

1 **DIRECT TESTIMONY OF**

2 **DAVID L. MCKINNEY AND JEREMIAH C. HASWELL**

3 **IN SUPPORT OF GEORGIA POWER COMPANY'S**
4 **TWENTY-THIRD SEMI-ANNUAL VOGTLE CONSTRUCTION MONITORING**
5 **REPORT**

6 **DOCKET NO. 29849**

7 **I. INTRODUCTION**

8 **Q. PLEASE STATE YOUR NAMES, TITLES, AND BUSINESS ADDRESSES.**

9 **A.** My name is David L. McKinney. I am the Senior Vice President of Nuclear Development
10 at Georgia Power Company ("Georgia Power" or the "Company"). My business address is
11 241 Ralph McGill Boulevard, N.E., Atlanta, Georgia 30308.

12 My name is Jeremiah C. Haswell. I am the Project Oversight Director for Georgia Power.
13 My business address is 241 Ralph McGill Boulevard, N.E., Atlanta, Georgia 30308.

14 **Q. MR. MCKINNEY, PLEASE SUMMARIZE YOUR EDUCATION AND**
15 **PROFESSIONAL EXPERIENCE.**

16 **A.** I graduated from Auburn University with a Bachelor of Science degree in Civil
17 Engineering. I joined Southern Company Services as a co-op in the Hydro Engineering
18 department and moved from there into a Project Engineer role in Southern Company
19 Generation. I then served as a Civil Engineering Manager in the Technical Services
20 Department before taking an assignment as Project Manager of Combined Cycle
21 Construction. After that, I served as General Manager of New Generation Construction. I
22 have served in various leadership roles on Plant Vogtle Units 3 and 4 (the "Project") since
23 2009, with my current role being the Senior Vice President of Nuclear Development for
24 Georgia Power. In this role, I have responsibility for Commercial and Cost Management,
25 Project oversight, regulatory relationships with the Georgia Public Service Commission

1 (the “Commission”) and their staff (“Commission Staff”) as well as the U.S. Department
2 of Energy (“DOE”).

3 **Q. MR. MCKINNEY, HAVE YOU PREVIOUSLY TESTIFIED BEFORE THE**
4 **COMMISSION?**

5 **A.** Yes. I testified in this docket regarding the Sixth, Seventh, Eighth, Ninth/Tenth, Eleventh,
6 Twelfth, Thirteenth, Fourteenth, Fifteenth, Sixteenth, Seventeenth, Eighteenth, Nineteenth,
7 Twentieth/Twenty-first, and Twenty-second Semi-annual Reports.

8 **Q. MR. HASWELL, PLEASE SUMMARIZE YOUR EDUCATION AND**
9 **PROFESSIONAL EXPERIENCE.**

10 **A.** I graduated from the University of Alabama at Birmingham with a Bachelor of Science
11 degree in Mechanical Engineering and a Master of Science degree in Civil Engineering
12 (Construction Management focus). I completed a Master of Business Administration at
13 Augusta State University and am a licensed Professional Engineer. I joined Southern
14 Company as an Engineer in Southern Company Services Research and Technology
15 Management focusing on new technology deployment in the existing operating fleet. I held
16 multiple Team Leader roles in the areas of Maintenance, Engineering, and Compliance at
17 Alabama Power Company’s Plant Gorgas. In 2012, I moved to Plant Vogtle Units 3 and 4
18 in the Construction Compliance organization and later the role of Construction Compliance
19 Supervisor for the Turbine Island and Balance of Plant. I am currently the Project Oversight
20 Director with responsibility for regulatory filings for the Project, compliance with Georgia
21 Power’s loan guarantee with the DOE, Project oversight, risk management, and lead
22 interface with the Commission Staff, Construction Monitor, and the other Project Owners
23 (Oglethorpe Power Corporation, the Municipal Electric Authority of Georgia, and Dalton
24 Utilities, through the Board of Water, Light and Sinking Fund Commissioners of the City
25 of Dalton) (collectively, the “Owners”).

1 **Q. MR. HASWELL, HAVE YOU PREVIOUSLY TESTIFIED BEFORE THE**
2 **COMMISSION?**

3 **A.** Yes. I testified in this docket regarding the Thirteenth, Fourteenth, Fifteenth, Seventeenth,
4 Eighteenth, Nineteenth, Twentieth/Twenty-first, and Twenty-second Semi-annual Reports.

