

In addition to our monthly site visit and document activities, the ORS is in the process of reviewing SCE&G's supplemental responses to the request for records and information that was issued on March 4, 2016 regarding the October 2015 amendment (Amendment) to the Engineering, Procurement and Construction Agreement for the construction of V.C. Summer Nuclear Units 2 & 3. Thus far during our review process, ORS has identified the following concerns:

Costs shown in the Amendment are the result of a negotiation and do not represent a detailed accounting of the costs associated with each and every remaining project activity. Thus far, no rigorous and detailed comparative roll-up of the final costs is available. This presents a challenge as ORS evaluates and assesses the project costs presented in the Amendment. It is unclear in some cases how the costs in the Amendment interface with cost increases in Order No. 2015-661, particularly in the area of Estimated at Completion costs, commonly referred to as "EAC." The ORS continues to work with SCE&G in an effort to obtain a clear path for the dollars in the Amendment, with documentation.

The construction schedule, and in particular the Unit 3 construction schedule, remains an area of concern. The currently available Project Integrated Schedule has several major activities with artificially held and constrained dates that do not adequately reflect the impacts of delayed precursor activities. Last month, this schedule still supported the Guaranteed Substantial Completion Dates from the Amendment of August 31, 2019 for Unit 2 and August 31, 2020 for Unit 3. Recently, however, the estimated completion dates have moved out to November 2019 for Unit 2 and September 2020 for Unit 3. Movement with respect to the completion dates is not abnormal as schedules are revised and mitigated; however, these changes in the early stages of the transition warrant attention. The number of mitigation strategies being employed— in addition to the fact that a detailed schedule including Fluor's complete input for both activities and resources is not expected to be available until the fall— is a cause for concern. The ORS believes that additional delays may be identified in the project completion dates, especially in Unit 3. These factors make it difficult for the ORS to evaluate the reasonableness or prudence of the proposed schedule changes associated with the Amendment. The ORS continues to meet monthly with Westinghouse Electric Company (WEC) scheduling personnel and SCE&G regarding the status of the schedule.

SCE&G's 1st Quarter 2016 Report includes several estimates for proposed change orders and discussions regarding proposed changes to Owners' Costs. It is challenging for the ORS to evaluate costs associated with unsigned change orders because the backup documentation is not typically complete until a change order is signed. As such, the ORS did not previously have the opportunity to evaluate these estimates. The ORS currently is working with SCE&G to obtain all available backup documentation to support these potential change orders.

With regard to construction progress on the project, the ORS has observed the following:

## **Positives**

- SCE&G completed the concrete fill within the walls of the Unit 2 CA20 structural module on April 5. As the first concrete fill of a major structural module on the site, completion of this item is a significant accomplishment.
- All 17 submodules on Unit 2 CA03 are now standing upright on the stand in the fabrication tent on site, and final welding and outfitting of the module are underway. The module is on schedule for placement in the containment vessel in June.
- Newport News Industrial has made good progress in meeting their most recent schedules for delivery of Shield Building (SB) panels, and the erection of Course 4 of the SB panels has been completed at the construction site.
- Progress has been made on the on-site fabrication of the Unit 3 CA20 module, subassemblies 1 & 2, in the Module Assembly Building (MAB) that supports an August 2016 placement date. Some recent setbacks relating to welding have been identified, but these issues are in the process of being addressed. All 72 submodules for this module have been delivered to the site, and subassemblies 3 & 4 have already been placed in the Unit 3 Auxiliary Building.
- Progress was evident in the MAB on the Unit 3 CA01 module. Six submodules were erected on the stand in a single week in April, which represents the highest production yet on this activity.
- Unit 3 Containment Vessel Ring # 1 installation was completed on April 13.
- Unit 3 CA05 module was set on May 4.

## **Concerns**

- SCE&G received notification on April 21 from WEC of a quality paperwork issue with Mangiarotti components already delivered to the site. The issue involved sub-suppliers of safety-related pressure boundary materials and had the potential to impact the accumulator tanks, core make-up tanks, pressurizers, passive residual heat removal (PRHR) heat exchangers, flued heads, and guard pipes. Currently, the only identified potential impact is to the PRHR heat exchangers. This issue may be a 10 CFR Part 21 reportable infraction.
- The repairs to Turbine Building Bay 1 relating to an unacceptable concrete cold joint have been significantly delayed and are not progressing well. The hydrolasing contractor, who had been removing concrete from the affected area, did not meet promised productivity levels. SCE&G has ceased hydrolasing activities and is now pursuing alternate paths to resolve this issue.

- Progress on 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 the nuclear construction organization within Westinghouse (WECTEC) to address this issue.
- Continuing commodity shortages have resulted in delays. Fluor is scheduled to assume greater responsibilities in commodities purchasing and control. Commodities had previously been procured on a “just-in-time” basis. The visibility of commodity needs on construction planning documents has been enhanced. As Fluor’s role in the project increases, commodities purchasing and control is an area with opportunities for improvement.
- Construction labor productivity rates and overall productivity improvements have not yet significantly increased, although the activity levels have increased. Craft labor manpower increases will need to occur soon in order to support 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 to meet completion schedules.
- Progress in completing the areas of the Unit 2 Auxiliary Building that support the SB panels, commonly referred to as the Reactor Containment Areas, has been problematic, primarily due to design changes and commodity shortages. This area is very near critical path and needs additional focus and effort.
- Mechanical module delivery continues to fall behind schedule. As a result, SCE&G and WECTEC are considering moving more fabrication to the site. While this may improve quality and provide better support construction, it will increase the demands on craft labor on-site and may increase project costs.

More activity and project progress were visible during this site visit; however, challenges remain and the full benefits of the transition to the new contracting arrangements are yet to be realized.