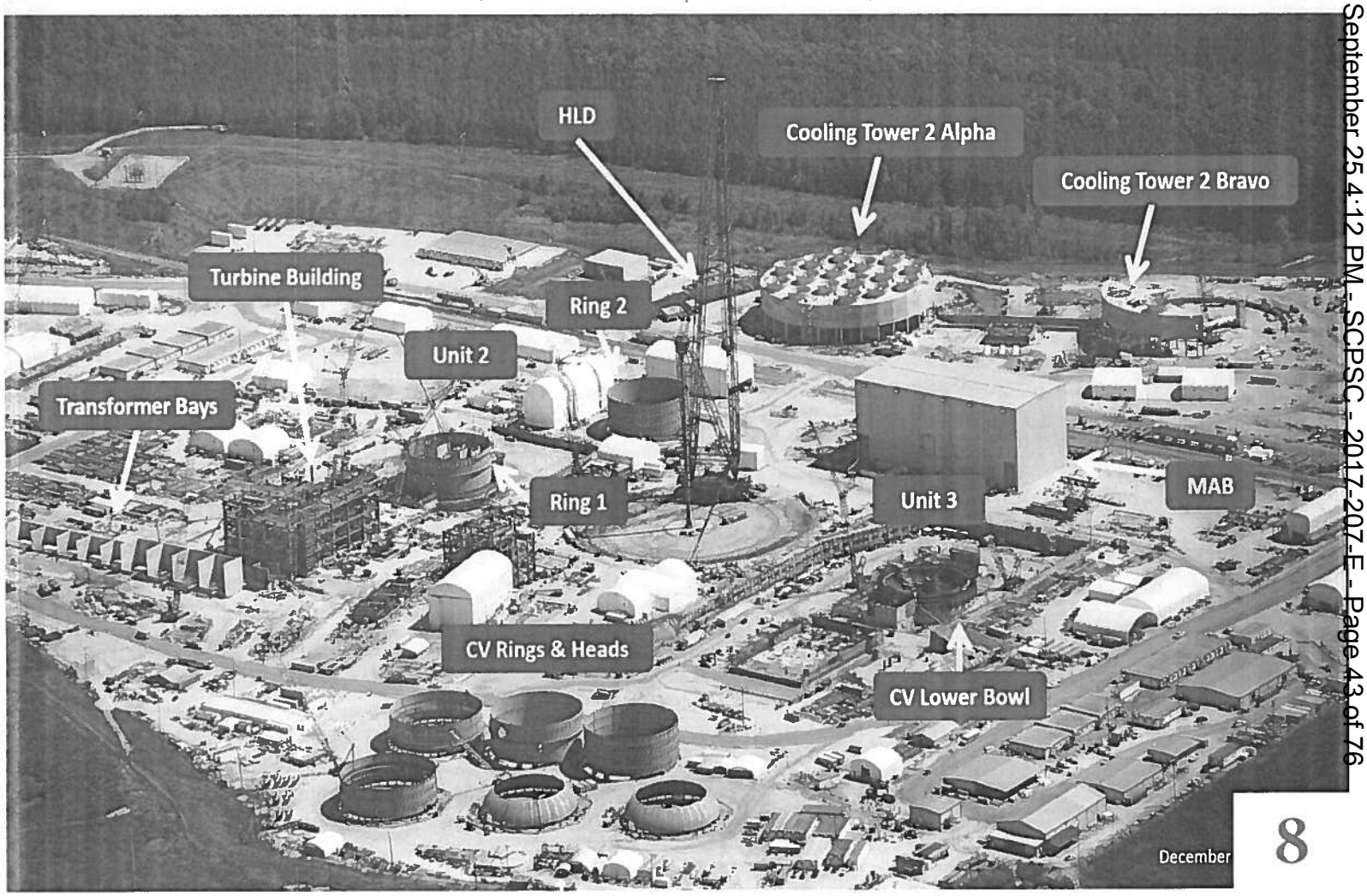
www.scana.com/investors/webcasts-presentations

ACCEPTED FOR PROCESSING - 2018 September 25 4:12 PM - SCPSC - 2017-207-E - Page 43 of 76

Site Overview

G J E-Mails 2016 Vol 1 002323

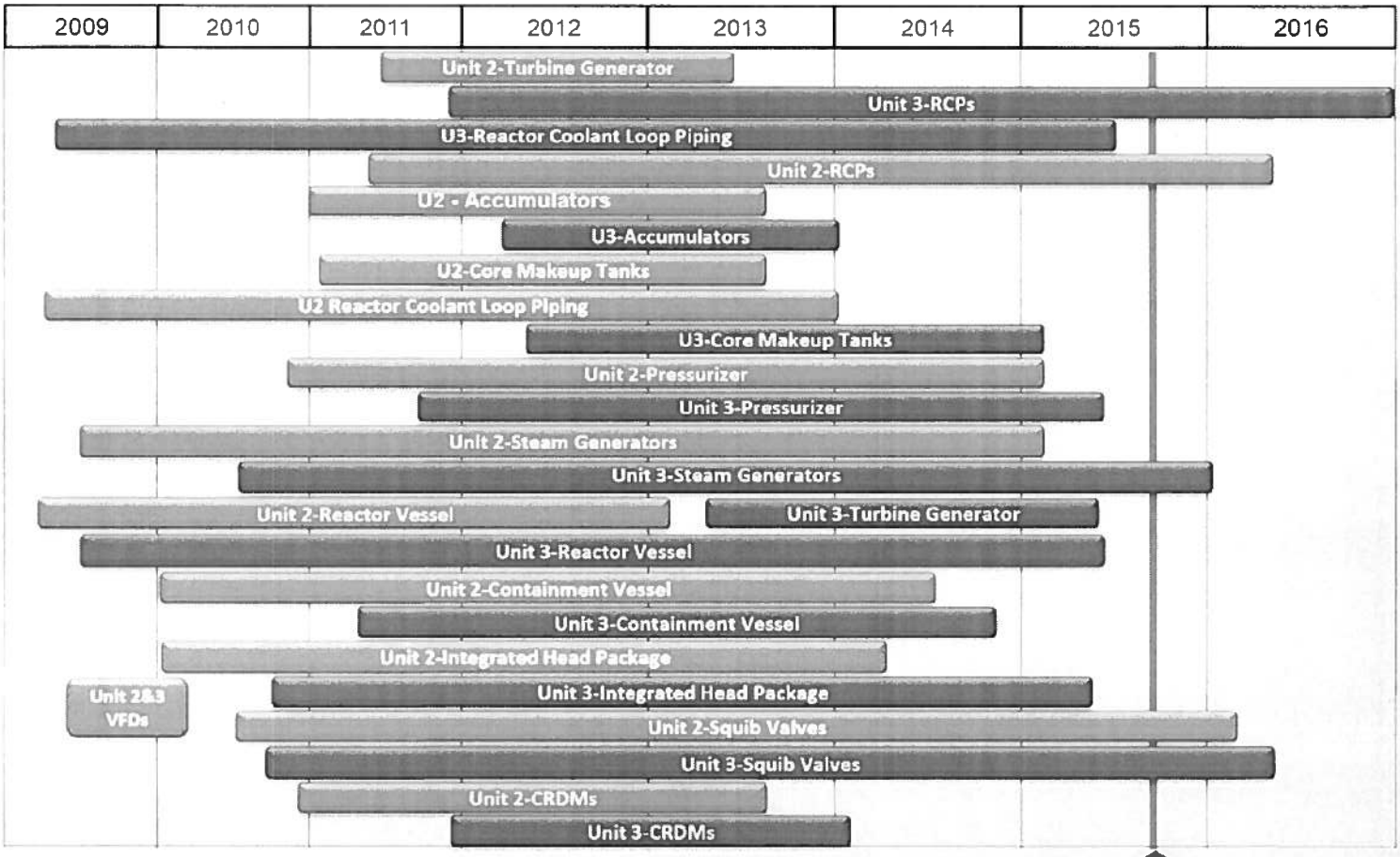
(Picture from September 2015)



ACCEPTED FOR PROCESSING - 2018 September 25 4:12 PM - SCPSC - 2017-207-E - Page 44 of 76

