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LAUREN "BUBBA" McDONALD, JR.



DEBORAH K. FLANNAGAN
EXECUTIVE DIRECTOR

REECE McALISTER
EXECUTIVE SECRETARY

Georgia Public Service Commission

(404) 656-4501
(800) 282-5813

244 WASHINGTON STREET, SW
ATLANTA, GEORGIA 30334-9052

FAX: (404) 656-2341
www.psc.state.ga.us

December 1, 2017

Mr. Reece McAlister
Executive Secretary
Georgia Public Service Commission
244 Washington Street, S.W.
Atlanta, GA 30334

Re: Docket No. 29849
Georgia Power Company's Seventeenth Semi-Annual Vogtle Construction Monitoring Report

Dear Mr. McAlister:

On behalf of the Georgia Public Service Commission Public Interest Advocacy Staff, enclosed for filing please find the testimony of the panel of Tom Newsome, Philip Hayet, and Lane Kollen, the panel of E. Cary Cook and Shemetha Q. Jones and the panel of William R. Jacobs Jr., Ph.D., Steven D. Roetger, and Ralph Smith.

This filing contains certain information that is being filed under the trade secret rules of the Commission. A redacted version of this filing is also enclosed for public disclosure.

We have furnished an electronic and/or a copy by mail of a redacted version of this filing to all parties in this docket.

Sincerely,

A handwritten signature in blue ink, appearing to read "Jeffrey C. Stair".

Jeffrey C. Stair
Attorney

Enclosures

**BEFORE THE
GEORGIA PUBLIC SERVICE COMMISSION**

**IN THE MATTER OF: GEORGIA POWER
COMPANY'S SEVENTEENTH SEMI-
ANNUAL VOGTLE CONSTRUCTION
MONITORING REPORT**

DOCKET NO. 29849

**DIRECT TESTIMONY
AND EXHIBITS
OF
TOM NEWSOME, PE, CFA
PHILIP HAYET
LANE KOLLEN**

**ON BEHALF OF THE
GEORGIA PUBLIC SERVICE COMMISSION
PUBLIC INTEREST ADVOCACY STAFF**

DECEMBER 1, 2017

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1 In this testimony, Staff presents our economic evaluation of the Project, discusses
2 the Company’s proposed conditions, and presents our determination of reasonable costs.
3 Staff concludes that completion of the Project is no longer economic on a to-go (forward
4 looking) basis given the additional costs and schedule delays, even without considering
5 the conditions requested by the Company. Staff opposes several of the conditions
6 requested by the Company, which would effectively shift most of the financial risk of the
7 Project to customers. Staff’s analysis indicates the Project’s economic benefit is a
8 negative \$1.6 billion, meaning that the Project is uneconomic. We provide a matrix
9 summarizing Staff’s analyses in Section 3 of our testimony.

10 Similar to Staff’s analyses in prior VCM proceedings, we performed independent
11 economic studies over a range of assumptions that in some cases differ from the
12 Company’s assumptions and methodologies. These differences include the natural gas
13 price forecast and the incremental income tax effects of completion compared to
14 cancellation, among others.

15 Finally, we address the regulatory concepts of prudence and reasonableness and,
16 likewise the appropriate allocation of costs between the Company and its customers for
17 ratemaking purposes. There is an important difference between providing the
18 Commission a “reasonable” forecast of the remaining costs to complete the Project versus
19 determining the amount of final project costs that are reasonable for ratepayers to pay. A
20 reasonable forecast does not automatically mean that all of the underlying costs in the
21 forecast are reasonable to assign to ratepayers. The facts and circumstances regarding
22 why a cost has been incurred must be considered to determine the reasonableness of
23 approving recovery of a cost from ratepayers.

24 We conclude that certain costs already incurred by the Company are not
25 reasonable to allocate to customers. Furthermore, we conclude that certain costs in the
26 Company’s estimate of future costs are also unreasonable to allocate to customers and

1 instead should be allocated to the Company and its shareholders. We recommend that the
2 Commission find these costs unreasonable in this proceeding or defer this determination
3 until after the Project is completed.³

4 **Q. PLEASE SUMMARIZE YOUR RECOMMENDATIONS.**

5 A. Staff's recommendations are as follows:

- 6 1. Staff recommends the Project go forward only if the Commission modifies the
7 Company's proposed conditions to: a) ensure that Project completion is economic
8 compared to cancellation,⁴ b) provide an appropriate allocation of risks and costs between
9 the Company and its customers, and c) determine now that the costs identified as
10 unreasonable by Staff be borne by stockholders, or at the least ensure that unreasonable
11 costs are not approved in advance of an in-depth review of the prudence and
12 reasonableness of actual costs after they are incurred.
- 13 2. Staff recommends that the reasonable Total Project Cost be set to no more than \$8.3
14 billion, consisting of a Capital and Construction Cost of \$5.2 billion, and Financing Cost
15 of \$3.1 billion.
- 16 3. If the Commission declines to adopt Staff's going forward recommendation, we
17 recommend that the Project be cancelled and that the Commission decline to prematurely
18 provide assurances of recovery in this proceeding. If the Project is cancelled, Staff
19 recommends that the Commission review the prudence and reasonableness of the actual
20 costs incurred and determine the recovery of those actual costs in a subsequent
21 proceeding established for that purpose. Such a proceeding would consider what portion
22 of the costs that have been incurred and that would have to be incurred to terminate
23 construction and demobilize and secure the site should be recovered from ratepayers.
- 24 4. Staff recommends that the Commission reject the Company's proposed condition that
25 effectively restates, and possibly modifies, the terms of the Supplemental Information

³ The PSO in this case provides that the Commission will determine reasonableness in this proceeding. However, the Commission's August 23, 2017 Order in this docket also specifically provided that if the Company recommended, for whatever reason, that the Project be abandoned, the Commission could reconsider its decision to decide reasonableness now. One of the Company's recommendations in its 17th VCM Report is that the Project be cancelled.

⁴ Staff proposes that certain costs be deemed unreasonable in this proceeding. These unreasonable costs would not be recoverable from the Company's ratepayers in future ratemaking proceedings. If adopted, these disallowances, together with the terms of the SIR Stipulation, could shift the economics to favor completion on a to-go basis.

- 1 Report (“SIR”) Stipulation adopted by the Commission on January 3, 2017.⁵ Staff also
2 recommends that the Commission adopt the Company’s proposed condition that affirms
3 the terms of the SIR Stipulation.⁶
- 4 5. Staff recommends that the Commission decline to adopt the Company’s proposed
5 condition that the Project costs not be reduced in a future rate proceeding if it fails to
6 receive the Toshiba Parental Guarantee (“Toshiba Guarantee”) payments.⁷ Instead, we
7 recommend that the Commission adopt a condition that the failure to receive the Toshiba
8 Guarantee payments will be reviewed in a future post-construction prudence and
9 reasonableness review of the Company’s actual decisions, actions, and inactions, and the
10 actual costs that were incurred.
- 11 6. Staff recommends that the Commission decline to adopt the Company’s proposed
12 condition that the Project capital costs not be reduced in a future rate proceeding if the
13 Project does not qualify for the Production Tax Credits (“PTCs”).⁸ Instead, Staff
14 recommends that the Commission adopt a condition that because of the Company’s
15 repeated schedule delays, the failure to receive the PTCs, unless extended by Congress,
16 will be reviewed in a future post-construction prudence and reasonableness review of the
17 Company’s actual decisions, actions, and inactions, and the actual costs that were
18 incurred. In addition, Staff recommends the Commission consider in that review the fact
19 that the Company is no longer eligible for 50% or any other amount of bonus tax
20 depreciation because of the repeated schedule delays.
- 21 7. If construction of the Units continues, Staff recommends that the Company perform
22 economic analyses of the additional 24, 36, and 48-month delay scenarios, as was done in
23 previous VCM filings. Staff also recommends that for each such delay scenario, the
24 Company provide the Total Project Cost and the full embedded cost revenue
25 requirements associated with the Total Project Cost that the Company expects customers
26 will incur both during construction and over the operating lives of the Units.
27

⁵ This is the third of five requests that the Company asks the Commission to consider and decide when it issues its Order in the 17th VCM proceeding. See 17th VCM Report Section IX, pg. 123.

⁶ This is the second of five requests that the Company asks the Commission to consider and decide when it issues its Order in the 17th VCM proceeding. See 17th VCM Report Section IX, pg. 123.

⁷ This is the fourth of five requests that the Company asks the Commission to consider and decide when it issues its Order in the 17th VCM proceeding. See 17th VCM Report Section IX, pg. 123.

⁸ Id.

