



Bin 10230
241 Ralph McGill Boulevard, NE
Atlanta, GA 30308-3374

August 31, 2021

Mr. Reece McAlister
Executive Secretary
Georgia Public Service Commission
244 Washington Street, First Floor
Atlanta, Georgia 30334-5701

RE: Georgia Power Company's Twenty-fifth Semi-annual Construction Monitoring
Report for Plant Vogtle Units 3 and 4; Docket No. 29849

Dear Mr. McAlister:

Enclosed for filing is Georgia Power Company's Twenty-fifth Semi-annual Construction Monitoring Report for Plant Vogtle Units 3 and 4 pursuant to O.C.G.A. § 46-3A-7(b), Georgia Public Service Commission ("Commission") Rule 515-3-4-.07(2)(b), and the Commission's Final Order in Docket No. 27800.

There is no trade secret information included in this Twenty-fifth Semi-annual Report.

Should you have any questions, please call me at 404-506-3044.

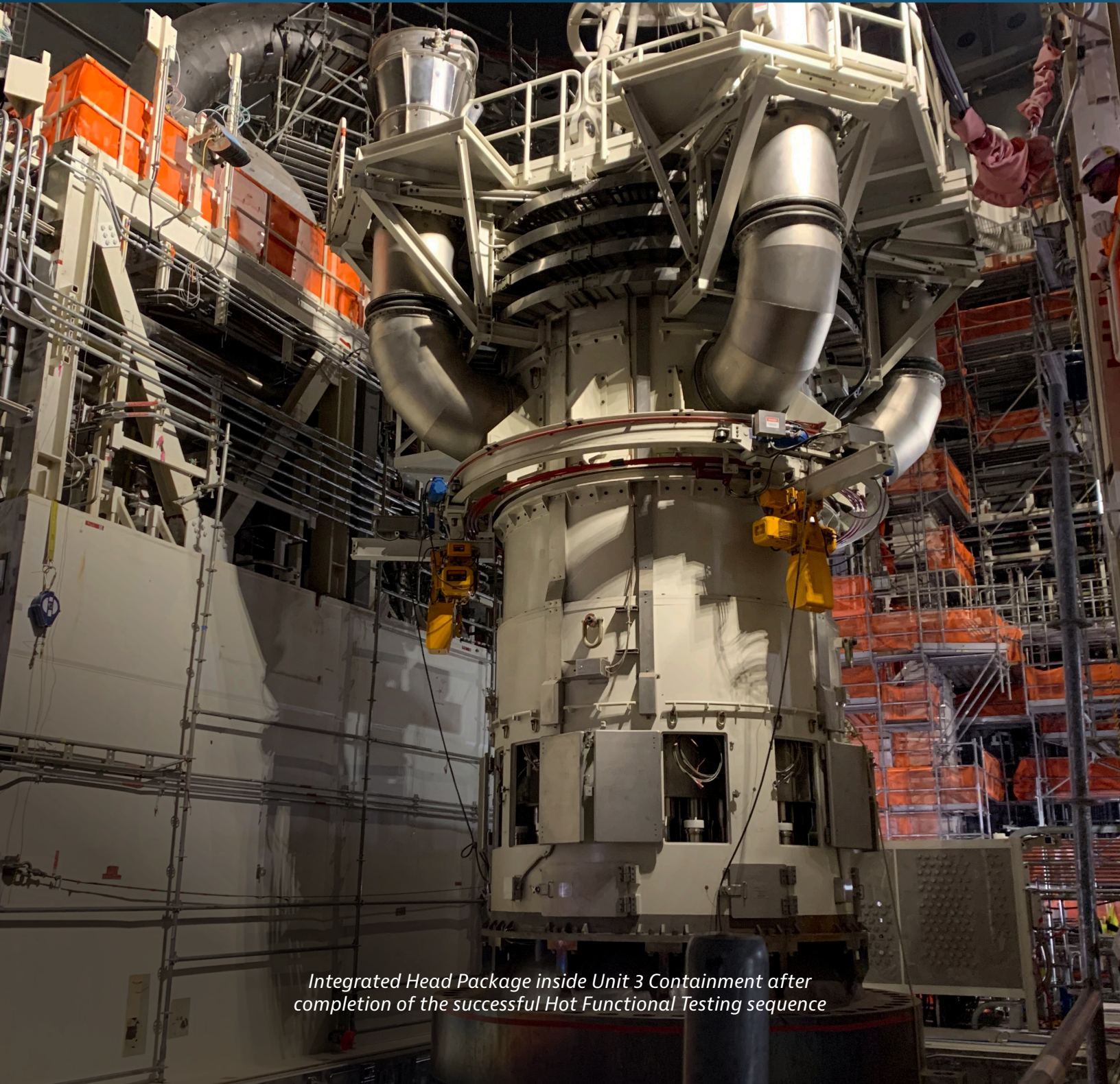
Sincerely,

A handwritten signature in cursive script that reads "Kelley Balkcom".

Kelley Balkcom
Director, Regulatory Affairs
mmcclosk@southernco.com

Twenty-fifth Semi-annual Vogtle Construction Monitoring Report

August 2021 • Docket No. 29849



Integrated Head Package inside Unit 3 Containment after completion of the successful Hot Functional Testing sequence

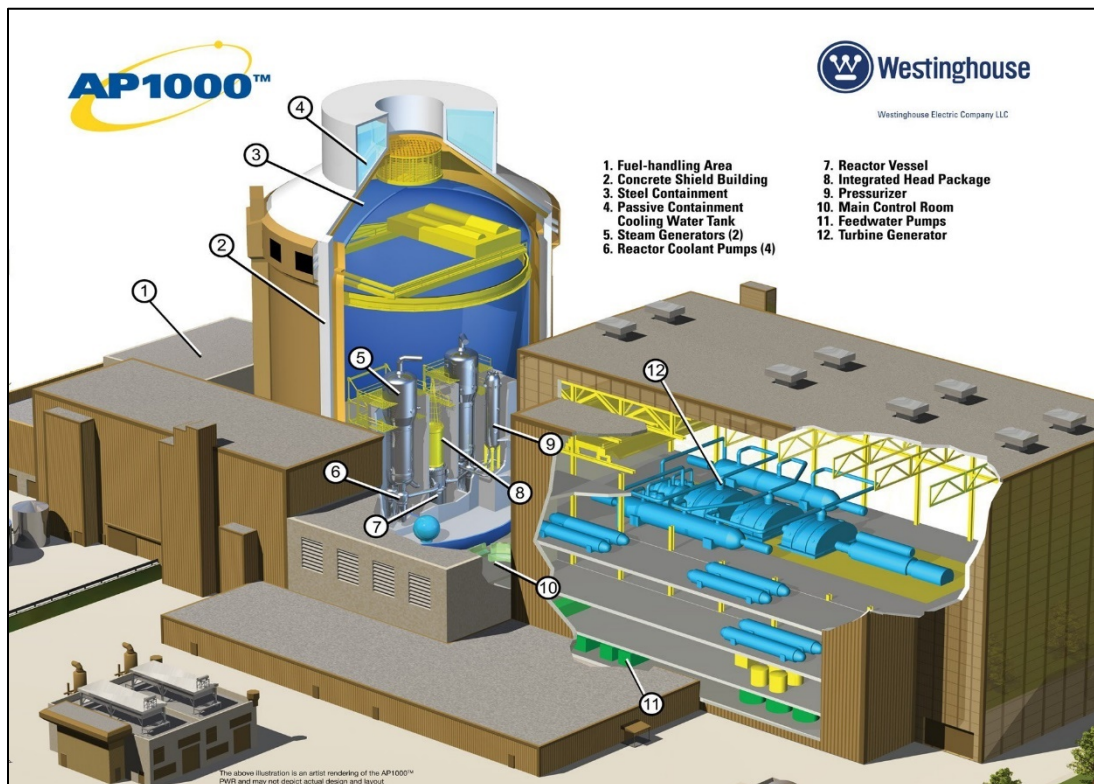
**Vogle Units 3 and 4
Twenty-fifth Semi-annual
Construction Monitoring Report**

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Unit 3 Nuclear and Turbine Islands

As of June 2021



EXECUTIVE SUMMARY

- **Georgia Power Company (“Georgia Power” or the “Company”) and Southern Nuclear Operating Company (“SNC”), as agent for Georgia Power, are committed to safety, quality, and compliance.**

Site leadership strives to cultivate and enhance a culture that promotes safety first. The Site continues to have an OSHA Recordable Incidence Rate well below the heavy construction industry average. Site leadership continues to emphasize the importance of safety on the Project to prevent future incidents with particular emphasis on working safely near operating equipment now that the Project is well into the testing phase.

The Nuclear Regulatory Commission’s (the “NRC”) Construction Reactor Oversight Process (the “cROP”) was designed and implemented to ensure reactors under construction are built according to the NRC-approved design. This program allows the NRC to arrive at objective conclusions about a licensee’s effectiveness in guaranteeing construction quality, providing for predictable responses to performance issues, and clearly communicating performance assessment results to the public.

On June 21, 2021, the NRC announced a special inspection at Unit 3 to identify the circumstances that led to construction remediation work on electrical cable and associated raceway systems. Prior to NRC’s special inspection, SNC completed a root cause investigation for this issue and reported self-identified issues associated with the Unit 3 cable systems to the NRC. The NRC special inspection concluded with an exit briefing on July 12, 2021, and its special inspection report was issued on August 26, 2021. The special inspection report noted two Apparent Violations and one Non-cited Violation. The violations identified in the NRC’s report were already captured within the site corrective action program prior to the commencement of the special inspection, and work has been underway for months to resolve these issues. SNC is reviewing the inspection report and will respond accordingly as part of the inspection process.

- **Georgia Power incurred \$608 million of capital expenditures during the Reporting Period.**

Table 1 – 25th VCM Expenditures

Dollars in Millions

Site Construction Management	\$ 537
Owner’s Costs	49
Ad Valorem Tax	21
Transmission Interconnection	-
Total 25 th VCM Expenditures	<u>\$ 608</u>

- **Georgia Power requests verification and approval of \$67 million in capital expenditures, as well as Commission review of an additional \$541 million.**

During the Reporting Period, Project expenditures exceeded the \$7.3 billion capital cost forecast previously deemed reasonable by the Commission in its VCM 17 Order. As agreed in the Commission's VCM 24 Order Adopting Stipulation, the Company is not currently seeking verification and approval of costs incurred above the \$7.3 billion and will not request such verification and approval prior to the prudence review contemplated by the VCM 17 Order. Of the \$608 million incurred during the Reporting Period, approximately \$67 million is being presented in this VCM Report for verification and approval, with the remaining \$541 million being presented for Commission review only.

- **The Company's share of the total Project cost forecast is projected at \$9.2 billion.**

The Company and SNC continue to monitor and evaluate costs associated with the completion of the Project. During the Reporting Period, the Company's projected share of the total Project cost forecast was increased to \$9.2 billion. The increase of \$508 million since the 24th VCM Report reflects assignments and replenishments of contingency to address the revised projected in-service dates for both units, construction productivity, construction remediation, and increased support resources. The Company is not requesting Commission approval of these cost increases in this filing but may request that the Commission evaluate expenditures allocated from contingency for future rate recovery (excluding the \$694 million which the Company has agreed it will not seek recovery) no earlier than the prudence review contemplated by the VCM 17 Order.

During the first quarter of 2021, the Company's projected share of total Project cost forecast further increased by \$48 million as some of the construction contingency was replenished to address the extended time necessary to reach the start of Unit 3 Hot Functional Testing ("HFT") and the potential cost risk remaining to complete both units.

During the second quarter of 2021, the Company's projected share of total Project cost forecast increased by \$460 million as the remaining construction contingency previously established was fully allocated and an additional \$341 million was assigned to the base capital cost forecast for costs primarily associated with schedule extensions for Units 3 and 4, construction remediation work, construction productivity, and support resources, plus \$119 million to replenish construction contingency. The Company continues to anticipate that all of the forecasted contingency, including the additional construction contingency, will be spent by the completion of the Project.

Cumulative capital expenditures through the Reporting Period are \$7.9 billion after accounting for receipt of the Toshiba Parent Guaranty. The estimated remaining capital spend to complete the Project is approximately \$1.4 billion, which includes Georgia Power's share of Project contingency.

- **The target in-service date for Unit 3 is now in the second quarter of 2022.**

The target in-service date for Unit 3 is projected to occur during the second quarter of 2022. The Project team continues to review its cost and schedule forecasts to incorporate current information, particularly in the areas of commodity installation, system turnovers, testing progress, and attraction and retention of labor.