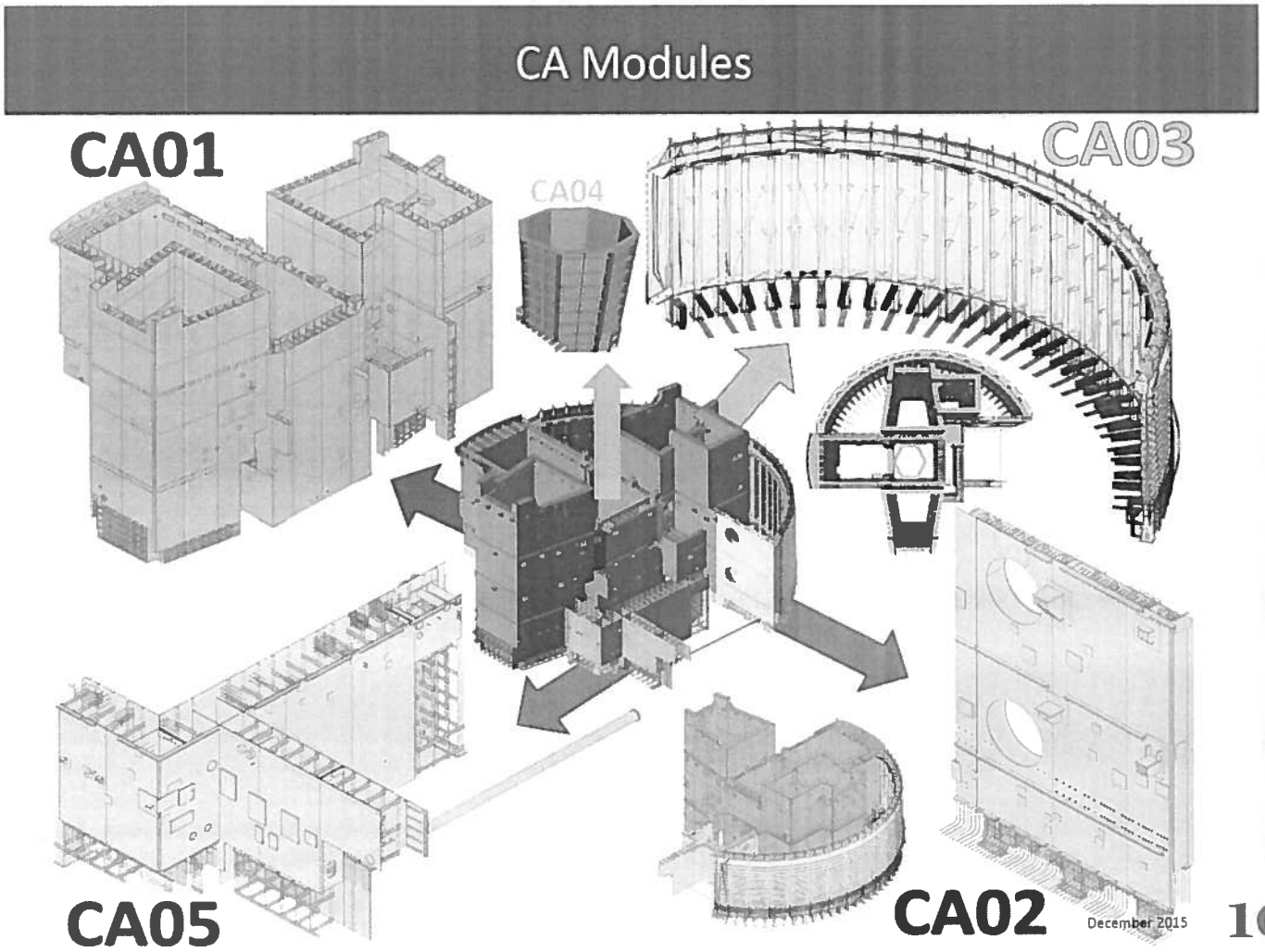
Status of Major Equipment

SCE&G Mills 2016 Vol 1 002324



SCANA Power For Living

"Big Five" Modules Inside Containment

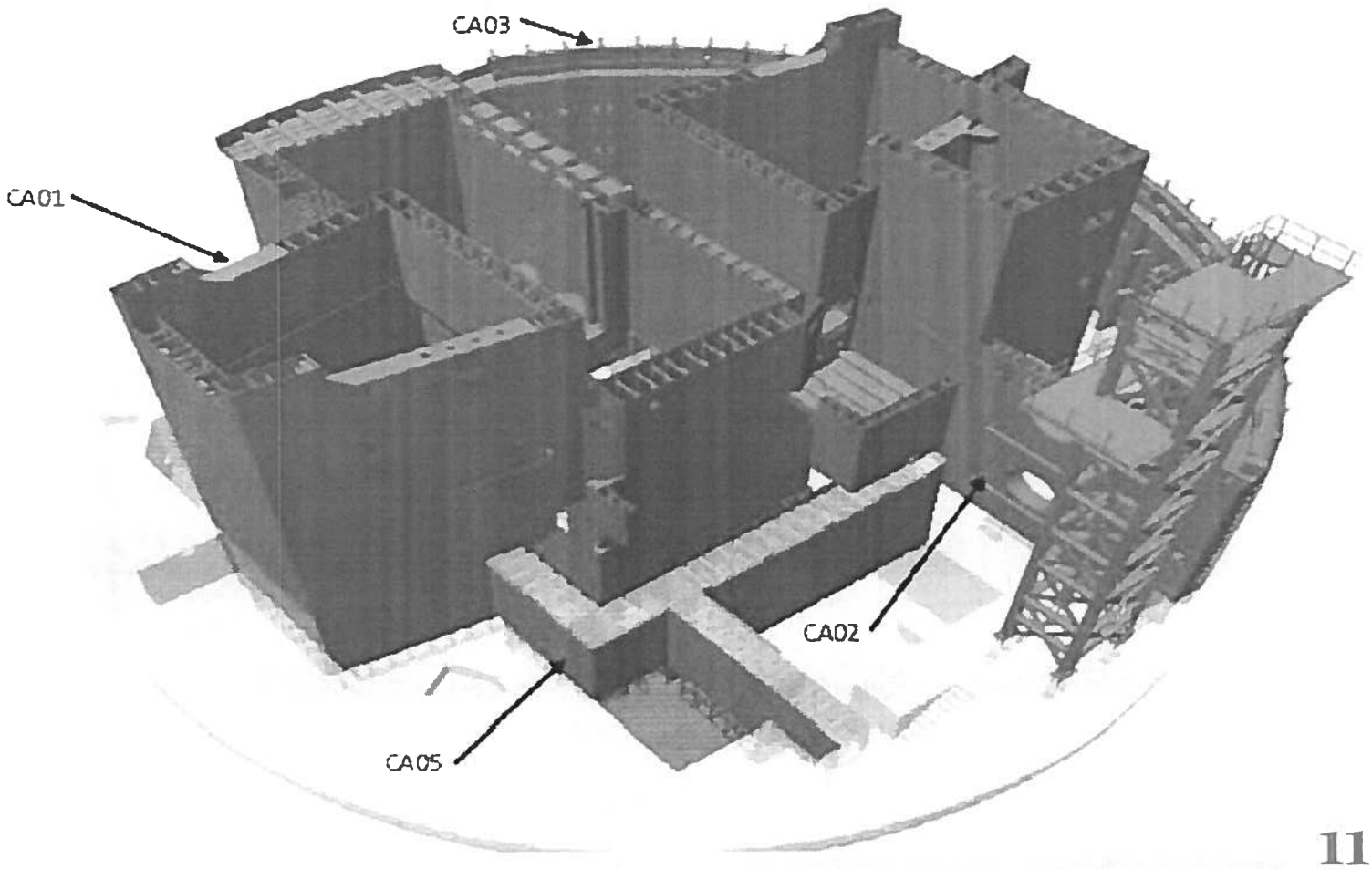


ACCEPTED FOR PROCESSING - 2018 September 25 4:12 PM - SCPSC - 2017-207-E - Page 45 of 76

ACCEPTED FOR PROCESSING - 2018 September 25 4:12 PM - SCPSC - 2017-207-E - Page 46 of 76