5 **Q. HOW IS YOUR TESTIMONY ORGANIZED?**

6 **A.** Two witness panels will appear on behalf of the Company. One will be our panel, which
7 will set forth testimony on behalf of Georgia Power. The second panel consists of Stephen
8 Kuczynski and Aaron Abramovitz, who will set forth the testimony of Southern Nuclear
9 Operating Company (“Southern Nuclear”), the Project manager at the site. Georgia Power
10 continues to exercise its oversight role on behalf of itself and as agent for the other Owners.
11 Southern Nuclear continues to have primary responsibility for cost and schedule
12 performance as well as safety and quality in all aspects of the Project.

13 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?**

14 **A.** The purpose of our testimony is to support the Twenty-third Semi-annual Vogtle
15 Construction Monitoring Report (“VCM 23 Report”) and to provide justification for the
16 verification and approval of Georgia Power’s investment of \$701 million in the Project
17 between January 1, 2020 and June 30, 2020 (the “Reporting Period”), as made pursuant to
18 the Certificate of Public Convenience and Necessity (the “Certificate”). Although falling
19 outside the Reporting Period, we also provide an update on the schedule update effort that
20 was completed in July 2020, so that we can continue to provide the Commission with the
21 latest available schedule information.

22 Our testimony will also discuss the Project team’s ongoing response to the coronavirus
23 pandemic (“COVID-19”). While the pandemic continues, its final impact on the Project is
24 currently unknown; however, we are able to update the Commission on anticipated impacts
25 to cost and schedule based on information to date.

1 **Q. WHAT PERIOD DOES THE TWENTY-THIRD VCM REPORT COVER?**

2 **A.** The VCM 23 Report, incorporated herein by reference, covers the period between January
3 1, 2020 and June 30, 2020.

4 **Q. WHAT IS THE CURRENT STATUS OF THE PROJECT'S ESTIMATED COST**
5 **AND SCHEDULE?**

6 **A.** Georgia Power invested \$701 million of capital expenditures during the Reporting Period,
7 bringing Georgia Power's cumulative capital investment in the Project through the close
8 of the Reporting Period to approximately \$6.6 billion, after accounting for Georgia Power's
9 portion of the Toshiba Parent Guaranty (less the costs associated with securing the Parent
10 Guaranty payment and the customer refunds totaling approximately \$188 million). Georgia
11 Power's investment in the Project has been prudently incurred and complies with the
12 Certificate. The Project team continues to implement its strategy for completing
13 construction using an aggressive site work plans with in-service dates ahead of the
14 regulatory-approved in-service dates of November 2021 for Unit 3 and November 2022 for
15 Unit 4.

16 **Q. PLEASE ELABORATE ON GEORGIA POWER'S ACTUAL EXPENDITURES**
17 **DURING THE REPORTING PERIOD.**

18 **A.** The following table identifies the allocation of Georgia Power's \$701 million of actual
19 expenditures during the Reporting Period.

Construction & Capital Cost	VCM 23 (in millions)
Original EPC	\$ -
Interim Payments & Liens	(6)
Site Construction Management	
Engineering Contractor	65
Procurement	159
Procurement	46
Subcontracts	113
Contract Construction	356
Bechtel FNM	106
Bechtel Craft	208
Bechtel Fees	18
Distributables	23
Construction Support & Project Management	70
Total Site Construction Management	650
Owners Costs	39
Ad Valorem	18
Transmission Interconnection	-
Test Fuel Offsets	-
Total Construction & Capital Cost	\$ 701

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The expenditure category definitions are unchanged from the Company's Twenty-second Vogtle Construction Monitoring Report.

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II. COVID-19 IMPACT AND RESPONSE

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Q. WHAT ACTIONS ARE BEING TAKEN BY THE COMPANY AND SOUTHERN NUCLEAR TO RESPOND TO COVID-19 AT THE SITE?

6

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A. The Company and Southern Nuclear remain dedicated to protecting the safety and health of workers on-site at Vogtle Units 3 and 4, as well as the surrounding community, with the

8

1 Project team continuing to take proactive measures to respond to the COVID-19 pandemic.
2 The Company, Southern Nuclear, and other Southern Company affiliates have continued
3 to collaborate in their response to the pandemic and Georgia Power is proud of the
4 continued delivery of safe and reliable energy to its customers during the pandemic. At
5 Vogtle Units 3 and 4, protecting the safety and health of our team and the surrounding
6 community is our priority. And while mitigating actions have varied across the country,
7 depending on the severity of the outbreak in the area, state and local government mandates,
8 and industry type, we believe the approach taken by the Project team has supported this
9 priority while also continuing construction, testing, and start-up of this critical
10 infrastructure project.

