DIRECT TESTIMONY OF
STEPHEN E. KUCZYNSKI AND AARON P. ABRAMOVITZ

IN SUPPORT OF GEORGIA POWER COMPANY'S TWENTY-SECOND SEMI-ANNUAL VOGTLE CONSTRUCTION MONITORING REPORT

DOCKET NO. 29849

I. INTRODUCTION

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

A. My name is Stephen E. Kuczynski. I am the Chairman, President, and Chief Executive Officer of Southern Nuclear Operating Company ("Southern Nuclear"). My business address is 7825 River Road, Waynesboro, Georgia 30830.

My name is Aaron P. Abramovitz. I am the Vice President of Business Operations for Plant Vogtle Units 3 and 4 (the "Project"). My business address is 7825 River Road, Waynesboro, Georgia 30830.

Q. MR. KUCZYNSKI, PLEASE SUMMARIZE YOUR EDUCATION AND PROFESSIONAL EXPERIENCE.

A. I graduated from the Milwaukee School of Engineering with a Bachelor of Science degree in electrical engineering technology. I am also a graduate of the Harvard Advanced Management Program and have earned a senior reactor operator license from the U.S. Nuclear Regulatory Commission ("NRC"). I was elected to my current position as Chairman, President, and Chief Executive Officer of Southern Nuclear in July 2011. I am responsible for construction of the Project and other nuclear development initiatives, as well as all operations at Southern Company's six operating nuclear reactors at plants Farley, Hatch, and Vogtle. I have more than 35 years of experience in the nuclear industry, joining Southern Nuclear from Exelon Nuclear, where I was most recently the Senior Vice

President of Engineering and Technical Services, responsible for fleet engineering, capital projects, outage services, and nuclear fuel. Prior to that role, I was the Senior Vice President of Exelon Nuclear's Midwest Operations. In that role, I was responsible for oversight of Exelon Nuclear's six Illinois operating facilities and 11 reactors.

I previously served as chair of the Nuclear Energy Institute's ("NEI") Advanced Reactor Working Group and the New Plant Advisory Committee. I am a former member of the Terrestrial Power Industry Advisory Board and the board of advisors of X-Energy, a nuclear reactor and fuel design engineering services company. I previously served on the board of directors and the executive committee of NEI, the Institute of Nuclear Power Operations National Nuclear Accrediting Board, as well as the advisory boards for the Oak Ridge National Laboratory Nuclear Science and Engineering Directorate, and the U.S. Department of Energy's ("DOE") Gateway for Accelerated Innovation in Nuclear. I previously served as a member of the DOE's Office of Nuclear Energy, Nuclear Energy Advisory Committee. I have received the Special Achievement Award from the U.S. Nuclear Infrastructure Council and the Presidential Citation from the American Nuclear Society. I testified before Congress about advanced nuclear technology innovation on May 17, 2016.

Q. MR. KUCZYNSKI, HAVE YOU PREVIOUSLY TESTIFIED BEFORE THE GEORGIA PUBLIC SERVICE COMMISSION ("COMMISSION")?

A. Yes. I testified in this docket regarding the Eighteenth, Nineteenth, and Twentieth/Twenty-first Semi-annual Reports.

Q. MR. ABRAMOVITZ, PLEASE SUMMARIZE YOUR EDUCATION AND PROFESSIONAL EXPERIENCE.

A. I graduated from the University of Georgia with a Bachelor of Business Administration in Finance and Management Information Systems. I joined Southern Company as a contractor in the Financial Strategy and Decision Support organization. This was followed by a series

of Financial Analyst roles in various disciplines that included Financial Planning, Financial Analysis, Regulatory Support, and Competitive Intelligence. From there I transitioned to Georgia Power Company ("Georgia Power") to serve as the Coordinator for Forestry and Right of Way services. In 2008, I was assigned to the Kemper Project in Mississippi, where I served in financial leadership roles of increasing responsibility, eventually serving as the Project's Finance Director, where I was responsible for governance, reporting, regulatory support, and executive and Board of Directors communications. In 2015, I returned to Atlanta to serve as the Director of Investor Relations for Southern Company, where I was responsible for Southern Company's communications and relationships with the investment community. In 2018, I was named the Southern Nuclear Vogtle 3 and 4 Vice President of Business Operations. In this role, I have responsibility for Southern Nuclear's Project Controls, Risk Management, Budgeting and Reporting, and Commercial Analysis & Controls.