Since filing of the 24th VCM Report, SNC has identified and performed additional construction remediation work necessary to ensure quality and design standards are met for turnovers made on systems and areas to support HFT and Fuel Load for Unit 3. At the end of the second quarter 2021, as a result of challenges that included, but were not limited to, construction productivity, construction remediation work, the pace of system turnovers, Spent Fuel Pool repairs, and the timeframe and duration for HFT and other testing, SNC further extended certain milestone dates, including the Fuel Load date for Unit 3, from the milestone dates previously reported in the 24th VCM Report. The site work plan currently targets Fuel Load for Unit 3 in November 2021 and an in-service date of March 2022. However, as the site work plan includes minimal margin to these milestone dates, an in-service date for Unit 3 is projected in the second quarter of 2022 and any further delays could result in a later in-service date.

The Project team continues to address challenges associated with lower production, work package closure, component testing, and schedule sequencing issues, all of which have been exacerbated by the impact of the COVID-19 pandemic.

- **Unit 3 HFT was successfully completed.**

Unit 3 HFT was completed on July 28, 2021, thus completing the last major test before Unit 3 Fuel Load and Start-up. Although the procedure took longer than planned, HFT verified the successful operation of reactor components with both the primary and secondary plant systems and confirmed that the plant's core systems function as designed. Using the heat generated by Unit 3's four Reactor Coolant Pumps ("RCPs"), the temperature and pressure of plant systems were raised to normal operating levels. Once Normal Operating Temperature ("NOT") and Normal Operating Pressure ("NOP") levels were achieved and sustained, the unit's main turbine was rolled to normal operating speed using steam from the plant. Hundreds of tests were completed to exercise and validate equipment performance at various temperature and pressure plateaus as required ahead of Fuel Load.

- **Unit 4 continues to work toward an aggressive site work plan.**

At the end of the second quarter of 2021, as a result of construction productivity challenges, SNC further extended milestone dates for Unit 4 from those reported in the 24th VCM Report. The site work plan targets an in-service date of November 2022 and primarily depends on overall construction productivity and production levels significantly improving, as well as appropriate levels of craft labor, particularly electricians and pipefitters, being added and maintained. Because the site work plan includes minimal margin to the milestone dates, the Unit 4 in-service date is projected for the first quarter of 2023 and any further delays could result in a later in-service date.

- **The Project continues to make significant progress.**

During the Reporting Period, the Project continued its progress on Unit 3 with the completion of HFT, the turnover of more than 80 systems to the Initial Test Program (“ITP”), as well as seven system turnovers and four area turnovers to Site Operations. At the end of the Reporting Period, direct construction for Unit 3 was 99% complete. For Unit 4, examples of significant progress included setting the Passive Containment Cooling Tank (“CB20”) on the Shield Building and Initial Energization (“IE”). At the end of the Reporting Period, direct construction for Unit 4 was 83% complete.

The Site Operations team is on full shift staffing of the control room and operating various equipment throughout Unit 3. Site Operations personnel not assigned to Unit 3 shift work are supporting critical work within the Construction and ITP organizations. Working in partnership with the SNC Maintenance organization, members of the Site Operations organization continue to perform monitoring activities across the site and are engaged in the preservation of installed equipment ready to be tested.

- **The Project team is working diligently to mitigate risks and pressures on performance.**

The Project has continued to face significant challenges to performance, particularly in the areas of construction remediation work, work package closure, system turnovers, and subcontracted scopes of work, all of which have been exacerbated by the impacts of the COVID-19 pandemic onsite. The Project team continues to prioritize safety and quality over schedule. With these key tenets in mind, the Project team is working closely with Bechtel and other subcontractors to remove barriers to production, where possible, and to support their efforts to increase production in a safe and quality manner. The Project team also continues to monitor the impacts of the COVID-19 pandemic and potential risks to the health and safety of workers onsite and in the community, as well as the progress necessary to meet the Project’s projected in-service dates.

As Unit 3 nears start-up, the Project team has worked to address the potential risk of unanticipated challenges during the start-up phase that could cause delays, as well as the completion of the design and program commitments confirmed through the NRC’s Inspections, Tests, Analyses, and Acceptance Criteria (“ITAAC”) program. Despite these efforts, the Company and SNC recognize that the Project may continue to experience challenges, which may impact the Project cost and/or the projected in-service dates.

- **COVID-19 Update**

The Project continues to navigate the effects of the COVID-19 pandemic on the Project’s workforce, schedule, and cost. Protecting the health and safety of the Vogtle Units 3 and 4 team, as well as the surrounding community, continues to be the highest priority for the Project. With the widespread availability of COVID-19 testing and vaccines in the surrounding area, the Project demobilized the on-site medical village in July of this year. In total, the medical village conducted over 8,600 COVID-19 tests and administered over 1,100 vaccines. Similar to the surrounding area and the rest of the country, the Project has recently experienced an

uptick in COVID-19 cases due to the “Delta” variant. The Project team continues to monitor the state of the pandemic, adjusting protocols as necessary to reduce the potential for further impacts of the pandemic on the Project.

As of the date of this filing, there have been over 2,800 positive cases onsite since the beginning of the pandemic. Performance challenges associated with higher-than-normal absenteeism for both craft and non-manual personnel, and sudden disruptions to planned or ongoing work due to the required isolation of personnel assigned to direct construction, subcontracts, testing, and other support activities contributed to schedule delays and increased costs on the Project. Through the Reporting Period, it is estimated that productivity impacts of the COVID-19 pandemic have consumed approximately three to four months of schedule margin previously embedded in the site work plans for both units, with an estimated cost of \$160-200 million. These impacts from COVID-19 were the result of circumstances outside of the Project team’s direct control.

Significant uncertainty continues to surround COVID-19 on a global basis, and the Project is no exception. The Company, SNC, and Bechtel continue to monitor and address these and other risks as the pandemic evolves. Despite the significant challenges and uncertainty, Project Leadership, with the support of the personnel assigned to Vogtle Units 3 and 4, have continued to safely progress the Project and achieve major accomplishments.

- **Vogtle Units 3 and 4 peak rate impact for customers is expected to be approximately ten percent.**

Using the construction capital costs deemed reasonable as of this 25th VCM Report, the projected peak rate impact to retail customers is approximately ten percent, with approximately three percent already in rates. Vogtle Units 3 and 4 will serve as an economic baseload resource to meet the electricity needs of our customers, in addition to the value that nuclear energy provides to Georgia’s future, particularly when potential environmental regulations are considered. Upon completion, Vogtle Units 3 and 4 will be an asset to Georgia Power, its customers, the state, and the nation for at least 60 years. The new units will support Georgia’s economic growth and provide economic benefits to current electric customers, as well as those looking to expand or relocate to the state.

Consistent with previous VCM reports, the rate impacts include customer benefits that the Company proactively pursued – including federal production tax credits (“PTCs”) and interest savings from the Department of Energy (“DOE”) loan guarantees. The projections also include the fuel savings associated with adding additional nuclear units to the generation mix.

In addition, as a result of the Commission’s VCM 17 Order, penalties against the Company for schedule delays are providing customers with positive benefits in the form of lower financing costs while the Project remains under construction.

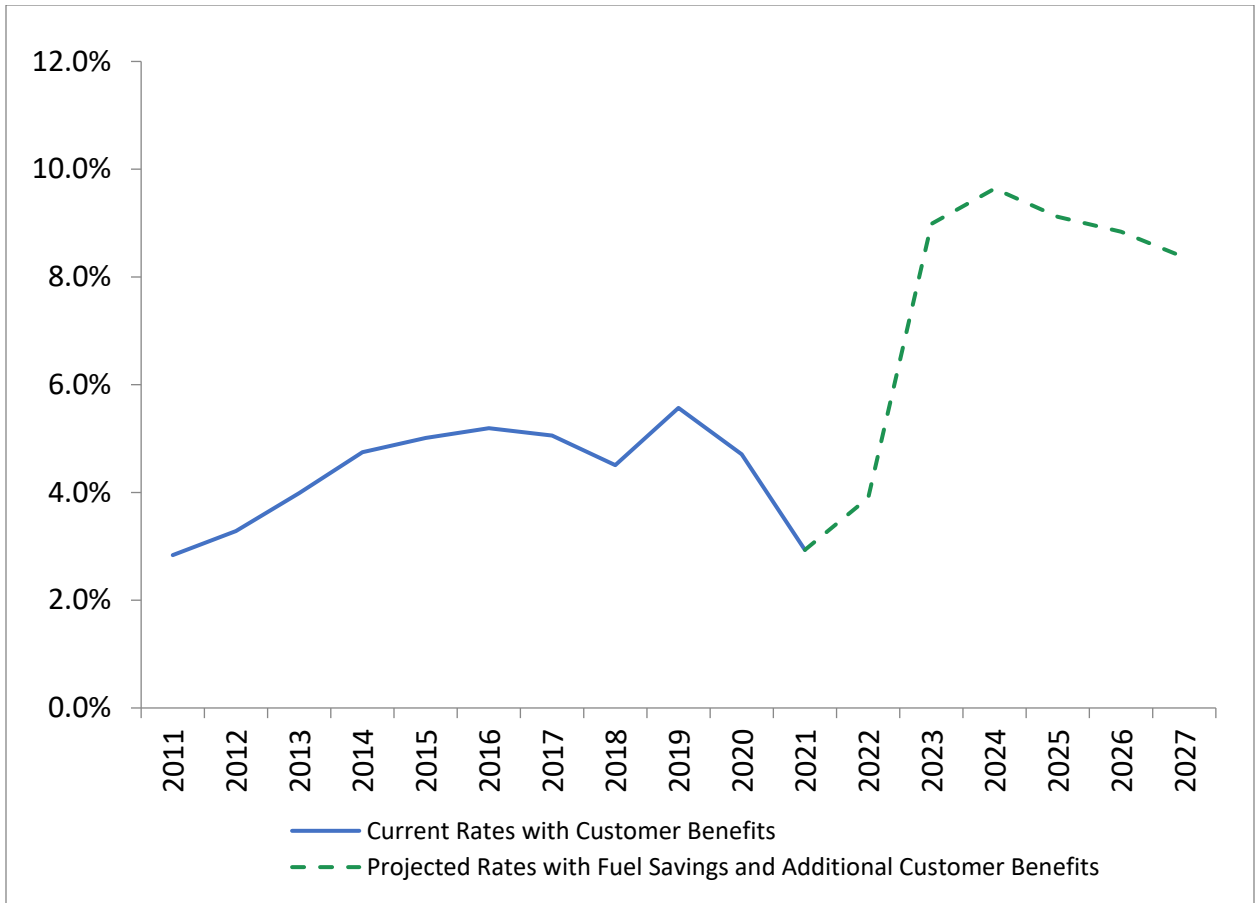


Figure A – Projected Cumulative Rate Impacts

RESPONSES TO STIPULATED QUESTIONS

1. The reasons for any additional change in the estimated costs and schedules of the units since the process began.

Since the 24th VCM Report, the Project cost forecast has increased by \$508 million to \$9.2 billion. The details of the new Project cost forecast are provided in Table 1.1, which also reflects the to-date capital investment, actual-to-forecast variances, and the total financing costs during construction. Total financing costs include amounts collected and forecasted to be collected pursuant to the NCCR tariff and amounts accrued and forecasted to be accrued through AFUDC.

During the first quarter of 2021, approximately \$84 million of the construction contingency established in the fourth quarter 2020 was assigned to the base capital cost forecast for costs primarily associated with the schedule extension for Unit 3 to December 2021, construction productivity, support resources, and construction remediation work. The Company increased its total capital cost forecast by adding \$48 million to the remaining construction contingency.

During the second quarter of 2021, the Company's projected share of total Project cost forecast increased by \$460 million as the remaining construction contingency previously established was fully allocated and an additional \$341 million was assigned to the base capital cost forecast for costs primarily associated with schedule extensions for Units 3 and 4, construction remediation work, construction productivity, and support resources, plus \$119 million to replenish construction contingency.

For Unit 3, since the filing of the 24th VCM Report, SNC has been performing and identifying additional construction remediation work necessary to ensure quality and design standards are met for system turnovers to support the recently completed HFT and the upcoming Fuel Load for Unit 3. The site work plan currently targets Fuel Load for Unit 3 in November 2021 and an in-service date of March 2022. However, given the minimal margin in the site work plan, an in-service date for Unit 3 is projected in the second quarter of 2022 and any further delays could result in a later in-service date.

At the end of the second quarter of 2021, as a result of productivity challenges, SNC further extended milestone dates for Unit 4 from those reported in the 24th VCM Report. The site work plan targets an in-service date of November 2022 and primarily depends on overall construction productivity and production levels significantly improving, as well as appropriate levels of craft labor, particularly electricians and pipefitters, being added and maintained. Because the site work plan includes minimal margin to the milestone dates, an in-service date in the first quarter of 2023 for Unit 4 is projected, although any further delays could result in a later in-service date.

In Table 1-A below, the Unit 3 site work plan milestone dates are shown in comparison to the June 2022 benchmark schedule.

