

Vogtle 3 and 4 Nuclear Project Monthly Report
Public Disclosure

December 2016

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Comment [SR1]: All redactions in this report are made per the TS rule.

EXECUTIVE SUMMARY

Since January 2016, when the project organization transitioned to Westinghouse (WEC) as the prime contractor and Fluor as the construction sub-contractor, many critical path and near critical path activities for both Units have continued to slip further behind schedule. In addition, there have been continued delays from the November 2016 Integrated Project Schedule ("IPS") to the December 2016 IPS for many Unit 3 and 4 activities. Please refer to the schedule roadmap variance analysis in Exhibits A and B on pages 6 and 7. The December 2016 IPS maintains the current commercial operation date ("COD") for Unit 3 by using [REDACTED]¹ Senior Management imposed schedule constraints². All Unit 4 Senior Management imposed schedule constraints have been removed in the December 2016 IPS³. Staff has performed schedule analyses of the Project IPS which shows that in addition to the Senior Management imposed schedule constraints [REDACTED] of 'hard constraints'⁴ are embedded in the IPS.

Staff and the CM believe that the Project CODs are, in effect, [REDACTED] to the end of June 2019, for Unit 3, and end of June 2020, for Unit 4. Also, Staff and the CM believe that the Company and Contractor must provide the effective leadership required to improve performance on the Project and increase production to achieve the forecasted CODs.

Staff and the CM believe one (1) critical and five (5) near critical paths exists for Unit 3, all of which show, or would show, significant forecast delays from the Project Schedule should all of the constraints in the IPS be removed. The paths are as follows:

- Critical Path
 - Inside containment
- Near Critical Path
 - Shield Building eastside to elevation 149'6"
 - Auxiliary Building to Main Control Room operable
 - Annex Building to elevation 135' north
 - Initial Energization ("IE")
 - Initial Test Program/ITAAC

Of the above, [REDACTED]

Staff and the CM believe that all of the paths to Unit 3 completion are under schedule stress and will likely incur additional delays. This is evidenced by the information provided in the Schedule Section below.

¹ December 2016 Senior Management Update

² A constrained activity is one where the completion date is held constant regardless of movement of predecessor activities.

³ December 2016 Senior Management Update

⁴ A hard constraint is one where an activity is given a date designation such as 'must start on', 'must finish on', and 'start (or finish) not later than'.

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Toshiba, parent company of WEC, announced that it will take a charge to earnings of approximately \$6 billion related to the four AP1000 Units being constructed in the U.S. It is believed a significant portion of the charge is related to grossly under estimating the amount of work remaining to complete the U.S. Projects. This was determined by Toshiba in its 'Estimate to Complete' analysis⁵. Please refer to the email sent to Commissioners by Steven Roetger dated January 9, 2017.

Staff and the CM believe the financial deterioration of Toshiba could be a significant impediment to the completion of the Project. As best as can be determined at this time, Toshiba is in the process of attempting to secure both private and public financing. Given the current IPS status that many Project milestones have been delayed, and a very high probability that a significant amount of additional man hours will be required to complete the Project, Staff and the CM believe the current forecast dates are [REDACTED].

Significant Accomplishments in December 2016

- On December 3, 2016 Unit 3 Ring 2 was set.
- On December 6, 2016 concrete was placed at El. 170' in the Unit 3 Turbine Building.
- On December 12, 2016 concrete was placed under the Unit 4 containment vessel bottom head to El. 82'6" (wedge).
- On December 15, 2016, concrete was placed for the First Bay walls at El. 122' in the Unit 3 Turbine Building.
- In December the ITAAC group met its commitment of 144 ITAAC Closure Notifications submitted in 2016.

PROJECT SCHEDULE

The graph below presents the construction monthly percent complete curve for standard plant scope with planned and earned values for June through December 2016 and planned values for January through March 2017. The December earned percent complete was [REDACTED]% versus a plan of [REDACTED]%. The temporary curve was provided by the Contractor to track Project progress until the completion of the Estimate to Complete (ETC) which is required to realign the percent complete curve. The Contractor has stated that [REDACTED]. The ETC is expected to be complete by the end of the first quarter 2017. No final ETC has been made available to the Company at this time.

Redacted In Its Entirety

⁵ Toshiba is scheduled to hold their earnings call on February 14, 2017. More information should be available at that time.

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The key take-away from the chart is that the earned value must continue to increase every month to reach over █% by March 2017 to keep pace with the plan. With the addition of work identified in the ETC, the percent complete per month will need to be even greater than shown above. The current Unit 3 forecasted COD is approximately 30 months away including 7 months for Fuel Load and Start Up activities. Removing the months for Fuel Load and Start Up, only 23 months remain for completing construction on Unit 3.

The Contractor has developed a new Performance Improvement Plan and has identified a team of individuals with a mission of improving performance. They are to █

█. Another █ in December.

At the December monthly project review meeting between the Company and Contractor, the Company shared its observations on production during the previous thirty (30) days:

- █;
- █;
- █;
- █;
- █;
- █;
- █;

In addition to the steps taken above, █

Balance of Plant ("BOP") activities, i.e. non-safety related, continue to progress satisfactorily.

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Unit 3 Short Term Critical Activities

In December, the Contractor reported⁶ that the primary critical path continues to run through the Containment Vessel. The Contractor has developed a plan for accomplishing the critical concrete placement at elevations 103' West and 105' East inside the Unit 3 Containment. [REDACTED]

The table below presents Unit 3 short term Contractor critical path or near critical path activity forecast dates that, for the most part, pushed out during the month of December. Please note the change in forecast days delayed occurred in the 5 weeks between the dates 11/23/2016 to 12/30/2016.

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⁶ November 2016 Senior Management Update

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Project Long Term Critical Activities

The following long term activities have been identified by Staff as high risk for delay:

- Unit 4 CA03 sub-module fit up and welding to meet the construction need dates;
- Unit 4 Shield Building panel fit up, and welding to meet construction need dates;
- Unit 3 inside containment work activities including installation of steam generator B, other major mechanical equipment and steam supply system and piping; and electrical equipment;
- Unit 3 Q601 mechanical module fabrication;
- Unit 3 Initial Test Program, Digital Instrumentation and Control, and Start-up execution and completion;
- Timely completion of the 874 ITAACs for each Unit;
- Contractor's timely completion of the Cyber Security assessment and design to meet NRC regulatory requirements prior to initial fuel load.

COMPANY PROJECT COST FORECAST

Current Forecast

The table below compares the certified cost to the Company's 15th VCM cost forecast and calculates the approximate change in cost during the 39-month delay. Costs associated with the Definitive Settlement Agreement and Amendment 7 to the EPC Agreement are included. Impacts associated with the Stipulation are incorporated.

	Certified Cost	15th VCM -39 Month Delay Forecast	Change
	CODs 2016/2017	CODs 2019/2020	
	(Billion \$)	(Billion \$)	(Billion \$)
EPC Cost	\$3.8	\$3.7	\$-0.1
Owners' Cost & EPC Scope Change	0.6	1.7	+1.1
Financing	1.7	2.4	+0.7
VCM 15 Total Project Cost	\$6.1	\$7.8	+1.7

Note: Number may not sum due to rounding.

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Exhibit A
Unit 3 Roadmap Variance Analysis

The table below was provided by the Company in the Senior Management Update for December 2016.

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Constraint*

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Exhibit B

Unit 4 Roadmap Variance Analysis

The table below was provided by the Company in the Senior Management Update for December 2016.

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