11 Throughout the pandemic, we have continued to consult with our medical advisors on the
12 appropriate precautionary measures to implement as we continue work on the Project. The
13 Project continues to provide medical facilities through an onsite clinic, staffed with medical
14 personnel who are equipped to administer COVID-19 tests to all badged personnel as well
15 as provide additional medical care that is not exclusive to the coronavirus. Over the past
16 few months, many field non-manual personnel who were working remotely began their
17 return to the site and have continued to work on-site. With the aid of distancing strategies
18 and protective equipment, the Project did not experience a spike in active cases after their
19 return. The Project has continued its field worker distancing strategies, adjusted break
20 schedules, and enhanced cleaning of gathering areas.

21 The Project team continues to monitor and track the number of active cases at the site and
22 compare it to trends in the surrounding area. In recent months, the number of positive cases
23 has continued to track with the surrounding area.

24 **Q. WHAT IS THE ESTIMATED COST OF COVID-19 FOR THE PROJECT?**

25 **A.** As reported in Table 1.1 of the VCM 23 Report, approximately \$19 million of actual
26 discrete costs related to COVID-19 were recorded during the Reporting Period. These costs
27 covered pandemic-related expenses such as the on-site medical village, enhanced cleaning

1 across the site, and supplies. The impact of the pandemic also includes costs associated
2 with the reduced productivity while large numbers of workers were quarantined and unable
3 to be productive, and the resulting schedule impacts. To date, SNC estimates that the cost
4 of COVID-19 on the Project, including direct and indirect costs, ranges between \$150
5 million and \$250 million, of which Georgia Power's share is currently estimated to be
6 between \$70 million and \$115 million.

7 Of course, the full impact of the pandemic on the Project is not yet known, particularly as
8 it relates to cost and schedule. Accordingly, our testimony reflects the Company's current
9 evaluation of the Project's cost and schedule as of the date of this filing. We will continue
10 to update the Commission throughout the pandemic and will provide an update when the
11 pandemic stabilizes and impacts may be more accurately assessed.

12 **Q. WHAT IMPACT HAS THE COVID-19 PANDEMIC HAD ON THE SCHEDULE?**

13 **A.** COVID-19 played a significant role in the decision to update the aggressive site work plan
14 in July 2020. Lower levels of production due to a smaller workforce were unable to support
15 the milestone dates set in the February 2020 schedule refinement. The aggressive work
16 plan reflected in the July 2020 update included changes to milestone dates, but the in-
17 service date remained the same. Notably, the November benchmark schedule also showed
18 changes in milestone dates after the July 2020 update, but affirmed the in-service dates for
19 both Units. While the pandemic continues to impact the Project, based on current
20 information and projections, we believe that the Project will be able to bring Unit 3 and
21 Unit 4 online by the regulatory-approved in-service dates of November 2021 and
22 November 2022.

23 **III. PROJECT STATUS**

24 **Q. WHAT SIGNIFICANT MILESTONES WERE REACHED DURING THIS**
25 **REPORTING PERIOD?**

26 **A.** As reported in the VCM 23 Report, the Project continued to reach significant milestones
27 during the Reporting Period, among them the setting of the Passive Containment Cooling

1 Water Tank (“CB20”) on top of the Unit 3 Shield Building, completion of the turbine
2 assembly, and completion of the Structural Integrity Test (“SIT”) and the Integrated Leak
3 Rate Test (“ILRT”). For Unit 4, the Reporting Period included setting the top on the
4 Containment Vessel, completion of all remaining Shield Building courses, and placing of
5 the Air Inlet panels on the Shield Building.

6 Since the VCM 23 Report, the Project has continued to work toward and achieve significant
7 milestones in the construction and testing of both Units. On Unit 3, the civil work was
8 completed on the Unit 3 Shield Building with the completion of the final concrete
9 placement on CB20. On Unit 4, the roof and all First Bay walls were completed on the
10 Turbine Building, as well as concrete placements for the Air Inlet panels on the Shield
11 Building.