Table 1-A – Unit 3 Comparison to June 2022 Benchmark Schedule		
Unit 3 Major Milestone	July 2021 Site Work Plan	June 2022 Benchmark Schedule
Cold Hydro Testing	October 2020 (Actual)	
Condenser Vacuum	December 2020 (Actual)	
Hot Functional Testing	July 2021 (Actual)	
Fuel Load	November 2021	February 2022
Commercial Operation Date	March 2022	June 2022

Table 1-B below shows a comparison of milestone dates between the current Unit 4 site work plan and the March 2023 benchmark schedule.

Table 1-B – Unit 4 Comparison to March 2023 Benchmark Schedule		
Unit 4 Major Milestone	July 2021 Site Work Plan	March 2023 Benchmark Schedule
Open Vessel Testing Start	October 2021	March 2022
Open Vessel Testing Finish	December 2021	April 2022
Cold Hydro Testing Start	February 2022	June 2022
Cold Hydro Testing Finish	March 2022	July 2022
Structural Integrity Test (“SIT”)/ Integrated Leak Rate Test (“ILRT”) Start	January 2022	May 2022
Hot Functional Testing Start	March 2022	August 2022
Hot Functional Testing Finish	May 2022	September 2022
Fuel Load Start	July 2022	November 2022
Commercial Operation Date	November 2022	March 2023

The Company and SNC recognize that the Project may continue to experience challenges, including additional COVID-related challenges resulting from the Delta and future variants, and that these challenges and unanticipated events, or failure to meet the current site work plan, may require further revision to the site work plan, capital cost forecast, and/or Project schedule.

Table 1.1

Vogtle 3&4 Project
Georgia Power Company Cost
Project To Date
Through Period Ending June 30, 2021

	<u>Total Project Capital</u>			<u>Project to Date Capital</u>		
	VCM 24 (\$ millions)	Total Current Forecast (\$ millions)	Variance (\$ millions)	Actual To Date (\$ millions)	Budget To Date (\$ millions)	Variance (\$ millions)
Construction & Capital Cost						
Original EPC ⁽¹⁾	\$ 3,198	\$ 3,198	-	\$ 3,198	\$ 3,198	0
Interim Payments & Liens	411	411	-	409	409	-
Site Construction Management						
Engineering Contractor	467	530	63	442	438	4
Procurement	1,321	1,393	73	1,230	1,249	(20)
Contract Construction	2,538	2,786	248	2,366	2,350	15
Construction Support & Project Management	622	772	150	463	484	(20)
Total Site Construction Management	4,948	5,482	534	4,500	4,521	(20)
Owner's Costs	1,117	1,144	27	959	961	(1)
Ad Valorem	273	273	0	205	213	(8)
Transmission Interconnection	62	62	0	61	61	(0)
Test Fuel Offsets	(4)	(4)	0	0	0	-
	1,448	1,475	27	1,225	1,234	(9)
Total Construction & Capital Cost⁽³⁾	10,005	10,565	561	9,333	9,362	(30)
Toshiba Parent Guarantee, net of customer refunds	(1,492)	(1,492)	-	(1,492)	(1,492)	-
Total to be Absorbed by GPC	(694)	(694)	-	0	0	-
Allocated Contingency Included Above ⁽³⁾	(519)	(1,079)	(561)	0	0	-
Total Construction & Capital Cost, net of Parent Guarantee and amounts to be absorbed by GPC⁽⁴⁾	\$ 7,300	\$ 7,300 ⁽²⁾	\$ -	\$ 7,841	7,871	(30)
Other Capital Cost						
Construction Monitor	22	22	-	15	15	(0)

Vogtle 3&4 Project
Georgia Power Company Financing Cost - **Recovered Pursuant to O.C.G.A. 46-2-25 (c.1),
the January 3, 2017 Order Adopting Stipulation, and the VCM 17 Order**
Project To Date
Through Period Ending June 30, 2021

	<u>Total Project Financing</u>	<u>Project to Date Financing</u>		
	Total Current Forecast <u>(\$ millions)</u>	Actual To Date <u>(\$ millions)</u>	Budget To Date <u>(\$ millions)</u>	Variance <u>(\$ millions)</u>
Project Schedule Financing				
Return on CWIP in Rate Base ⁽⁵⁾	2,767	2,493	2,490	3
AFUDC - Accrued on CWIP Above Original Certified Cost	288	143	146	(3)
AFUDC - Accrued through Dec 2010 and Related Return	<u>109</u>	<u>109</u>	<u>109</u>	-
Total Project Schedule Financing	\$ 3,164	\$ 2,746	\$ 2,745	\$ 1
Total Capital Cost and Financing⁽⁴⁾	\$ 10,464	\$ 10,587	\$ 10,616	\$ (29)

Footnotes:

- Includes Original EPC contract payment milestones and EPC Scope Change.
 - \$7.3 billion is the Total Construction & Capital Cost approved by Georgia Public Service Commission Order dated January 11, 2018 ("VCM 17 Order"). Above excludes \$119 million in unspecified project contingency. Such amounts may be recommended for consideration by the GPSC as and when included in the Construction and Capital Cost forecast.
 - The Company is not requesting Commission approval of the \$1.1 billion of contingency allocated to construction cost categories in this filing but may request that the Commission evaluate expenditures allocated to contingency for rate recovery as and when appropriate.
 - Excludes construction monitor fees pursuant to the VCM 19 Order.
 - NCCR will only be collected on the certified capital cost of \$4.418 billion per the January 3, 2017 Order Adopting Stipulation and VCM 17 Order.
- Note: Details may not add to totals due to rounding.

Table 1.2

Replacement Energy Costs and Deferred Operating Costs								
<i>Million of Dollars</i>								
Date	VCM	Deferred Benefits		Deferred Operating Costs			Total Deferred Operating Costs	Net Cost
		Replacement Energy Cost	Deferred PTCs	O&M	Depreciation	Ad Valorem		
Total 2016		43.6	89.6	(67.0)	(41.2)	(9.3)	(117.5)	15.7
Total 2017		115.8	186.5	(130.4)	(112.3)	(23.2)	(265.9)	36.4
Total 2018		174.3	161.5	(131.9)	(127.7)	(25.6)	(285.1)	50.7
Total 2019		140.2	161.5	(150.2)	(127.9)	(25.0)	(303.1)	(1.4)
Total 2020		116.3	166.2	(140.6)	(127.9)	(36.2)	(304.6)	(22.2)
Jan-21	25th	12.6	14.2	(10.6)	(10.8)	(3.6)	(25.0)	1.8
Feb-21	25th	19.3	14.2	(10.8)	(10.8)	(3.6)	(25.2)	8.3
Mar-21	25th	11.1	14.2	(11.3)	(10.8)	(3.6)	(25.7)	(0.4)
Apr-21	25th	9.9	14.2	(11.2)	(10.8)	(3.6)	(25.6)	(1.5)
May-21	25th	13.5	14.2	(11.2)	(10.9)	(3.6)	(25.6)	2.1
Jun-21	25th	18.7	14.2	(11.0)	(10.9)	(3.4)	(25.3)	7.7
Total VCM 25		85.2	85.4	(66.3)	(65.1)	(21.2)	(152.5)	18.1
Total to Date		675.5	850.8	(686.3)	(602.1)	(140.4)	(1,428.8)	97.4

2. The status of the Company's loan guarantee application at the DOE and to the extent that the application is granted, then the Company shall also report on the impact it has or would have on the final expected in-service cost of the units.

Table 2 – DOE Loan Guarantee		
Available	Received	Remaining
\$5.13 billion	\$5.06 billion	\$0.07 billion

As of the end of the Reporting Period, Georgia Power has borrowed \$5.06 billion related to Vogtle Units 3 and 4 costs through the DOE Loan Guarantee Agreement and a multi-advance credit facility among Georgia Power, the DOE, and the Federal Financing Bank.

The DOE loan guarantee does not have a material impact on the in-service cost of Vogtle Units 3 and 4, but it does provide benefits to customers through access to lower credit spreads during construction and future operation. Georgia Power customers are estimated to save approximately \$533 million, of which approximately \$513 million has already been secured through draws against the credit facility.

3. The status of Quality and Compliance, Procurement, Engineering, Construction and Operational Readiness.

TOTAL PROJECT PERCENT COMPLETE

As of July 31, 2021, the total Project is approximately 94% complete. The major remaining scopes of work are finishing direct construction, subcontractor construction and completing the ITP/Start-Up Testing. As shown below, total construction, covering both Units 3 and 4, is approximately 94% complete. Direct construction (as shown in Figure B on page 16) is approximately 93% complete, which represents approximately 65% of the total construction scope. The remaining 35% of construction scope includes subcontracted scopes of work, which are approximately 95% complete as of July 2021. The ITP/Start-Up Testing scope is approximately 55% complete and will continue to progress as Construction completes and turns over components and systems to the ITP team.

Table 3.1 – Total Project Percent Complete	
Project Phase	July 2021 % Complete
Engineering	100%
Procurement	99.9%
Construction	93.8%
I&C / Cyber Security	99.9%
ITP / Start-Up Testing	55.4%
Total Project	93.9%

QUALITY AND COMPLIANCE

During the Reporting Period, the Company continued to provide oversight of the Project while SNC directed and provided guidance to contractors and actively addressed issues and concerns. SNC also continued quality oversight of construction, the ITP organization, and Site Operations to ensure compliance with laws, regulations, and Project licensing documents. SNC-led Quality Assurance (“QA”) teams monitored the safety and quality of work being conducted by Bechtel and various subcontractors through audits, and field surveillances.

As discussed previously, the NRC recently completed a special inspection at Unit 3 to identify the circumstances that led to construction remediation work for the electrical cable and associated raceway systems. Prior to NRC’s special inspection, SNC completed a root cause investigation for this issue, and reported self-identified issues associated with the cable systems to the NRC. The NRC special inspection concluded with an exit briefing on July 12, 2021, and its special inspection report was issued on August 26, 2021. The special inspection report noted two Apparent Violations and one Non-cited Violation. During the Reporting Period, as SNC was evaluating the extent of condition of this issue and its root cause investigation was in progress, SNC personnel were seconded to lead the Bechtel Quality Control organization, which allowed SNC to closely analyze

the current organization, determine and implement areas for improvement, and evaluate existing and potential areas of risk. This action affirms quality accountability and enhances oversight within the Construction Quality Control program.

ENGINEERING

During the Reporting Period, the overall Engineering organization continued to support construction, ITP, and start-up progress. The Construction Engineering organization continued to support Construction by ensuring all engineering documentation was completed and ready for system turnover, while the Start-up Engineering organization focused on processes and programs to support Fuel Load and plant operation. The ITP Design Engineering team focused on resolving issues that arise during component and system testing. The overall goal of the organization is to resolve issues to minimize impact.

The Construction Engineering organization continued their involvement in the ASME Nuclear Component Stamp (“N-Stamp”) approval process and work package closure. The NRC utilizes the N-Stamp to ensure safety-related piping systems, pumps, and other equipment meet the quality requirements set forth under the ASME Boiler and Pressure Vessel Code.

The Start-up Engineering organization continued to develop processes and programs for Fuel Load and plant operation, as required by NRC regulations.

PROCUREMENT

Please see an update on major equipment status in Table 3.2 below.