1 **II. COMPANY'S 17th VCM FILING**

2 **Q. WHAT CONVENTION DO YOU USE TO REFER TO THE DIFFERENT CASES**
3 **EVALUATED IN THIS PROCEEDING?**

4 A. For purposes of consistency in discussing economic evaluations throughout all VCM
5 proceedings, Staff has identified delay cases based on the number of months of delay
6 from the original certified in-service dates for the Units of April 2016/2017. Since the
7 Company's latest estimate is now November 2021/2022, Staff refers to this as the 68-
8 month delay case. Staff understands the Company refers to the same case as its +29-
9 month case in reference to its prior commercial operation dates of June 2019 and 2020, as
10 reflected in the Company's 15th and 16th VCM filings.

11 **Q. PLEASE DISCUSS GEORGIA POWER'S 17TH VCM ESTIMATE OF ITS SHARE**
12 **OF THE TOTAL PROJECT COST.**

13 A. The Company's latest estimate from Table 1.1 of the 17th VCM Report for the 68-month
14 delay case is a Total Project Cost of \$12.2 billion, consisting of \$8.8 billion for
15 construction and capital cost, and \$3.4 billion for financing cost.⁹ These are the Total
16 Project Costs that Georgia Power expects it will incur during construction of the Vogtle
17 Project.

18 **Q. PLEASE EXPLAIN HOW THE FINANCING COST INCURRED BY THE**
19 **COMPANY DURING THE CONSTRUCTION OF THE UNITS IS RECOVERED**
20 **FROM RATEPAYERS.**

21 A. The majority of the Company's financing cost incurred to build the Units is recovered
22 during the construction period through the Nuclear Construction Cost Recovery

⁹ See footnote 1, for an explanation of the Company's inconsistency with using \$12.170 as the Total Project Cost.

1 (“NCCR”) tariff. The remaining financing costs are capitalized and recovered over the
2 operating lives of the Units. Capitalizing financing cost is the traditional approach to
3 recovering financing costs, and is referred to as Allowance For Funds Used During
4 Construction (“AFUDC”) accounting.

5 **Q. HOW MUCH WILL BE COLLECTED FROM RATEPAYERS DURING THE**
6 **CONSTRUCTION PERIOD UNDER THE NUCLEAR CONSTRUCTION COST**
7 **RECOVERY (“NCCR”) TARIFF?**

8 A. Staff estimates the Company will recover approximately \$3.0 billion of the \$3.4 billion of
9 financing cost during construction.¹⁰ The revenue requirement to be collected from
10 ratepayers on the \$3.0 billion in financing cost is approximately \$4.5 billion.¹¹ The
11 difference between the \$4.5 billion value and the \$3.0 billion financing cost value is \$1.5
12 billion in income tax expense due to the gross-up of the return on equity.

13 **Q. HOW MUCH HAS BEEN SPENT ON THE PROJECT UP TO THE END OF THE**
14 **17TH VCM PERIOD, WHICH ENDED JUNE 30, 2017?**

15 A. The Company incurred \$4.44 billion of capital and construction cost and \$1.41 billion of
16 financing cost for a Total Project Cost of \$5.85 billion.¹²

17 **Q. HOW MUCH REMAINS TO BE SPENT ON THE PROJECT THROUGH THE**
18 **END OF CONSTRUCTION?**

19 A. The Company estimates it will incur \$4.33 billion of construction and capital cost and
20 \$2.00 billion of financing cost for a Total Project Cost to be spent of \$6.33 billion over

¹⁰ Financing cost is \$3.4 billion in Table 1.1; however only approximately \$3.0 billion of the \$3.4 billion will be recovered through the NCCR tariff during construction period. The remaining \$0.4 billion of financing cost would be capitalized as AFUDC and recovered over the operating life of the Units.

¹¹ Staff estimate.

¹² See Staff data request 117-11 and attachment 117-11-c.

1 the remainder of the Project. Again, the \$4.33 billion does not reflect the Toshiba
2 Guarantee payments.

3 **Q. WHAT WAS THE COMPANY'S PERSPECTIVE ON THE ASSUMPTIONS**
4 **THAT IT USED IN THIS VCM PROCEEDING?**

5 A. The direct testimony of Ms. Alison Chiock and Mr. David Poroach ("Chiock Panel")
6 states that in this VCM "several assumptions were updated to more appropriately reflect
7 current conditions."¹³ This included making changes in its economic analyses that
8 increased the value of PTCs by accounting for the income tax gross up, using a later
9 present value date (previously - 2016, currently - 2021), using a decision date that was
10 months later than its usual practice, and modeling cancellation costs net of salvage
11 income.

12 **Q. WERE THERE ANY UNDERLYING MODELING ASSUMPTIONS THAT THE**
13 **COMPANY DID NOT CHANGE?**

14 A. Although the Company stated that it revisited all modeling assumptions, it did not change
15 certain underlying planning assumptions from the 16th VCM, including its fuel and load
16 forecasts, and its generation technology cost assumptions.¹⁴

17 **Q. WHAT ECONOMIC EVALUATIONS DID THE COMPANY PERFORM IN THE**
18 **17TH VCM PROCEEDING?**

19 A. The Company states that it performed economic analyses using the same "core

¹³ Direct Testimony of Chiock Panel at page 7, lines 9 – 12.

¹⁴ The Company also failed to correctly model the MACRS tax depreciation using the fourth quarter convention required in the Internal Revenue Code based on the November 2021 and November 2022 CODs for Units 3 and 4, respectively. This error favors the Completion Case by approximately \$70 million on a 2018 net present value basis and \$87 million on a 2021 net present value basis. Staff did not correct this error in this 17th VCM proceeding, but reserves the right to do so in future VCM proceedings.

1 methodologies used in all previous economic evaluations.”¹⁵ The Company’s
2 methodology compares the remaining cost to complete the Vogtle Project, referred to as
3 the “Completion Case”, to the cost to cancel Vogtle and construct an equivalent amount
4 of combined cycle (“CC”) capacity, referred to as the “Cancellation Case”. In this VCM,
5 the Company provided two variations of the analyses. The first set of analyses, or
6 “views” as the Company refers to them, is consistent with the analyses it has performed
7 in prior VCM proceedings as the “Incremental Cost to Complete Analysis.” We refer to
8 this first set as View 1. The Company characterized the second set of analyses as the
9 “Total In-Service Cost Analysis.” We refer to this second set as View 2.

10 **Q. DOES STAFF AGREE WITH THE METHODOLOGY USED BY THE**
11 **COMPANY IN THE VIEW 1 AND VIEW 2 ANALYSES?**

12 A. No. The Company’s modeling of View 1 fails to incorporate the incremental income tax
13 benefit of cancelling the Units.¹⁶ Although View 2 includes the incremental income tax
14 benefit of cancelling the Units, the Company incorrectly modeled to-go costs using an
15 embedded debt rate rather than a marginal debt rate. Staff corrected these flawed
16 assumptions in its economic analyses. The Company’s failure to include the incremental
17 income tax effects of the abandonment loss incorrectly penalized the Cancellation Case
18 by more than \$1 billion.

19 **Q. WHAT SCENARIOS DID THE COMPANY PRESENT IN ITS FILING?**

20 A. The Company presented results for its base case, the 68-month delay case, and other
21 delay scenarios that ranged from 59 to 80 months. However, the Company did not

¹⁵ Chiock Panel Direct Testimony, page 7, line 20.

¹⁶ The incremental tax benefit is primarily the reduction of income taxes that would result from immediately writing off the capital cost of the Project if the Project was cancelled, versus depreciating the Project over 15 years if the Project was completed.

1 provide evaluations of the scenarios that were ordered by the Commission in its 16th
2 VCM Order, the prescribed additional 24, 36 and 48-month scenarios beyond the
3 Company's 68-month delay base case. Staff conducted analyses of the prescribed
4 scenarios, which are discussed in Section 3 below.

5 The following table summarizes the Company's expected value results in 2021
6 net present value dollars for Views 1 and 2. The table contains the Company's results of
7 the 68-month delay schedule and reflects the current situation in that bonus depreciation
8 and PTC tax benefits are lost due to schedule delays, but includes the financing cost
9 benefits of the additional United States Department of Energy ("DOE") loan guarantee
10 commitments that the Company recently received. The Company's View 1 properly
11 reflects the marginal cost of debt, but fails to reflect the incremental effects of the
12 abandonment loss in the Cancellation Case. The Company's View 2 incorrectly reflects
13 the embedded cost of debt, but properly reflects the incremental effects of the
14 abandonment loss in the Cancellation Case. The primary explanation for the significant
15 variation in the results of the two Views is the abandonment loss impact reflected in the
16 View 2 Cancellation Case, which highlights the importance of this issue.