12 As the Project continues its transition from construction to operations, several significant
13 testing and operational readiness achievements have been made since the filing of the VCM
14 23 Report, among them the completion of Turbine on Gear, and Cold Hydro Testing
15 (“CHT”) on Unit 3. The Project team successfully completed the pre-startup review by the
16 World Association of Nuclear Operators (“WANO”), which included a review of the
17 Project’s plan for transitioning systems through construction, testing, and ultimately to
18 Operations’ control. The Project additionally completed the NRC-evaluated Emergency
19 Preparedness exercise, which is designed to ensure that the Project has trained, qualified
20 personnel prepared to take appropriate action in the event of unforeseen conditions that
21 challenge normal plant operations. Further, the Project team received the first 62 Reactor
22 and Senior Reactor Operator licenses. This milestone was the culmination of a multi-year
23 process to ensure there will be enough licensed operators for the Plant.

24 **Q. HOW DID THE JULY 2020 SCHEDULE UPDATE CHANGE THE PROJECT**
25 **SCHEDULE?**

26 **A.** The July 2020 Schedule Update was an effort by the Project team to assess performance
27 against the aggressive site work plan. While the in-service dates in the aggressive site work

1 plan did not change as a result of the July 2020 Schedule Update, there were changes to
2 testing and start-up milestone dates to account for construction and testing progress on site
3 since the schedule refinement in February 2020. These changes to the aggressive site work
4 plan, without an adjustment of the in-service dates, made the July 2020 Schedule Update
5 even more aggressive than previous iterations.

6 While the July 2020 Schedule Update site work plan is aggressive, Georgia Power
7 continues to believe that it is the appropriate strategy for completing the Units by the
8 regulatory-approved in-service dates. The Company and Southern Nuclear utilize the two
9 schedules as “guardrails” to evaluate progress at the site. By evaluating production against
10 the site aggressive work plan and the regulatory benchmark, direct construction earnings
11 can be analyzed as an additional measure of Project progress towards completion.

12 **Q. HAVE THERE BEEN FURTHER CHANGES SINCE THE JULY 2020 SCHEDULE**
13 **UPDATE?**

14 **A.** Yes. As discussed in the SNC Testimony of Mr. Kuczynski and Mr. Abramovitz, there
15 have been subsequent changes to the aggressive site work plan and associated milestone
16 dates. Georgia Power remains focused on the regulatory-approved in-service dates and the
17 associated November benchmark schedules. Georgia Power continues to believe that the
18 strategy of targeting completion dates ahead of the regulatory commitments is an
19 appropriate and reasonable strategy to meet the regulatory-approved in-service dates.

20 **Q. WERE THERE ANY CHANGES TO THE NOVEMBER BENCHMARK**
21 **SCHEDULE AS A RESULT OF THE JULY 2020 SCHEDULE UPDATE?**

22 **A.** Yes. The July 2020 Schedule Update included an update to the existing Unit 3 November
23 benchmark. The update provided further confidence in the Project’s ability to meet the
24 regulatory-approved in-service date of November 2021 for Unit 3. During the July 2020
25 Schedule Update, the Project team developed a preliminary Unit 4 November benchmark
26 schedule.

1 **Q. FOCUSING ON UNIT 3, SPECIFICALLY, WHAT IS GEORGIA POWER'S**
2 **ASSESSMENT OF PERFORMANCE AGAINST THE JULY 2020 AGGRESSIVE**
3 **SITE WORK PLAN?**

4 **A.** Direct construction on Unit 3 overall currently lags the July 2020 aggressive site work plan.
5 Southern Nuclear continues to update its site work plans as necessary, with the latest
6 iteration of the Project schedule reflecting Southern Nuclear's current expectations.
7 However, despite the lag to the July 2020 Schedule Update and the challenging nature of
8 Southern Nuclear's latest schedule iteration, the performance to date is ahead of the
9 November benchmark schedule, which is the focus of Georgia Power and the other Project
10 Owners. Figure A below shows the percent complete progress through September 2020 for
11 Unit 3.

12 Electrical and subcontractor performance continue to be the main areas of focus for
13 Georgia Power and the Project team and remain risks to Project performance. The
14 performance in these two areas will be a key factor in achieving the progress required for
15 system turnovers and to support the Hot Functional Testing ("HFT") milestone. The
16 Company anticipates Southern Nuclear and Bechtel will effectively manage and sequence
17 electrical commodity installation and subcontracted scopes of work to support testing and
18 start-up activities, while also mitigating any challenges to cost performance and system
19 turnovers to support upcoming Project milestones.