Table 3.2 – Major Equipment Status		
Component	Unit 3 Status	Unit 4 Status
Accumulator Tanks	Installed	Installed
Core Makeup Tanks	Installed	Installed
Deaerators	Installed	Installed
Diesel Generators	Installed	Installed
Integrated Head Package	Installed	In Progress
Main Step-up Transformers	Installed	Installed
Main Turbine Generator	Installed	Installed
Moisture Separator Reheater	Installed	Installed
Passive Residual Heat Removal Heat Exchanger	Installed	Installed
Polar Crane	Installed	Installed
Pressurizer	Installed	Installed
Reactor Coolant Loop Piping	Installed	Installed
Reactor Coolant Pumps	Installed	Installed
Reactor Vessel	Installed	Installed
Reactor Vessel Internals	Installed	In Progress
Reserve Auxiliary Transformers	Installed	Installed
Squib Valves 8”	Installed	In Progress
Squib Valves 14”	Installed	In Progress
Steam Generators	Installed	Installed

PROJECT PERFORMANCE

Direct Construction Percent Complete – Total Project

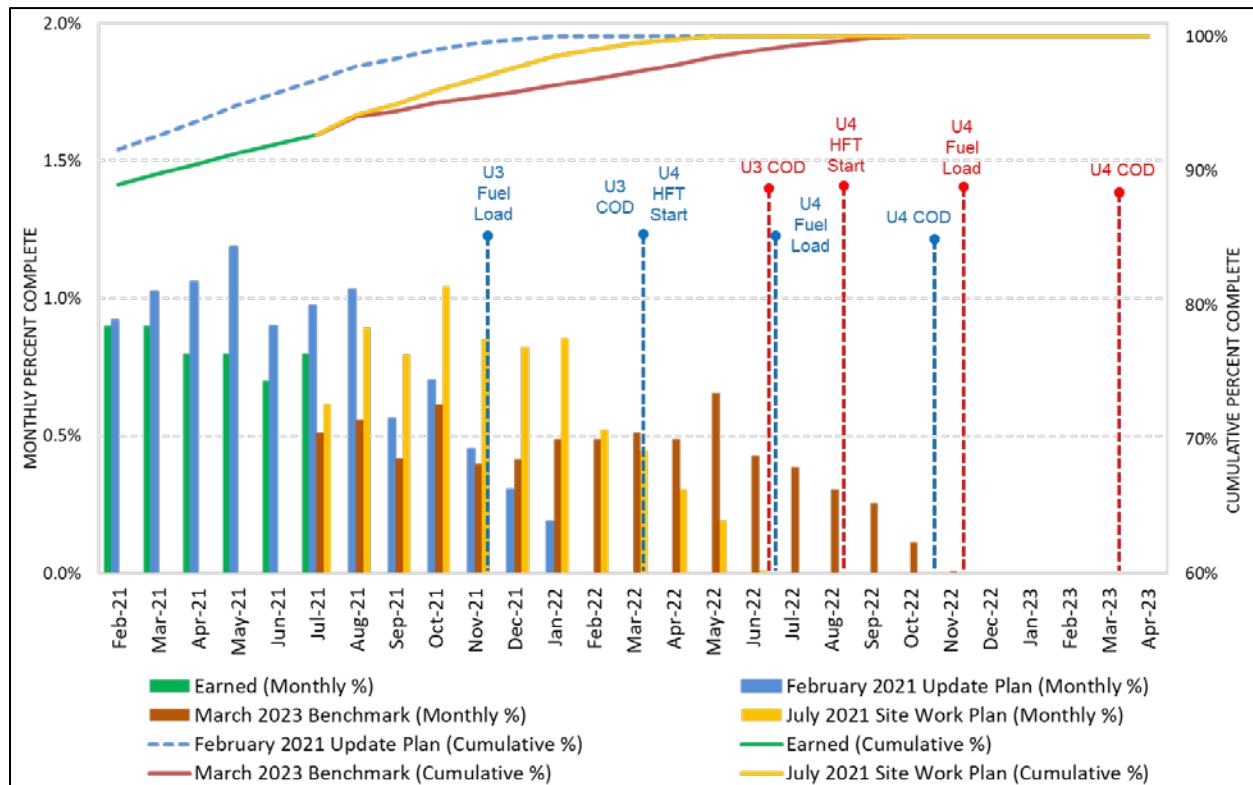


Figure B –Direct Construction Percent Complete – Total Project

Direct construction is working to a site work plan that was established following the July 2021 schedule update. Direct construction represents the Bechtel scope of work on the Project and includes the power blocks for both units and certain Balance of Plant (“BOP”) areas. Direct construction does not include certain subcontracted scopes of work (e.g., cooling towers, Raw Water Intake Structure, and permanent buildings) or the indirect labor necessary to support construction (e.g., labor to construct temporary construction facilities, scaffolding, material handling, housekeeping, warehousing support, and training). The forward-looking projections are subject to change due to a number of factors, including Project performance, unforeseen impacts of the COVID-19 pandemic, engineering changes, resequencing of activities, and construction of the Units.

Direct Construction Percent Complete – Unit 3

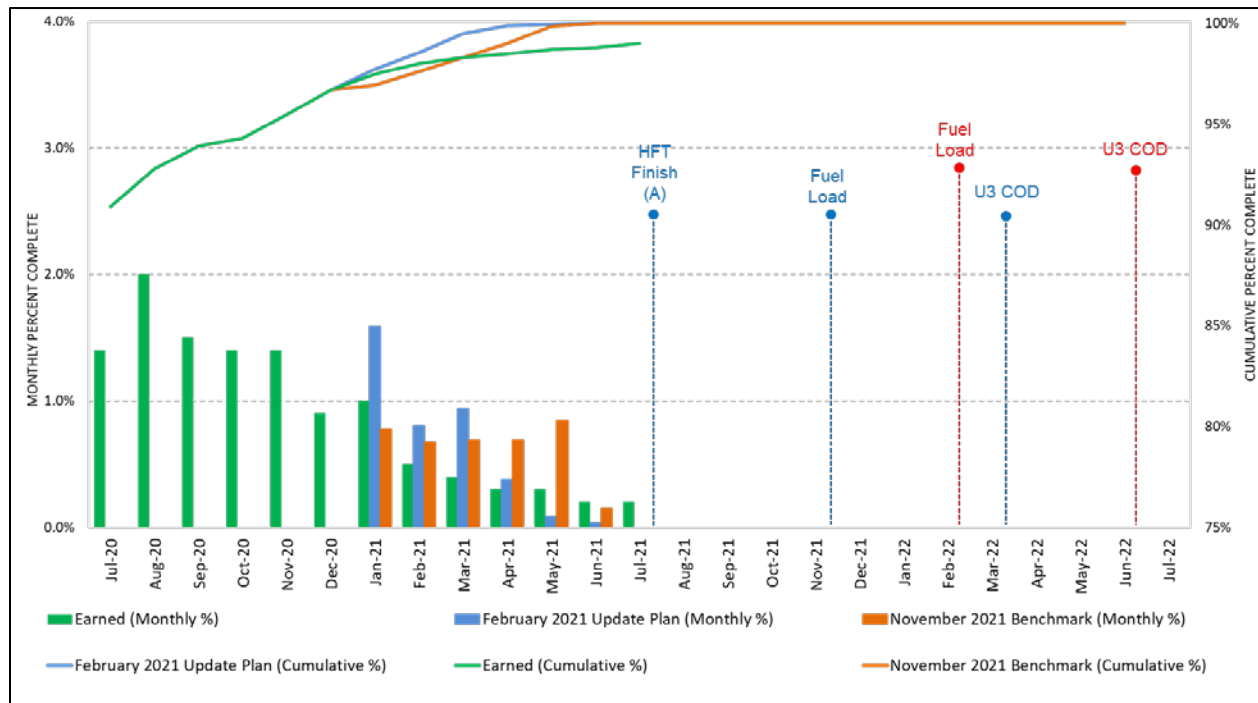


Figure C –Direct Construction Percent Complete – Unit 3

In Figure C above, Unit 3's direct earnings through July 2021 are shown relative to the February 2021 site work plan. As of the end of July 2021, Unit 3 direct construction is approximately 99% complete. The remaining work to be completed on Unit 3 involves system and area turnovers, component and pre-op testing, fuel load and start-up.

Direct Construction Percent Complete – Unit 4

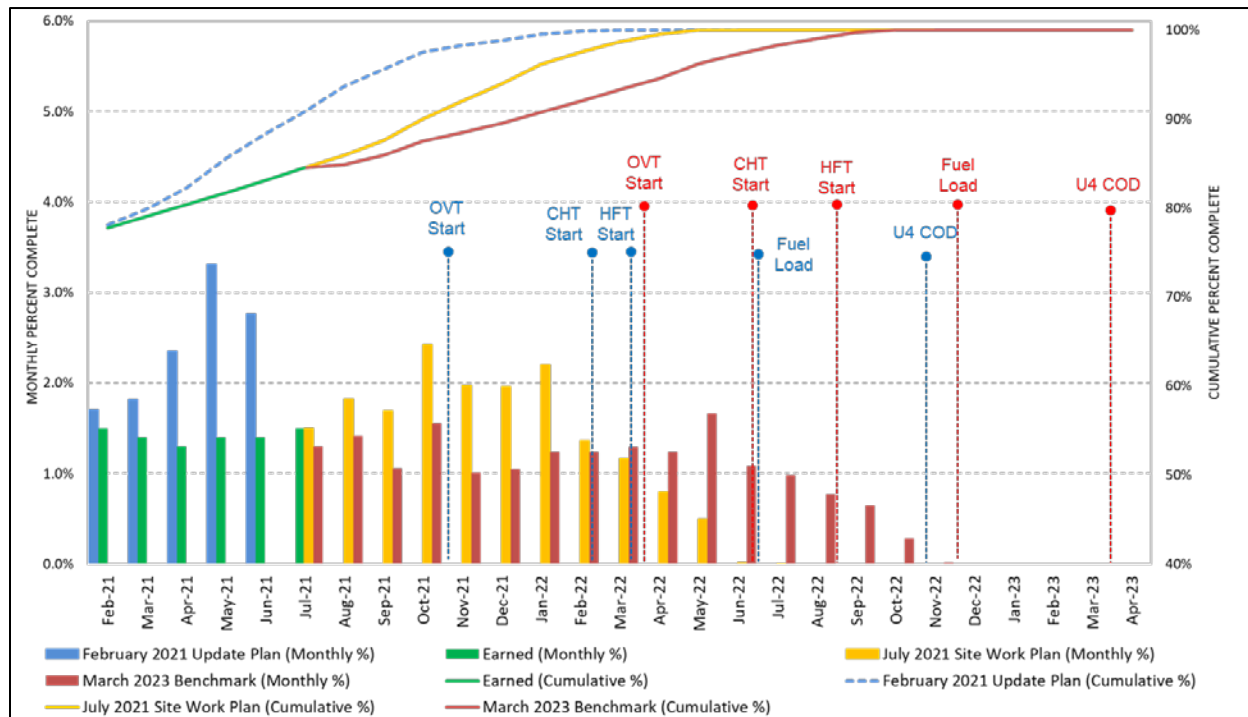


Figure D –Direct Construction Percent Complete – Unit 4

In Figure D above, Unit 4’s direct earnings through July 2021 are shown in comparison to the site work plan developed in July 2021. The monthly planned percentages and milestone dates for Unit 4 are included for both the July 2021 site work plan and the March 2023 benchmark schedule. The July 2021 site work plan illustrates the earnings curves and milestone dates estimated to be necessary to meet the regulatory-approved in-service date for Unit 4.

Construction Schedule Performance

The Schedule Performance Index (“SPI”) is a measure of how efficiently the Project is progressing compared to the schedule:

$$SPI = \frac{\text{hours planned}}{\text{hours earned}}$$

If the SPI is above 1.0, the Project is earning fewer hours than planned in the schedule during a given time. If SPI is less than 1.0, the Project is earning more hours than planned during a given time.

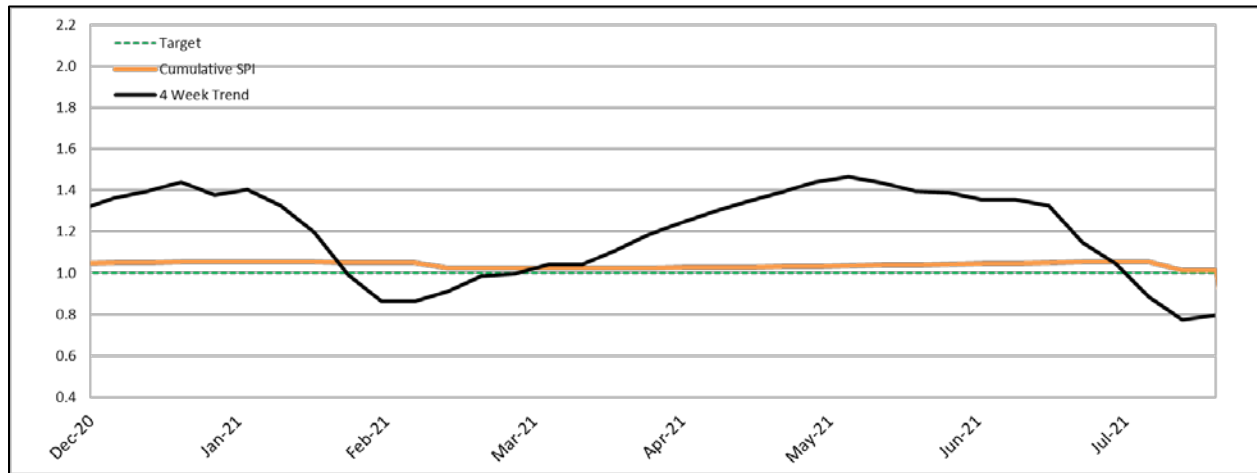


Figure E – Direct Construction Schedule Performance Index

Construction Cost Performance

The Cost Performance Index (“CPI”) is a measure of the cost efficiency of direct construction resources expressed as a ratio of earned value to actual cost:

$$CPI = \frac{\text{hours spent}}{\text{hours earned}}$$

If the CPI is above 1.0, the Project is spending more hours than planned to complete a task. If CPI is less than 1.0, the Project is spending fewer hours than planned to complete a task.

The Project is currently running a cumulative direct construction CPI near 1.5, which is largely attributable to increased complexity, system completion, work remediation, productivity challenges exacerbated by the impacts from the COVID-19 pandemic, and the transition of craft to other work fronts. To better quantify the impacts of lower than desired productivity on the required direct construction resources, the Project continues to adjust the to-go budget forecast for Unit 3 and Unit 4 with the allocation of contingency dollars as necessary to account for higher CPI. Currently, a to-go CPI of 3.5 on Unit 3 is assumed in the recent to-go budget forecast. Additionally, the Unit 4 planned CPI has been adjusted to 1.8 in the to-go budget forecast assuming reduced productivity as Unit 4 moves into heavy bulk electrical commodity installation.