17 **Table 1**
18 **Georgia Power's Expected Value Results**
19 **68-Month Delay Case - View 1 and 2**
20 **Negative Means the Project is Uneconomic**
21 **(\$ Millions)**
22

	2021 Present Value
View 1	716
View 2	(524)

23
24 If PTCs are extended by the Federal government, this would add about \$1.1
25 billion in benefits on a 2021 present value basis to the Company's 17th VCM result in the

1 table above. However, the PTC benefit would be reduced if the federal corporate income
2 tax rate is reduced from 35 percent by the legislation that is currently being considered by
3 both houses of Congress due to a lower income tax gross-up. For example, a reduction in
4 the federal corporate income tax rate to 20 percent would reduce the value of the PTCs to
5 approximately \$0.9 billion on a 2021 present value basis.

6 **Q. THE COMPANY HAS USED 2016 AS THE DATE FOR PRESENT VALUE**
7 **CALCULATIONS IN ALL PRIOR VCMS. HOWEVER, THE COMPANY**
8 **CHANGED THE PRESENT VALUE DATE TO 2021 IN ITS 17th VCM FILING.**
9 **PLEASE EXPLAIN THE IMPACT OF THIS CHANGE IN PRESENT VALUE**
10 **DATES ON ECONOMIC EVALUATIONS.**

11 A. The fact that the Company presented results in 2021 dollars is a significant change for the
12 Company to make at this juncture. In all prior proceedings as far back as the 1st VCM
13 proceeding, the Company stated net present value results in 2016 dollars, based on the
14 original in-service date for Unit 3. In economic studies, it is important that present value
15 results be compared using the same present value date for consistency and to make
16 meaningful comparisons between different values. Any change to the present value date
17 made while a project is being studied could make a project appear to be more or less
18 economic than the project appeared in an earlier version of the same study. Changing the
19 date from 2016 to 2021, gives the Project the appearance of being more economic than it
20 otherwise would be if there are positive benefits, or more uneconomic if there are
21 negative benefits, all else equal.¹⁷ If the present value date is changed at this point, then
22 it is important that any comparisons to prior results be compared using the same present
23 value date.

¹⁷ As a hypothetical, a project that has a benefit of \$5 billion when stated in 2016 present value dollars, would appear to have a benefit of \$7 billion when expressed in 2021 dollars, based on a 7% discount rate, all else equal. In this example, the project really did not increase in value, it just appeared that it did, simply because the present value calculation was based on a later present value date.

1 **Q. IF A CHANGE IS MADE AT THIS POINT TO THE PRESENT VALUE DATE,**
2 **WOULD THERE BE A BETTER DATE TO USE THAN 2021?**

3 A. Yes. While the present value date should remain the same from VCM to VCM to ensure
4 comparability of results, if it is changed, Staff's recommendation is that it should be
5 changed to the same date as the decision date of 2018, so that it is consistent with the date
6 when the Commission will make a decision in this proceeding. If the present value date
7 is changed to 2018 in this proceeding, Staff expects to use that date in all future VCM
8 proceedings, and recommends that the Company do the same. The following table
9 presents the same results found in Table 1 above, but also presents the results in 2018 net
10 present value dollars.

11 **Table 2**
12 **Georgia Power's Expected Value Results**
13 **Comparing 2018 to 2021 NPV Dollars**
14 **68-Month Delay Case - View 1 and 2**
15 **Negative Means the Project is Uneconomic**
16 **(\$ Millions)**
17

	2021 Present Value	2018 Present Value
View 1	716	577
View 2	(524)	(427)

18

19 **Q. DID THE COMPANY MAKE ANY OTHER CHANGES TO DATE**
20 **ASSUMPTIONS IN THIS PROCEEDING?**

21 A. Yes. In all prior VCMs, the Company set the decision date to the day following the filing
22 date of the VCM reports. The decision date represents the dividing line date used to
23 segregate costs that the Company has already incurred (sunk cost), versus prospective
24 costs (to-go cost) that the Company will incur in completing the Project. All else being

1 equal, the later the decision date, the less the to-go costs will be in the Completion
2 Scenario, and the more economical the Project will appear. In this VCM, the Company
3 set the decision date to February 15, 2018, which is about five months later than the
4 September 1, 2017 date that the Company otherwise would have used had it followed the
5 same practice it had used in prior VCMs.

6 **Q. WHAT DECISION DATE DID STAFF USE AS THE DIVIDING LINE FOR**
7 **SUNK COSTS IN ITS ECONOMIC ANALYSES?**

8 A. Staff adopted the use of February 2018, because for all practical purposes, it is now
9 impossible for the Company to retroactively cancel the Project in August 2017.
10 However, that does not mean Staff agrees that the costs incurred after August 2017, when
11 the Company made its decision to proceed, are prudent or reasonable. The Company
12 should remain at risk for those costs in any Commission prudence or reasonableness
13 review regardless of whether the Project is completed or cancelled.

14 **Q. PLEASE DISCUSS THE TREND IN THE COMPANY'S BASE CASE**
15 **EXPECTED VALUE BENEFITS SINCE THE 11TH VCM PROCEEDING.**

16 A. Table 3 below, compares the Company's cost-to-complete expected value results dating
17 back to the 11th VCM analysis. The results are now expressed in 2018 net present value
18 dollars for comparison purposes. The 17th VCM results account for the additional DOE
19 benefits that the Company has secured, but do not include PTC benefits.

<p style="text-align: center;">Table 3¹⁸ Base Case Vogtle vs. CCGT 2018 Expected NPV Dollars Positive Reflects Benefit</p>

¹⁸ The Company's 17th VCM result is the current state, which includes the additional DOE loan guarantee benefit. Also, the appropriate discount rates were applied in restating prior VCM results to 2018 NPV dollars.

(\$ Billions)	
11 th VCM	\$5.9
12 th VCM	\$3.6
13 th VCM	\$4.3
14 th VCM	\$3.2
15 th VCM	\$3.6
16 th VCM	\$2.0
17 th VCM View 1	\$0.6
17 th VCM View 2	(\$0.4)

1 If the Project had been completed without the significant delays and costs overruns
2 the expected benefit on a cost-to-complete basis should have increased from one VCM to
3 the next. The reduction in the benefit from the 16th to 17th VCM is the result of the
4 additional time and costs estimated by the Company to complete the Project. As
5 mentioned previously, Congress is currently considering extending the PTCs, and if it
6 does, the 17th VCM benefit would increase by about \$0.9 billion on a 2018 present value
7 basis. However, that amount would be reduced to approximately \$0.7 billion if Congress
8 also reduces the corporate federal income tax rate to 20 percent.

9 **III. STAFF COST-TO-COMPLETE ECONOMIC EVALUATION**

10 **A. Economic Evaluation Assumptions**

11 **Q. ARE THERE INCREMENTAL EFFECTS OF SUNK COSTS THAT SHOULD BE**
12 **REFLECTED IN THE INCREMENTAL ECONOMIC ANALYSES COMPARING**
13 **THE COMPLETION AND CANCELLATION ALTERNATIVES?**

14 **A.** Yes, there are two important incremental impacts of sunk costs that should be accounted
15 for in the cost to complete economic evaluation of the Vogtle Project, especially at this
16 decision inflection point. It is essential to reflect these incremental effects to provide an

1 accurate economic analysis.

2 The first relates to the Stipulation that was approved by the Commission in
3 January 3, 2017. This impact relates to the fact that the return on common equity, which
4 impacts the rate of return applied to *all* construction costs, including sunk costs, is
5 reduced in the Completion Case based on pre-defined trigger points (related to schedule
6 and cost) reflected in the Stipulation. Since the Stipulation only applies to the
7 Completion Case, the same return on equity reductions do not apply to the Cancellation
8 Case. This incremental impact associated with sunk costs must be accounted for, and
9 Staff incorporated this impact in its analysis.

10 The second incremental impact of sunk costs relates to the significant and
11 immediate income tax write-off (savings) that Georgia Power would be entitled to on the
12 capital cost it has incurred if the Vogtle Project were cancelled. It is not appropriate to
13 ignore the difference in incremental income tax impacts that affect the amounts
14 customers will pay for the sunk costs depending on whether the Project is cancelled or
15 completed.¹⁹

16 **Q. WHAT IS THE COMPANY'S POSITION REGARDING THE INCREMENTAL**
17 **IMPACT OF SUNK COSTS?**

18 A. The Company argues that the incremental economic analyses should ignore sunk costs as
19 well as all related incremental effects of the sunk costs even if the incremental effects
20 differ between the Completion Case and Cancellation Case. These incremental effects of
21 sunk costs include both the different income tax effects of sunk costs and the effects of

¹⁹ In the Completion Case, income tax expense would reflect tax depreciation deductions of the construction and capital costs over 15 years based on the Modified Accelerated Cost Recovery System ("MACRS"). In the Cancellation Case, income tax expense would reflect an immediate abandonment loss deduction of the same construction and capital costs, although this would be deducted over approximately three years as a practical matter due to the magnitude of the loss deduction.