Q. MR. ABRAMOVITZ, HAVE YOU PREVIOUSLY TESTIFIED BEFORE THE COMMISSION?

A. Yes. I testified in this docket regarding the Nineteenth and Twentieth/Twenty-first Semi-annual Reports.

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A. The purpose of our testimony is to support the Twenty-second Semi-annual Vogtle Construction Monitoring ("VCM") Report and to update the Commission on efforts by Southern Nuclear regarding the construction and future operation of this long-term asset for Georgia customers, including our efforts to address the coronavirus pandemic ("COVID-19") at the site. Additionally, our testimony, along with the testimony of Georgia Power's witnesses Mr. McKinney and Mr. Haswell, provides justification for the verification and approval of Georgia Power's actual expenditures invested in the Project

between July 1, 2019 and December 31, 2019 (the "Reporting Period"), as made pursuant to the Certificate of Public Convenience and Necessity.

II. COVID-19 IMPACT AND RESPONSE

Q. HOW IS COVID-19 IMPACTING THE PROJECT TODAY?

A. COVID-19 is an unanticipated challenge the Project continues to work through on a real-time basis. As the Project continues to move forward in these uncertain times, it has begun to experience some of the impacts of the COVID-19 pandemic. We are focused on responding to the pandemic and the impacts it presents with increased focus on maintaining the safety of the workforce while continuing to work toward Project completion.

Q. WHAT IS THE PROJECT DOING TO PROTECT WORKERS ONSITE?

A. Protecting the health and safety of the Vogtle 3 and 4 team, as well as the surrounding community, is the highest priority on the Project. The Project has taken a number of proactive measures in response to the COVID-19 pandemic. These actions include the expansion of the onsite medical facilities with the establishment of an onsite clinic that can diagnose symptoms and administer COVID-19 testing of employees who exhibit symptoms, increased deep cleaning of workspaces and areas of high traffic throughout the Project site, reducing the number of individuals required to be in any given area, spacing at turnstiles to enter and exit the worksite, staggered breaks to reduce interaction, increasing break area spacing and availability, allowing self-identification by those who are in high risk categories based on Centers of Disease Control ("CDC") guidance, and requesting those that do not feel well to stay home. We are also mandating teleworking for those that can perform job-duties offsite. If a member of the team is tested onsite or offsite, we are taking immediate precautionary actions with each person tested and are treating every test for COVID-19 as a possible confirmed or positive test. Not only is the individual that has been tested self-isolated, we are also identifying team members who were in close proximity to the individual being tested and sending those identified individuals home to

self-isolate until test results are confirmed. In addition to these actions at the site, the Project team is working daily with healthcare professionals and consulting the latest recommendations from the CDC to protect the health of Project personnel as we encourage the workforce to more closely monitor their health and report health concerns.

Q. WHAT ARE THE POTENTIAL RISKS TO THE PROJECT?

A. The COVID-19 pandemic presents several risks to the Project. As has been reported in the local and national news - states, cities, and counties across the country - as well as a broad range of plant operations and construction projects - have executed various mitigation actions based on their specific facts and circumstances to slow the spread of COVID-19. We continue to take into account the advice of our medical advisors, assuring we have precautionary measures in place as we continue work on-site. Even with the precautionary measures we are taking, facts and circumstances outside of our direct control related to this pandemic will impact project performance through factors such as high absenteeism for both craft and non-manual personnel, retention of key specialty craft and non-manual personnel, supply chain interference as a result of COVID-19 measures undertaken by suppliers, and subcontract performance degradation due to similar restrictions on supply chains and labor forces for subcontractors. If the decision were made to slow or temporarily suspend construction activities for any length of time, retention of talent on site would be a risk as well as the longer lead time required to ramp up activity on the site to its current state today.