"Big Five" Assembled

G J E-Mails 2016 Vol 1 002326



ACCEPTED FOR PROCESSING - 2018 September 25 4:12 PM - SCPSC - 2017-207-E - Page 47 of 76

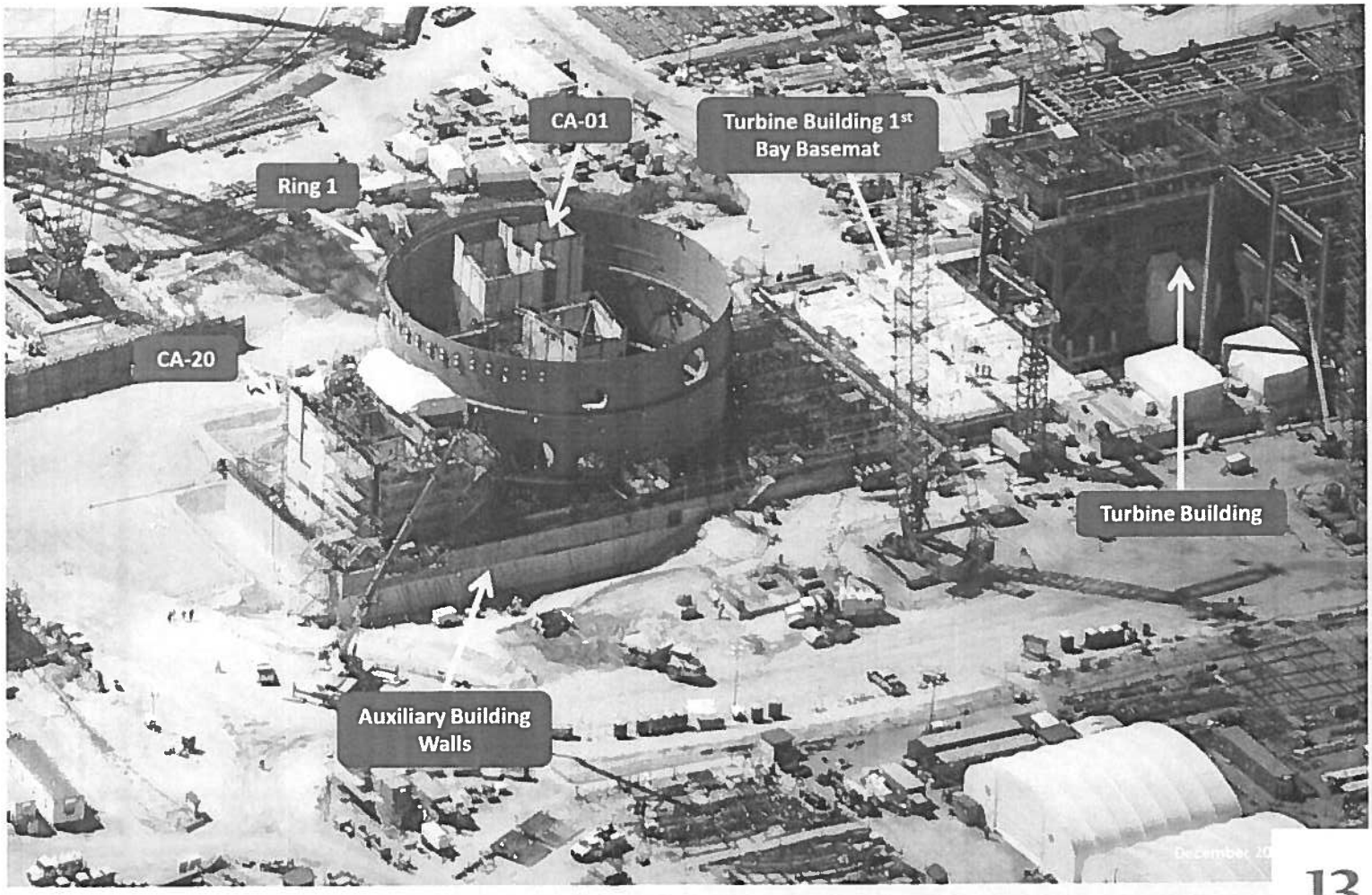
Module Status

	CA01	CA02	CA03	CA04 (No Concrete Required)	CA05	CA20
Unit 2	Installed Concrete fill to be determined.	Assembly Completed	17/17 sub-modules on site. 12/17 sub-modules on assembly platen. 3 sub-modules under on-site repair. Ready for hook June 2016.	Installed	Installed Concrete fill to be determined.	Installed Concrete fill is scheduled for April 2016
Unit 3	17/47 on-site. 6/47 on platen. Ready for hook in November 2016.	0/5 on-site.	0/17 on-site.	Installed	Assembly Completed Ready for hook in December 2016	68/72 on-site 22/72 on platen. Ready for hook in April 2016.
	Inside of Containment					**Outside of Containment**

ACCEPTED FOR PROCESSING - 2018 September 25 4:12 PM - SCPSC - 2017-207-E - Page 48 of 76

Unit 2 Nuclear Island

G.J.E-Mails.2016.Vol.1.002328

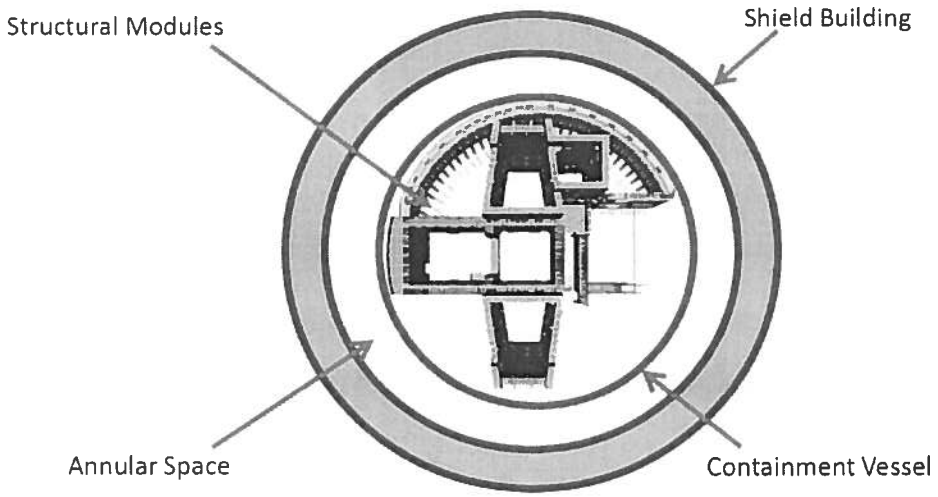


ACCEPTED FOR PROCESSING - 2018 September 25 4:12 PM - SCPSC - 2017-207-E - Page 49 of 76