1 the SIR Stipulation under the Completion and Cancellation studies. Again, it is the
2 Company's position that these incremental effects should be ignored in the economic
3 analyses for the to-go decision.

4 In response to Staff Discovery STF-120-16, the Company asserts that one reason
5 not to include the incremental income tax effects of sunk costs in the incremental
6 economic analysis is that the "sunk costs cannot be controlled by the Company." This is
7 not a legitimate reason to omit the income tax benefit of cancelling the Units. Whether
8 the Company proceeds with construction or abandons the Units, prospective costs and
9 cost offsets such as the reduction in income taxes, should be recognized for economic
10 evaluation purposes.

11 **Q. DID COMPANY WITNESS DAVID POROCH AGREE THAT THE**
12 **INCREMENTAL TAX IMPACT OF SUNK COSTS WOULD AFFECT THE**
13 **COMPLETION AND CANCELLATION CASES DIFFERENTLY?**

14 A. Yes, Mr. Poroach stated:²⁰

15 The tax benefits you get over the life of the project on a nominal basis is
16 really the same. What this really comes down to is the timing in which
17 you get that tax benefit.

18
19 This is correct. The amount of sunk cost on each side of the analysis is the same
20 on a nominal basis, but the economic evaluation effects are significantly different due to
21 the federal income tax treatment of the sunk costs and the timing when tax deductions are
22 incurred. In the Completion Case, the sunk costs are depreciated over a 15-year period
23 for federal income tax purposes, and in the Cancellation Case, the sunk costs are written
24 off immediately, although the deduction is modeled over three years based on an estimate

²⁰ Company Direct Hearing, November 8, 2017, Hearing Transcript page 1096, line 2.

1 of the Company's ability to take the deduction. As Mr. Poroach said, "What this really
2 comes down to is the timing in which you get the tax benefit." Staff agrees. It is the
3 timing of future differences in costs that result in an incremental impact that must be
4 accounted for in the economic analysis. As the Company readily admitted at the hearing,
5 the "event that would trigger this income tax implication of sunk cost would occur [in]
6 the future rather than the past." (Tr. 1094).

7 **Q. WHAT IS THE AMOUNT OF BENEFIT THAT THE INCOME TAX**
8 **ABANDONMENT LOSS WOULD PROVIDE IF ACCOUNTED FOR ON THE**
9 **FULL AMOUNT OF COST SPENT AT THE FEBRUARY 2018 DECISION**
10 **DATE?**

11 A. The sunk cost at the Commission's decision point is estimated to be \$4.7 billion. The
12 incremental income tax savings is \$1.8 billion in the Cancellation Case compared to the
13 Completion Case. Staff included this impact in its analysis.

14 **Q. IS THE COMPANY CONSISTENT IN ITS ARGUMENT THAT INCREMENTAL**
15 **IMPACTS OF SUNK COSTS SHOULD BE IGNORED?**

16 A. No. Although the Company ignored several of the incremental effects that stem from
17 sunk costs, it included other incremental effects in its economic analyses. These other
18 incremental effects include cancellation costs, salvage income (as an offset to
19 cancellation costs), and DOE loan repayment costs, among others. All incremental
20 effects that stem from sunk costs should be included in the economic analyses, not just
21 selected incremental effects. The Commission should reject the Company's selective and
22 inconsistent treatment of the incremental effects of the sunk costs.

23 **Q. DID THE COMPANY ALSO FAIL TO CAPTURE IN ITS ECONOMIC**
24 **ANALYSIS ANOTHER SUNK COST IMPACT, THAT IS, A SUNK COST**

1 **IMPACT THAT RELATES TO THE SIR STIPULATION?**

2 A. Yes. In its View 1 Cases, the Company failed to include the incremental effects of the
3 reductions in the return on equity on the sunk costs, which differ between the Completion
4 and Cancellation Cases. In its View 2 Cases, the Company correctly reflected these
5 incremental effects. The Staff corrected the Company's flawed assumptions in its
6 economic analyses.

7 **Q. WHAT ANALYSES DID STAFF PERFORM IN ITS 17th VCM EVALUATION?**

8 A. Staff conducted a series of cost-to-complete analyses to evaluate the reasonableness of
9 the Company's results. To develop these analyses, Staff first reviewed the Company's
10 modeling assumptions, and ultimately made changes to the Company's fuel forecast, to
11 appropriately model the incremental income tax effects of sunk costs, and to
12 appropriately model the sunk cost impacts of the SIR Stipulation. Staff performed
13 economic evaluations of the Company's 68-month delay scenario, and performed
14 evaluations of the additional 24, 36 and 48-month delay cases per the Commission's
15 Orders in prior VCMs, including the 16th VCM.

16 **Q. PLEASE DISCUSS THE DIFFERENCES IN ASSUMPTIONS BETWEEN THE**
17 **STAFF'S AND COMPANY'S ANALYSES.**

18 A. There are three primary differences: 1) a lower natural gas forecast, 2) accounting for the
19 incremental impacts of sunk costs and the use of marginal long-term debt rates for to-go
20 costs, and 3) use of 2018 as the net present value date.

21 In the 17th VCM proceeding, Staff performed an updated analysis to evaluate
22 current natural gas price forecasts. Based on this analysis, Staff determined that its
23 updated evaluation was similar to its 16th VCM evaluation. Given this similarity, Staff
24 decided to rely on its 16th VCM forecast in this proceeding. Staff continues to believe

1 that the Company's moderate and high gas price forecasts are overstated.

2 In response to a hearing request, the Company has now provided its most recent
3 natural gas price forecast (2018 Budget Year Forecast).²¹ The 2018 Budget Year
4 Forecast shows a decrease in natural gas prices that, all else equal, would lower the
5 economic benefit of the Completion Case if it were reflected in the Company or Staff
6 economic analyses. Staff still contends that its natural gas forecasts are more reasonable
7 than the Company's, and should be relied on in evaluating the economic benefits of the
8 Vogtle Project in this proceeding. As stated in prior VCMs, it is Staff's position that
9 averaging the forecasts from several sources provides a more accurate view of market
10 consensus rather than relying on a single source as the Company has done in all VCMs.

11 Regarding the incremental impacts of sunk costs, Staff captured the timing
12 differences between the Cancellation and Completion Cases related to different income
13 tax treatment, and the different returns on equity associated with the Stipulation. Related
14 to the different income tax treatment of sunk costs, in the Cancellation Case, Staff
15 captured the income tax abandonment loss deduction, and in the Completion Case, Staff
16 modeled the MACRS depreciation income tax deduction. Related to the different return
17 on equity treatment of sunk costs associated with the SIR Stipulation, Staff modeled the
18 appropriate SIR Stipulation requirements in the Completion case. In addition, Staff
19 modeled all to-go costs using marginal debt rates. Finally, Staff used February 2018 as
20 the measurement date for present value calculations rather than 2021 for reasons
21 described above.

22 **Q. HAS STAFF REVIEWED THE COMPANY'S LOAD FORECAST THAT WAS**
23 **USED IN THIS FILING?**

²¹ Hearing request, VCM 17-HR-1-5.

1 A. Yes. Staff determined that the Company's 2017 Budget load forecast reflects continued
2 lower load growth over the long-term, which is consistent with trends observed by other
3 utilities across the country.

4 **Q. IS THE LOAD FORECAST THE ONLY FACTOR CONSIDERED IN**
5 **EVALUATING WHEN A UTILITY HAS A NEED FOR CAPACITY?**

6 A. No. The Company's analysis to determine the amount and date of additional capacity
7 need is based on a comparison of the amount of existing firm resources owned or
8 purchased by the Company, versus the amount of firm load that the Company is obligated
9 to serve. Besides accounting for existing resources during the study period, generating
10 units and purchases that are expected to be added or removed, and demand side
11 management are all accounted for in the analysis.²²

12 **Q. HAVE YOU REVIEWED THE COMPANY'S LATEST ANALYSIS OF WHEN IT**
13 **WILL REQUIRE ADDITIONAL CAPACITY?**

14 A. Yes. If the Vogtle Unit 3 & 4 Project were cancelled, Georgia Power would need new
15 capacity in 2024, because of load growth, planned coal unit retirements, and the
16 expiration of power purchases agreements ("PPAs"). This new capacity could be
17 generation built and owned by the Company (self-build), purchased from a third party via
18 PPAs, or possibly a bilateral arrangement with another supplier with excess capacity.