Each of these risks alone could have significant impacts to Project cost and schedule, but the impacts from a combination of these risks and others as the pandemic continues to evolve are even more difficult to estimate at this time. The Project team continues to monitor these and other risks by maintaining regular contact with employees, labor unions, suppliers and subcontractors. Gaining insights into the various stakeholder associations across the Project provides real-time information to help guide overall Project decisions.

Q. PLEASE DISCUSS THE SCENARIO PLANNING YOU ARE DOING AT THE SITE.

A. The Project's response to the pandemic is focused on the safety and health of the workforce (as discussed above), protecting the investment in the ground, and then on keeping the Project moving forward. To keep the Project moving forward, the site maintains constant contact with critical suppliers to determine where procurement delays could impact productivity and adjusts activities as necessary. The site is also working with various subcontractors to help them mitigate any supply chain delays they might experience. The Project team is working on several scenario plans that could allow construction to continue at varying levels in the event of a substantial workforce reduction on site, while also planning for a temporary suspension of all construction activities on site if necessary. The Project's scenario planning is intended to offer flexible but identified strategies the Project team can employ, if required, and will continue to be updated and modified as the pandemic evolves.

While recognizing the potential for significant COVID-19-related impacts to the Project, and proactively planning to mitigate those impacts, neither Southern Nuclear nor Georgia Power can presume any one outcome or project the ultimate cost and schedule impacts based on the pandemic at this time. Accordingly, this direct testimony reflects Southern Nuclear' s current evaluation of the Project's cost and schedule as of the date of this filing

III. PROJECT STATUS

Q. WHAT IS THE CURRENT STATUS OF THE PROJECT?

A. As discussed in the VCM 22 Report, the Project team continues to work to promote a culture that places safety first on the Project. The Project continues to hold a Total Recordable Incidence Rate well below the Heavy Construction industry average and the last lost time incident at the Project occurred in November 2018. Southern Nuclear and Bechtel continue to enhance their people-based safety program to cultivate an owner-

mindset among personnel at the Project, placing accountability and ownership of safety performance on everyone supporting the Project.

Mr. McKinney and Mr. Haswell have described the significant recent milestones the Project has achieved under SNC leadership. The Project continues to utilize an aggressive site work plan as a tool to reach the regulatory-approved in-service dates of November 2021 for Unit 3 and November 2022 for Unit 4.

Q. WHAT IS THE PERCENT COMPLETE FOR THE PROJECT?

A. We provide the Total Project Percent Complete as of the end of the Reporting Period on page 13 of the VCM 22 Report. As of February 2020 (the last available date for which information is available as of the filing of this testimony), those figures are:

Project Phase	February 2020 % Complete
Engineering	99.9%
Procurement	98.7%
Construction	79.6%
I&C/Cyber Security	99.6%
ITP/Start-Up Testing	18.9%
Total Project	**84.9%**

IV. COST FORECAST

Q. PLEASE DISCUSS ANY UPDATES TO THE TOTAL CAPITAL FORECAST FOR THE PROJECT.

A. Southern Nuclear continues to monitor and evaluate the costs associated with completion of the Project. The total Project cost forecast remains unchanged from that presented in the VCM 19 Report.

Q. PLEASE PROVIDE AN UPDATE ON PROJECT COST CONTINGENCY.

A. As discussed in the VCM 19 Report, Georgia Power's share of the projected cost to complete the Project includes $366 million in cost contingency. As discussed in the Company's VCM 22 Report, a total of $140 million of Georgia Power's share of Project contingency has been allocated to forecasted costs associated with several risks, including craft attraction and retention, Bechtel construction productivity, Initial Test Program ("ITP") & Operations support, subcontracts, engineering support, and procurement.

Through its monthly budget and forecast review process, SNC has continued to engage with Georgia Power and the other Owners to inform them of any cost pressures and potential risks that would require allocation of contingency. These cost pressures and potential risks are reported to and discussed with Commission Staff and the Construction Monitor on a monthly basis, if not more often. SNC continues to expect contingency allocations as the Project progresses towards completion.