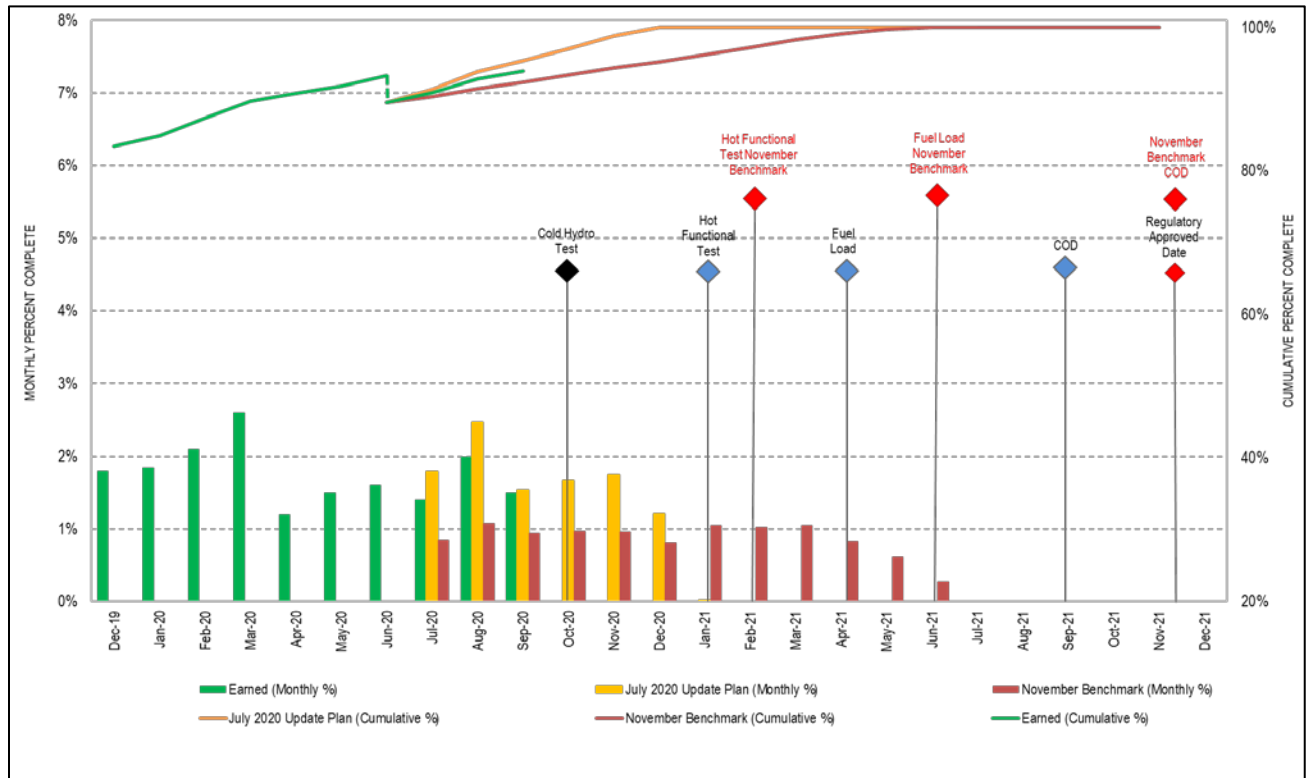


Figure A: Unit 3 Direct Construction Percent Complete

Q. WHAT IS THE CURRENT STATUS OF THE ELECTRICAL COMMODITY BACKLOG?

A. Unit 3 electrical performance has remained challenged. Lower than planned electrical earnings, which have been amplified by the onset of the COVID-19 pandemic at the site, contributed to lower than planned system turnovers and impacted milestone dates such as CHT, Condenser Vacuum, and HFT. Unit 3 remains ahead of the plan for unscheduled electrical installation but is behind on scheduled electrical installation as compared to the aggressive site work plan. Figure B below shows the electrical percent complete chart for Unit 3 through September 2020. Regarding Unit 4, the Company continues to monitor progress as it begins to ramp up staffing to support the electrical productivity levels necessary to meet its milestones.