19 **B. Staff's Economic Evaluation Results**

20 **Q. WHAT ARE THE RESULTS OF STAFF'S COST TO COMPLETE ECONOMIC**
21 **EVALUATION?**

²² Staff data request 113-20.

1 A. Staff's results are presented in Table 4 below, and reflect the "Current State" as it exists
 2 today. In other words, Staff has accounted for the additional DOE benefits. However,
 3 since PTCs are set to expire, and Congress has not yet extended them, they have not been
 4 included in these analyses. The analyses assume the Company would collect the entire
 5 amount of Toshiba Guarantee payments.

Table 4
Staff 68-Month Delay Economic Evaluation
Savings of the Project Versus CC
Feb 15, 2018 Decision and Net Present Value Date
(Billions of dollars, Negative Means Uneconomic)

Fuel \ CO ₂	\$0 CO ₂	\$10 CO ₂	\$20 CO ₂	Expected Value (1.6)
High	(0.8)	0.0	0.9	
Moderate	(3.0)	(2.1)	(1.2)	
Low	(3.6)	(2.7)	(1.8)	

6
 7 Staff's 68-month results indicate that 7 out of 9 natural gas/CO₂ cases are
 8 uneconomic, and only the high natural gas, mod and high CO₂ cases are economic.
 9 Assuming equal weighting of each case, on an expected value basis, the 68-month case
 10 results indicate that the Project is expected to be uneconomic by \$1.6 billion.

11 As required by the Commission's 16th VCM order, Staff has provided 24, 36 and
 12 48-month additional delay cases. The results of these cases are provided in the following
 13 tables.

Table 5
Staff 92-Month Delay Economic Evaluation
(Billions of dollars, Negative Means Uneconomic)

Fuel \ CO ₂	\$0 CO ₂	\$10 CO ₂	\$20 CO ₂	Expected Value
High	(2.6)	(1.7)	(0.8)	

14
 15
 16

Moderate	(4.7)	(3.8)	(2.8)	(3.3)
Low	(5.3)	(4.3)	(3.5)	

Table 6
Staff 104-Month Delay Economic Evaluation
(Billions of dollars, Negative Means Uneconomic)

Fuel \ CO ₂	\$0 CO ₂	\$10 CO ₂	\$20 CO ₂	Expected Value (4.1)
High	(3.4)	(2.6)	(1.7)	
Moderate	(5.4)	(4.6)	(3.6)	
Low	(6.1)	(5.1)	(4.2)	

Table 7
Staff 116-Month Delay Economic Evaluation
(Billions of dollars, Negative Means Uneconomic)

Fuel \ CO ₂	\$0 CO ₂	\$10 CO ₂	\$20 CO ₂	Expected Value (4.9)
High	(4.2)	(3.4)	(2.5)	
Moderate	(6.2)	(5.3)	(4.4)	
Low	(6.8)	(5.9)	(5.1)	

1
 2 The additional 24-month delay case (92-month delay case), additional 36-month
 3 delay case (104-month delay case) and additional 48-month delay case (116-month delay
 4 case) are uneconomic by \$3.3 billion, \$4.1 billion and \$4.9 billion, respectively. Clearly
 5 any additional delays beyond the Company's current forecast would have a significant
 6 adverse impact on the economics of the Project.

7 **C. General Business Risk**

8 **Q. GIVEN THE NEGATIVE ECONOMIC BENEFIT OF COMPLETING THE**
 9 **UNITS, ESPECIALLY IF THERE ARE ADDITIONAL DELAYS, SHOULD THE**
 10 **COMMISSION TAKE INTO CONSIDERATION CERTAIN GENERAL**

1 **BUSINESS RISKS CONFRONTING THE PROJECT?**

2 A. Yes. There are significant general business risks in additional to the risks identified by
3 the Roetger/Jacobs/Smith panel that the Commission should consider. These risks result
4 in ratepayers being asked to take on a disproportionate amount of the risk of the Project.

5 **Q. ARE THERE CERTAIN FACTS AND CIRCUMSTANCES THE COMMISSION**
6 **SHOULD CONSIDER IN ITS DECISION OF WHETHER TO CONTINUE WITH**
7 **VOGTLE UNITS 3 AND 4 AND ON WHAT TERMS?**

8 A. Yes. The facts and circumstances of the Project have changed a great deal since
9 certification and materially since the 15th VCM with the Contractor's bankruptcy. The
10 economic cornerstones of the Project are no longer in place. The EPC Agreement which
11 required the Contractor to absorb certain capital cost overruns is no longer in place. The
12 threats of high natural gas prices and carbon dioxide emission cost (CO2 legislation) have
13 diminished. Without these economic cornerstones, the economic rationale for the Units is
14 diminished.

15 **Q. ARE THERE OTHER FACTS AND CIRCUMSTANCES THE COMMISSION**
16 **SHOULD CONSIDER IN ITS DECISION WHETHER TO APPROVE**
17 **CONTINUATION OF THE VOGTLE UNITS 3 AND 4 PROJECT AND ON**
18 **WHAT TERMS?**

19 A. Yes. The Contractor's bankruptcy led to the rejection of the EPC Agreement and the loss
20 of certain ratepayer protections. Certain capital costs that were the responsibility of the
21 Contractor under the EPC Agreement are now the responsibility of the co-owners
22 including Georgia Power. The technology provider (Westinghouse) and constructor
23 (Bechtel) are taking no financial risk on the Project going forward. Both of their contracts
24 with Southern Nuclear are "cost plus" arrangements. Under a "cost plus" contract,

1 Westinghouse and Bechtel are ensured full recovery of their costs and a fixed percentage
2 mark up on every dollar they spend. The Commission should take into account the stark
3 differences of how parties are bearing the financial impact of additional delays and cost
4 overruns. The fact that the protections of the original EPC Agreement for ratepayers are
5 now gone, and Westinghouse and Bechtel have no “skin in the game” going forward are
6 indicators that the Project may incur additional delays and cost overruns. Georgia Power
7 wants ratepayers to be wholly responsible for these cost overruns.

8 **Q. WHAT IS THE COMPANY’S FINANCIAL EXPOSURE TO ADDITIONAL**
9 **DELAYS AND COST OVERRUNS RELATIVE TO RATEPAYERS?**

10 A. The Company’s exposure is quite limited under the terms they requested in their 17th
11 VCM filing. The Company wants all the capital cost approved as reasonable including
12 capital costs that have not yet been incurred.²³ This would negate a very important
13 ratepayer protection and shift the financial impact of additional delays and cost overruns
14 almost entirely to ratepayers.

15 **Q. HOW DOES SOUTHERN NUCLEAR ASSUMING CONTROL OF THE**
16 **PROJECT WITH WESTINGHOUSE AND BECHTEL FUNCTIONING AS**
17 **SUBCONTRACTORS IMPACT THE PROJECT’S FINANCIAL RISK?**

18 A. While Southern Nuclear may manage the Project better than the Contractor previously
19 did, Southern Nuclear is an operator of nuclear power plants, not a nuclear power plant
20 architectural/engineering design firm, or a mega-project construction company. Its core
21 competence is in nuclear power plant operations rather than engineering design or

²³ Based on the Company’s 17th VCM filing it appears the Company wants \$8.8 billion in capital cost to be approved as reasonable. This would give the Company a contingency of \$1.7 billion if Toshiba Guarantee payments are received.

1 construction.²⁴ Southern Nuclear has subcontracted construction to Bechtel which has
2 construction experience on large projects; however, this was precisely what the
3 Contractor had done previously by subcontracting construction to three large construction
4 companies (Shaw, Chicago Bridge & Iron and Fluor) over the life of the Project, and the
5 Project's progress, as well as financial results, has been poor for the ratepayer.

6 It should be noted that Southern Nuclear affiliates Georgia Power and Mississippi
7 Power have had their difficulties with recent large power plant construction projects.
8 Georgia Power incurred a \$400 million or 24% cost overrun on the Plant McDonough
9 combined cycle units and revised their estimate four times. Mississippi Power recently
10 abandoned a large investment in the Plant Kemper Integrated Gasification Combined
11 Cycle ("IGCC") by converting it to a combined cycle project after the original estimate of
12 \$2.9 billion increased to \$7.5 billion.

13 While the Vogtle Unit 3 and 4 Project is a distinct and separate project, having
14 Southern Company or an affiliate take charge does not necessarily mean the Project will
15 be completed on schedule and budget. These circumstances should be considered by the
16 Commissioners in making their decision whether to continue with the Project, and as
17 important, whether to allocate all of the risks to the ratepayers.