Unit 3 Nuclear Island

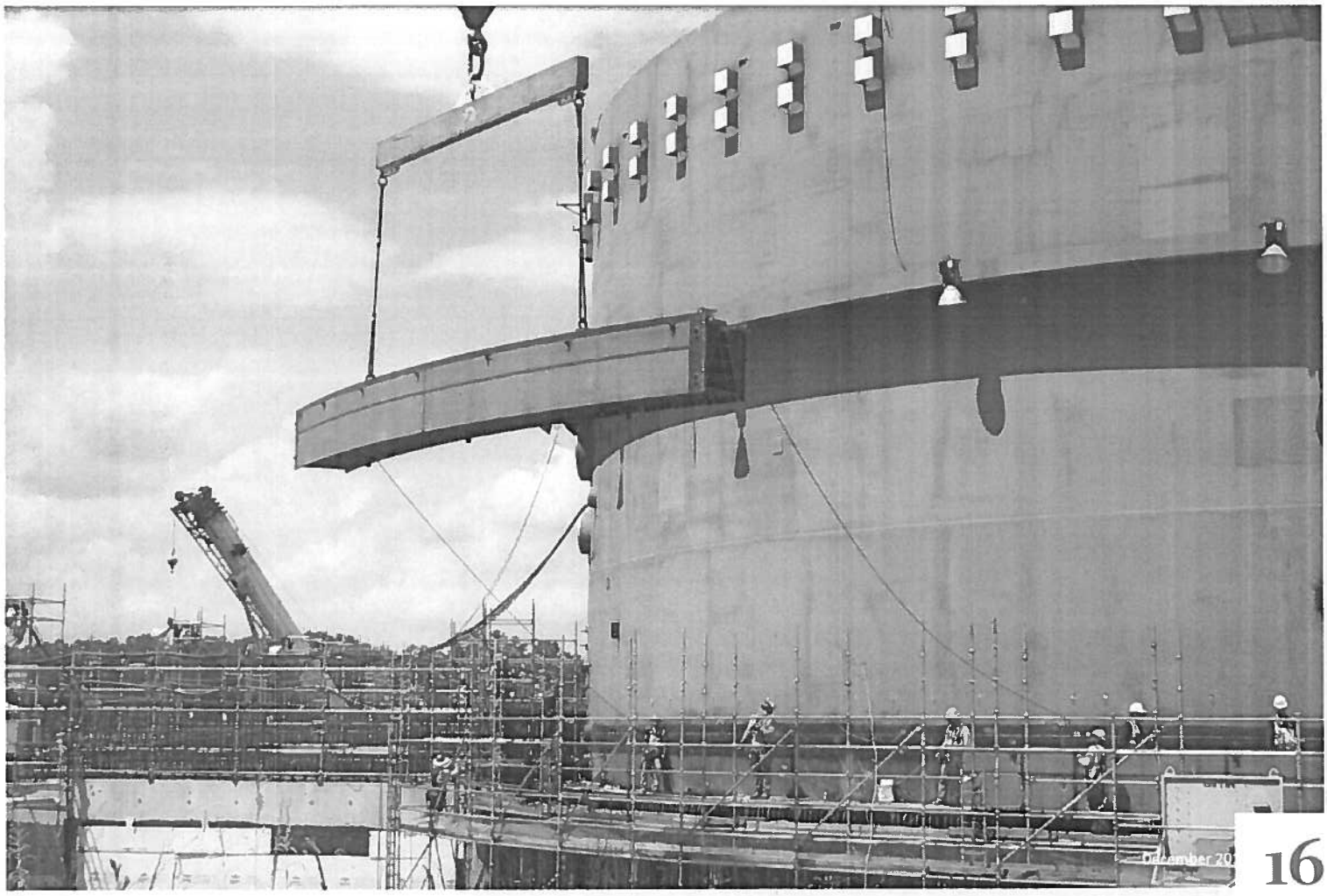
G J E-Mails 2016 Vol 1 002329

Shield Building/Containment Vessel



ACCEPTED FOR PROCESSING - 2018 September 25 4:12 PM - SCPSC - 2017-207-E - Page 50 of 76

Unit 2 Shield Building Assembly



ACCEPTED FOR PROCESSING - 2018 September 25 4:12 PM - SCPSC - 2017-207-E - Page 51 of 76

ACCEPTED FOR PROCESSING - 2018 September 25 4:12 PM - SCPSC - 2017-207-E - Page 52 of 76

Shield Building Panel Status

G J E-Mails 2016 Vol 1 002332

Unit 2

- 113/167 panels on-site
- Courses 01 and 02 installed and filled with concrete
- Course 03 installation underway
- 16 courses in total

Unit 3

- 36/167 panels on-site
- None yet installed

ACCEPTED FOR PROCESSING - 2018 September 25 4:12 PM - SCPSC - 2017-207-E - Page 53 of 76

SCE&G's Settlement with the Consortium

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	Order #2015-661 (Prior EPC)	Amended EPC	Fixed Price Option
Guaranteed Substantial Completion Dates	Unit 2 - June 2019 Unit 3 – June 2020	Unit 2 - August 2019 Unit 3 – August 2020	
Capital Cost (SCE&G 55% share)	$5.247 billion	$5.492 billion	$6.757 billion
Future Escalation to Westinghouse as 6/30/2015*:	$794 million	$813 million	$19 million*
Total Expected Project Cost (SCE&G 55% share)	$6.827 billion	$7.113 billion	$7.601 billion
Liquidated Damages	$155 million @ 100% $86 million – SCE&G	$926 million @ 100% $509 million – SCE&G	$676 million @ 100% $372 million – SCE&G
Bonuses	Capacity Performance Related	Completion – Capacity Performance bonus removed $550 million @ 100% $303 million – SCE&G	$300 million @ 100% $165 million – SCE&G
Change in Law Language	Generally defined	Explicitly defined – Formal written adoption of a new statute, regulation, requirement, or code or new NRC regulatory requirement that did not exist as of this amendment	

*The Fixed Price Option, regardless of date of acceptance, would fix Project Costs and shift the risk of escalation (excluding escalation on owner's and transmission costs) to Westinghouse as of June 30, 2015. Total Gross Escalation recorded as of 6/30/2015 is $386 million. Under the Fixed Price Option, Total Gross Escalation remaining on the project is estimated to be approximately $145 million.

SCANA Power For Living

ACCEPTED FOR PROCESSING - 2018 September 25 4:12 PM - SCPSC - 2017-207-E - Page 54 of 76

Project Challenges

- Transition Between EPC Contract Holders and Construction Management
- Modules, Modules, Modules!
- Shield Building Air Inlet Tension Ring and Roof Design
- Productivity
- Mechanical, Electrical and Instrumentation & Controls Installation
- Regulatory Compliance
  - License Amendment Requests (LARs)
  - ITAAC (873/unit required; 19 on U2 and 16 on U3 verified by NRC)
- Start-Up
- Operations and Support Staff Readiness

ACCEPTED FOR PROCESSING - 2018 September 25 4:12 PM - SCPSC - 2017-207-E - Page 55 of 76

Conclusions

- Recent independent study indicates BLRA methodology reduces costs
- Still a diverse and non-GHG source of power
- Project faces significant, but not insurmountable, challenges
- Unit 3 will need substantial improvement in all areas to meet the date for federal tax credits
- Progress has been made in the general areas of the site and the turbine island
- Consolidation under Westinghouse is viewed positively by SCE&G
- Addition of Fluor should also be positive

ACCEPTED FOR PROCESSING - 2018 September 25 4:12 PM - SCPSC - 2017-207-E - Page 56 of 76

Status of the V. C. Summer Units 2 & 3 Nuclear Power Plants

Presentation to the Electric Cooperatives of South Carolina

Gary C. Jones, President of Jones Partners, Ltd.

March 3, 2016

ACCEPTED FOR PROCESSING - 2018 September 25 4:12 PM - SCPSC - 2017-207-E - Page 57 of 76

Brief CV of Gary C. Jones

- 45+ years in the nuclear power industry
- 32 years with Sargent & Lundy (S&L) in Chicago, Illinois
- 16 years as an Owner/Senior Vice President of S&L
- 2 ½ years with the International Atomic Energy Agency (IAEA) in Vienna, Austria
- Led the design and engineering on 3 major nuclear power plants
  - LaSalle County (Commonwealth Edison)
  - Marble Hill (Public Service Indiana)
  - Braidwood (Commonwealth Edison)
- Provided engineering, design and consulting services to over 50 nuclear power plants in the United States
- Professional project experience in Armenia, Canada, China, El Salvador, Finland, Hungary, Mexico, South Korea and Ukraine as well as throughout the United States
- Retained by South Carolina Office of Regulatory Staff (ORS) since August 2011
- Registered Professional Engineer in Missouri and South Carolina

ACCEPTED FOR PROCESSING - 2018 September 25 4:12 PM - SCPSC - 2017-207-E - Page 58 of 76

A Very Good Idea in 2008

G J E-Mails 2016 Vol 1 002338

Why?