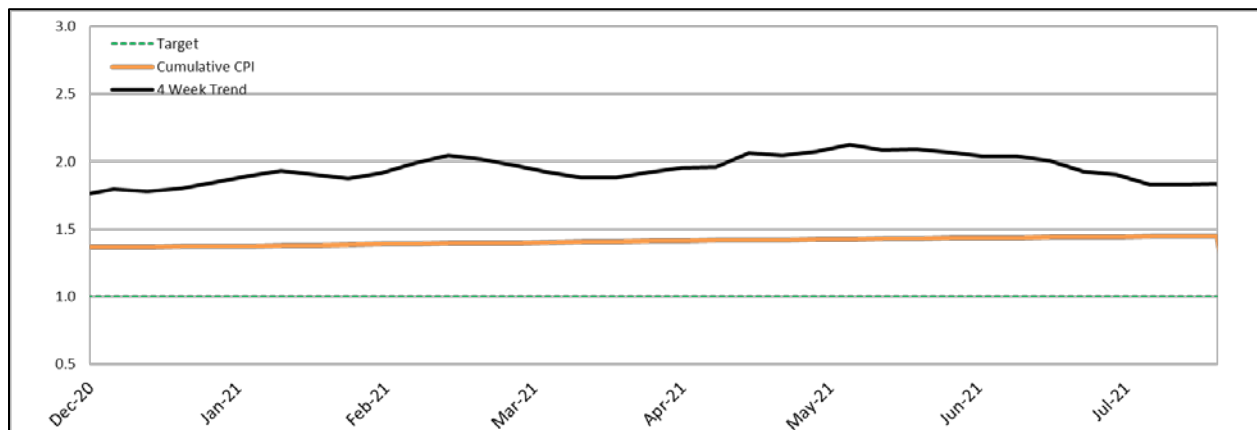


Figure F – Direct Construction Cost Performance Index

Critical Path – Unit 3

The Unit 3 Critical Path follows five parallel paths through completion of the Auxiliary Building, Spent Fuel Pool Repair, IEEE-384 repairs and penetration seal installation, Primary Sampling System (“PSS”) repair, and Passive Containment Cooling System (“PCS”) system completion. Once those are complete, after the receipt of the 103(g) finding, Fuel Load will commence followed by approximately 130 days of Start-up testing and Operations.

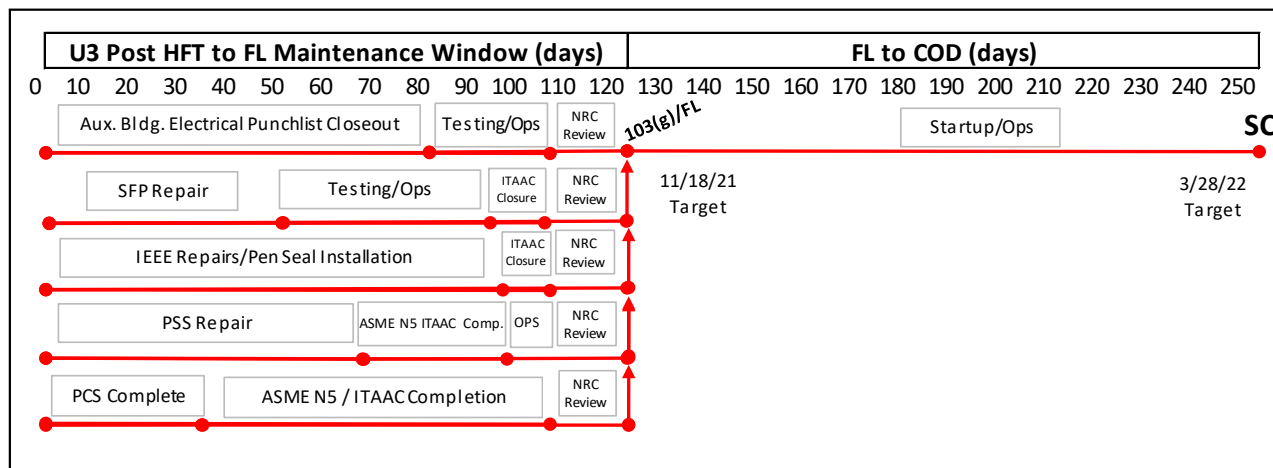


Figure G – Unit 3 Site Work Plan Critical Path following July 2021 Schedule Update

Critical Path – Unit 4

The Unit 4 Critical Path goes through the Auxiliary Building with the completion of scheduled conduit installation before moving to Containment for Integrated Flush (“IF”), SIT/ILRT, Cold Hydro Testing, HFT, declaration of construction complete, receipt of the 103(g) finding, and then Fuel Load.

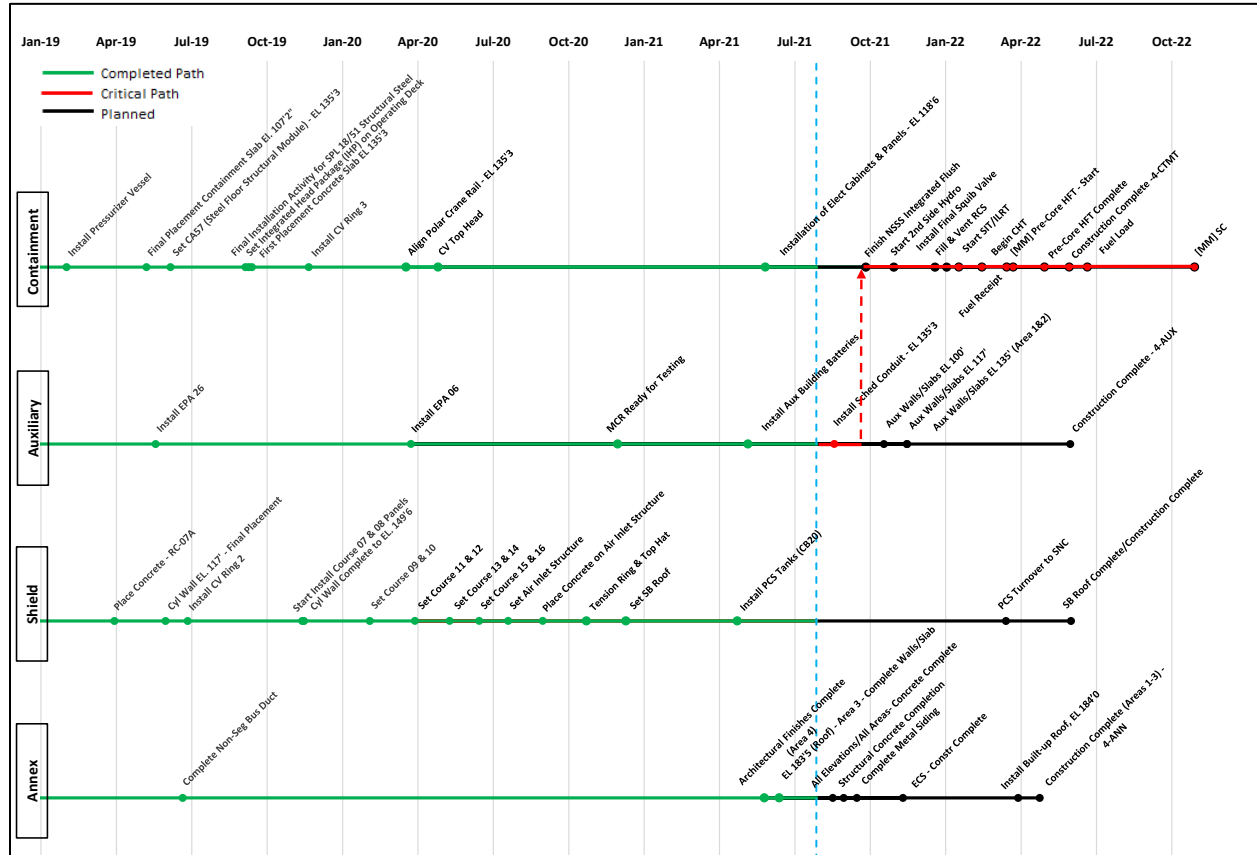


Figure H – Unit 4 Site Work Plan Critical Path following July 2021 Schedule Update

Project Milestones

The Project team identified the following milestones as goals for 2021. The table of milestones is included below, along with the actual completion dates and updated plan dates where applicable.

Table 3.3 – Project Milestones			
Milestone	VCM 24	July 2021 Site Work Plan	June 2022 (Unit 3) March 2023 (Unit 4) Benchmarks
Start Unit 4 Integrated Flush	1 st Quarter	January 2021 (A)	
Start Unit 3 Hot Functional Testing	1 st Quarter	April 2021 (A)	
Start Unit 4 Initial Energization	1 st Quarter	January 2021 (A)	
Unit 3 Protected Area Lockdown	2 nd Quarter	4 th Quarter 2021	4 th Quarter 2021
Submit Final Unit 3 ITAAC to NRC	2 nd Quarter	4 th Quarter 2021	1 st Quarter 2022
Ready to Assume Design Authority for Unit 3	2 nd Quarter	July 2021 (A)	
Issuance of Dual Unit Licenses for Operators	3 rd Quarter	4 th Quarter 2021	4 th Quarter 2021
Staff the Unit 4 Main Control Room	3 rd Quarter	4 th Quarter 2021	4 th Quarter 2021
Start Unit 3 Fuel Load	3 rd Quarter	4 th Quarter 2021	1 st Quarter 2022
Start Unit 3 Power Ascension Testing	3 rd Quarter	1 st Quarter 2022	2 nd Quarter 2022
Unit 3 Initial Criticality	3 rd Quarter	1 st Quarter 2022	2 nd Quarter 2022
Start Unit 4 Open Vessel Testing	3 rd Quarter	4 th Quarter 2021	1 st Quarter 2022
Unit 4 Shield Building Civil Construction Substantially Complete	4 th Quarter	4 th Quarter 2021	1 st Quarter 2022
Unit 3 100% Rated Thermal Power	4 th Quarter	1 st Quarter 2022	2 nd Quarter 2022
Complete Structural Integrity Test & Integrated Leak Rate Test on Unit 4	4 th Quarter	1 st Quarter 2022	2 nd Quarter 2022

PROJECT RISK

With Company oversight, SNC actively manages risk on the Project, continuing to focus on targeted areas such as schedule adherence, construction productivity, subcontracts management, testing, and start-up. Issues in these areas could have significant impact if left unmitigated. The Project continues to focus on areas of risk commensurate with the significance of the potential impacts. Areas of risk are monitored, and mitigation plans are developed and administered, to reduce the probability and scope of such impacts.

Administration of the Project risk management program includes the proactive identification of risks and, where appropriate, execution of mitigation strategies. SNC functional areas and contractors on the Project work collectively to implement a comprehensive risk program that captures and tracks the potential risks to the Project. The Company's continued oversight of the risk program and its execution reduces the probability of experiencing potential risks and minimizes impacts to the Project from realized risks.

A risk is defined as an uncertain event or set of circumstances that, should it occur, will have an impact on achievement of one or more of the Project's objectives. The Project utilizes several methods to identify potential risks, including consultation with Project subject matter experts, challenge sessions, observations from the Chinese AP1000 units, lessons learned, and collaborative dialogues with Project partners. The Project risk register is a dynamic document that quantifies the potential impact of a risk event. The Project risk register captures threats and opportunities that are routinely evaluated until the risk event is realized or retired. Additionally, the risk register includes mitigation plans developed to reduce the impact of the risk in the event a risk is realized. The Project risk register is provided monthly as an update to data request STF-142-4 in the Company's Monthly Status Report. The following section identifies some of the Project risks and discusses strategies the Company is undertaking to mitigate the impacts.

- *The risk that COVID-19 continues to have an impact on the Project cost and schedule.*

Protecting the health and safety of the Vogtle Units 3 and 4 team, as well as the surrounding community, remains the highest priority for the Project. As mentioned in previous filings, the Project has taken numerous proactive measures in response to the COVID-19 pandemic. Even with the proactive measures taken by Project Management, fully mitigating the impacts of the COVID-19 pandemic remains outside the Project team's direct control.

During the Reporting Period, as part of the continuing commitment to our Project team, and the surrounding community, the Project provided over 1,100 vaccinations to Project team members. Additionally, during the Spring of 2021 the local community and the Project experienced a reduction of COVID cases equaling a rate near zero. As local, state, and national communities transitioned many of their protective measures, the Project did the same in accordance with the Center for Disease Control's ("CDC") recommendations. With the widespread availability of COVID-19 testing and vaccines in the surrounding area, the Project demobilized the on-site medical village in July of this year.