18 **Q. PLEASE EXPLAIN HOW GEORGIA POWER AND PRESUMABLY THE**
19 **RATEPAYER ARE ABSORBING ADDITIONAL TECHNOLOGY RISK.**

20 A. The Toshiba Guarantee is a positive development for the economics of the Project.
21 However, the rejection of the EPC Agreement eliminated a protection that Toshiba or
22 Westinghouse bore some financial responsibility if the Units did not function as required
23 under the EPC Agreement. If the Units require modifications or do not operate as

²⁴ Moody's Investors Service, Issuer Comment 31 August 2017

1 intended or not as efficiently as expected, any cost to address such problems is entirely
2 the responsibility of the Company, and potentially the ratepayers. The Toshiba Guarantee
3 payments eliminate effectively all liability for Toshiba and Westinghouse regarding
4 performance of the Units. The Commission should take into consideration the unusual
5 nature and potential magnitude of the Project's technology risk.

6 **D. Financial Impact of Cost Overruns on the Company and Ratepayers**

7 **Q. WHAT IS THE FINANCIAL IMPACT ON THE COMPANY OF THE COST**
8 **OVERRUNS THE PROJECT HAS EXPERIENCED THUS FAR?**

9 A. Due to the delays in the Project, the Company will collect considerably more in profit
10 over the entire lifecycle of the Units (construction period and operating period) from
11 ratepayers than it would have had the Project been completed under the original schedule.
12 The profit the Company will collect will increase from approximately \$7.4 billion²⁵ to
13 approximately \$12.6 billion over Unit's entire lifecycle. The \$500 million in reduced
14 profits from the ROE reductions in the SIR Stipulation, noted as "severe" by the
15 Company's CEO,²⁶ only prevents the Company's profit from increasing to approximately
16 \$13.1 billion.

17 **Q. WHAT IS THE FINANCIAL IMPACT OF COST OVERRUNS ON THE**
18 **RATEPAYERS?**

19 A. The nominal lifecycle capital cost revenue requirement collected from ratepayers would

²⁵ This value is based on the Units going into service in April 2016/2017 as anticipated in the Company's Certification Filing.

²⁶ Georgia Power Company Direct Hearing, November 6, 2017, Comments of Mr. Paul Bowers, President and CEO of Georgia Power Company, Hearing Transcript, page 39 lines 12 – 14.

1 increase from \$23 billion to \$37 billion.²⁷

2 **Q. WHAT IS THE FINANCIAL IMPACT OF COST OVERRUNS ON THE**
3 **ECONOMIC BENEFIT OF THE PROJECT FOR RATEPAYERS?**

4 **A.** The economic benefit has decreased from negative \$5.7 billion to negative \$9.3 billion on
5 a 2018 net present value basis.²⁸

6 **Q. WHAT IS STAFF'S CONCLUSION OF THE RELATIVE IMPACT OF THE**
7 **COST OVERRUNS ON THE COMPANY VERSUS RATEPAYERS?**

8 **A.** Assuming the Project is completed, ratepayers would incur significantly higher revenue
9 requirements and a reduced economic benefit while the Company's profits would
10 increase.

11 **IV. THE COMMISSION SHOULD DETERMINE THAT THE COSTS THAT**
12 **STAFF HAS IDENTIFIED AS UNREASONABLE BE ALLOCATED TO**
13 **SHAREHOLDERS, RATHER THAN RATEPAYERS. IN THE ALTERNATIVE,**
14 **THE COMMISSION SHOULD DEFER REASONABLENESS**
15 **DETERMINATIONS UNTIL THE PROJECT IS COMPLETE AND PROVIDING**
16 **SERVICE.**

17 **A. Staff's Concern Regarding Unreasonable Costs**

18 **Q. PLEASE DESCRIBE THE COMPANY'S REQUEST THAT THE COMMISSION**
19 **APPROVE THE NEW SCHEDULE AND COST FORECAST.**

²⁷ Capital cost revenue requirement consist of depreciation, interest, profit (ROE) and income taxes. It does not include fuel, O&M or decommissioning cost.

²⁸ These values compare economic benefit if the Units were completed in April 2016 and 2017 versus Company's current forecast of November 2021 and 2022. This analysis considers all cost, including sunk cost, of Vogtle 3&4 versus natural gas combined cycle. If Vogtle 3&4 had been completed on the original schedule of April 2016 and 2017, it would have had negative economic benefit of \$5.7 billion relative to combined cycle installed when capacity is needed.

1 A. The Company seeks a Commission Order making the following findings, among others:

2 *1. That pursuant to O.C.G.A. §46-3A-7(b), the Commission in the VCM 17*
3 *proceeding approves the new cost and schedule forecast and finds that it is a*
4 *reasonable basis for going forward; and that if the Commission disapproves*
5 *all or part of the proposed cost and schedule revisions, the Company may*
6 *cancel Units 3 and 4 and recover its actual investment in the partially*
7 *completed Facility pursuant to O.C.G.A. §46-3A-7(d).²⁹*

8 **Q. HAS THE COMPANY MODIFIED ITS REQUEST FROM THAT WHICH WAS**
9 **REFLECTED IN THE VCM 17 REPORT?**

10 A. Yes. In response to Staff discovery, the Company states:³⁰

11 *The Company is asking the Georgia Public Service Commission approve and*
12 *deem reasonable all costs that make up the Total Construction & Capital Cost*
13 *forecast of \$8,771 million listed on page 103 of the 17th VCM Report.*

14 **Q. PLEASE DESCRIBE THE RELATED ISSUE IN THE COMMISSION'S**
15 **PROCEDURAL AND SCHEDULING ORDER ("PSO") IN THIS PROCEEDING.**

16 A. The Commission included the following issue in the PSO:

17 *Whether the Commission should approve, disapprove, or modify the Company's*
18 *proposed revisions in the cost estimates, construction schedule, or project*
19 *configuration and whether the proposed costs are reasonable.*

20 **Q. HOW DOES THE PROJECT CONFIGURATION RELATE TO THE**

²⁹ See 17th VCM Report Section IX, pg. 123.

³⁰ STF-121-14

1 **REASONABLENESS OF COSTS IN THIS PROCEEDING?**

2 A. The Commission included the reasonableness of the Project Configuration and the
3 proposed cost and schedule estimates as issues that should be considered in this
4 proceeding. Furthermore, the Company stated in the 17th VCM Report that it is supposed
5 to supply information to the Commission as part of the VCM filings that the Commission
6 could use to review and approve proposed modifications to the Project Configuration.³¹
7 The 17th VCM Report identified the new Project Configuration consisting of the Revised
8 Project Ownership Participation Agreement (“Co-Owner’s Agreement”), SNC’s
9 Proposed Management Structure, and Bechtel as the Construction Contractor. Though
10 Company Witness David McKinney testified at hearing that the Company was not
11 seeking approval of the revisions to the Co-Owner Agreement, Staff is concerned about a
12 provision of that agreement.³²

13 **B. Revised Co-Owner Agreement**

14 **Q. WHAT IS STAFF’S CONCERNS WITH THE REVISED CO-OWNER**
15 **AGREEMENT?**

16 A. Staff’s concern is that the revisions to the Co-Owner Agreement provide the co-owners
17 the right to cancel the Project in the event that the Commission fails “to approve Georgia
18 Power’s share of the proposed revised cost forecast and construction schedule”, or finds
19 that “any part of Georgia Power’s capital investment or associated financing costs (other
20 than already provided in the Stipulation) are not recoverable or will be presumed non
21 recoverable,” unless ninety percent of the owners vote to proceed with the Project.³³

³¹ VCM 17 Report at page 25.

³² Georgia Power Direct Hearing Transcript, November 6, 2017, page 184, line 21.

³³ VCM 17 Report at page 89. Note that the ownership shares are: Georgia Power - 45.7%, Oglethorpe Power Corporation - 30.0%, and Municipal Electric Authority of Georgia (“MEAG”) – 22.7%, and City of Dalton, - 1.6%.

1 Georgia Power's discussion of this provision makes it clear that the Co-Owner
2 Agreement provides the co-owners the right to cancel the Project unless the Commission
3 approves the latest Total Project Cost as being reasonable. Staff believes this provision is
4 unacceptable and that it may impair the ability of Georgia Power to meet its obligation to
5 its customers.