- Updated NRC regulatory environment under 10 CFR 52, which allows for a combined license to both construct and operate a plant
- Modular Construction
- Certified Design
- Success in Asia
- Base Load Review Act (BLRA) in South Carolina
- Source of non-GHG emitting and diverse power
- Engineering, Procurement and Construction (EPC) Contract

ACCEPTED FOR PROCESSING - 2018 September 25 4:12 PM - SCPSC - 2017-207-E - Page 59 of 76

Experience Since 2008

G J E-Mails 2016 Vol 1 002339

Regulatory environment not as good as hoped

- Combined Construction and Operating License (COL) was delayed
  - 9 months until March 30, 2012
- "Build what you license vs. license what you build"
- Very strict literal compliance via NRC oversight
- License Amendment Requests (LARs)
- First plants through the Inspection, Tests, Analyses and Acceptance Criteria (ITAAC) process
- Not as much credit for previous experience in China as hoped
- Impact of changes from Fukushima accident

ACCEPTED FOR PROCESSING - 2018 September 25 4:12 PM - SCPSC - 2017-207-E - Page 60 of 76

Experience Since 2008

G.J.E-Mails 2016.Vol.1.002340

Modular Construction

- Fabricators unable to reliably meet schedule and quality requirements
- Continuing design changes
- Inadequate constructability reviews
- Reassignment and de-scoping of fabricators

Certified Design

- Not as complete as anticipated
- Lessons learned at Chinese and sister plants
- Compliance issues with codes, standards and commitments
- SCE&G requested changes

ACCEPTED FOR PROCESSING - 2018 September 25 4:12 PM - SCPSC - 2017-207-E - Page 61 of 76

Experience Since 2008

G J E-Mails 2016 Vol 1 002341

Asian Schedules Could Not Be Duplicated

- More rigorous regulatory environment
- Construction productivity rates lower than planned

BLRA Remains an Essential Element to Success

- Stable environment ensures project financing
- Independent study shows plant is still a positive

Still a Source of Non-GHG Emitting Power

- More focus on this issue due to EPA 111d
- Diversity in power supply remains important

ACCEPTED FOR PROCESSING - 2018 September 25 4:12 PM - SCPSC - 2017-207-E - Page 62 of 76

Experience Since 2008

G.J.E-Mails 2016.Vol.1.002342

EPC Contract

- Multiple Changes in Ownership
  - Westinghouse/Shaw Stone & Webster
  - Westinghouse/CB&I Stone & Webster
  - Westinghouse (with Fluor as a sub-contracted construction manager)
- Multiple Amendments
- "Change in Law" provision interpretation led to disagreements
- Designer vs. Constructor

ACCEPTED FOR PROCESSING - 2018 September 25 4:12 PM - SCPSC - 2017-207-E - Page 63 of 76

Current Status

G J E-Mails 2016 Vol 1 002343

Most of the following information is taken directly from a December 9, 2015 SCANA presentation at the 2015 Wells Fargo Energy Symposium. Some information, including the photograph on the first slide, was taken from a presentation given by SCANA on its February 18, 2015 Fourth Quarter and Full Year 2015 Earnings Conference Call.

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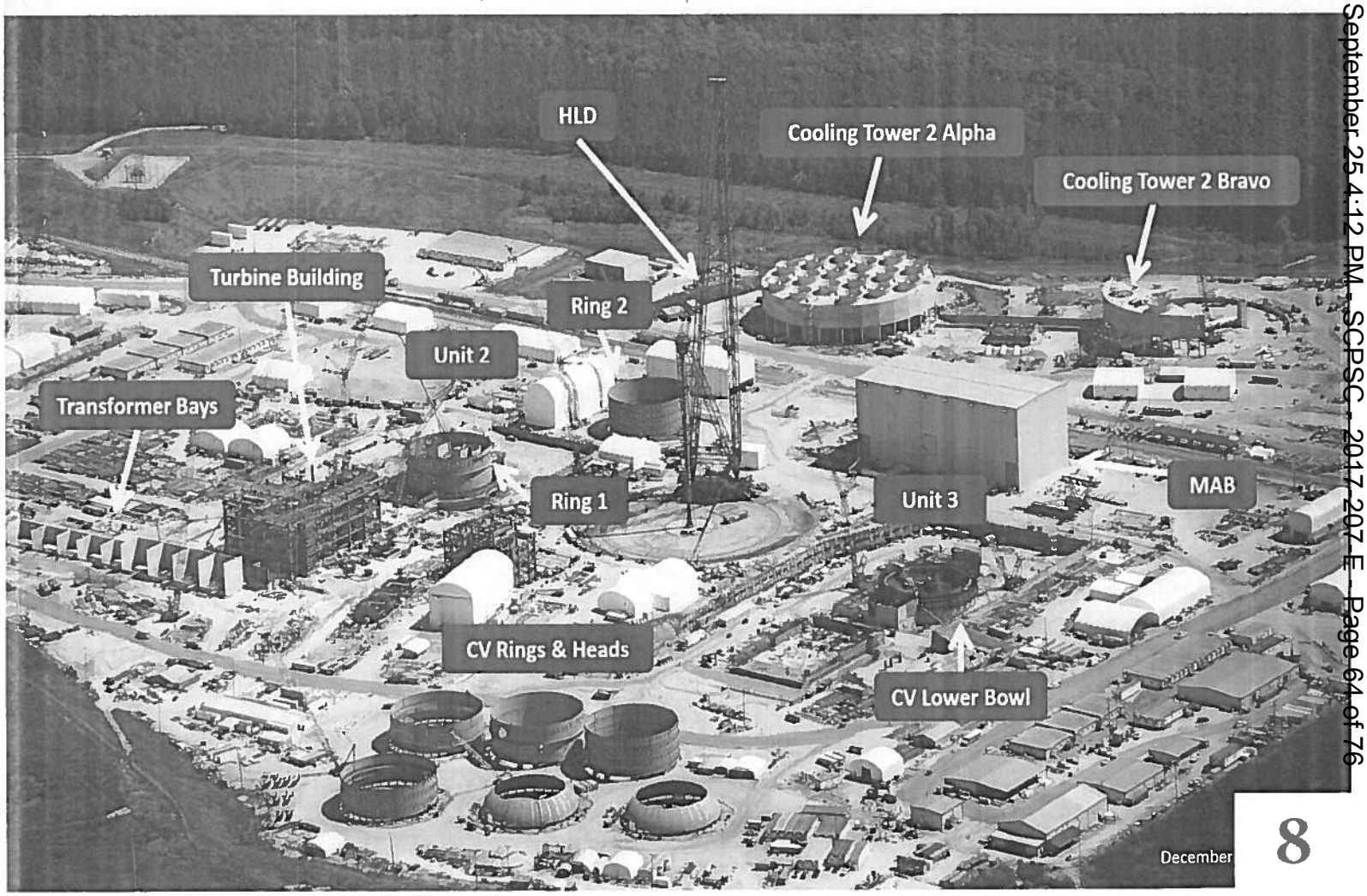
ACCEPTED FOR PROCESSING - 2018 September 25 4:12 PM - SCPSC - 2017-207-E - Page 64 of 76