In late July 2021, the Project began to experience the impact of the “Delta” variant. The number of individuals in quarantine rose over the first few of weeks in August. Project Management continues to monitor and take actions utilizing the advice of the medical professionals, consistent with the long-standing commitment of placing the health and safety of the Project team and the surrounding community at the forefront of all decisions at Vogtle Units 3 and 4.

- *The risk that construction is unable to achieve the assumed production for both Units, even with sufficiently qualified resources available.*

This risk has been identified as a Project execution risk which will remain active throughout the Project lifecycle. Broadly stated, this execution risk is that the Project is unable to execute with the resources accounted for by current projections, leading to the inability to reach forecasted construction production targets.

Project management and Bechtel regularly evaluate the schedule risk through means such as reviewing production scorecards, the Integrated Project Schedule (“IPS”), and other Project resources. The Project team has implemented strategies to address challenges that impact Project performance. The strategies for each Unit vary based on the phase of the Unit and therefore require different approaches to reduce the schedule pressure.

Unit 3 continues to progress through the completion stages of commodity installation, testing and turnover. As previously mentioned, with the completion of HFT on Unit 3, the Plant has now demonstrated that the critical systems will operate as a collective Unit which dramatically reduces the risk of experiencing a significant system issue. The near-term Project milestone of Fuel Load continues to require focused efforts on electrical and Instrument and Controls (“I&C”) commodity installation, construction remediation, work package closure in support of system turnover, and final testing. As such, the collective Project team has concentrated on strategies to increase the commodity installation rates while continuing to utilize tools such as Partial Release to Test (“PRT”) to ensure continued progress for ITP. Additional strategies include continued alignment of construction work scope with final testing activities, continued utilization of dedicated crews for complex commodity installation activities and “work to go” meetings which concentrate on completion of outstanding scopes of work for system turnovers and Project completion.

Unit 4 continues to increase the focus on electrical commodity installation in support of the IE testing milestone completion, IF milestone and the upcoming Open Vessel Testing (“OVT”). Unit 4 continues to complete complex scopes of work more efficiently by implementing lessons learned from Unit 3. Strategies include design and fabrication of modules outside of the Unit to reduce required activities in congested areas and allow for simultaneous progress, construction sequencing, and addressing issues found on Unit 3 earlier in the construction and testing process. Additionally, Unit 4 has enhanced the commodity sequencing and installation execution by adapting the construction plan to incorporate experience gained from Unit 3 testing. Furthermore, the sequence of Unit 4 Project milestones has been adjusted to integrate testing experience from Unit 3. Unit 4 personnel have also been provided enhanced training regarding IEEE-384 standards to reinforce lessons learned from Unit 3 to bolster the Project’s focus on first-time quality for electrical installation. Management continues to take steps to safely increase the number of craft

in targeted disciplines to support Unit 3 and Unit 4 scopes of work. Increasing electrical commodity installation in Unit 4 remains a challenge due to regional and national labor constraints. Collectively, Management continuously evaluates available options as part of selecting the best strategies to maintain focus on the Project's goal of completing Vogtle Units 3 and 4 in a safe and quality manner.

- *The risk that construction is unable to maintain or improve performance.*

This risk has been identified as a Project execution risk that may be realized if CPI continues to increase or continues to remain above budgeted rates for the duration of the Project life cycle. It is important that the Project increase the number of direct construction hours earned relative to the number of direct construction hours spent to improve the Project's CPI; however, challenges with the available labor force continues to challenge the Project. COVID-19 impacted the available labor pool while also suspending many projects. The supply of qualified electricians was constrained prior to COVID-19 and now, with increased demand from several industries, electrician availability is further constrained. Project Management has taken numerous steps to retain qualified craft and attract additional craft to the site to meet the demand. The shortage of qualified electricians is not expected to subside and the competition for these resources is expected to continue for the remainder of the Project.

In addition to the potential challenges with staffing, first time quality remains an area of focus for the Project team. Higher than projected amounts of rework and construction remediation would put pressure on the Project team's ability to increase performance.

The Company remains focused on initiatives to increase direct construction hours earned in comparison to the direct construction hours spent. Several of the strategies are discussed above, as part of the description of construction schedule performance risk. In addition to those strategies, SNC and Bechtel continue to work with labor unions to identify and bring quality craft to the Project, and the Project team has adjusted site leadership to create better alignment and improve communication across all areas of the site. Further, site leadership continues to focus on first time quality initiatives to reduce impacts to schedule. Effective implementation of these strategies will help improve schedule performance and increase construction earnings on the Project. In addition to these activities, the Company and Bechtel continue to identify key resources to support Unit 4 based on knowledge and experience gained from successful execution on Unit 3.

- *The risk that the Project is unable to complete the final work scope associated with System and Area turnovers in support of the in-service dates for Unit 3 and Unit 4.*

As Unit 3 continues to successfully achieve major milestones and retire major component risk, completion of scoped system work, along with the requirements to close ITAACs in support of the 103(g) finding, becomes the primary focus for Unit 3. Management has implemented a Critical Path War Room to support the Project Team by resolving constraints impacting critical evolutions. The Testing Control Center ("TCC"), which is staffed 24/7, has transitioned its focus to Unit 4 while a Project Control Center ("PCC") has been established to support post-HFT activities on Unit 3, becoming the hub of activities in support of, and directly involved with, final testing and completion. The PCC is responsible for the organization of all activities to achieve Fuel Load and

is another example of how Project Management is actively adapting and utilizing available resources to ensure completion of the Project.

Completion of work packages and Engineering documentation remains a challenge the Project will continue to face in the coming months as Unit 3 prepares to load fuel and transitions into Site Operations. Management has incorporated additional strategies to ensure continued collaboration from the entire Project team. The Project team continues to increase focus on the refinement of Engineering documentation and work package closure plans to further mitigate the risk to Fuel Load and to the forecasted in-service dates.

- *The risk the Project is unable to complete an ITAAC as currently defined.*

The combined license (“COL”) issued by the NRC includes prescribed ITAAC that are intended to confirm that the facility has been constructed in conformance with the license and NRC regulations. All ITAAC must be closed by SNC and accepted by the NRC in order to receive the 10 CFR 52.103(g) finding necessary to load fuel for each Unit. SNC has undertaken a number of efforts to mitigate risks associated with ITAAC closure. These include, among other actions, early submittal of required regulatory filings, partial completion of ITAAC closure documentation to facilitate early inspections, regular discussions with NRC Staff regarding ITAAC status and challenges and increase of human resources for the closure process.

- *The risk the Project experiences a significant unanticipated challenge during the start-up phase that requires design modification.*

Although this risk is deemed low probability, it is possible that during the first of a kind start-up of Unit 3, the Project will experience an unanticipated challenge which requires modification that will impact the forecasted in-service dates. SNC is highly skilled and experienced with the operation of nuclear power plants. The organization has a fleet of resources that it can call upon for support in the event of an unanticipated challenge during the start-up phase of the Project. The organization is well equipped and ready to operate Vogtle Units 3 and 4. The depth of fleet resources was demonstrated during the successful HFT evolution; as challenges arose during HFT, the organization as a whole worked together to overcome the challenges and ensure the core Plant equipment and systems were in the appropriate condition to function as intended.

During the lifecycle of the Vogtle Project, the organization has spent significant amounts of time learning about the Units, identifying, and implementing lessons learned from China and performing simulator operations. SNC operators are also embedded in the ITP organization to support testing prior to Site Operations ownership so that they are aware of any technical issues, challenges, and any design modification to the system. In addition, the SNC operators have spent many hours in training and continue to receive training in the simulator, which remains updated as the Project progresses. During the successful HFT evolution, the preparation of the Operations teams clearly demonstrated their ability to operate the Plant and adjust to live changing conditions. The experience obtained during HFT further reduces this risk; however, there remains the potential for conditions outside Operator control which could impact the Plant during start-up.

PROJECT CONTINGENCY

Through June 30, 2021, approximately \$1.1 billion in contingency had been allocated. During the first quarter of 2021, the Company's projected share of total Project cost forecast increased by \$48 million as some of the construction contingency was replenished to address the extended time necessary to reach the start of Unit 3 HFT and the potential cost risk remaining to complete both units.

During the second quarter of 2021, the Company's projected share of total Project cost forecast increased by \$460 million as the remaining construction contingency previously established was fully allocated and an additional \$341 million was assigned to the base capital cost forecast for costs primarily associated with schedule extensions for Units 3 and 4, construction remediation work, construction productivity, support resources, and revised projected in-service dates for both units, plus \$119 million to replenish construction contingency. The Company continues to anticipate that all of the forecasted contingency, including the additional construction contingency, will be spent by the completion of the Project.

CONSTRUCTION

Unit 3 Nuclear Island

During the Reporting Period, significant progress was achieved toward completion of the Unit 3 Nuclear Island and in support of the Fuel Load milestone. The Nuclear Island is comprised of the Auxiliary Building, Containment Vessel, and Shield Building. The Project is committed to completing the remaining work scope in support of the final regulatory requirements prior to loading of fuel. Unit 3 achieved the most



Unit 3 Shield Building

notable testing milestone to date with the completion of HFT, which successfully demonstrated the Plant's ability to operate at NOT and NOP. The final stages of electrical and I&C work remain to support Unit 3 Fuel Load. Between the walls of the Shield Building and the Containment Vessel, the installation of Air Baffles has commenced. The air baffles are one of the final mechanical components to be installed and are part of the passive containment cooling systems. Construction is focused on area completion and turnover to Site Operations. Activities to support area completion include coatings, HVAC finalization, specialty door installation, and various other architectural finishing activities. During the Reporting Period, a leak was discovered in the floor of the Spent Fuel Pool ("SFP"). After thorough testing and analysis, SNC decided to replace the floor of the SFP. Installation of the new floor panels is progressing, and while currently on critical path, the risk to Unit 3's schedule for this issue has decreased.

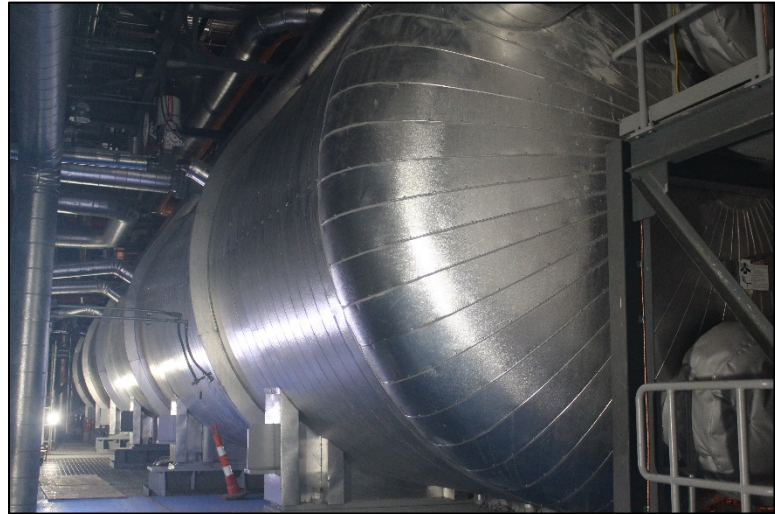
Accomplishments during the Reporting Period included:

- Completed CB20 civil work
- Completed air handling systems in support of air balancing and HFT
- Commissioned four divisions of the PMS
- Ran the RCPs under standard operating conditions
- Turned over of the Cask Crane to ITP

During the next reporting period, work inside Containment and the Auxiliary Building will support post-HFT activities and will conclude as Unit 3 performs final preparations for loading fuel. Subcontracted scopes remained in focus during the period as they supported successful completion of HFT and specific focus on final scopes of work to support Fuel Load, including electrical penetration seals, coatings, insulation and fireproofing throughout the Nuclear Island.