V. STATUS OF PROJECT SCHEDULES

Q. DID THE FEBRUARY 2020 SCHEDULE REFINEMENT RESULT IN ANY CHANGES TO THE AGGRESSIVE SITE WORK PLAN?

A. Yes, as discussed in the VCM 22 Report, evaluation of the Project's performance against the April 2019 baseline combined with the February 2020 schedule refinement efforts provided SNC and Bechtel an enhanced understanding of the capabilities of the construction and testing organizations. Through the lessons learned by the Project team against the April 2019 baseline, the Project was better able to subdivide systems to support appropriate milestones and better sequence work for the Project. As a result, both SNC and Bechtel have a better visual understanding of the work necessary to support the Unit 3 milestones in 2020. Two of the significant changes resulting from the schedule refinement were shifting the timing out of several interim milestones prior to Unit 3 Fuel Load and

adjusting the schedule for electrical work to be planned after the start of Hot Functional Testing ("HFT") but prior to Fuel Load. These adjustments in the February 2020 schedule refinement ultimately maintained the aggressive site work plan for Unit 3's Fuel Load and in-service dates, while allowing for the backlog of electrical hours accumulated during 2019 to be redistributed. As a part of the schedule refinement, Unit 4 incorporated some of the lessons learned on Unit 3 last year by adjusting the sequencing of its construction and testing activities, resulting in aggressive site work plan Fuel Load and in-service dates of September 2021 and March 2022, respectively.

Q. THE AGGRESSIVE SITE WORK PLAN HAS BEEN CRITICIZED AS BEING TOO AGGRESSIVE. IS THE PROJECT STILL COMMITTED TO THAT SCHEDULE STRATEGY?

A. Yes, the Project team still believes that an aggressive site work plan is the right tool to meet the regulatory approved in-service dates. An aggressive site work plan allows the Project team to gain a better understanding of the risks that are in front of them earlier in the Project. A key process on site for identifying risks sooner rather than later is the Partial Release to Test ("PRT") approach, which provides site personnel with access to early testing of components and equipment. This process for early testing has provided valuable lessons learned that can be used on Unit 3 and Unit 4 in the future.

Q. IN THIS TESTIMONY, HOW IS SOUTHERN NUCLEAR DEFINING THE APRIL 2019 AND FEBRUARY 2020 SCHEDULE REFINEMENT SCHEDULES?

A. During the Reporting Period, the Project's progress was measured against the previous aggressive site work plan, the April 2019 baseline schedule. However, in an attempt to provide an update on the latest Project progress, we will also provide reference to the, February 2020 schedule refinement, which we will refer to as the aggressive site work plan throughout the remainder of this testimony.

Q. HAS SNC DEVELOPED A METHOD TO COMPARE PROGRESS OF THE PROJECT AGAINST THE REGULATORY-APPROVED IN-SERVICE DATES, AS REQUESTED BY PIA STAFF AND ITS CONSULTANTS?

A. Yes. As shown in the Project Percent Complete charts from the testimony of Messrs. McKinney and Haswell and discussed in the VCM 22 Report, Southern Nuclear has developed a November Benchmark schedule that outlines the productivity levels necessary to support the regulatory-approved in-service date of November 2021 for Unit 3. Through mid-March, the Project has exceeded the production levels needed to support the regulatory approved in-service dates for Unit 3.

VI. CONSTRUCTION PROGRESS

Q. HOW IS CONSTRUCTION PROGRESSING AT THE SITE?

A. As of the end of February 2020, total construction on the Project is approximately 80% complete when including site-specific balance of plant ("BOP") structures. Unit 3 direct construction, consisting of Bechtel's current scope of work (plus direct scope completed in the Unit 3 power block prior to Bechtel) is approximately 87% complete, Unit 4 direct construction is approximately 65% complete and BOP is approximately 81% complete. Significant progress continues in all phases of construction, with the setting of the Unit 3 Shield Building roof, setting of the Unit 4 Containment Vessel top head, and continued bulk and system commodity installation in both units, as well as continued system turnovers in support of component testing.

Q. PLEASE GIVE AN UPDATE ON PROJECT TRANSITION FROM CONSTRUCTION TO TESTING AND START-UP.

A. As discussed in the VCM 22 Report, Unit 3 continues its transition from construction activities to testing. Open Vessel Testing for Unit 3 is nearing conclusion and Closed Vessel Testing is set to begin in the coming weeks. The Main Control Room ("MCR") is

now staffed with permanent plant operators and is supporting testing and start-up operations. The Main Control Room is necessary to support Cold Hydro Testing ("CHT"), which verifies that the primary system can hold the designed operating pressure. Per the aggressive site work plan, CHT is scheduled to begin in the second quarter of 2020. Each of these milestones is important to the successful start-up and operation of the plant and will lay the foundation for commercial operations.