Site Overview

G.J E-Mails 2016 Vol 1 002344

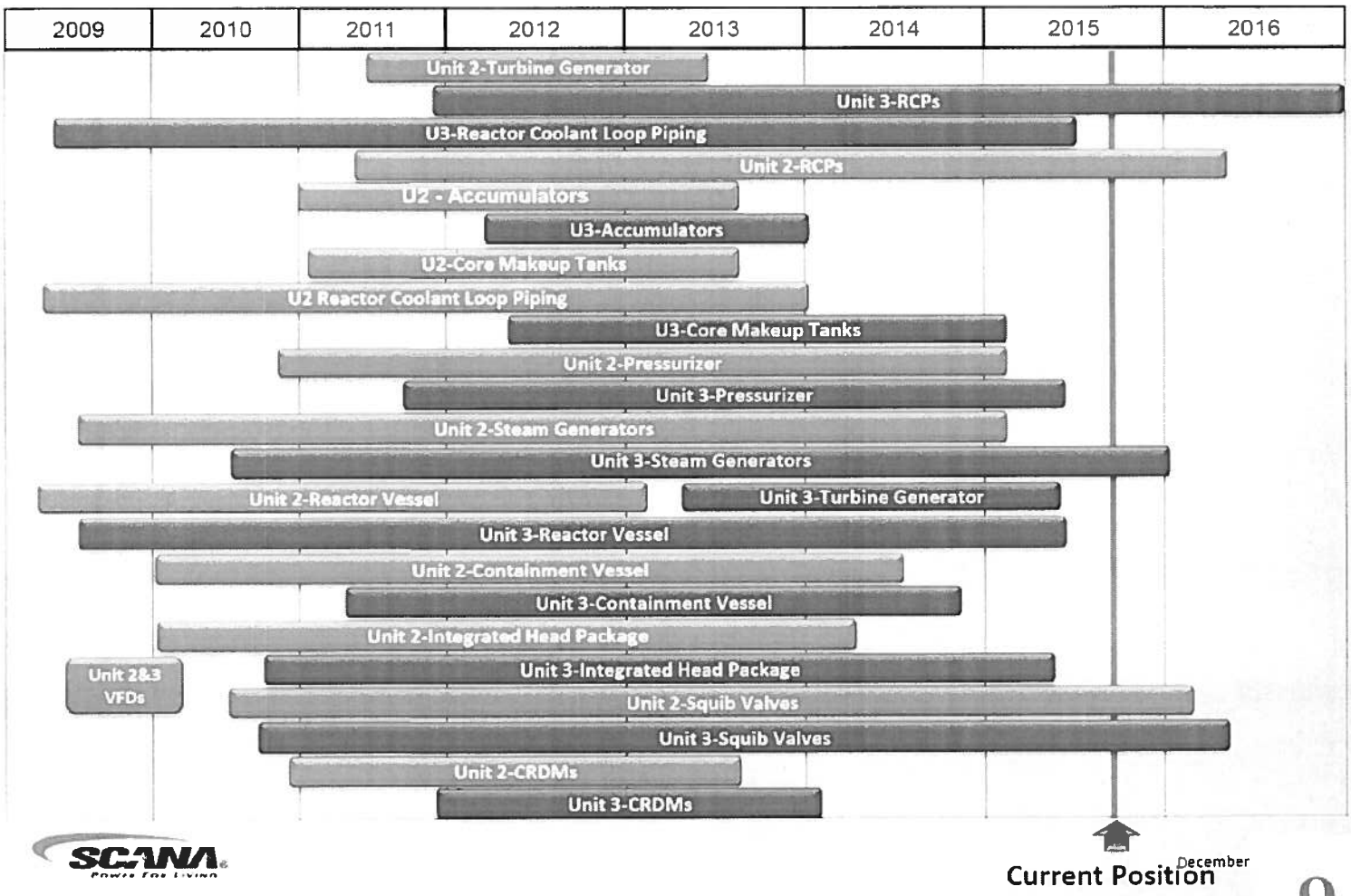
(Picture from September 2015)



ACCEPTED FOR PROCESSING - 2018 September 25 4:12 PM - SCPSC - 2017-207-E - Page 65 of 76