Unit 3 Turbine Building

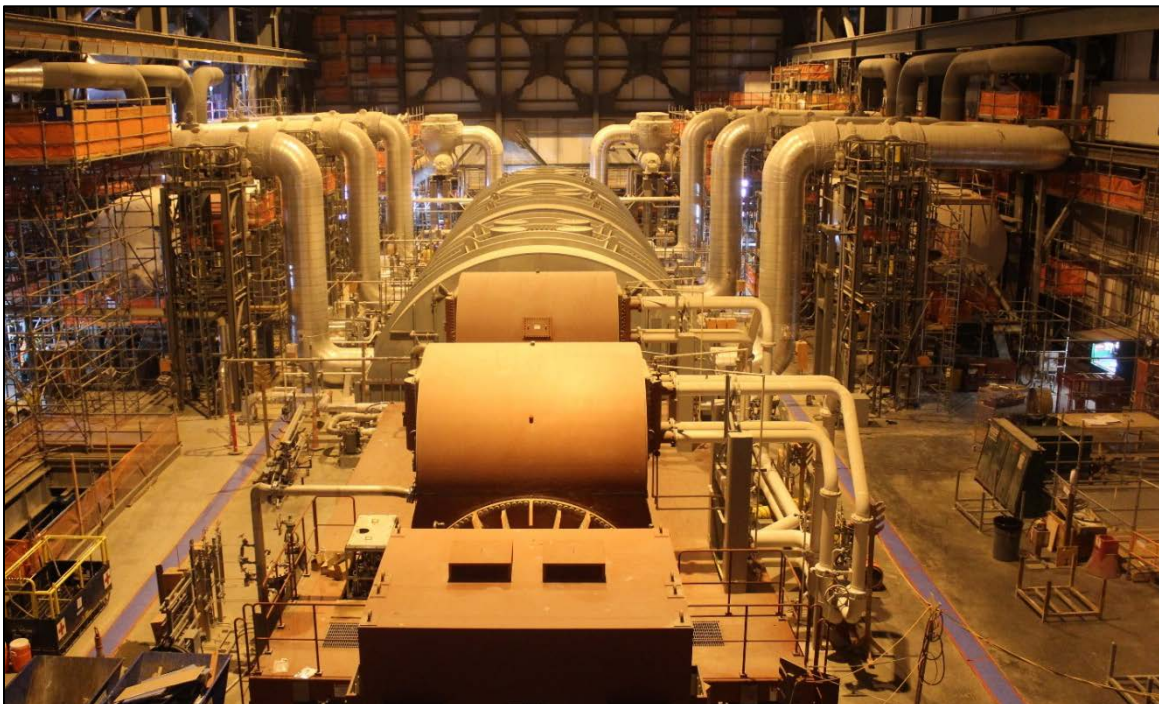
During the Reporting Period, the Unit 3 Turbine Building conducted a successful Turbine Roll as part of HFT. The primary focus in the coming months is finalizing all critical activities required to support the Fuel Load milestone, including the demobilization of scaffolding and the turnover of rooms and areas to Site Operations. Electrical work remains a key focus area in support of the final system turnovers to support Fuel Load.



Deaerator with its completed exterior insulation located inside the Unit 3 Turbine Building

Additional accomplishments during the Reporting Period included:

- Completed Overspeed Turbine Trip test during HFT
- Completed the Gravity and Roof Drain Collection System



Turbine assembly inside the Unit 3 Turbine Building

Unit 3 Annex Building

Construction of the Unit 3 Annex Building remained an area of focus during the Reporting Period. Electrical craft continue their support of system turnovers by installing raceway, pulling and terminating cables, installing permanent lighting, and installing communication devices throughout the building. Efforts to complete the Nonradioactive Ventilation System (“VBS”), Health Physics and Hot Machine



The exterior of the Unit 3 Annex Building

Shop HVAC System (“VHS”) and Annex/Aux Building Nonradioactive Ventilation System (“VXS”) systems are in the final phases. The installation of mechanical equipment and instrumentation supported the turnover of the following systems: Containment Filtration System (“VFS”); Central Chilled Water System (“VWS”); and VXS. Construction of the Annex building final room layouts continues with the installation of gypsum board, tile, permanent lighting, electrical, and architectural finishes. Turnover of jurisdictional control of rooms from Construction to Site Operations has commenced in support of Area turnovers.

Accomplishments during the Reporting Period included:

- Achieved mechanical completion of the Unit 3 Annex Building
- Installed architectural finishes (walls, doors, tile, and acoustical ceilings)
- Several areas are now in use by SNC Operations and TCC support personnel

Unit 4 Nuclear Island

During the Reporting Period, Construction focused on mechanical and electrical bulk commodity installation in support of the systems necessary for IF and IE milestones. Additionally, significant civil and structural work continued on the Unit 4 Nuclear Island. Externally, progress included the topping out of Unit 4 with the setting of and concrete placements for CB20. Work continues in support of the ongoing CB20 concrete placements. Internally, work on the Reactor Vessel Internals (“RVI”) continued, which was sequenced using lessons learned from Unit 3. The plan to allow Unit 4 subcontractors to progress ahead of Unit 3 sequence has allowed them to make substantial progress due to lower craft density and has the potential to substantially reduce the number of work fronts which are congested during bulk electrical work. The HVAC, coatings, insulation and fire protection/detection subcontractors are substantially ahead with their progress on Unit 4 as compared to the same point on Unit 3. Following the discovery of a leak in the Unit 3 SFP, SNC

proactively inspected the Unit 4 SFP for similar issues and determined that they did not exist on Unit 4.

Additional accomplishments during the Reporting Period included:

- Commenced the flushing of systems for IF
- Completed portions of the Plant Control System
- Completed piping to support Secondary Hydro
- Completed civil wall and roof placements at elevations 165 and 180 feet
- Energized several critical systems for the first time



Aerial view of Unit 4

Unit 4 Turbine Island

Electrical bulk commodity installation progressed during the Reporting Period in support of the IE milestone. Mechanical work remained a primary focus on the Unit 4 Turbine Island during the Reporting Period, including the installation of piping supports for multiple systems throughout the Turbine Island.

Accomplishments during the Reporting Period included:

- Completed Bus Duct Installation to support IE
- Completed Cable Bus to support IE

Unit 4 Annex Building

Construction of the Unit 4 Annex Building continued with the placement of concrete for walls and floors as well as installation of mechanical equipment, electrical equipment, cables, piping, and terminations to support upcoming milestones.

Accomplishments during the Reporting Period included:

- Placed concrete slab at elevation 173.7 feet
- Installed bulk cable pulls to support upcoming testing milestones
- Set Air Handling Unit VXS-MS-07A at elevation 135 feet in Area 3

Balance of Plant (“BOP”)

In BOP areas, focus has been on preparation for turnover to Site Operations, including site security work, final paving and grading, and demobilization of temporary structures and support systems. The placement of the Unit 4 Spent Fuel Crane was the final lift for the large Lampson crane before it was demobilized.

In preparation for Unit 3 Site Operations, Bechtel and SNC together executed coordinated work related to the SNC-managed security subcontract scope, which included the installation of security fencing between Units, personnel and vehicle access points, and multiple Bullet Resistant Enclosures (“BRE”).



Aerial view of security fencing installed around the protected area

Upon completion of the Unit 4 CB20 setting, the area utilized for structure assembly was repurposed for the demobilization of the Lampson crane and Unit 4 support structures, allowing for work on security structures and support systems including additional portions of the vehicle barrier system. Work will continue with completing the Unit 3 security requirements and final site preparations in support of Fuel Load later this year.

Additional accomplishments during the Reporting Period included:

- Completed final activities for Unit 3 Fuel Load Security
- Completed Unit 3 road paving activities inside Unit 3 security fence
- Began preparations for Unit 4 security fencing
- Turned over Diesel Generator Building to Site Operations
- Turned over Radwaste Building to Site Operations

Subcontracts

During the Reporting Period, subcontractors continued to contribute to Project progress and significant milestone achievements. The Project team and critical subcontractors have worked collaboratively to ensure progress was made in support of HFT completion. SNC has only one contract remaining to award and Bechtel has awarded all 39 contracts.



In total, this subcontracted *View of CB20 on top of the Unit 4 Shield Building* scope represents approximately \$1.8 billion and is integral to the completion of the Project.

During the Reporting Period:

- CB&I completed CB20 before it was set on the Unit 4 Shield Building.
- SSMI continued installation of HVAC ductwork and equipment throughout Unit 4 and is completing HVAC system testing and air balancing for Unit 3.
- The initial turbine roll testing sequence was completed successfully. Additionally, Turbine PROs continues to make progress on the Unit 4 Turbine Generators, setting the generator rotor during the Reporting Period.
- PCI-Promatec work on the Unit 4 reactor vessel internals is nearing completion, a result of lessons learned from Unit 3, and is expected to decrease the amount of time between OVT and Closed Vessel Testing (“CVT”).
- Significant progress was made with penetration seals by PCI-Promatec and on pipe insulation by API to support HFT and Area turnovers.
- FD Thomas, the primary coatings subcontractor on the Project, continued to apply coatings inside Containment, the Auxiliary Building, and other areas throughout both Units.

- Unit 4 capitalized on lessons learned from Unit 3 with the sequencing of subcontractor work scope to reduce future congestion and improve adherence to the schedule. The progress of several critical subcontractors, including HVAC, remains ahead when compared to the same point on Unit 3. The Project remains committed to supporting subcontractors with embedded personnel to support with the management of craft and monitor productivity and progress.

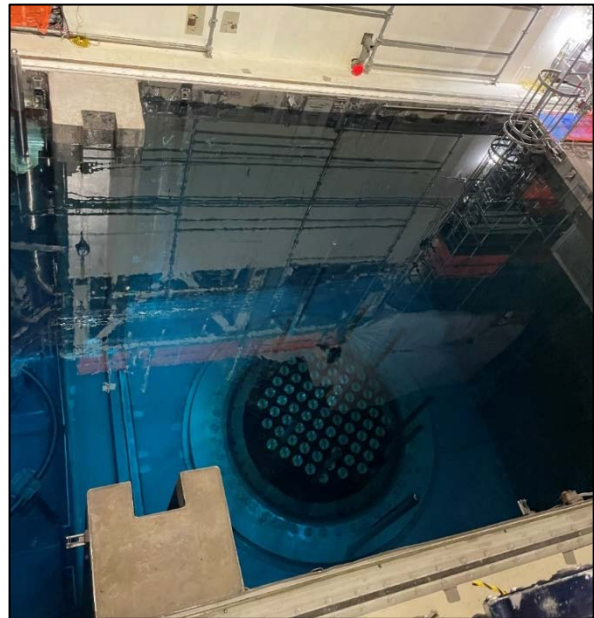
TURNOVER AND TESTING

In Table 3.4 below, the jurisdictional control of systems for Unit 3 and Unit 4 as of August 2021 is broken down by each organization. Ultimately, all systems will be turned over from Construction to ITP for testing, and then ultimately to Site Operations.

Table 3.4 – System Jurisdictional Control			
	Construction	ITP	Site Operations
Unit 3	19	132	12
Unit 4	150	17	0

Construction Turnover to Testing

During the Reporting Period, the Testing & Completions team completed several major accomplishments including successful completion of HFT on Unit 3, which demonstrated the Plant's ability to operate at NOT and NOP. HFT represents the final major testing evolution prior to Unit 3 Fuel Load and start-up. The Testing & Completions organization is responsible for prioritizing and sequencing work appropriately to achieve testing milestones on both units. The team's goal is to ensure the Project remains aligned on organizational structure, process, and schedule integration throughout construction completion. The Project successfully turned over 150 systems or partial systems to the ITP organization through the end of August 2021. On Unit 3, approximately 88% of systems have been turned over from Construction to ITP or Site Operations. The jurisdictional transfer of rooms, areas, and buildings to Site Operations are recognizable indicators of the transition from a construction site to a nuclear operating facility. Unit 4 has had a total of 17 Systems turned over.



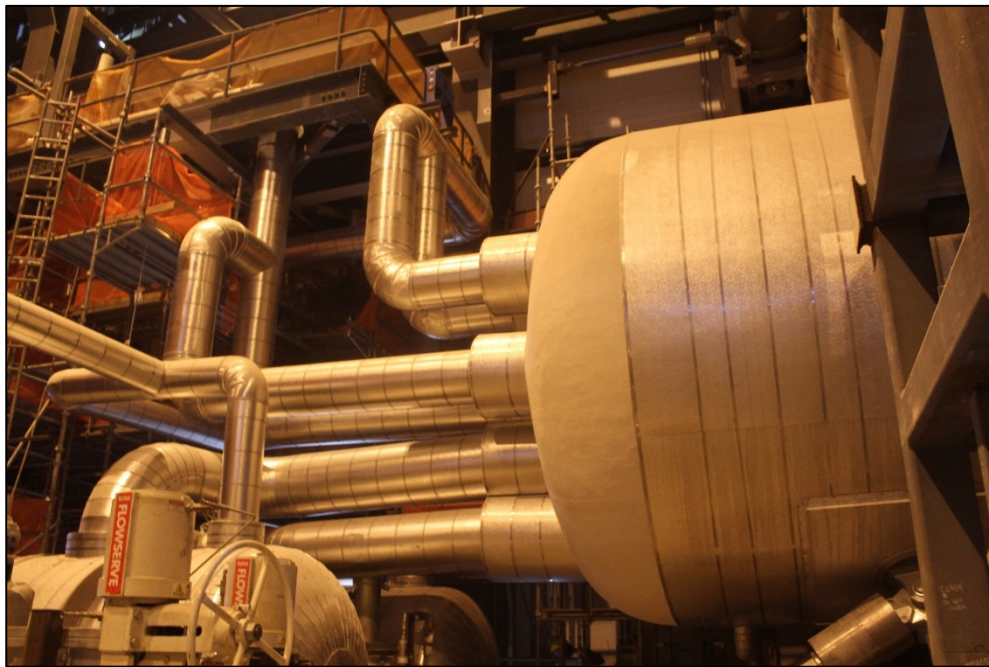
Reactor Vessel pool filled with water for testing inside Unit 3 Containment

Initial Test Program

During the Reporting Period, the TCC continued to manage the testing efforts for both units. The TCC was critical to the successful completion of Unit 3 HFT with strong management engagement, cross functional coordination, and use of mitigation tools when necessary. The TCC has become the central hub of testing activities and remains staffed 24/7 to communicate status, respond directly to testing issues, and remove barriers that affect testing preparation and execution. With the successful completion of HFT, and due to the increase in testing activities on Unit 4, the TCC team is increasing its focus on Unit 4 as testing for Unit 3 winds down. The newly formed Project Control Center (“PCC”) will focus on the remaining activities to achieve Fuel Load and start-up for Unit 3.