Additionally, the site is preparing for HFT, which verifies that the system can heat to normal operating temperature and pressure based on the NRC-approved design. This set of tests is completed without fuel in the core and utilizes other plant components to achieve the desired testing conditions. Per the aggressive site work plan, HFT is scheduled to occur later in 2020.

The site continues its utilization of the Testing Control Center ("TCC") to support the successful turnover of systems from construction to testing. The TCC has become more involved in recent months as Unit 3 approaches CHT and HFT.

Q. PLEASE PROVIDE AN UPDATE ON DIRECT CONSTRUCTION COST PERFORMANCE.

A. The Direct Construction Cost Performance Index ("CPI") measures the ratio of direct construction hours spent on an activity relative to hours earned. The cumulative CPI for the Project as of the week of March 22, 2020 is 1.26. The cumulative CPI for the site has remained relatively stable over the past few months. Site leadership continues to believe that this level of CPI is partially due to Unit 3's transition from civil commodities to mechanical and electrical commodities, as well as increased system turnover and testing activity. Southern Nuclear and Bechtel continue to implement plans to improve CPI, increasing performance on the installation of mechanical and electrical commodities, minimizing non-productive work time, and reinforcing standards and expectations for Project performance.

Q. THE PROJECT'S UNIT RATES HAVE BEEN CRITICIZED AS BEING TOO AGGRESSIVE. WERE THE UNIT RATES UPDATED DURING THE SCHEDULE REFINEMENT EFFORT?

A. No. Unit rates were not adjusted in the February 2020 schedule refinement. Southern Nuclear believes that adjusting unit rates at this point in the Project would alter the view that site leadership, co-owners, and external stakeholders have of past performance and, thus, inhibit effective comparisons to current performance.

Southern Nuclear believes that under these circumstances the best way to plan work going forward is to target earned hours while applying an estimated CPI factor to establish necessary staffing levels. In addition, as a part of our cost forecasting process, we have adjusted our cost forecasting tools with a CPI that is higher than originally anticipated, which has led to allocation of Project contingency. In summary, as part of the recent schedule refinement, Southern Nuclear adjusted CPI assumptions to account for staffing and costs related to observed production rates. This approach provides the Project with an appropriate and comparable view of historical and current production.

Q. PLEASE PROVIDE AN UPDATE ON OVERALL PROJECT SCHEDULE PERFORMANCE.

A. The Project continues to work to an aggressive site work plan to drive production and provide margin to the regulatory-approved in-service dates of November 2021 for Unit 3 and November 2022 for Unit 4. The Schedule Performance Index ("SPI") is a measure of how efficiently the Project is progressing compared to the aggressive site work plan. Southern Nuclear and Bechtel continue to look for opportunities to complete activities early through evaluating opportunities to simplify and increase efficiencies that aid timely and compliant Project completion.

The February 2020 schedule refinement reset SPI to 1.0. Since the February 2020 schedule refinement and through March 22,2020, the Project has a SPI of 1.04 for Unit 3 and a SPI

of 0.95 for Unit 4, as measured against the aggressive site work plan. Electrical and subcontractor productivity in Unit 3 are specific areas of focus, especially as planned system turnover activities continue to increase, and subcontracted scopes of work are needed as Unit 3 prepares for HFT.

Q. PLEASE PROVIDE AN UPDATE ON PROGRESS RELATIVE TO THE AGGRESSIVE SITE WORK PLAN.

A. Since the establishment of the Project's new aggressive baseline, through the week of March 22nd, the Project is meeting the plan for Unit 3, Unit 4, and for BOP. In the coming weeks, the aggressive site work plan requires significant increases in earnings for Unit 3 and Unit 4, specifically in electrical and subcontracted scopes of work. SNC continues to acknowledge that the site work plan is aggressive, but believes working toward a challenging schedule is necessary to maintain the focus and drive of the Project, and ultimately support the Project's objective of meeting the regulatory-approved in-service dates for Unit 3 and Unit 4, which are November 2021 and November 2022 respectively.