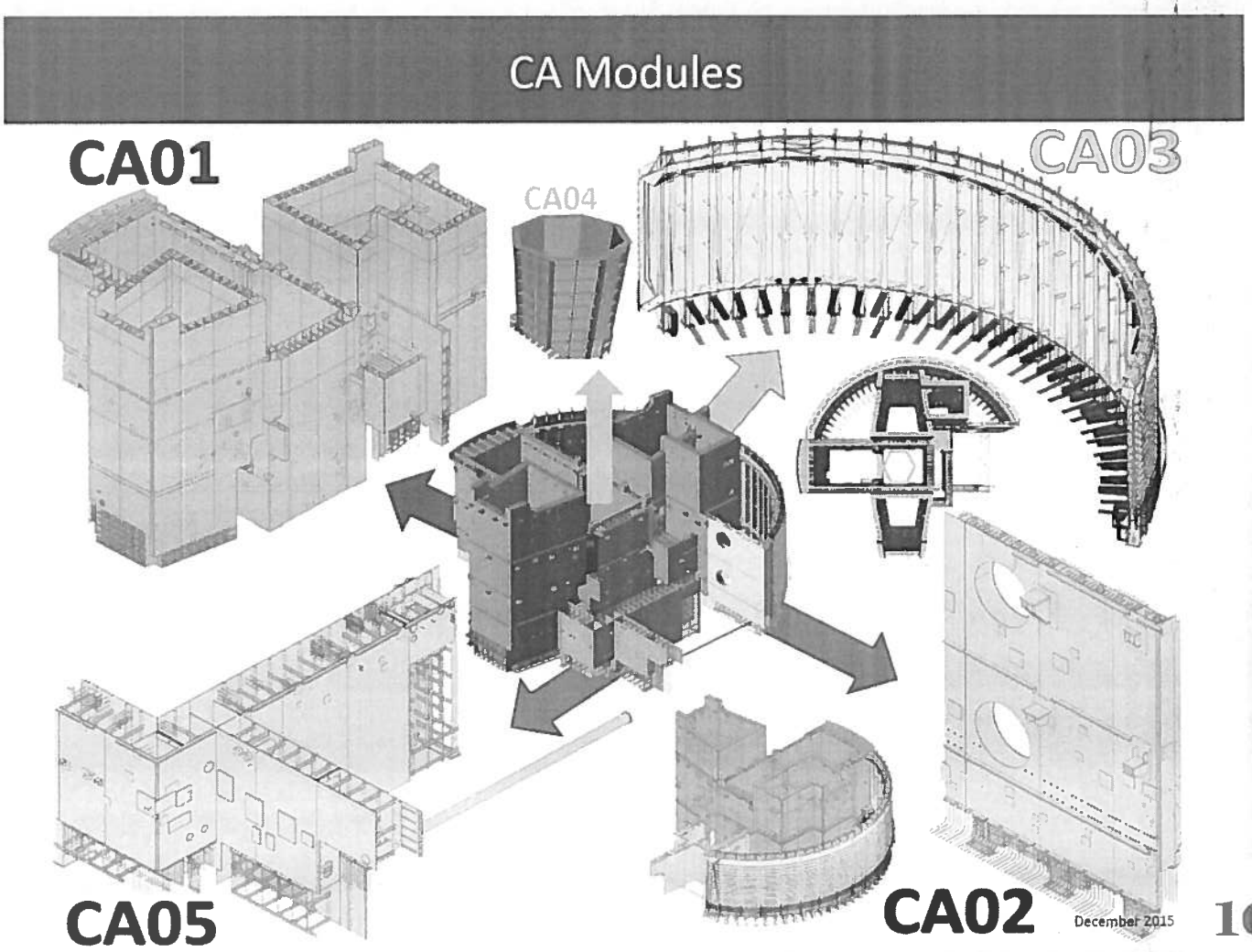
Status of Major Equipment

SCE&G Mills 2016 Vol 1 002345



SCANA
POWER FOR LIVING

"Big Five" Modules Inside Containment

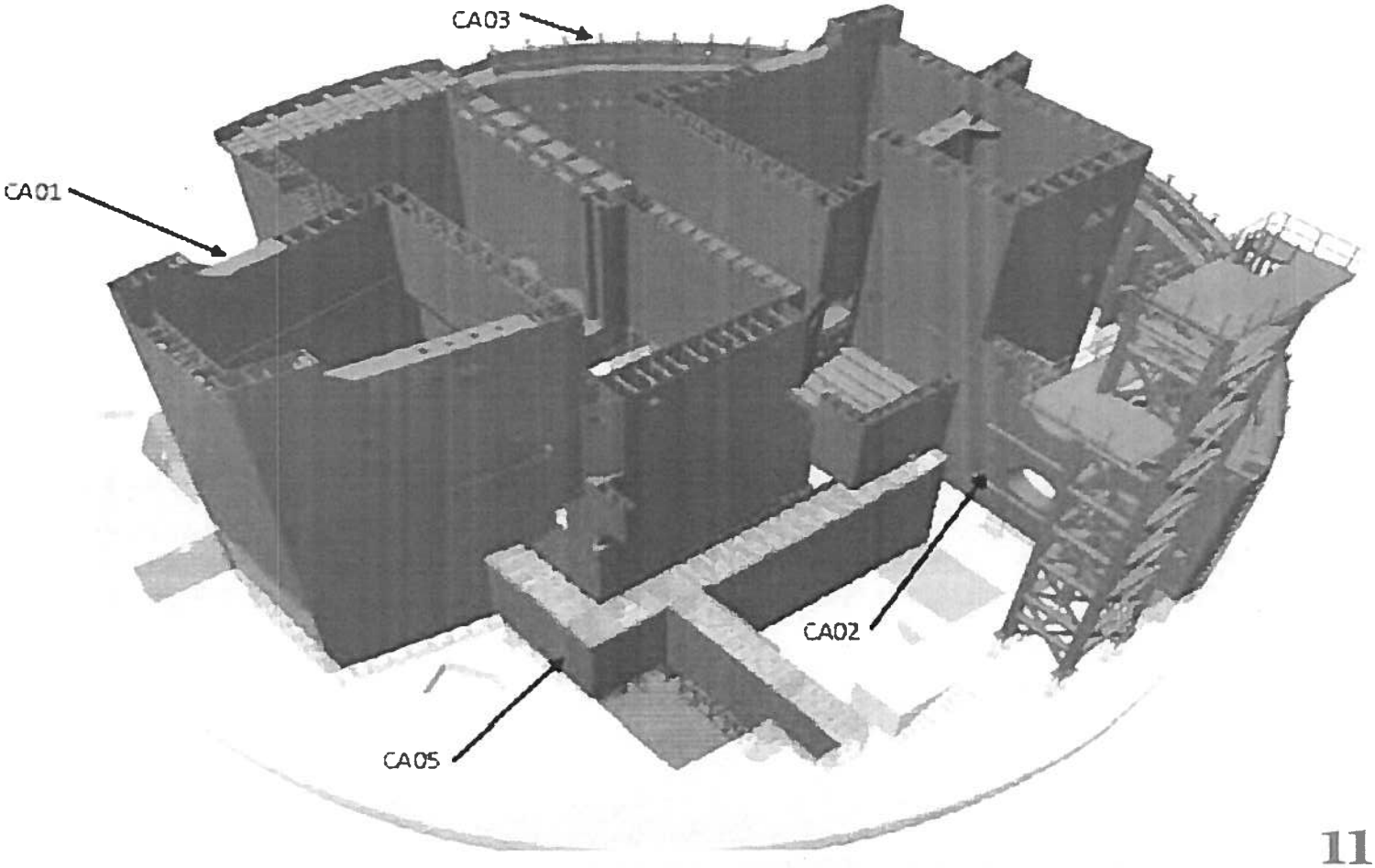


ACCEPTED FOR PROCESSING - 2018 September 25 4:12 PM - SCPSC - 2017-207-E - Page 66 of 76

ACCEPTED FOR PROCESSING - 2018 September 25 4:12 PM - SCPSC - 2017-207-E - Page 67 of 76

"Big Five" Assembled

G J E-Mails 2016 Vol 1 002347



ACCEPTED FOR PROCESSING - 2018 September 25 4:12 PM - SCPSC - 2017-207-E - Page 68 of 76

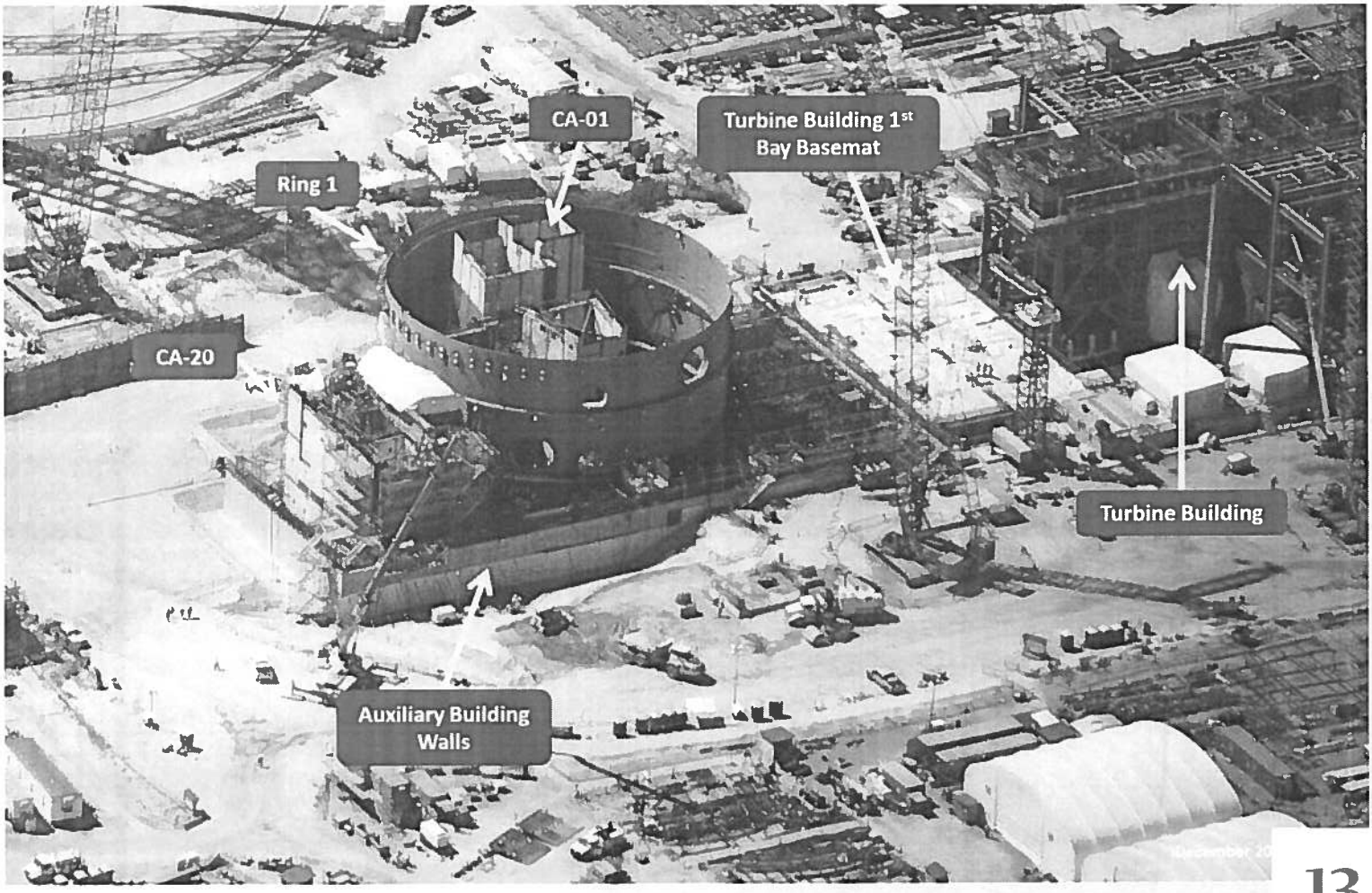
Module Status

G.J.E-Mails 2016 Vol 1 002348

	CA01	CA02	CA03	CA04 (No Concrete Required)	CA05	CA20
Unit 2	Installed Concrete fill to be determined.	Assembly Completed	17/17 sub-modules on site. 12/17 sub-modules on assembly platen. 3 sub-modules under on-site repair. Ready for hook June 2016.	Installed	Installed Concrete fill to be determined.	Installed Concrete fill is scheduled for April 2016
Unit 3	17/47 on-site. 6/47 on platen. Ready for hook in November 2016.	0/5 on-site.	0/17 on-site.	Installed	Assembly Completed Ready for hook in December 2016	68/72 on-site 22/72 on platen. Ready for hook in April 2016.
	Inside of Containment					**Outside of Containment**

Unit 2 Nuclear Island

G.J.E-Mails 2016 Vol 1 002349



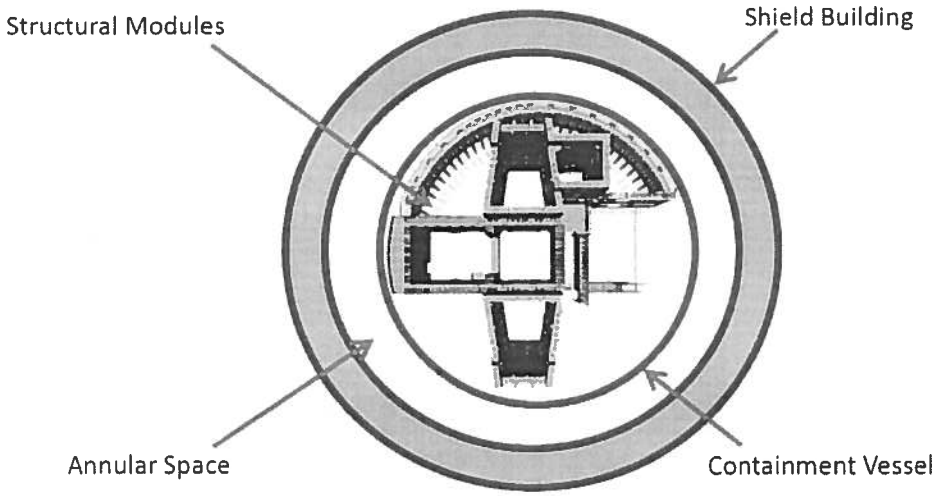
ACCEPTED FOR PROCESSING - 2018 September 25 4:12 PM - SCPSC - 2017-207-E - Page 69 of 76