The ITP team remains committed to continuous improvement throughout the Unit testing evolution and continues to demonstrate this commitment by evaluating and applying lessons learned from Unit 3 to Unit 4. The development of the two train (Train A and Train B) electrical testing plan, the yellow-lining efforts conducted prior to energization, and the application of non-permanent plant equipment to perform initial flushing are just a few examples of how lessons learned on Unit 3 are being applied to Unit 4.

During the Reporting Period, the ITP organization successfully completed many of the final major testing milestones for Unit 3 prior to Fuel Load. Additionally, the ITP team has completed over 8,300 component tests for Unit 3 and over 1,000 component tests for Unit 4. Unit 4 accomplished the start of IE by utilizing lessons learned from Unit 3 and applying the previously mentioned “Train” approach.



The Moisture Separator Reheater with attached piping inside the Unit 3 Turbine Building

During the next Reporting Period, the ITP organization will continue the transition of Unit 3 to an operating plant and increase the focus on Unit 4 testing evolutions. Unit 4 is scheduled to achieve OVT and Secondary Hydro major testing milestones during the next Reporting Period.

Unit 3 Hot Functional Testing (HFT)

Hot Functional Testing completed in July 2021. HFT demonstrated the integrated operation of the primary coolant system and steam supply system at design temperature and pressure, without fuel in the reactor. Operators used the heat generated by RCPs to raise the temperature and pressure of plant systems to normal operating levels. The unit's main turbine was successfully raised to normal operating speed using plant steam. This testing evolution was the first time that components and systems were operated together, allowing operators to exercise and validate procedures as required before Fuel Load. The completion of HFT validated numerous testing ITAACs, which are required to achieve the upcoming Fuel Load milestone.

Unit 3 Startup Testing

Upon completion of work scope identified in the maintenance window, startup testing is expected to begin. With the successful completion of HFT and upon NRC's issuance of the 103(g) finding, the Site will be permitted to load fuel into the Reactor Vessel to perform startup testing. Startup testing will demonstrate the integrated operation of the primary coolant system and steam supply system at design temperature and pressure with fuel inside the reactor. Operators will utilize the general operating procedures to bring the plant from cold shutdown to initial criticality, synchronize the Unit to the grid, and achieve power ascension through multiple steps, ultimately raising power to 100%. This test is to ensure all systems are operating together and to validate operating procedures prior to declaration of commercial operation.

Additionally, this is also the first time the plant is going through various MODEs, similar to an operating unit. The six MODEs are defined in the technical specification as part of the licensing document in which NRC imposed the operating conditions and limits for the plant. Each MODE



System cabinets showing ITP jurisdictional control indicated by the hanging tags

shall correspond to any one inclusive combination of core reactivity condition, power level, average reactor coolant temperature, and reactor vessel head closure bolt tensioning. There are a total of six MODEs of operations where MODE 6 is in refueling and MODE 1 is plant operations.

Unit 4 Integrated Flush (IF)

The start of IF testing began in January 2021. This milestone activity involves cleaning and removing any foreign material that could impact the operation of equipment. The flushing of critical systems has continued to progress and is anticipated to complete in the next few months. To complete the milestone, all system piping and mechanical components that feed into the Reactor Vessel or reactor coolant loops are flushed with clean water. Flushing will be accomplished using a temporary flushing pump, and later permanent plant pumps and clean water, in addition to hydrolasing, air blows, and some hand cleaning. Integrated flushing will ensure that systems can be tested without concern of damage from debris and to satisfy the cleanliness and chemistry requirements necessary to operate the systems per design. IF includes five main systems: Passive Core Cooling System (“PXS”); Chemical and Volume Control System (“CVS”); Normal Residual Heat Removal System (“RNS”); Reactor Coolant System (“RCS”); and Spent Fuel Pool Cooling System (“SFS”).

Unit 4 Initial Energization (IE)

During the Reporting Period, ITP achieved IE and commenced energized testing of the Unit 4 electrical systems. This evolution involved energization of the Unit 4 Reserve Auxiliary Transformers (“RATs”), which provided the initial supply of off-site power to the plant’s electrical distribution system in support of ITP testing. Permanent power is necessary to perform subsequent testing on downstream individual electrical components such as battery chargers, switchgear, and motors. Permanent power is also needed to operate support systems for future testing in areas such as compressed air, cooling water, and digital controls. To achieve IE, personnel from the ITP organization completed a series of deenergized and energized tests on the Non-Class 1E batteries, the Non-Class 1E battery charger, medium voltage switchgear, load centers, and the RATs. Additionally, ITP incorporated lessons learned from Unit 3 to improve the performance of the IE testing activities on Unit 4.

Unit 4 Open Vessel Testing (OVT)

During the next reporting period, OVT is scheduled to begin. OVT will include flow measurement, pump performance, line resistance, and tank mapping testing for the major systems flushed during IF. Measurements obtained during OVT ensure that safety and defense-in-depth systems and components function properly to support pre-operational testing and meet the design requirements for protection of the plant and public during normal and emergency operating conditions.

SITE OPERATIONS

Site Operations and Maintenance

During the Reporting Period, the Site Operations organization remained engaged with the ITP team to support Unit 3 HFT. The Site Operations team continued to increase their proficiency with Plant operations as they executed activities from the control room and supported the HFT through NOT and NOP and ultimately to successful completion. The site completed 67 pre-operational tests during HFT, which verifies that both the primary coolant system and steam supply system are able to operate at the designed temperature and pressure prior to loading fuel in the reactor.



Pedestrian bridge crossing to the Security building, which will serve as the access point for all personnel to Units 1-4

Additionally, the Site Operations organization continues to focus on obtaining the required number of licensed operators to support Fuel Load for both units. At the end of Reporting Period, 71 operators have passed the NRC exam. Of those, the NRC has issued the first 57 licenses for Unit 3. Fourteen additional Unit 3 licenses were applied for in August 2021 and are expected to be received during the next reporting period. Additionally, the Unit 4 License Exemption request was submitted to New Reactor Regulations (“NRR”) office. Once approval is obtained, dual unit license requests will be submitted for all Unit 3 licenses holders. The fifth Initial Licensing Training (“ILT”) class, which includes 15 operators, began in July 2020 and is in the final phase of training before the NRC exam in April 2022. The 57 licensed operators continue to meet the Unit 3 Fuel Load and Start-up needs.

The Project team has established a turnover and acceptance process to systematically assume plant ownership. The process is managed by the Project's Site Operations, Maintenance, and Engineering organizations as an integrated turnover acceptance team. During the Reporting Period, Site Operations accepted the first 12 system turnovers, eight building/area turnovers, and has jurisdiction control of approximately 50 rooms. Most of the remaining rooms and buildings in Unit 3 are expected to turn over during the next reporting period to support Unit 3 startup testing. The turnover process is rigorous and thorough, requiring plant health committee approval to ensure the plant is in acceptable condition when Site Operations takes over. SNC operators continue to perform monitoring activities across the Site, while the Maintenance organization is engaged in the preservation of installed equipment yet to be turned over for testing. Utilizing the SNC Maintenance group to preserve equipment minimizes equipment failure prior to operation, while providing valuable on-the-job training prior to acceptance. Additionally, similar to Operations, maintenance personnel are also supporting ITP testing by validating component functionality to ensure equipment can be safely energized and will function as part of component and pre-operational testing.

Work Management

The SNC Work Management organization's primary focus is to support the planning and scheduling of start-up testing. During the Reporting Period, the organization continued to validate all surveillances and mode change requirement scheduling activities, including procedure validation. The organization also worked with Maintenance to support the preparation of first-time preventive maintenance workorder readiness for system transition to Operations. Additionally, the SNC Work Management organization also assisted ITP and Construction to screen, scope, and schedule the completion of all remaining work necessary during the post-HFT maintenance window to support the 103(g) finding and to achieve Fuel Load.

Cyber Security

During the Reporting Period, the Cyber Security organization continued to make significant progress toward the completion of the Cyber Security program. Initial NRC inspections showed the program is ready for implementation to provide long-term support for plant operation. The NRC inspection to support Fuel Load is scheduled to be completed during the next reporting period.

The organization has successfully implemented the Cyber Security programs, which provide protection for systems during construction. The Cyber Security organization completed tailored assessments for all critical digital systems and is conducting walkdowns to review each system as part of the turnover process to validate the as-built design. Walkdowns including verification of as-built physical and configuration for all systems are scheduled to be completed prior to Fuel Load for system enrollment into the Cyber Security program.

ITAAC and Licensing

During the Reporting Period, the ITAAC organization continued to support construction and testing for submittal of ITAAC Completion Notifications. As of August 2021, 212 Unit 3 ITAAC

Closure Notifications (“ICNs”) had been submitted to the NRC and 186 ICNs remain. SNC is planning to submit the “All ITAACs Completed Letter” to the NRC in the next Reporting Period, which is the final submission by SNC to support the NRC’s issuance of the 103(g) finding required for Fuel Load. Each of the 399 Unit 3 ICNs must be submitted and verified complete in order to provide this letter to the NRC and allow for Unit 3 Fuel Load.

Site and Corporate Licensing continued to provide support to construction, operations, and engineering to ensure the Project’s compliance with regulatory requirements. During the Reporting Period, Site and Corporate Licensing and ITAAC teams continue to work with the NRC on timely submittal of ICNs for review.

Integration of the Four Unit Site

During the Reporting Period, all equipment in the Personnel Access Point building has been successfully tested. Prior to Fuel Load, the Personnel Access Point will be placed in-service to allow personnel access to the Unit 3 Protected Area. The Personnel Access Point will serve as the plant access entry for Vogtle 1-4 once all four units are integrated.



Aerial image of Plant Vogtle Units 1-4

4. An updated comparison of the economics of the certified project to other capacity options.

Per the stipulated agreement adopted by the Commission in its Order on the 23rd VCM Report on February 16, 2021, this stipulated question is no longer required in the Company's VCM Reports.

5. **The Company will be under a continuing obligation to supplement its response to PIA Staff DR STF-TN-1-2 by ensuring that the financing data reflected in the schedules attached to that DR response reflect the most current and updated information at the time of each semi-annual monitoring report. In addition, the Company will provide the most current information shared with each of the Rating Agencies.**

Simultaneous with this filing, the Company has filed supplemental PIA Staff DR STF-TN-1-2.

Vogtle 3&4 - Construction, June 2021



Glossary of Abbreviations	
ASME	American Society of Mechanical Engineers
BOP	Balance of Plant
CB20	Passive Containment Cooling Water Tank
CHT	Cold Hydrostatic (or “Hydro”) Testing
CPI	Cost Performance Index
cROP	Construction Reactor Oversight Process
CVT	Closed Vessel Testing
DOE	Department of Energy
HFT	Hot Functional Testing
I&C	Instrumentation & Controls
ICN	ITAAC Closure Notifications
IE	Initial Energization
IF	Integrated Flush
IHP	Integrated Head Package
ILRT	Integrated Leak Rate Test
ILT	Initial Licensing Training
IPS	Integrated Project Schedule
ITAAC	Inspection, Test, Analysis, and Acceptance Criteria
ITP	Initial Test Program
MCR	Main Control Room
NOP	Normal Operating Pressure
NOT	Normal Operating Temperature
NRC	Nuclear Regulatory Commission
NRR	New Reactor Regulations
N-Stamp	Nuclear Component Stamp
OVT	Open Vessel Testing
PCC	Project Control Center
PCS	Passive Containment Cooling System
PRT	Partial Release to Test
PSS	Primary Sampling System
PTC	Production Tax Credit
PXS	Passive Core Cooling System
QA	Quality Assurance
RCP	Reactor Coolant Pump
RCS	Reactor Coolant System
RNS	Normal Residual Heat Removal System
RVI	Reactor Vessel Internals
SFP	Spent Fuel Pool
SFS	Spent Fuel Pool Cooling System
SIT	Structural Integrity Test
SNC	Southern Nuclear Company
SPI	Schedule Performance Index
TCC	Testing Control Center

Glossary of Abbreviations	
VBS	Nuclear Island Nonradioactive Ventilation System
VCM	Vogtle Construction Monitoring
VFS	Containment Filtration System
VHS	Health Physics and Hot Machine Shop HVAC System
VWS	Central Chilled Water System
VXS	Nonradioactive Ventilation System