6 **Q. WOULD IT BE REASONABLE FOR THE CO-OWNERS TO ABANDON THE**
7 **PROJECT IF THE COMMISSION ALLOCATES CERTAIN UNREASONABLE**
8 **COSTS TO GEORGIA POWER AND ITS SHAREHOLDER RATHER THAN TO**
9 **CUSTOMERS?**

10 A. No. First, the Commission's jurisdiction and responsibility, per State law, is to ensure
11 that Georgia Power's customers are not forced to pay for unreasonable costs, not to
12 ensure that co-owners' customers are treated the same as the Company's customers. The
13 co-owners were fully aware the Commission had the authority to disallow certain costs
14 incurred by the Company from the very beginning of the Project. Now that
15 circumstances have changed, the Revised Co-Owner Agreement could penalize the
16 Company customers, which is unacceptable. Furthermore, any suggestion that the co-
17 owners would be at a competitive disadvantage if the Commission were to disallow
18 certain costs incurred by the Company is incorrect. If this Commission were to disallow
19 costs, any impacts on the co-owner's customers would be immaterial, if they occurred at
20 all.

21 **Q. WOULD CO-OWNERS BE AT A COMPETITIVE DISADVANTAGE IF THE**
22 **COMMISSION WERE TO DISALLOW ANY COST INCURRED BY GEORGIA**
23 **POWER?**

24 A. No. In Georgia, the only competition is for new large load customers. For new load, the
25 Company and co-owners compete not only on price, but also on other factors. As to

1 price, the Company and co-owners already have cost structural differences, with the
2 cooperatives and municipals generally at a cost advantage due to their lower financing
3 costs. As to the incremental effects of the Project costs, Staff estimates Georgia Power's
4 revenue requirement is approximately 25 percent higher than the co-owners for the same
5 amount of capacity.³⁴ This is the result of Georgia Power having a substantially higher
6 cost of capital which increases its financing cost relative to the other co-owners over the
7 construction and operating life of Vogtle 3 and 4.

8 It should be noted that Staff issued data requests to each of the co-owners
9 requesting, among other documents, a copy of all documents relating to any potential
10 impact on the co-owners' ability to compete for new large load customers if the
11 Commission disallows any Vogtle 3 and 4 costs for Georgia Power. As of the date of this
12 testimony, neither Oglethorpe Power nor Dalton Utilities has responded to the data
13 request. MEAG, in its response, stated that the request was not relevant to the matters in
14 this proceeding. Further, MEAG stated that it has not yet undertaken any analysis of the
15 impacts of a disallowance of Vogtle 3 and 4 costs.

16 **Q. IF THE COMMISSION WERE TO DISALLOW \$1.5 BILLION TO \$2.5 BILLION**
17 **IN CAPITAL COST HOW WOULD GEORGIA POWER'S VOGTLE 3 AND 4**
18 **REVENUE REQUIREMENT COMPARE TO THE OTHER CO-OWNERS?**

19 **A.** Georgia Power's revenue requirement for the Project would still be approximately 5
20 percent to 15 percent higher than the other co-owners.

21 **Q. WOULD THE CO-OWNERS EVER BE AT A COMPETITIVE DISADVANTAGE**
22 **TO GEORGIA POWER REGARDING VOGTLE 3 AND 4 IF THE**
23 **COMMISSION WERE TO DISALLOW GEORGIA POWER CAPITAL COST?**

³⁴ The 25 percent value was calculated based on publicly available information and simplifying assumptions.

1 A. No, but even if it were true, for the co-owners to abandon the Project unless the
2 Commission makes Georgia Power customers pay costs that should be paid for by
3 shareholders simply to allow the co-owners a competitive advantage is inherently unfair
4 and hurts competition.

5 **Q. IS IT REASONABLE FOR THE COMPANY TO AGREE TO ALLOW THE CO-**
6 **OWNERS TO ABANDON THE PROJECT IF THE COMMISSION REQUIRES**
7 **GEORGIA POWER TO ABSORB CERTAIN COST?**

8 A. No. For the Company to enter into such an agreement is also inherently unfair and a
9 breach of its regulatory compact.

10 **Q. WHAT IS STAFF'S RECOMMENDATION REGARDING THE REVISED CO-**
11 **OWNER AGREEMENT?**

12 A. Staff recommends that the Commission not approve the revised co-owner agreement.
13 Staff does not believe that the Commission should intentionally or unintentionally cede
14 its authority over the Project to the co-owners.

15 **C. Prudence and Reasonableness Considerations**

16 **Q. COULD THIS COMMISSION'S DETERMINATION OF THE ISSUES AS SET**
17 **FORTH IN THIS PROCEEDING LIMIT A FUTURE COMMISSION'S ABILITY**
18 **TO REVIEW THE ACTUAL COSTS INCURRED AND DISALLOW**
19 **UNREASONABLE COSTS?**

20 A. Yes. The Commission should carefully consider how its determination of reasonableness
21 in this proceeding, if in fact decided, will affect the ability of a future Commission to
22 review the actual costs incurred and its ability to disallow unreasonable costs. In part,
23 the extent of Staff's concern depends on how broadly and carefully the Commission

1 defines and/or applies a finding of reasonableness. The Commission could limit its
2 determination in this VCM to whether the revised schedule and costs are sufficiently
3 reasonable to allow the Company to proceed with construction, subject to an appropriate
4 allocation of risk and costs between the Company and its customers. This approach
5 would be consistent with the Commission's prior VCM Orders where it certifies and
6 approves costs up to the certified amount of \$4.4 billion that were spent during the review
7 period. Staff favors this approach.

8 **Q. PLEASE DESCRIBE THE PRUDENCE AND REASONABLENESS STANDARDS**
9 **AND HOW THESE STANDARDS ARE NORMALLY APPLIED FOR**
10 **RATEMAKING PURPOSES.**

11 A. The prudence and reasonableness standards are two different, but interrelated and
12 complementary regulatory standards. While the prudence standard focuses on the
13 appropriateness of the decision-making process, actions, or inactions given the facts and
14 circumstances known or knowable at the time, the reasonableness standard focuses on the
15 costs resulting from the decision-making process and *who should bear those costs, i.e.,*
16 *how the costs should be allocated between the Company and its customers.*

17 Imprudent decisions, actions, or inactions generally result in unreasonable costs.
18 However, even if the Company's decisions, actions, or inactions are prudent, there still
19 may be unreasonable costs resulting from those prudent decisions that should not be
20 allocated to customers. In the Vogtle 1 and 2 case, the Commission found, and the Court
21 of Appeals affirmed, that for reasonableness: "[t]he determinative issue is ... *who should*
22 *bear such costs.*"³⁵ One consideration in this determination is whether the additional cost
23 was "more in the control of utility management than the ratepayers." *Id.* at 579. For
24 example, in the case of damages caused by one of the parties to the construction project,

³⁵ *Ga. Power Co. v. Ga. Public Serv. Com.*, 196 Ga. 572, 578 (1990) (emphasis in original).

1 the Court stated that “[t]he public is not one of those parties and had nothing within its
2 control during the process. As noted by the PSC during the hearings, if the subcontractor
3 ... was contractually or negligently responsible for the delays, the Company has remedies
4 against those parties and that loss need not be visited upon the rate payers.” *Id.* at 584.

5 **Q. WHAT ARE THE PRACTICAL IMPLICATIONS IF THE COMMISSION**
6 **APPROVES THE COMPANY’S PROPOSED REVISIONS IN THE COST**
7 **ESTIMATES, CONSTRUCTION SCHEDULE, OR PROJECT**
8 **CONFIGURATION AND FINDS THAT THE PROPOSED COSTS ARE**
9 **REASONABLE?**

10 **A.** If the Company’s requests are granted, then these findings and approvals likely will
11 preclude the ability of a future Commission to perform a post-construction review of the
12 actual costs incurred to determine if they were reasonable and to disallow unreasonable
13 costs. The Commission still would have the ability to perform a post-construction review
14 of the actual costs incurred to determine if they were prudent and to disallow imprudent
15 costs.

16 **D. Certain Construction and Other Costs Are Not Reasonable**

17 **Q. ARE ALL PROJECT COSTS THAT HAVE BEEN OR ARE ESTIMATED TO BE**
18 **INCURRED THROUGH THE COMMISSION’S DECISION DATE (SUNK**
19 **COSTS) AND PROSPECTIVE COSTS REASONABLE?**

20 **A.** No. As described by Mr. Roetger, Dr. Jacobs, and Mr. Smith, the Company failed to
21 manage the Project and its EPC contractor in a reasonable manner. The EPC Contractor
22 itself failed to manage its responsibilities in a reasonable manner, declared bankruptcy,
23 and rejected the EPC Agreement. The Company’s failure to manage the Project in a
24 reasonable manner resulted in repeated schedule delays and increases in actual and

1 projected costs compared to the certification cost, as well as increases in financing costs
2 and lost tax benefits (bonus depreciation and PTCs, which no longer are available to the
3 Project under present tax law). The Company and Contractor's decisions, actions, and
4 inactions resulted in the Project's increased cost. The Commission has not increased the
5 certification cost. Thus, any costs in excess of the \$4.418 billion certification cost,
6 including the related effects on the financing costs, remain subject to Commission review
7 for reasonableness and prudence.