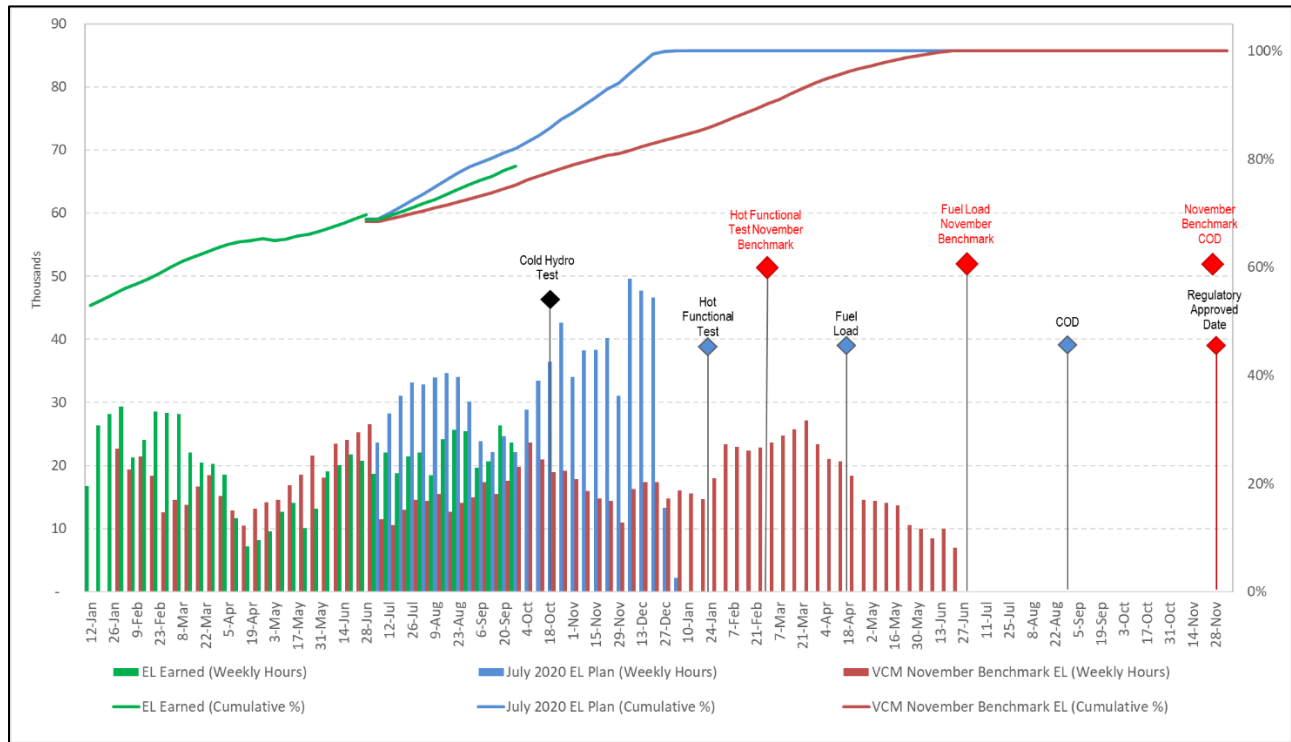


Figure B: Unit 3 Electrical Percent Complete

Q. PLEASE ELABORATE ON CURRENT SUBCONTRACT PERFORMANCE.

A. Unit 3 Subcontract performance continues to be an area of focus for the Project team. The Project’s ability to meet its milestones is dependent upon subcontractors being able to access work fronts and complete work. Like other aspects of the Project, the COVID-19 pandemic impacted subcontractors as they took measures to protect their personnel while also continuing to make progress. Overall, subcontractor performance to date indicates a positive margin against the Unit 3 November benchmark and supports completion by November 2021.

1 **IV. ECONOMICS**

2 **Q. WHAT IS THE ECONOMIC BENEFIT TO COMPLETING PLANT VOGTLE**
3 **UNITS 3 AND 4?**

4 **A.** The cost to complete analysis performed for the VCM 23 Report shows that completing
5 the Project provides a weighted average expected value of relative savings of
6 approximately \$3.9 billion over a gas-fired Combined Cycle (“CC”) alternative. While the
7 Company has provided cost to complete analysis in each VCM Report, given the upcoming
8 completion of Unit 3, as well as the sustained positive customer benefit of completing
9 Vogtle Units 3 and 4 over a CC alternative, continuing to provide this analysis has marginal
10 value to the Commission. As such, the Company no longer believes it is necessary to
11 continue performing this analysis.

12 **V. CONCLUSION**

13 **Q. WHAT IS GEORGIA POWER REQUESTING AT THIS TIME?**

14 **A.** The Company requests that the Commission verify and approve the \$701 million in actual
15 expenditures invested in the construction of the Project through June 30, 2020, as made
16 pursuant to the Certificate.

17 **Q. DOES THIS CONCLUDE YOUR TESTIMONY?**

18 **A.** Yes.