ACCEPTED FOR PROCESSING - 2018 September 25 4:12 PM - SCPSC - 2017-207-E - Page 70 of 76

Unit 3 Nuclear Island

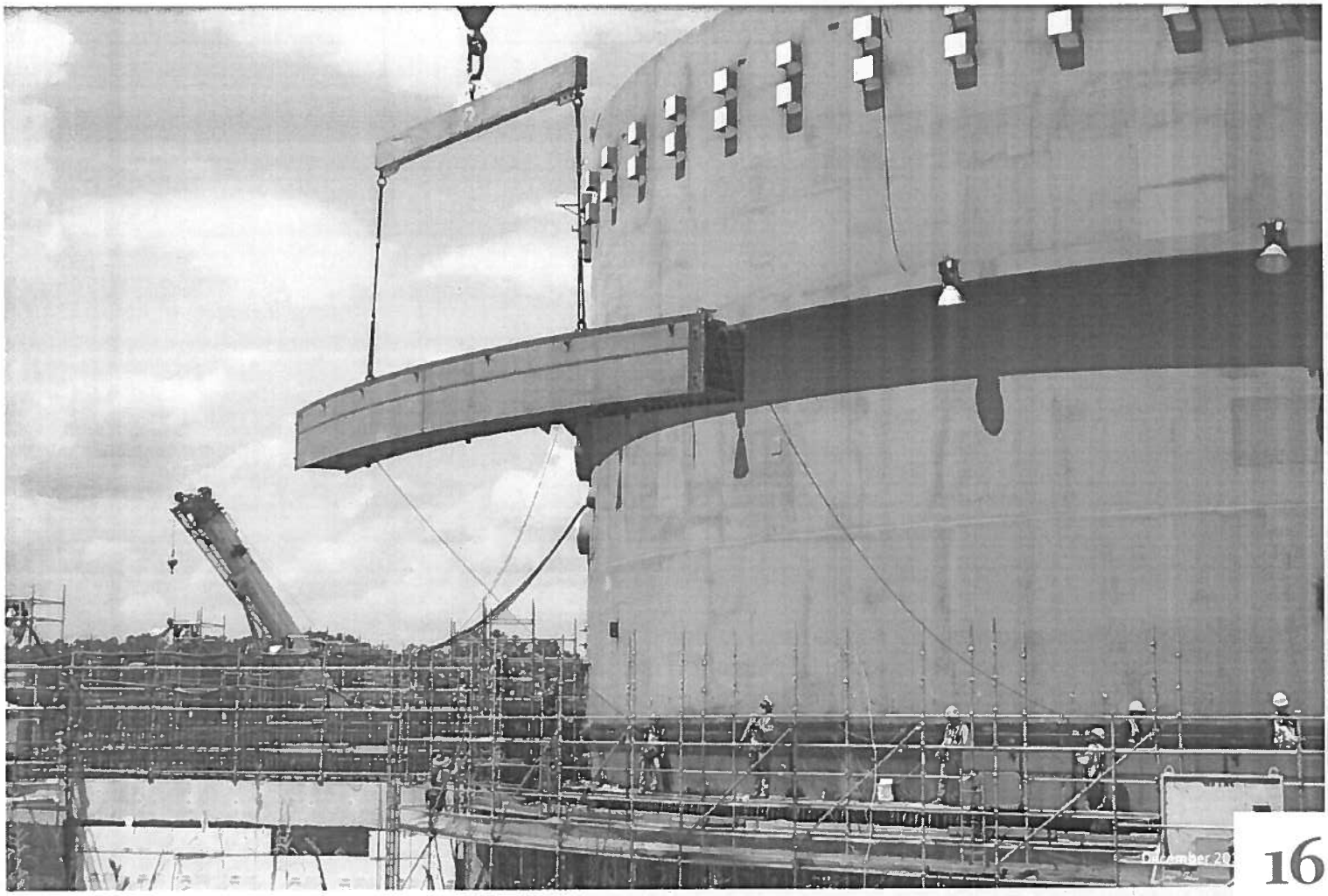
G.J E-Mails 2016 Vol.1.002350

Shield Building/Containment Vessel



ACCEPTED FOR PROCESSING - 2018 September 25 4:12 PM - SCPSC - 2017-207-E - Page 71 of 76

Unit 2 Shield Building Assembly



ACCEPTED FOR PROCESSING - 2018 September 25 4:12 PM - SCPSC - 2017-207-E - Page 72 of 76

ACCEPTED FOR PROCESSING - 2018 September 25 4:12 PM - SCPSC - 2017-207-E - Page 73 of 76

Shield Building Panel Status

G J E-Mails 2016 Vol 1 002353

Unit 2

- 113/167 panels on-site
- Courses 01 and 02 installed and filled with concrete
- Course 03 installation underway
- 16 courses in total

Unit 3

- 36/167 panels on-site
- None yet installed

ACCEPTED FOR PROCESSING - 2018 September 25 4:12 PM - SCPSC - 2017-207-E - Page 74 of 76

SCE&G's Settlement with the Consortium

GJ_Mails_0063_Vol_00035

	Order #2015-661 (Prior EPC)	Amended EPC	Fixed Price Option
Guaranteed Substantial Completion Dates	Unit 2 - June 2019 Unit 3 – June 2020	Unit 2 - August 2019 Unit 3 – August 2020	
Capital Cost (SCE&G 55% share)	$5.247 billion	$5.492 billion	$6.757 billion
Future Escalation to Westinghouse as 6/30/2015*:	$794 million	$813 million	$19 million*
Total Expected Project Cost (SCE&G 55% share)	$6.827 billion	$7.113 billion	$7.601 billion
Liquidated Damages	$155 million @ 100% $86 million – SCE&G	$926 million @ 100% $509 million – SCE&G	$676 million @ 100% $372 million – SCE&G
Bonuses	Capacity Performance Related	Completion – Capacity Performance bonus removed $550 million @ 100% $303 million – SCE&G	$300 million @ 100% $165 million – SCE&G
Change in Law Language	Generally defined	Explicitly defined – Formal written adoption of a new statute, regulation, requirement, or code or new NRC regulatory requirement that did not exist as of this amendment	

*The Fixed Price Option, regardless of date of acceptance, would fix Project Costs and shift the risk of escalation (excluding escalation on owner's and transmission costs) to Westinghouse as of June 30, 2015. Total Gross Escalation recorded as of 6/30/2015 is $386 million. Under the Fixed Price Option, Total Gross Escalation remaining on the project is estimated to be approximately $145 million.

ACCEPTED FOR PROCESSING - 2018 September 25 4:12 PM - SCPSC - 2017-207-E - Page 75 of 76

Project Challenges

G.J.E-Mails 2016 Vol.1 002355

- Transition Between EPC Contract Holders and Construction Management
- Modules, Modules, Modules!
- Shield Building Air Inlet Tension Ring and Roof Design
- Productivity
- Mechanical, Electrical and Instrumentation & Controls Installation
- Regulatory Compliance
  - License Amendment Requests (LARs)
  - ITAAC (873/unit required; 19 on U2 and 16 on U3 verified by NRC)
- Start-Up
- Operations and Support Staff Readiness

ACCEPTED FOR PROCESSING - 2018 September 25 4:12 PM - SCPSC - 2017-207-E - Page 76 of 76

Conclusions

G J E-Mails 2016 Vol 1 002356

- Recent independent study indicates BLRA methodology reduces costs
- Still a diverse and non-GHG source of power
- Project faces significant, but not insurmountable, challenges
- Unit 3 will need substantial improvement in all areas to meet the date for federal tax credits
- Progress has been made in the general areas of the site and the turbine island
- Consolidation under Westinghouse is viewed positively by SCE&G
- Addition of Fluor should also be positive