8 Another consideration in the assessment of reasonableness is whether the
9 Company minimized the Project construction and financing costs, as well as other effects
10 on the costs that already have been and will be imposed on customers consistent with its
11 legal obligations and good utility practice. This obligation extends to the financing costs
12 and tax benefits, among other costs and benefits. The repeated schedule delays and cost
13 increases have caused the financing costs to balloon. This obligation to ensure that costs
14 are minimized also extends to the Toshiba Guarantee payments.

15 In addition, ratepayers should not have to bear the costs related to the loss of the
16 bonus depreciation and PTC benefits, assuming PTC benefits are not extended.
17 Ratepayers would have received the benefit of the 50% bonus depreciation had the
18 Project been completed within four years of its original completion date. Throughout the
19 certification proceeding, the Company emphasized that it would be an active manager of
20 the project. In this VCM, the Company has attributed the delay in large part to
21 Westinghouse's inefficient performance as contractor. It is unreasonable for ratepayers
22 to have to bear increased costs as a result of the Units not being constructed efficiently.
23 This cost is in addition to the increased construction and financing costs.

24 **Q. DOES STAFF MAKE ANY DISTINCTION BETWEEN THE COMPANY OR**
25 **THE CONTRACTOR WHEN REVIEWING COST FOR**
26 **UNREASONABLENESS?**

1 A. No. The Commission is charged with reviewing the costs that the Company actually
2 incurred for reasonableness and prudence. These costs include all costs incurred by the
3 Company on the Project, including the cost that it incurred due to its own decisions,
4 actions and inactions, as well as the costs incurred on its behalf by its contractors. There
5 is no distinction between the Company and its contractors.

6 **Q. ARE THERE REASONS FOR THE COMMISSION TO DEFER REVIEW OF**
7 **PROSPECTIVE COST?**

8 A. Yes. Although the Commission could review sunk costs for reasonableness in this
9 proceeding, it realistically cannot review costs that have not yet been incurred for
10 reasonableness until they actually are incurred. This is particularly true for contingency
11 costs, which, by definition, are not yet known, and have not yet been incurred.

12 Given the requirements of the PSO, Staff has identified various costs that are
13 unreasonable and that should not be allocated to ratepayers. In the alternative, the
14 Commission could defer making reasonableness determinations now and do so when it
15 reviews prudence at the end of the Project.

16 **Q. WHAT COSTS DOES STAFF BELIEVE THE COMMISSION SHOULD FIND**
17 **ARE UNREASONABLE, OR IN THE ALTERNATIVE SHOULD DEFER TO BE**
18 **CONSIDERED IN A PRUDENCY PROCEEDING AT THE END OF THE**
19 **PROJECT?**

20 A. Staff has identified the following unreasonable costs:

- 21
- increases in costs due to construction mismanagement;

- 1 • increases in direct engineering, procurement and construction costs of the
2 Project due to loss of fixed price cost protection after bankruptcy and
3 rejection of EPC Agreement by WEC.

- 4 • increases in direct engineering, procurement and construction costs of the
5 Project due to transition from WEC to Southern Nuclear and from Fluor to
6 Bechtel, including incremental costs to restructure management of project,
7 develop construction schedule, EPC cost estimates, etc.;

- 8 • increases in owners' costs due to schedule delays;

- 9 • increases in direct engineering, procurement and construction costs of
10 project due to GPC's payment of contractor liens against WEC;

- 11 • increases in financing costs incurred through the NCCR and capitalized as
12 AFUDC due to the schedule delays and increased construction costs;

- 13 • increases in ad valorem taxes due to schedule delays and increased
14 construction costs;

- 15 • increases in ratepayer revenue requirements due to the lost bonus
16 depreciation and production tax credit tax benefits due to the schedule
17 delays.

18 These costs are described in greater detail in the Roetger/Jacobs/Smith panel
19 testimony, except for the lost bonus depreciation and PTCs, which we discuss. Also, the
20 Commission should decline to deem the contingency costs included in the revised cost
21 estimate as reasonable because the costs are unknown, have not been incurred, and
22 cannot be reviewed for reasonableness.

CERTIFICATE OF SERVICE

I hereby certify that I have this day served a copy of the within and foregoing **TESTIMONY OF THE GEORGIA PUBLIC SERVICE COMMISSION PUBLIC INTEREST ADVOCACY STAFF** upon all parties listed below via electronic service or by hand delivery and addressed as follows:

Reece McAlister
Executive Secretary
Georgia Public Service Commission
244 Washington Street, SW
Atlanta, GA 30334
reecem@psc.state.ga.us

Kevin Greene, Esq.
Troutman Sanders
NationsBank Plaza
600 Peachtree Street, NE
Suite 5200
Atlanta, GA 30308
kevin.greene@troutmansanders.com

Liz Coyle
Georgia Watch
55 Marietta Street, NW
Suite 903
Atlanta, GA 30303
lcoyle@georgiawatch.org

Jeffry Pollock
J. Pollock Incorporated
12647 Olive Blvd., Suite 585
St. Louis, Missouri 63141
jcp@jpollockinc.com

Charles B. Jones, III
Georgia Association of Manufacturers
The Hurt Building
50 Hurt Plaza, Suite 985
Atlanta, GA 30303
cjones@gamfg.org

Kurt Ebersbach
Jillian Kysor
Southern Environmental Law Center
Ten 10th Street, NW, Suite 1050
Atlanta, GA 30309
kebersbach@selcga.org
jkysor@selcga.org

J. Renee Kastanakis
Kastanakis Law, LLC
1350 Avalon Place, NE
Atlanta, GA
rkastanakis@aol.com

Anne Blair and Sara Barczak
Southern Alliance for Clean Energy
250 Arizona Avenue, NE
Atlanta, GA 30307
anne@cleanenergy.org
sara@cleanenergy.org

Jim Clarkson
Resource Supply Management
1370 Walcora Drive
Sumter, SC 29150
jclarkson@rsmenergy.com

Ben J. Stockton, Executive Director
Concerned Ratepayers of Georgia
2305 Global Forum Blvd., Suite 912
Atlanta, GA 30340
encomanager13@gmail.com

Steven Prenovitz
4295 Amberglade Court
Norcross, GA 30092
scprenovitz@gmail.com

David A. Webster
Atlanta Legal Aid Society, Inc.
54 Ellis Street, NE
Atlanta, GA 30303
dawebster@atlantalegalaid.org

Mary Irene Dickerson
Atlanta Legal Aid Society, Inc.
246 Sycamore Street, Suite 120
Decatur, GA 30030-3434
midickerson@atlantalegalaid.org

Erin Glynn
The Callins Law Firm
101 Marietta Street, Suite 1030
Atlanta, GA 30303
eglynn@callins.com

Rebecca Woods, Esq
Seyfarth Shaw LLP
1075 Peachtree Street, N.E
Suite 2500
Atlanta, GA 30309-3958
rwoods@seyfarth.com

Ellen Ginsberg
Nuclear Energy Institute
1201 F Street NW
Suite 1100
Washington, D.C. 20004
ecg@nei.org

Jody L. Brooks
JEA
21 West Church Street (T-16)
Jacksonville, FL 32202
Brooj1@jea.com

Robert J. Middleton, Jr.
Hall Booth Smith, P.C.
2417 Westgate Drive
Albany, GA 31707
rjm@hallboothsmith.com

Charles R. Bliss
Atlanta Legal Aid Society, Inc.
54 Ellis Street, NE
Atlanta, GA 30303
crbliss@atlantalegalaid.org

Nathan T. Juster
Atlanta Legal Aid Society, Inc.
246 Sycamore Street, Suite 120
Decatur, GA 30030-3434
ntjuster@atlantalegalaid.org

Glynn Carroll
Nuclear Watch South
P. O. Box 8574
Atlanta, GA 31106
atom.girl@nonukesyall.org

Peter M. Degnan
Municipal Electric Authority of Georgia
1470 Riveredge Parkway, NW
Atlanta, GA 30328
pdegnan@meagpower.org

Richard M. Resnick
Lucas R. Aubrey
Sherman, Dunn, Cohen, Leifer & Yellig, P.C.
900 Seventh Street, NW
Suite 1000
Washington, D.C. 20001
resnick@shermardunn.com
aubrey@shermardunn.com

This 1st day of December 2017.

A handwritten signature in blue ink, appearing to read 'Jeffrey Stair', written over a horizontal line.

Jeffrey Stair
Attorney for the Georgia Public Service Commission