Project leadership continuously evaluates the site work plan for opportunities to progress the Project through testing and turnover and believes that while aggressive, the site work plan is still the best plan to complete the Project as quickly, efficiently, and safely as possible.

Q. HOW HAS ELECTRICAL PERFORMANCE ON UNIT 3 BEEN SINCE THE LAST REPORTING PERIOD?

A. During the Reporting Period, Unit 3 electrical performance was challenged, as evidenced through the substantial backlog of earned hours that built up relative to the April 2019 baseline. Through the February 2020 schedule refinement effort, the electrical backlog was spread out over the remaining schedule, with approximately 390,000 hours (about 12 weeks' worth) of electrical scope moving beyond the HFT milestone, which is a change in comparison to the April 2019 baseline. This effort to spread the remaining electrical work

in the schedule was accomplished by further defining and parsing out systems necessary to support major Project start-up milestones. Much of the electrical scope moved past HFT includes plant lighting and standard electrical outlets which are not required for HFT. Through these adjustments, the Project team has positioned itself to better monitor the productivity necessary to support the upcoming start-up testing milestones.

Since the schedule refinement in February, the site has seen an increase in electrical earnings, especially in the areas of conduit installation and cable pulling. This positive trend is encouraging, as these commodities have substantial scopes of work remaining and will be critical to the success of the Project.

In the coming months, the site's aggressive work plan for electrical earnings will have its challenges as production requirements will increase to support system turnovers and start-up milestones, however, we do expect some mitigation to these challenges with work areas starting to become less congested, which should support an increase in productivity. Project management continues to monitor electrical productivity performance and looks for opportunities to address barriers that may inhibit electrical commodity installation.

Q. PLEASE PROVIDE SOUTHERN NUCLEAR'S ASSESSMENT OF BECHTEL AND WESTINGHOUSE'S PERFORMANCE.

A. Bechtel is working to improve productivity, particularly in the areas of electrical commodity installation and subcontractor performance. Southern Nuclear expects improved performance to provide and maintain margin to the regulatory-approved schedule. Bechtel and Southern Nuclear continue to work closely to see that performance goals of the Project are met.

Westinghouse continues to provide services necessary to complete design work, optimize existing designs and processes, respond to engineering needs from the Project, and procure specialized materials. Southern Nuclear directs Westinghouse in the execution of its responsibilities.

Q. WHAT IS SOUTHERN NUCLEAR'S STANDING WITH THE NRC?

A. During the Reporting Period, Southern Nuclear received no Notices of Violation and remained in favorable standing with the NRC as indicated by its green status under the NRC's Construction Reactor Oversight Process (the "cROP"). 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.

VII. PROJECT CHALLENGES

Q. PLEASE GIVE AN UPDATE ON PROJECT CHALLENGES.

A. The Project's ability to meet the regulatory-approved in-service dates continues to be dependent on numerous factors, including the increased production targets in the site work plan for electrical and mechanical commodities, effective management of subcontractor production for their scopes of work, continued focus on testing and system turnover, and preparedness for pre-operational and startup activities. Project leadership continues to evaluate processes for improvements, implementing proactive planning, and scheduling enhancements designed to maintain and improve Project performance.

Productivity in the installation of electrical and mechanical commodities continues to be a focus of Project leadership. Early indications for electrical commodity installation since the February 2020 schedule refinement are positive, but with future system turnover requirements increasing, improved electrical earnings are also required.

Project leadership is also monitoring the performance of subcontracted scopes of work. The site work plan calls for an increase in production in the coming weeks and subcontractor performance will play a key role in getting Unit 3 prepared for HFT. Staffing for various subcontractors is already increasing to meet the upcoming needs, and

subcontractors have shown that they are able to perform when provided with available work fronts. Bechtel coordination and support of access for subcontractors is critical to meeting the upcoming increase in subcontractor earnings. Project leadership continues to implement actions to address performance, assess their effectiveness, and adjust as necessary to drive success.

VIII. CONCLUSION

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes.