

**BEFORE THE  
GEORGIA PUBLIC SERVICE COMMISSION**

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

**DOCKET NO. 29849**

**PUBLIC DISCLOSURE**

**DIRECT TESTIMONY**

**AND EXHIBITS**

**OF**

**PHILIP HAYET**

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

**JUNE 20, 2014**

1 **I. INTRODUCTION**

2 **Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.**

3 A. Philip Hayet, 215 Huntcliff Terrace, Atlanta, Georgia, 30350.

4 **Q. WHAT IS YOUR OCCUPATION AND BY WHOM ARE YOU EMPLOYED?**

5 A. I am an Electrical Engineer, and President of Hayet Power Systems Consulting  
6 (“HPSC”).

7 **Q. WHAT CONSULTING SERVICES DOES HPSC PROVIDE?**

8 A. HPSC provides consulting services related to electric utility system planning, resource  
9 analysis, production cost modeling, and utility industry policy issues.

10 **Q. PLEASE SUMMARIZE YOUR EDUCATION AND QUALIFICATIONS.**

11 A. I graduated from Purdue University in 1979 with a B.S. degree in Electrical Engineering,  
12 and from the Georgia Institute of Technology in 1980 with an M.S. degree in Electrical  
13 Engineering, with a specialization in Power Systems. I have over thirty years of  
14 experience in the electric utility industry. More detail regarding my educational  
15 background and professional qualifications, as well as my appearances in regulatory  
16 proceedings, can be found in Exhibit STF-Hayet-1.

17 **Q. HAVE YOU PREVIOUSLY TESTIFIED AT THE GEORGIA PUBLIC SERVICE  
18 COMMISSION (“GPSC” OR THE “COMMISSION”)?**

19 Yes, I have testified at the GPSC on several occasions on behalf of the Public Interest  
20 Advocacy Staff (“Staff”). I testified in the following fuel cost proceedings: Docket Nos.  
21 22403 (FCR-18), 23540 (FCR-19), 26794 (FCR-20), 28945 (FCR-21), 33302 (FCR-22),

1 and 35277 (FCR-23). I testified regarding Georgia Power Company's ("Georgia Power" or  
2 the "Company") and Savannah Electric's 2004 Integrated Resource Plan ("IRP") in Docket  
3 Nos. 17687 and 17688, and in Docket No. 24505 regarding Georgia Power's 2007 IRP. I  
4 testified concerning Georgia Power's Application for Certification of Vogtle Units 3 and  
5 4 (Docket No. 27800), and Georgia Power's Semi-Annual Vogtle Construction  
6 Monitoring Reports in this same docket (Docket No. 29849, herein referred to as "VCM  
7 Report"). In 2011, I testified concerning Georgia Power's Decertification, Power  
8 Purchase Agreement ("PPA"), and IRP Update Proceeding (Docket No. 34218), and  
9 concerning Georgia Power's Wholesale Block Capacity Certification Proceeding (Docket  
10 No. 26550). Most recently, in 2013, I testified in Georgia Power's 2013 IRP Proceeding  
11 (Docket No. 36498).

12 **Q. ON WHOSE BEHALF ARE YOU TESTIFYING AND WHAT ISSUES WILL YOU**  
13 **BE ADDRESSING IN THIS PROCEEDING?**

14 A. I am appearing as a witness for Staff, and I will discuss my review of Georgia Power's  
15 economic evaluations that it developed for its Ninth and Tenth Semi-Annual Vogtle  
16 Construction Monitoring Report ("Ninth/Tenth VCM Report"), which was filed on  
17 February 28, 2014. I will also present Staff's independent economic evaluations, and I  
18 will discuss Staff's concern regarding delays, which not only affect the economic  
19 evaluations that are typically performed in these proceedings, but will also affect rates  
20 that customers will have to pay both prior to the in-service dates and over the operating  
21 lives of Vogtle Units 3 and 4 ("the Units" or "the Project").

1 **Q. PLEASE SUMMARIZE YOUR FINDINGS AND RECOMMENDATIONS.**

2 A. Staff's findings and recommendations are as follows:

- 3 1. Staff performed its own cost-to-complete economic evaluation with alternative  
4 assumptions and found that continuing to construct the Project is more economic than  
5 discontinuing construction and building an equivalent amount of combined cycle gas  
6 turbine ("CCGT") capacity.<sup>1</sup> However, while Staff found continuing with the Project to  
7 provide positive economic benefits, Staff's benefits are not quite as large as those  
8 determined in the Company's analysis.  
9
- 10 2. Since the Company's economic evaluations do not account for all of the revenue  
11 requirements that ratepayers would be expected to pay, both before and over the  
12 operating lives of the Units, the full ratepayer revenue requirement impacts are not  
13 identified in the Company's VCM Report. While this is reasonable for cost-to-complete  
14 economic evaluations, Staff believes that as delays occur, it is important to identify all of  
15 the revenue requirements that ratepayers would be expected to pay for, particularly those  
16 that will accrue during the construction period. Staff performed additional calculations  
17 during the construction period, and found that as delays occur the Total Project Cost  
18 would increase by approximately \$2.0 million per day due to higher capital, financing,  
19 and production costs.  
20
- 21 3. The Company continues to emphasize that through its efforts since certification,  
22 additional benefits have been identified that increase the benefits of the Project to  
23 ratepayers. While customers will certainly reap the benefits of these efforts once they are  
24 realized, Staff believes these efforts should not be perceived as extraordinary. The  
25 actions the Company has taken to secure these additional benefits are expected of a  
26 regulated monopoly that has an obligation to serve captive customers within an assigned  
27 service territory in a reliable and least cost manner. Customers were assigned the risk  
28 associated with the cost of the Project, and as such, any additional benefits that arise have  
29 been "earned" by the ratepayers, not bestowed on them by the Company. In addition, it  
30 should be recognized that additional detriments to the economics of the project have also  
31 arisen since Certification, such as increased costs caused by delays. Finally, some  
32 aspects of the Company's calculations are questionable.  
33
- 34 4. Staff believes that in its present filing, the Company has developed more realistic natural  
35 gas price forecasts as compared to prior VCM filings. Staff still views the Company's

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<sup>1</sup> A "cost-to-complete" analysis ignores costs already incurred ("sunk cost") and only considers the remaining or prospective cost of the Project when performing an economic evaluation against alternative generation options. This is the appropriate analysis at this stage because under certain circumstances Georgia law allows the Company to recover all prudently incurred sunk costs from ratepayers if the Project is halted.

1 High gas price forecast as an outlier, and believes that it contributes to the Company  
2 deriving overly optimistic estimates of the economic benefits of the Project. Therefore,  
3 Staff recommends the Company's High gas price case not be used for evaluative  
4 purposes.  
5

- 6 5. Staff recommends that the Company continue to perform economic analyses of the same  
7 delay scenarios of 24, 36, and 48 months beyond the current forecasted commercial  
8 operation dates ("CODs") as part of its future VCM filings. Staff also recommends that  
9 for each delay scenario, the Company should provide Total Project Cost results, and the  
10 revenue requirements associated with the Total Project Cost that the Company expects  
11 customers will incur both during construction and over the operating lives of the Units.  
12

13  
14 **II. GEORGIA POWER'S VOGTLE PROJECT ECONOMIC EVALUATION**

15  
16 **Q. PLEASE DESCRIBE THE COMPANY'S ECONOMIC EVALUATION**  
17 **METHODOLOGY.**

- 18 A. The Company has used the same evaluation methodology in this proceeding as it used in  
19 prior VCM filings. It compared total revenue requirements associated with a long-term  
20 expansion plan containing the new Vogtle 3 & 4 nuclear units (also referred to as "the  
21 Units" or "the Project") to the total revenue requirements associated with a long-term  
22 expansion plan in which construction of the Vogtle Units is discontinued and then  
23 replaced with a comparable amount of CCGT capacity. In the case containing the Vogtle  
24 Units, it included the fixed capacity costs and variable operating costs associated with the  
25 long-term expansion plan, the remaining fixed cost to complete construction of the Units,  
26 and the operating and maintenance cost of the Units. For purposes of this economic  
27 analysis, only the future cost to complete the Project is captured in the analysis, since

1 prudently incurred costs to date (prudent sunk costs) will be recovered from ratepayers in  
2 either scenario. In the alternative CCGT case, the entire cost to construct the full CCGT  
3 unit is captured.

4  
5 The Company used its Strategist production cost model to derive optimal expansion plans  
6 over the planning horizon for both the Project and CCGT cases. Strategist derived the  
7 variable production and fixed capital related revenue requirements associated with the  
8 expansion plan additions that were selected to maintain system reliability.

9  
10 Capital related revenue requirements for the Project and the replacement CCGT units  
11 were derived using a capital revenue requirement financial model. Project costs and  
12 offsets captured in the analysis include: remaining Project capital and financing costs,  
13 decommissioning costs, pre- and post-certification operating and maintenance expenses  
14 (“O&M”), nuclear fuel costs, spent nuclear fuel storage costs, Production Tax Credits  
15 (“PTC”), and Department of Energy (“DOE”) loan guarantee offsets. The ultimate  
16 economic evaluation determines the difference in the present value of revenue  
17 requirements (“PVRR”) between the case containing the remainder of the Vogtle costs to  
18 be spent, and the case with the full CCGT costs, with a benefit occurring when the PVRR  
19 of the Vogtle case is lower than the PVRR of the CCGT case.

20 **Q. WHAT DELAY CASES DID GEORGIA POWER STUDY IN ITS FILING?**

21 A. Georgia Power performed four sets of analyses, with each set reflecting different delay

1 scenarios. The four scenarios are:

- 2 • The Company's current forecasted 21 month delay case – Vogtle Units 3 and 4 are  
3 delayed by 21 months from the original certification in-service dates of April 1, 2016  
4 and April 1, 2017 to December 31, 2017 and December 31, 2018, respectively.
- 5 • 45 month delay case – Units delayed to December 31, 2019 and December 31, 2020,  
6 respectively.
- 7 • 57 month delay case – Units delayed to December 31, 2020 and December 31, 2021,  
8 respectively.
- 9 • 69 month delay case – Units delayed to December 31, 2021 and December 31, 2022,  
10 respectively.

11  
12 **Q. HOW MUCH HAS ACTUALLY BEEN SPENT THROUGH THE END OF THE**  
13 **NINTH/TENTH VCM PERIOD (ENDING DECEMBER 31, 2013) ON**  
14 **CONSTRUCTION AND FINANCING COST?**

15 A. According to Table 8.1, on page 35 of the Ninth/Tenth VCM Report, \$3.144 billion has  
16 been invested in the Project (Capital + Financing costs) through the end of December  
17 2013. Based on the Company's updated estimate of \$6.759 billion for Total Project Cost,  
18 the cost-to-complete the Project is approximately \$3.615 billion.

19 **Q. IS \$3.6 BILLION (ROUNDED) THE AMOUNT THE COMPANY USED IN ITS**  
20 **ECONOMIC ANALYSIS AS THE COST-TO-COMPLETE THE PROJECT?**

21 A. No. The Company used \$2.7 billion in its economic evaluations. One cause of the  
22 difference in these amounts relates to sunk costs that are excluded from the economic  
23 analysis. Since sunk capital costs are excluded from the cost-to-complete economic  
24 analysis, any future financing costs that are expected to result from sunk capital costs are  
25 also excluded from the economic analysis. A second cause of the difference in these

1 amounts relates to a timing difference. The \$3.6 billion reflects the remaining actual  
2 Project budget as of January 1, 2014, while the cost-to-complete figure in the Company's  
3 economic analysis is always derived based on costs beginning one day following the  
4 filing date of the VCM, which in this case was March 1, 2014. Therefore, the Company  
5 forecasted costs that would be spent between January 1 and February 28, 2014, and  
6 excluded those costs from the cost-to-complete economic evaluations. Another reason  
7 for the difference is that the marginal financing rates that are used in the economic  
8 evaluation are higher than average embedded financing rates. The remaining total cost to  
9 complete the Project used in the 21-month delay case was \$2.7 billion, while \$3.4 billion,  
10 \$3.8 billion and \$4.1 billion were used in the 45, 57, and 69-month delay scenarios,  
11 respectively.

12 **Q. PLEASE DISCUSS THE FUEL AND CO2 ASSUMPTIONS THE COMPANY**  
13 **USED IN THIS VCM.**

14 A. For each of the delay scenarios discussed above, 12 production cost runs were made  
15 based on different combinations of natural gas and CO2 price forecasts, and a matrix of  
16 results was created. The 12 production cost runs consisted of combinations of four  
17 natural gas cases, referred to as - Low, Moderate, Restrained, and High, and 3 CO<sub>2</sub> cases,  
18 referred to as - \$0/Ton, \$10/Ton, and \$20/Ton. A key difference between this VCM  
19 filing and the last is that the Company has now added a fourth natural gas forecast, which  
20 led to 12 production cost runs in the present filing as compared to 9 that were evaluated  
21 in the last filing.



1 **Q. DID THE COMPANY PROVIDE ADDITIONAL CLARIFICATION**  
2 **REGARDING ITS INTERPRETATION OF THE FUEL FORECASTS DURING**  
3 **THE HEARING ON ITS TESTIMONY HELD JUNE 3, 2014?**

4 A. Yes it did. While the Company included Low, Moderate and High fuel forecasts in the  
5 past, and in this VCM filing it added a Restrained forecast, the Company explained that it  
6 has done more than just add the Restrained fuel view as one new forecast. Based on Mr.  
7 Leach’s clarification at the hearing, the following table explains the Company’s current  
8 fuel views, and how they compare to what the Company used in the 8<sup>th</sup> VCM filing from  
9 2013.<sup>2</sup>

10 **Table 1**  
11 **Georgia Power Current Fuel Views**  
12

<b>Fuel Scenario</b>	<b>Consistent With</b>
9 <sup>th</sup> /10 <sup>th</sup> VCM High	8 <sup>th</sup> VCM High
9 <sup>th</sup> /10 <sup>th</sup> VCM Restrained	8 <sup>th</sup> VCM Moderate
9 <sup>th</sup> /10 <sup>th</sup> VCM Moderate	8 <sup>th</sup> VCM Low
9 <sup>th</sup> /10 <sup>th</sup> VCM Low	New lower low forecast

13  
14 In other words, Mr. Leach stated that the Restrained fuel forecast in this filing is not new,  
15 but is consistent with the Company’s Moderate forecast from the prior VCM filing. Also,  
16 he stated that the Moderate forecast in this VCM filing is consistent with the Company’s  
17 Low forecast from the prior filing. At the hearing, Mr. Leach referred to the Company’s  
18 current Low forecast as the “**new** [emphasis added] lower for longer fuel forecast”.<sup>3</sup>

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<sup>2</sup> June 3, 2014 Hearing Transcript, page 98, beginning at line 17.

<sup>3</sup> Id. Page 99, line 24.

1   **Q.    IS STAFF CONCERNED THAT THE COMPANY’S NATURAL GAS PRICE**  
2   **FORECASTS ARE STILL TOO HIGH IN THIS VCM?**

3   A.    Yes, Staff’s main concern is that the Company’s High forecast is too high and  
4   inconsistent with other forecasts Staff has evaluated. In the 8<sup>th</sup> VCM, Staff characterized  
5   the Company’s High forecast as an outlier and adopted the Company’s Moderate forecast  
6   as the Staff High forecast, adopted the Company’s Low Forecast as the Staff Moderate  
7   forecast, and created Staff’s own Low forecast. In this VCM filing, the Company’s  
8   Restrained, Moderate, and Low forecasts are consistent with Staff’s development of gas  
9   forecasts in the prior case. A comparison of Staff’s forecasts from the 8<sup>th</sup> VCM to the  
10   Company’s current forecasts is provided in Figure 1 below.

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**BEGIN TRADE SECRET**

**Figure 1**



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**END TRADE SECRET**

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**Q. WHAT ARE STAFF'S SPECIFIC CONCERNS WITH THE COMPANY'S GAS PRICE FORECASTS IN THIS VCM FILING?**

A. First, as mentioned, Staff believes the Company's High gas forecast is still an outlier compared to other forecasts that Staff has reviewed. Second, the fact that the Company has now included four gas price forecasts compared to three that it previously used results in a bias in favor of the Vogtle Units in the Company's economic analysis. This occurs

1 in the final step of the analysis, in which an equal weighted expected value result is  
2 derived from the results of the 12 combinations of natural gas and CO<sub>2</sub> cases for each  
3 delay scenario. Since the higher the natural gas forecasts are, the more economical  
4 finishing the Project would appear, the Company has biased its economic analysis results  
5 in favor of the Project by including two high gas forecasts (Restrained and High).  
6 Because of the equal weighting methodology, the Company's four gas forecast results are  
7 each weighted by 25% in the expected value calculation, and together the two high cases  
8 receive a 50% weighting. In previous VCM filings, the High, Moderate and Low gas  
9 forecast results all received the same weighting, 33.3%, in the expected value calculation.  
10 Staff addressed its concerns with the Company's gas price forecasts in this filing by  
11 relying on the Company's Restrained, Moderate and Low forecasts. Therefore, 9  
12 combinations of natural gas and CO<sub>2</sub> forecasts were used in each of Staff's delay scenario  
13 evaluations.

14 **Q. DOES STAFF HAVE ANY CONCERNS WITH THE COMPANY'S CO<sub>2</sub>**  
15 **EMISSION COST FORECASTS IN THIS VCM CASE?**

16 A. Staff believes the Company's CO<sub>2</sub> emission cost forecasts for this VCM are reasonable at  
17 this time. Staff continues to believe that there is uncertainty regarding potential CO<sub>2</sub>  
18 costs that Georgia Power may incur over the operating lives of the Units; however, with  
19 the EPA's June 2, 2014 proposed CO<sub>2</sub> rule, intended to reduce emissions at existing  
20 power plants by 30% from 2005 levels by 2030, it is beginning to appear more likely that  
21 CO<sub>2</sub> costs will ultimately be imposed, and Staff believes that the Company's \$10/Ton and

1           \$20/Ton CO<sub>2</sub> cost assumptions are reasonable for modeling purposes. Also, given the  
2           opposition to the rule from certain lawmakers and business groups, the Company's  
3           decision to continue including a \$0/Ton CO<sub>2</sub> case is also reasonable.

4   **Q.   WHAT OTHER PLANNING ASSUMPTIONS DID GEORGIA POWER UPDATE**  
5   **SINCE THE 8<sup>TH</sup> VCM FILING?**

6   A.   As has been the Company's practice in its February VCM filings, the Company updated  
7   major planning assumptions, including the following:

- 8           • Load Forecast;
- 9           • Fuel Forecast;
- 10          • Nuclear Fuel Forecast;
- 11          • Marginal Debt and Preferred Stock Financing Assumptions;
- 12          • Vogtle 3 & 4 Construction Costs;
- 13          • Pre-COD O&M Expense;
- 14          • Post-COD O&M Expense;
- 15          • Post-COD Capital Additions;
- 16          • PTC; and,
- 17          • DOE Loan Impact.

18  
19   **Staff's Economic Evaluation**

20   **Q.   BESIDES CHANGING THE GAS FORECAST, DID YOU DECIDE TO MAKE**  
21   **ANY OTHER CHANGES IN STAFF'S ECONOMIC EVALUATION?**

22   A.   Yes. In this VCM we decided to take into consideration the "need date for capacity". In  
23   the Company's cost to complete economic evaluation, it has been the Company's practice  
24   to start-up the CCGT units in the comparison case on the same dates that are forecast for

1 the new nuclear units in the Vogtle case. In this VCM, we allowed the Company's need  
2 date for capacity to drive the date when the CCGT capacity would be started-up in the  
3 comparison case. This accounts for the fact that if the Project were cancelled tomorrow,  
4 the Company would not automatically decide to acquire new capacity exactly when the  
5 Vogtle Units had been planned to come on-line, but instead would coordinate a new  
6 capacity addition schedule to coincide with the dates when capacity was needed. Staff  
7 believes including this adjustment more accurately reflects the impact on Company costs  
8 and ratepayer revenue requirement and should be used in all future VCM economic  
9 evaluations.

10 **Q. WHAT INFORMATION DID YOU RELY ON TO DEVELOP AN UPDATED**  
11 **NEED DATE FOR CAPACITY?**

12 A. I referred back to Georgia Power's 2013 IRP<sup>4</sup>, and updated information found there with  
13 information that the Company supplied in its current Strategist databases, and determined  
14 that with the Vogtle units, the Company's next need date for capacity would be in [REDACTED];  
15 however, if the Vogtle units were never completed, then Georgia Power's need date for  
16 capacity would move forward to [REDACTED]. Therefore, in each of the Vogtle delay scenarios,  
17 21-months (December 2017 and 2018), 45-months (December 2019 and 2020), 57-  
18 months (December 2020 and 2021), and 69-months (December 2021 and 2022), I  
19 consistently started-up the CCGT units in [REDACTED] in the comparison cases.

20 **Q. IN THE VOGTLE DELAY SCENARIOS IN WHICH VOGTLE STARTED UP**

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<sup>4</sup> Georgia Power 2013 IRP, Docket 36498, Staff Data Request STF-1-3, Table 4.1.1 GPC Capacity Breakdown - Trade Secret.xls



1 Due to Staff's use of just three lower natural gas price forecasts versus four that the  
2 Company uses, and given Staff's accounting for the capacity need date issue, Staff's cost  
3 to complete results are less favorable than the Company's results. However, the results  
4 indicate that it is still more economical to continue constructing the Vogtle Units than  
5 discontinuing construction of the Units and building an equivalent amount of CCGT  
6 capacity in their place.

7  
8 **Delay Impacts on Company Cost and Ratepayer Revenue Requirements**

9 **Q. WHAT ARE YOUR CONCERNS REGARDING THE IMPACT OF DELAYS ON**  
10 **COMPANY COST AND RATEPAYER REVENUE REQUIREMENTS?**

11 A. The economic evaluations that are performed as part of each VCM filing are important  
12 analyses used to decide if it is still cost effective to continue constructing the Project;  
13 however, those analyses do not identify all of the revenue requirements that ratepayers  
14 will be expected to pay both before and over the operating lives of the Units. As  
15 previously mentioned, for example, the cost to complete economic analysis does not  
16 account for the revenue requirement that will arise associated with the \$3.144 billion that  
17 has already been invested in the Project through the end of December 2013. The fact is  
18 that ratepayers will be expected to pay the entirety of the revenue requirements associated  
19 with prudently incurred construction and financing costs that arise from the start of  
20 construction through the end of the operating lives of the Units. To emphasize the  
21 importance of Company and Consortium schedule adherence, I present estimates of the



1 impacts on the Total Project Cost for various delay scenarios. As delays occur and the  
2 Total Project Cost increases, customers will incur higher revenue requirements both prior  
3 to the in-service date and over the operating lives of the Units.

4 **Q. WHAT INFORMATION HAS THE COMPANY PRESENTED CONCERNING**  
5 **THE TOTAL PROJECT COST OF THE PROJECT?**

6 A. Table 1.1, found on page 31 of the Ninth/Tenth VCM Report contains the Company's  
7 current estimate of the Total Project Cost that will be incurred to construct the Units. The  
8 broad cost categories making up this amount are:

- 9 • Consortium EPC Construction Costs
- 10 • Owner's Construction Costs
- 11 • Financing Costs

12 Table 1.1 identifies the certified amount, \$6.113 billion, and the latest estimate of the  
13 Total Project Cost as of the Ninth/Tenth VCM, which is \$6.759 billion.

14 **Q. WHAT PORTION OF THE CURRENT \$6.759 BILLION ESTIMATE IS**  
15 **EXPECTED TO BE PROTECTED FROM COST INCREASES UNDER THE EPC**  
16 **AGREEMENT?**

17 A. Based on current assumptions, and regardless of any delays that might occur, ratepayers  
18 would be expected to pay the same amount for Consortium EPC construction costs. This  
19 assumes the Company's current interpretation of the EPC Agreement holds going  
20 forward and that the Consortium is unable to impose additional EPC costs on the  
21 Company through commercial negotiations, litigation, or settlement. Based on the

1 current estimate of costs from Table 1.1, the Total Consortium EPC cost is \$3.703 billion,  
2 and therefore, the ratepayer is presumably protected from increases on 55 percent  
3 (3.703/6.759) of the Total Project Cost. The remaining 45 percent of the Total Project  
4 Cost, which include Owners and Financing costs, would increase if additional delays  
5 occur and would result in higher revenue requirements being sought from ratepayers.

6 **Q. HOW DOES THE PORTION OF THE TOTAL PROJECT COST PROTECTED**  
7 **BY THE EPC AGREEMENT CHANGE IF DELAYS OCCUR?**

8 A. As mentioned, Owners and Financing costs represent 45% of the Total Project Cost under  
9 the Company's current COD forecast, and would increase if additional Project delays  
10 occur. Since the Company only supplied the Total Project Cost information on Table 1.1  
11 for the latest in-service date case (21 month delay scenario), I developed estimates of the  
12 costs for each of the other delay scenarios, including the 45, 57, and 69 month delay  
13 cases.<sup>5</sup> Table 3 below contains a simplified version of the Company's Table 1.1 with just  
14 the three broad categories of costs discussed above. Information for the four delay cases  
15 is included, and results for the Certified and 21 month delay cases are identical to the  
16 results found on Table 1.1 of the Company's Ninth/Tenth VCM report.

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<sup>5</sup> The Company was asked in DR STF-56-1 for Total Project Costs for the 45, 57, and 69 month delay scenarios, and the Company responded that it had not performed that calculation, nor did it undertake to perform it upon receipt of the data request. However, in a response to a hearing request (HR 1-1) made at the Company's June 3, 2014 Direct Hearing, the Company indicated that based on the information it reviewed from the hearing, Staff's calculation of Total Project Costs was reasonable.

1

**Table 3**

<b>Vogtle Units 3 and 4                      Georgia Power Company                      Total Project Cost                      (Billions of Nominal Dollars)</b>						
In-Service Dates		<b>2016/17</b>	<b>2017/18</b>	<b>2019/20</b>	<b>2020/21</b>	<b>2021/22</b>
		Certified Cost	21 Mon Current Forecast	45 Mon Delay Forecast	57 Mon Delay Forecast	69 Mon Delay Forecast
a	EPC Cost	3.8	3.7	3.7	3.7	3.7
b	Owners Cost	0.6	1.1	1.4	1.5	1.6
<b>c = a + b</b>	<b>Total Construction &amp; Capital Cost</b>	<b>4.4</b>	<b>4.8</b>	<b>5.1</b>	<b>5.2</b>	<b>5.3</b>
d	Financing Cost	1.7	2.0	2.7	3.1	3.5
<b>e = c + d</b>	<b>Total Project Cost</b>	<b>6.1</b>	<b>6.8</b>	<b>7.8</b>	<b>8.3</b>	<b>8.8</b>
a / e	EPC Percent of Total	62%	55%	48%	45%	42%
(b+d) / e	Owners and Financing Percent of Total	38%	45%	52%	55%	58%

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Table 3 indicates that the Consortium’s EPC cost remains constant, and the Owners and Financing costs increase across each delay scenario. Since the EPC portion represents an amount that customers are supposed to be protected from cost increases under the EPC agreement, the other portion of the costs without protection increases as delays occur. The 57 month delay scenario, for example, reflects a \$2.2 billion (8.3 – 6.1) increase from the original certified amount, and the EPC Agreement only provides protection for about 45% of the Total Project Cost.

**Q. PLEASE PROVIDE AN ESTIMATE OF THE COST THAT MAY BE INCURRED BY THE COMPANY FOR EACH DAY OF DELAY.**

1 A. The cost of delay per day, for each delay case, can be determined by dividing the increase  
2 in Total Project Cost by the number of days in the delay period. An average cost of delay  
3 per day can be determined by averaging each delay scenario's \$/day amount. Thus, I  
4 determined the average cost of delay per day is approximately \$1.2 million dollars. As  
5 an example, the cost of delay per day for the 57-month delay case is:

$$6 \quad ((8.3 - 6.1) / (57 * 30)) * 1000 = \$1.3 \text{ million per day}$$

7 This is fairly close to the \$1.2 million dollar average cost over all of the delay cases, on a  
8 per day basis.

9 **Q. HOW DOES THE ADDITIONAL DELAY COST THAT THE COMPANY WILL**  
10 **INCUR RELATE TO REVENUE REQUIREMENTS THAT RATEPAYERS**  
11 **WILL BE CHARGED?**

12 A. During the construction period, ratepayer revenue requirements are being charged to  
13 customers through the Nuclear Construction Cost Recovery ("NCCR") tariff, which  
14 includes recovery of all financing costs the Company incurs plus the income tax  
15 associated with the equity financing costs. As delays occur, financing costs and income  
16 tax revenue requirements will increase during the construction period. Over the  
17 operating lives of the Units, ratepayer revenue requirements will include depreciation,  
18 financing, and income tax charges associated with the total construction cost of the  
19 Project. As delays occur, and total construction costs increase, ratepayers will incur  
20 higher revenue requirements associated with these costs over the operating lives of the  
21 Units.

1 **Q. WILL ANY OTHER SIGNIFICANT REVENUE REQUIREMENT IMPACTS**  
 2 **OCCUR AS A RESULT OF DELAYS IN THE IN-SERVICE DATE OF THE**  
 3 **PROJECT?**

4 A. Yes, another significant cost impact relates to higher production related costs that will be  
 5 incurred in replacing the Vogtle 3 and 4 energy output during the delay period. Table 4  
 6 below contains the results from Table 3, and includes the impact of higher production  
 7 related costs, primarily additional fuel costs, that ratepayers will incur as delays occur. In  
 8 this analysis the incremental production related impacts are based on the Company's  
 9 production cost runs using its natural gas forecasts, and the production cost results were  
 10 derived based on the expected value of the 12 cases that the Company ran for each delay  
 11 scenario.

12 **Table 4**

<b>Vogtle Units 3 and 4                      Georgia Power Company                      Total Project Cost and Production Cost                      (Billions of Nominal Dollars)</b>						
	In-Service Date	2016/17	2017/18	2019/20	2020/21	2021/22
		Certified Cost	21 Mon Current Forecast	45 Mon Delay Forecast	57 Mon Delay Forecast	69 Mon Delay Forecast
e	Total Capital Cost and Financing	6.1	6.8	7.8	8.3	8.8
f	Production Cost Impact		.5	1.1	1.5	1.8
<b>g = e + f</b>	<b>Total Project and Production Cost Impact</b>	<b>6.1</b>	<b>7.3</b>	<b>8.9</b>	<b>9.8</b>	<b>10.6</b>
a / g	EPC Percent of Total	62%	51%	42%	38%	35%
(b+d+f) / g	Owners, Financing and Production Percent of Total	38%	49%	58%	62%	65%

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From Table 3 above, I previously noted that the impact of a delay considering just the Total Project Cost is approximately \$1.2 million dollars per day. Including the impact of replacement power costs, the average Total Project and Production Cost impact caused by a delay increases to approximately \$2.0 million per day. As an example, this calculation for the 57 month case is:

$$((9.8 - 6.1) / (57 * 30)) * 1000 = \$2.2 \text{ million per day}$$

This is fairly close to the \$2.0 million dollar average cost over all of the delay cases, on a per day basis.

**Q. ARE RATEPAYERS ALSO EXPECTED TO BE AT RISK FOR THE HIGHER PRODUCTION COSTS IF DELAYS OCCUR?**

A. Yes, in addition to Owners and Financing costs, ratepayers are also at risk of having to pay higher production related costs if delays occur. Table 4 indicates that when production cost impacts are added to Owners and Financing costs, the amount of the customers' exposure increases significantly as delays occur. For example, the 57 month delay scenario reflects a \$3.7 billion (9.8 - 6.1) increase from the original certified amount that customers would be exposed to, and the EPC Agreement only provides protection for about 38% of the Total Project and Incremental Production costs.

**Q. PLEASE SUMMARIZE YOUR CONCERNS REGARDING DELAY IMPACTS ON COMPANY COST AND RATEPAYER REVENUE REQUIREMENTS.**

A. Since the Company's economic evaluations do not account for all of the revenue

1 requirements that ratepayers would be expected to pay, both before and over the  
2 operating lives of the Units, the full ratepayer revenue requirement impacts are not  
3 identified in the Company's VCM Report. For purposes of the economic evaluations, the  
4 portion identified is reasonable since the Company's analyses are performed on a cost-to-  
5 complete basis, and only the remaining cost to complete the Project needs to be included  
6 in the analysis. However, as delays occur, Staff believes that it is important to identify all  
7 of the revenue requirements that ratepayers would be exposed to, particularly those that  
8 would be incurred during the construction period (NCCR and production costs).

9  
10 As I have demonstrated, the Company will incur higher Total Project Costs (capital and  
11 financing costs), and higher production related costs, which will lead to higher revenue  
12 requirements during the construction period and during the operating lives of the Units.  
13 With delays, the Company's per day cost would increase by an estimated \$2.0 million per  
14 day. With a 57-month delay, the protection afforded by the Consortium EPC agreement  
15 would be reduced from what had been expected at certification, as ratepayers would be  
16 exposed to pay for 62% of the Total Project and Incremental Production costs.

17  
18 **Additional Benefits**

19 **Q. PLEASE EXPLAIN YOUR CONCERN WITH THE COMPANY'S CLAIMED**  
20 **BENEFITS.**

21 **A.** As in past VCM filings, the Company has asserted that through actions it has taken, it has

1           been able to secure additional benefits associated with the Project that were not  
2           accounted for at the time of certification. While Staff has some concern about the  
3           accuracy of the Company's calculations and the way the benefits are characterized, Staff  
4           is even more concerned about the possibility of the Company attempting to portray these  
5           as extraordinary benefits that somehow were unexpected at certification. Furthermore, it  
6           is important to recognize that ratepayers have and are taking the risk for the prudently  
7           incurred costs associated with the Project, and should be entitled to any benefits that have  
8           arisen during construction of the Project. It should also be recognized that it is the  
9           Company's duty to ratepayers to prudently manage the Project, and its actions to secure  
10          any additional benefits, while appreciated, have arisen out of its obligation to serve its  
11          customers.

12   **Q.   WHAT ADDITIONAL BENEFITS HAS THE COMPANY ADDRESSED IN THE**  
13   **NINTH/TENTH VCM FILING?**

14   **A.**   The Company asserts there will be \$2.3 billion in additional benefits associated with the  
15          following:<sup>6</sup>

- 16           • The Department of Energy ("DOE") Loan Guarantee - \$250 million in lower  
17           financing costs on a 2018 NPV basis;
- 18           • Additional Production Tax Credits ("PTC") - \$800 million savings on a 2018  
19           NPV basis;
- 20           • Interest savings – \$750 million of debt savings on a 2018 NPV basis based on its  
21           proactive financing strategy.
- 22           • Use of CWIP vs. AFUDC financing - \$300 million reduction in nominal in-  
23           service project costs;

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<sup>6</sup> Page 6 of the Ninth/Tenth VCM Report.



- EPC Agreement Amendment 3 ("Amendment 3") - \$200 million savings on a 2018 NPV basis;

**Q. HAVE YOU PERFORMED A DETAILED REVIEW OF THESE CALCULATIONS?**

A. I have not performed a detailed review of the Company's calculations of these in this filing, as these are not used as part of the Company's economic evaluation, nor are they used as part of the determination of the actual expenditures that the Company has invested in the Project through December 31, 2013. Instead, I discuss my concern regarding the emphasis the Company places on these additional customer benefits, and I discuss certain observations I have of the calculations.

**Q. DO YOU HAVE ANY CONCERN REGARDING THE FACT THAT THE COMPANY HAS DERIVED THE "ADDITIONAL BENEFITS" IN 2018 PRESENT VALUE DOLLARS?**

A. Yes. The Company has calculated most of these values in 2018 Present Worth dollars since the current expected in-service date is essentially 2018 for Vogtle 3. Typically, in present worth calculations it is most important to discount values to the same year for comparison purposes. However, even if values are discounted to the same year, there can be the appearance of trying to increase the magnitude of present worth values if the values are discounted to a later year such as 2018 instead of 2016. I mention this because the Company discounts all values in its economic evaluations to 2016, but in its evaluation of additional customer benefits, it discounts those to 2018.

1 **Q. DO YOU HAVE ANY OTHER CONCERNS REGARDING THE COMPANY'S**  
2 **PRESENT VALUE CALCULATIONS?**

3 A. Yes, the \$2.3 billion additional customer benefit value is based on an inappropriate  
4 calculation that mixes the use of nominal and present worth values, which is inconsistent  
5 with financial and engineering economic practice. The Company includes a \$300 million  
6 nominal dollar additional customer benefit associated with its use of CWIP as opposed to  
7 AFUDC financing, and it sums the \$300 million *nominal* dollar amount in with other  
8 values that are computed on a *present value* dollar basis. This is an apples-to-oranges  
9 comparison that has led to questionable results.

10 **Q. WHAT SPECIFIC CONCERNS DO YOU HAVE REGARDING THE**  
11 **COMPANY'S CLAIM OF ADDITIONAL BENEFITS ASSOCIATED WITH THE**  
12 **DOE LOAN AND PRODUCTION TAX CREDIT ("PTC") FEDERAL**  
13 **SUBSIDIES?**

14 A. It is fair to represent these Federal subsidies as potential benefits, though in the case of  
15 the DOE Loan, the Company did not mention that it has or will incur nearly \$█ million  
16 in expenses required to secure and service the loan.<sup>7</sup> Also, to assert that these are  
17 somehow new benefits since certification is inaccurate. The Company has known about  
18 these since they were implemented in The Energy Policy Act of 2005.<sup>8</sup> Furthermore,  
19 although it is true that the Company has never accounted for the impacts of the DOE

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<sup>7</sup> DR response STF-58-27-a indicates \$█ million was spent on DOE consultants & fees, internal costs, and legal, regulatory compliance, and land survey fees. DR response STF-58-27-c indicates that \$█ million will be spent on maintenance fees, trustee fees, and consultant fees over the life of the loan.

<sup>8</sup> Ninth/Tenth VCM Report, page 6.

1           Loan until now in any economic evaluations it has performed, the Company has  
2           accounted for 50% of the PTC benefits in its economic evaluations going back to the  
3           initial Certification proceeding. Finally, it was prudent, not extraordinary, for the  
4           Company to seek these benefits on behalf of its customers, as these are federal subsidies  
5           that were available to any utility building nuclear units that were able to meet specific  
6           conditions.

7   **Q.   WHAT CONCERNS DO YOU HAVE REGARDING THE INTEREST SAVINGS**  
8   **THAT THE COMPANY HAS SECURED?**

9   A.   From a macroeconomic perspective, the Company had no role in causing interest rates to  
10       remain low. As the Company itself acknowledged in an earlier VCM proceeding, the  
11       “interest costs paid by the Company” is “a factor over which the Company has no  
12       control.”<sup>9</sup> Actions the Company took to lock in lower rates were prudent, and ratepayers  
13       have benefited from its efforts, but to characterize the results of these efforts as an  
14       “additional customer benefit” is an over-statement. First, ratepayers bore the risk of  
15       fluctuations in interest rates, and had interest rates risen, the Company would expect full  
16       reimbursement of those higher interest expenses. Any benefit from lower rates is one  
17       that has been “earned” by the ratepayers, not bestowed on them by the Company. Second,  
18       regardless of what technology the Company had chosen to build, ratepayers would have  
19       benefitted from the current lower interest rate environment. Finally, it is the Company’s  
20       duty to ratepayers to provide reliable service at the lowest cost, and its actions to secure

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<sup>9</sup> Company’s 3<sup>rd</sup> Annual VCM Brief, p. 8; see Tr. 1059-60

1 appropriate financing have been part of its obligation to serve its customers.

2 **Q. WHAT ARE YOUR CONCERNS REGARDING CWIP?**

3 First, it is true that the use of CWIP financing will result in the Total Project Cost being  
4 lower than it otherwise would have been had the Company used AFUDC financing.  
5 Also, it may be the case that use of CWIP "...provides the additional benefits to our  
6 customers of preserving the company's credit quality, which obviously was one of the  
7 items that was discussed widely during the rate case."<sup>10</sup> However, as discussed above, it  
8 is inappropriate to mix together the \$300 million CWIP nominal value amount with other  
9 values that are calculated on a present value basis. Furthermore, it is not clear to me that  
10 there would be any additional customer benefit if the "savings" from CWIP were  
11 calculated on a present value basis including all of the revenue requirements, both during  
12 construction and over the operating lives of the Units. Even if there were a difference in  
13 the present value revenue requirements between the CWIP and AFUDC cases, customer  
14 rates have already increased prior to completion of the Project. So, if in fact CWIP  
15 financing could be perceived as having provided a customer benefit compared to AFUDC  
16 financing, it is a benefit that ratepayers have already purchased for themselves through a  
17 higher revenue requirement during construction of the Units.

18 **Q. WHAT ARE YOUR CONCERNS REGARDING THE COMPANY'S**  
19 **CHARACTERIZATION OF AMENDMENT 3?**

20 A. The Company characterizes Amendment 3 as having "shifted more of the EPC costs from

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<sup>10</sup> Page 144 of the Company's June 3, 2014 Direct Hearing Transcript.

1 market-based indices to fixed escalators...”, and claims that it “...provided significant  
2 cost savings to customers”.<sup>11</sup> Amendment 3 certainly has value in that it provides  
3 protection in the event that market indices increase significantly. However, the savings  
4 that the Company claims to have occurred only came about because the market-based  
5 indices are much lower now than the Company forecast at certification. Also, as with  
6 changes in interest rates, the Company had “no control” over the changes in the index.<sup>12</sup>  
7 Also, as with changes in interest rates, ratepayers, not the Company, took the risk on  
8 fluctuations in the market indices; thus the benefits stemming from the lower indices are  
9 ones that were earned by the ratepayers, not given by the Company.

10 **Q. HOW WOULD YOU SUMMARIZE THE “ADDITIONAL BENEFITS” ISSUE**  
11 **DISCUSSED IN THE VCM REPORT?**

12 A. These savings may not have been included in economic analyses performed at  
13 Certification, however, these issues were known from the time of Certification, and  
14 ratepayers have taken and continue to take significant specific risks in constructing the  
15 Vogtle units and should be entitled to benefits that occur in their favor. They have been  
16 earned by ratepayers. Furthermore, the Company’s additional benefits are based on  
17 questionable calculations, and are incomplete as there are additional revenue  
18 requirements that will be borne by ratepayers that offset the additional customer benefits  
19 recognized by the Company, such as those caused by delays. In summary, while I  
20 commend the Company on fulfilling its duty to obtain any additional benefits available,

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<sup>11</sup> Page 28 of the Ninth/Tenth VCM Report.

<sup>12</sup> See Company’s Third Semi-Annual VCM Brief, p. 8

1           there should be no doubt that the Company's actions are required in order to prudently  
2           manage its business and bring reliable service at the lowest cost to its ratepayers.

3

4    **Other Issues**

5    **Q.    DO YOU CONTINUE TO RECOMMEND THAT THE COMPANY PERFORM**  
6    **DELAY SCENARIOS?**

7    A.    Yes. Staff believes the Company should continue to perform the same three delay  
8           sensitivity scenarios in future VCM filings. Delay scenarios of 24, 36, and 48 months  
9           from the Company's most current forecasted CODs for the Units should be performed in  
10          all future VCM filings. Staff also requests that in future VCM filings, the Company  
11          should provide an estimate of the Total Project Cost and an estimate of the revenue  
12          requirements that the Company expects customers will incur both during construction  
13          and over the operating lives of the Units for each delay scenario. This information should  
14          include the Company's complete nominal annual revenue requirement calculations.

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

16   A.    Yes it does.

17

**BEFORE THE**  
**GEORGIA PUBLIC SERVICE COMMISSION**

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

**DOCKET NO. 29849**

**EXHIBIT**  
**STF-Hayet-1**

## **QUALIFICATIONS OF PHILIP HAYET**

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### **EDUCATION/CERTIFICATION**

M.S., Electrical Engineering, Georgia Institute of Technology, 1980  
B.S., Electrical Engineering, Purdue University, 1979  
Cooperative Education Certificate, Purdue University, 1979

### **EXPERIENCE**

Mr. Hayet has provided consulting services to Public Utility Commissions, State Energy Offices, Consumer Advocate Offices, Electric Utilities, Global Power Developers, and Industrial Companies for over thirty years. Mr. Hayet's expertise covers a number of areas including utility system planning and operations, market price forecasting, Integrated Resource Planning, renewable resource evaluation, transmission planning, demand-side analysis, and economic analysis. In 1995, Mr. Hayet began his own utility consulting firm, Hayet Power Systems Consulting ("HPSC"), and has worked for customers in the United States, and internationally in Australia, Japan, Singapore, Malaysia, the United Kingdom, and Vietnam. In addition to continuing to work for HPSC, in 2000, Mr. Hayet also joined the consulting firm of J. Kennedy & Associates, Inc. to provide support for projects requiring utility resource planning analysis and software modeling expertise.

Prior to 1995, Mr. Hayet worked for fifteen years at Energy Management Associates, now Ventyx, where he provided consulting services and client service support for the widely used utility system planning software models, PROMOD IV and STRATEGIST. Clients included various electric utilities, governmental agencies, and private industry. Mr. Hayet helped to design some of the features that exist within the PROMOD IV and STRATEGIST systems, such as the competitive market modeling features in STRATEGIST.

Mr. Hayet has conducted numerous consulting studies in the areas of Renewable Resource Evaluation, Renewable Portfolio Standards Evaluation, Green Pricing Tariff Development, Electric Market Price Forecasting, Generating Unit Cost/Benefit Analysis, Integrated Resource Planning, Demand-Side Management, Load Forecasting, Rate Case Analysis and Regulatory Support. A list of recent projects is included below.

#### **Projects Since 2000 - Hayet Power Systems Consulting, Atlanta, GA – President**

- Filed Direct testimony June 2014 at the Utah Public Service Commission concerning PacifiCorp's 2014 General Rate Case (Docket 13-035-184).
- Filed Direct testimony August 2013 at the Georgia Public Service Commission concerning Georgia Power's Eighth Semi-Annual Vogtle Construction Monitoring Report (Docket 29849-U).



## **QUALIFICATIONS OF PHILIP HAYET**

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- Filed Direct testimony May 2013 at the Georgia Public Service Commission concerning Georgia Power's 2013 IRP and its request to decertify over 2,000 MW of coal-fired capacity (Docket No. 36498).
- Filed Direct testimony December 2012 at the Georgia Public Service Commission concerning Georgia Power's Seventh Semi-Annual Vogtle Construction Monitoring Report (Docket 29849-U).
- Filed Direct Testimony July 2012 at the Kentucky Public Service Commission regarding Big Rivers Certification to perform environmental upgrades in compliance with MATS and CSAPR EPA regulations. (Case No. 2012-00063).
- Submitted Direct Testimony May 2012 at the Georgia Public Service Commission concerning Georgia Power's Sixth Semi-Annual Vogtle Construction Monitoring Report (Docket 29849).
- Submitted Direct Testimony May 2012 at the Georgia Public Service Commission concerning Georgia Power's Fuel Cost Recovery Filing (FCR-23 - Docket 35277).
- Assisted in the evaluation of Rocky Mountain Power's request for certification of environmental upgrades at the Naughton 3 unit in Wyoming on behalf of the Wyoming Industrial Energy Consumers (Docket No. 20000-EA-400-11).
- Submitted Direct Testimony November 2011 at the Georgia Public Service Commission concerning Georgia Power's evaluation of environmental upgrades pertaining to MATS EPA regulations, to decertify two aging coal units, to acquire PPA resources, and to have approved its IRP Update, on behalf of the Georgia Public Service Commission Staff (Docket 34218).
- Submitted Direct Testimony November 2011 at the Georgia Public Service Commission concerning Georgia Power's request to certify the reacquisition of wholesale block capacity, on behalf of the Georgia Public Service Commission Staff (Docket 26550).
- Submitted an Initial and Rebuttal Expert Report (April and June 2011, respectively) on behalf of the Department of Justice in US District Court, Civil Action No. 2:10-cv-13101-BAF-RSW.
- Filed Direct Testimony June 2011 at the Georgia Public Service Commission concerning Georgia Power's Fourth Semi-Annual Vogtle Construction Monitoring Report Period Ending December 31, 2011 (Docket 29849-U).
- Filed Direct testimony April 2011 at the Georgia Public Service Commission concerning Georgia Power's Fuel Cost Recovery Filing (FCR-22) (Docket 33302).
- Filed Direct testimony December 2010 at the Georgia Public Service Commission concerning Georgia Power's Third Semi-Annual Vogtle Construction Monitoring Report Period Ended June 30, 2010 (Docket 29849-U).

## **QUALIFICATIONS OF PHILIP HAYET**

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- Filed Direct testimony June 2010 at the Georgia Public Service Commission concerning Georgia Power's Second Semi-Annual Vogtle Construction Monitoring Report Period Ended December 31, 2009 (Docket 29849-U).
- Filed Direct testimony January 2010 at the Georgia Public Service Commission concerning Georgia Power's Fuel Cost Recovery Filing (FCR-21) (Docket 28945).
- Filed Direct testimony October 2009 at the Georgia Public Service Commission concerning Georgia Power's First Semi-Annual Vogtle Construction Monitoring Report Period Ended June 30, 2009 (Docket 29849-U).
- Filed Direct and Sur-rebuttal testimony in September and October 2009, respectively at the Utah Public Service Commission concerning PacifiCorp's 2009 Rate Case with regard to net power costs (Docket 09-035-23).
- Assisted the Utah Office of Consumer Services to evaluate PacifiCorp's 2008 IRP (Docket 09-2035-01).
- Assisting the Georgia Public Service Commission Staff to investigate the acquisition of additional coal and combustion turbine capacity currently wholesale capacity (Docket 26550).
- Testified on Georgia Public Service Commission Staff concerning Georgia Power's Certification request for the Vogtle 3 and 4 Nuclear units (Docket 27800).
- Testified on behalf of the Utah Committee of Consumer Services concerning PacifiCorp's 2008 request to acquire the Chehalis Combined Cycle Power Plant based on a waiver of the RFP solicitation process (Docket 08-035-35).
- Submitted testimony on behalf of the Utah Committee of Consumer Services concerning PacifiCorp's 2007 Rate Case with regard to net power costs (Docket 07-035-93).
- Testified in April 2008 in front of the Georgia Public Service Commission regarding Georgia Power's November 2006 Fuel Cost Recovery filing (Docket 26794-U).
- Assisted the Georgia Public Service Commission Staff to evaluate Georgia Power's 2007 IRP filings (Docket 24505-U).
- Conducted an investigation of the Southern Company interchange accounting and fuel accounting practices on behalf of the Georgia Public Service Commission (Docket 21162-U).
- Testified in January 2007 in front of the Georgia Public Service Commission regarding Georgia Power's November 2006 Fuel Cost Recovery filing (Docket 23540-U).
- Assisted the Utah Committee of Consumer Services to evaluate PacifiCorp's 2007 IRP.
- Provided regulatory support to the Utah Committee of Consumer Services concerning PacifiCorp's 2006 Rate Case with regard to net power costs (Docket 06-35-01).

## **QUALIFICATIONS OF PHILIP HAYET**

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- Testified in May 2006 in front of the Georgia Public Service Commission regarding Georgia Power and Savannah Electric's March 2006 Fuel Cost Recovery filing (Docket 22403-U).
- Assisted the Utah Committee of Consumer Services by evaluating PacifiCorp's 2005 IRP and assisted in writing comments that were filed with the Commission.
- Assisted the Utah Committee of Consumer Services by participating in a collaborative process to develop an avoided cost tariff for large QFs.

### **Projects Since 2000 - J. Kennedy and Associates, Inc. Atlanta, GA – Director of Consulting**

- Filed Direct Testimony (October 2013) at the Kentucky Public Service Commission regarding Big River's base rate case request (Case No. 2013-00199) on behalf of the Kentucky Industrial Utility Customers, Inc.
- Filed Direct Testimony (July 2013) at the Louisiana Public Service Commission regarding Entergy's request for certification of a 8.5 MW PPA for renewable energy capacity (Agrilectric rice hull) in accordance with the LPSC's Renewable Energy Pilot (Docket U-32785), on behalf of the Louisiana Public Service Commission Staff.
- Filed Direct Testimony (April 2013) at the Kentucky Public Service Commission regarding Kentucky Power Company's Mitchell Certificate of Public Convenience and Necessity filing (Case No. 2012-00578) on behalf of the Kentucky Industrial Utility Customers, Inc.
- Filed Cross Answering Testimony (March 2013) at FERC regarding the Louisiana Public Service Commission's harm calculation stemming from Entergy's violation of its System Agreement (Docket No. EL09-61-002), on behalf of the Louisiana Public Service Commission.
- Filed Direct Testimony (December 2012) in Entergy's retail proceeding at the LPSC regarding termination of Cross-PPAs (Docket No. U-29764).
- Filed Direct Testimony (December 2012) regarding Entergy's request for certification of a 28 MW PPA for renewable energy capacity (RAIN CII waste heat) in accordance with the LPSC's Renewable Energy Pilot (Docket U-32557), on behalf of the Louisiana Public Service Commission Staff.
- Filed Direct Testimony (December 2012) at FERC regarding the Louisiana Public Service Commission's harm calculation stemming from Entergy's violation of its System Agreement (Docket No. EL09-61-002), on behalf of the Louisiana Public Service Commission.
- Filed Direct Testimony (September 2012) regarding Dixie Electric Member Cooperative's Ten year Power Supply Agreement U-32275.

## **QUALIFICATIONS OF PHILIP HAYET**

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- Filed Direct Testimony (March 2012) regarding Entergy's change of control filing to move to the Midwest ISO in LPSC Docket 32148.
- Filed Direct Testimony (September 2011) in support of a settlement agreement at the Louisiana Public Service Commission regarding the reasonableness of Cleco's CCPN to upgrade its Madison 3 coal unit to accommodate biomass fuel in accordance with the LPSC's Renewable Energy Pilot in Docket U-31792.
- Filed Direct (January 2011) and Cross-Answering (February 2011) Testimony at FERC regarding the reasonableness of Entergy's 2009 production costs that were used to develop bandwidth payments in Docket ER09-1350.
- Testified at FERC regarding an LPSC complaint that Entergy violated provisions of its System Agreement related to individual operating company sales in FERC Docket EL09-61.
- Testified at FERC regarding the reasonableness of Entergy's 2008 production costs that were used to develop bandwidth payments in Docket ER08-1224.
- Filed testimony at the Public Utilities Commission of the State of Colorado, in October 2009 concerning Black Hills/Colorado's CPCN application to construct two LMS 100 natural gas combustion turbine units. Docket No. 09A-415E
- Testified in front of the Minnesota Public Service Commission, September 2009 concerning Minnesota Power's Request for Approval to Purchase Square Butte's 500 kV DC transmission line, and to restructure a coal based power purchase agreement. MPUC Docket No. E015/PA-09-526
- Testified in front of FERC, July 2009, concerning the Louisiana Public Service Commission's complaint regarding Entergy's 2007 rough production cost equalization compliance filing in the System Agreement Case in FERC Docket No. ER08-1056.
- Worked with the Louisiana Public Service Commission in a collaborative effort to implement a Green Pricing Tariff for Entergy Gulf States Louisiana, Entergy Louisiana, CLECO, and SWEPCO. Coordination is required between the utility, power developers, other customers, and Commission Staff. (Docket No. R-28271)
- Assisted the Louisiana Public Service Commission Staff with a rulemaking to design Integrated Resource Planning ("IRP") rules. (Docket No. R-30021)
- Assisted the Louisiana Public Service Commission Staff with a rulemaking for the opportunity to implement a Renewable Portfolio Standard in Louisiana. (Docket No. R-28271 Sub-Docket B)
- Filed Testimony at FERC in Jan 2009, concerning the 2007 System Agreement Rough Production Cost Equalization production cost equalization compliance filing in the System Agreement Case in FERC Docket No. ER08-1056.

## **QUALIFICATIONS OF PHILIP HAYET**

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- Testified in front of the Wisconsin Public Service Commission in 2008 regarding WPL's certification proceeding concerning the Nelson Dewey CFB coal-fired generating unit. (6680-CE-170).
- Testified at FERC in July 2008, concerning the Louisiana Public Service Commission's complaint regarding Entergy's 2006 rough production cost equalization compliance filing in the System Agreement Case in FERC Docket No. ER07-956.
- Testified in front of the Wisconsin Public Service Commission in 2008 regarding WEPCO's request to implement environmental upgrades at its Oak Creek Power Plant in Docket 6630-CE-299.
- Assisting the Louisiana Public Service Commission Staff with the review and evaluation of Cleco Power's 2008 Short Term RFP and its 2010 Long-Term RFP.
- Provided regulatory support on behalf of the Louisiana Public Service Commission Staff concerning jurisdictional separation of Entergy Gulf States in Docket No. U-21453.
- Provided regulatory support on behalf of the Louisiana Public Service Commission Staff concerning the potential benefit of Transmission upgrades in Docket No. U-25116.
- Provided regulatory support on behalf of the Louisiana Public Service Commission concerning a FERC complaint regarding power purchase contracts in FERC Docket No. ER03-753-000.
- Provided regulatory support on behalf of the Louisiana Public Service Commission Staff in a retail proceeding evaluating the benefits of possibly retiring some of Entergy's gas-fired units. Docket No. U-27136 (Subdocket A).
- In 2002 – 2003, provided regulatory support on behalf of the Louisiana Public Service Commission's FERC complaint regarding cost allocation issues between the Entergy Operating Companies in the FERC Docket No. EL01-88-000.
- In 2002 – 2003, provided regulatory support on behalf of the Louisiana Public Service Commission Staff in a retail proceeding concerning Entergy's billing practices. Docket No. U-25888
- In 2000 – 2001, provided regulatory support on behalf of the Louisiana Public Service Commission's intervention in Entergy's proposed System Agreement modifications in the FERC Docket No. ER00-2854-000.

### **Other Projects Conducted Since 1996**

- Provided assistance in 2004 to the Utah Committee of Consumer Services to analyze a series of power purchase agreements and special contracts between PacifiCorp and several of its industrial customers.

## **QUALIFICATIONS OF PHILIP HAYET**

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- Assisted the Georgia Public Service Commission Staff to evaluate Georgia Power and Savannah Electric's 2004 IRP filings. Also, testified in front of the Georgia Public Service Commission in that proceeding.
- Provided regulatory support to the Utah Committee of Consumer Services regarding PacifiCorp's 2003 Utah General Rate Case Docket # 03-2035-02.
- Worked on behalf of the Oregon Public Utility Commission to Audit PacifiCorp's Net Power Costs per a Settlement Agreement accepted by the Public Utility Commission of Oregon in its Order No. 01-787. Audit report in Docket No. UE-116 filed July 2003.
- Worked on behalf of the Utah Committee of Consumer Services to provide guidance and assist in the analysis of PacifiCorp's 2002 Integrated Resource Plan.
- Worked on behalf of the Utah Committee of Consumer Services to help analyze PacifiCorp's restructuring proposals.
- Testified in front of the Utah Public Service Commission in regards to PacifiCorp's Utah General Rate Case Docket # 010-035-010
- Submitted an expert report in August 2002 in the United States District Court for the Middle District of North Carolina in the Civil Action No. 1:00 CV 1262, United States v. Duke Energy Corporation. The case concerned compliance with the 1977 Clean Air Act and the report concerned generation resource planning and production cost modeling issues.
- Provided general rate case assistance in other hearings in Oregon, Washington and Wyoming
- Modeled the Singapore Power Electricity System and analyzed the benefits of dispatching a new oil-fired unit within the system.
- Modeled the Australian National Energy Market to develop market based energy price forecasts on behalf of an Independent Power Producer in Australia
- Analyzed the benefit of purchasing existing gas-fired steam turbine units within the Australian market
- Developed market price forecasts for South Australia as part of the evaluation of a new gas fired combined cycle unit
- Modeled the Vietnam Electricity System as part of a project to develop Least Cost Expansion plans for Vietnam
- Assisted in the evaluation of a large gas-fired combined cycle plant in Vietnam
- Assisted in the development of Market Price Forecasts in several regions of the US. These forecasts were used as the basis for stranded cost estimates, which were filed in testimony in a number of jurisdictions across the country.

## **QUALIFICATIONS OF PHILIP HAYET**

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- Helped to analyze the rate structure and develop an electricity price forecast for the Metropolitan Atlanta Rapid Transit Authority (MARTA) in Atlanta, Georgia
- Testified regarding the reasonableness of PacifiCorp's determination of Net Power Cost as part of a rate case proceeding in Utah
- Provided rate case support opposing PacifiCorp's rate increases in both Oregon and Washington State. Performed alternative power cost modeling using software simulations
- Critiqued the IRP filings of 5 utilities in South Carolina on behalf of the South Carolina State Energy Office
- Conducted research regarding ISO Tariffs and Operations for the PJM Power Pool, the California ISO, and the Midwest ISO on behalf of a Japanese Research.
- Performed research on numerous electric utility issues for 3 Japanese research organizations. This was primarily related to deregulation issues in the US in anticipation of deregulation being introduced in Japan.

**1991 to EDS Utilities Division, Atlanta, GA**  
**1996: Lead Consultant, PROSCREEN (Now STRATEGIST) Department**

- Managed a client services software team that supported approximately 75 users of the STRATEGIST electric utility strategic planning software.
- Participated in the development of STRATEGIST's competitive market modeling features and the Network Economy Interchange Module
- Provided client management direction and support, and developed new consulting business opportunities.
- Performed system planning consulting studies including integrated resource planning, DSM analysis, marketing profitability studies, optimal reserve margin analyses, etc.
- Based on experience with PROMOD IV, converted numerous PROMOD IV databases to STRATEGIST, and performed benchmark analyses of the two models.

**1988 to Energy Management Associates (EMA), Atlanta, GA**  
**1991: Manager, Production Analysis Department**

- Served as Project Manager of a database modeling effort to create an integrated utility operations and generation planning database. Database items were automatically fed into PROMOD IV.
- Supervised and directed a staff of five software developers working with a 4GL database programming language.

## **QUALIFICATIONS OF PHILIP HAYET**

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- Interfaced with clients to determine system software specifications, and provide ongoing client training and support

**1980 to**            **Energy Management Associates (EMA), Atlanta, GA**  
**1988:**            **Senior Consultant, PROMOD IV Department**

- Provided client service support to EMA's base of over 70 electric utility customers using the PROMOD IV probabilistic production cost simulation software.
- Provided consulting services in a number of areas including generation resource planning, regulatory support, and benchmarking.

## **PUBLICATIONS**

**Authored** "The Developing Vietnamese Power System", which will appear in an upcoming addition of Power Value Magazine

**Co-Authored** "The European Electricity Market", which appeared in the June 2000 edition of Hart's Energy Markets

**Authored** "Singapore's Developing Power Market", which appeared in the July/August 1999 edition of Power Value Magazine

**Co-authored** "The New Energy Services Industry – Part 1", which appeared in the January/February 1999 edition of Power Value Magazine.

**Co-authored and Presented** "Evaluation of a Large Number of Demand-Side Measures in the IRP Process: Florida Power Corporation's Experience", Presented at the 3rd International Energy and DSM Conference, Vancouver British Columbia, November 1994

**Co-authored** "Impact of DSM Program on Delmarva's Integrated Resource Plan", Published in the 4th International Energy and DSM Conference Proceedings, held in Berlin, Germany, 1995

## **TESTIMONY AND EXPERT WITNESS APPEARANCES**

Filed Direct testimony June 2014 at the Utah Public Service Commission concerning PacifiCorp's 2014 General Rate Case (Docket 13-035-184).



## **QUALIFICATIONS OF PHILIP HAYET**

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Filed Direct Testimony (October 2013) at the Kentucky Public Service Commission regarding Big River's base rate case request (Case No. 2013-00199) on behalf of the Kentucky Industrial Utility Customers, Inc.

Filed Direct testimony (August 2013) at the Georgia Public Service Commission concerning Georgia Power's Eighth Semi-Annual Vogtle Construction Monitoring Report (Docket 29849-U).

Filed Direct Testimony (July 2013) at the Louisiana Public Service Commission regarding Entergy's request for certification of a 8.5 MW PPA for renewable energy capacity (Agrilectric rice hull) in accordance with the LPSC's Renewable Energy Pilot (Docket U-32785), on behalf of the Louisiana Public Service Commission Staff.

Filed Direct testimony May 2013 at the Georgia Public Service Commission concerning Georgia Power's 2013 IRP and its request to decertify over 2,000 MW of coal-fired capacity (Docket No. 36498).

Filed Direct Testimony (April 2013) at the Kentucky Public Service Commission regarding Kentucky Power Company's Mitchell Certificate of Public Convenience and Necessity filing (Case No. 2012-00578) on behalf of the Kentucky Industrial Utility Customers, Inc.

Filed Cross Answering Testimony (March 2013) at FERC regarding the Louisiana Public Service Commission's harm calculation stemming from Entergy's violation of its System Agreement (Docket No. EL09-61-002), on behalf of the Louisiana Public Service Commission.

Filed Direct testimony December 2012 at the Georgia Public Service Commission concerning Georgia Power's Seventh Semi-Annual Vogtle Construction Monitoring Report (Docket 29849-U).

Filed Direct Testimony (December 2012) in Entergy's retail proceeding at the LPSC regarding termination of Cross-PPAs (Docket No. U-29764).

Filed Direct Testimony (December 2012) regarding Entergy's request for certification of a 28 MW PPA for renewable energy capacity (RAIN waste heat) in accordance with the LPSC's Renewable Energy Pilot (Docket U-32557).

Filed Direct Testimony (December 2012) at FERC regarding the Louisiana Public Service Commission's harm calculation stemming from Entergy's violation of its System Agreement (Docket No. EL09-61-002), on behalf of the Louisiana Public Service Commission.

Filed Direct Testimony (September 2012) regarding Dixie Electric Member Cooperative's Ten year Power Supply Agreement U-32275.

Filed Direct Testimony July 2012 at the Kentucky Public Service Commission regarding Big Rivers Certification to perform environmental upgrades in compliance with MATS and CSAPR EPA regulations. (Case No. 2012-00063).

## **QUALIFICATIONS OF PHILIP HAYET**

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Filed Direct testimony May 2012 at the Georgia Public Service Commission concerning Georgia Power's Sixth Semi-Annual Vogtle Construction Monitoring Report (Docket 29849-U).

Filed Direct Testimony (May 2012) at the Georgia Public Service Commission concerning Georgia Power's Fuel Cost Recovery Filing (FCR-23 - Docket 35277).

Filed Direct Testimony (March 2012) regarding Entergy's change of control filing to move to the Midwest ISO in LPSC Docket 32148.

Submitted Direct testimony November 2011 at the Georgia Public Service Commission concerning Georgia Power's request to decertify two aging coal units, to acquire PPA resources, and to have approved its IRP Update, on behalf of the Georgia Public Service Commission Staff (Docket 34218).

Submitted Direct testimony November 2011 at the Georgia Public Service Commission concerning Georgia Power's request to certify the reacquisition of wholesale block capacity, on behalf of the Georgia Public Service Commission Staff (Docket 26550).

Filed Direct Testimony (September 2011) in support of a settlement agreement at the Louisiana Public Service Commission regarding the reasonableness of Cleco's CCPN to upgrade its Madison 3 coal unit to accommodate biomass fuel in accordance with the LPSC's Renewable Energy Pilot in Docket U-31792.

Submitted an Initial and Rebuttal Expert Report (April and June 2011, respectively), on behalf of the Department of Justice in US District Court, Civil Action No. 2:10-cv-13101-BAF-RSW.

Filed Direct testimony June 2011 at the Georgia Public Service Commission concerning Georgia Power's Fourth Semi-Annual Vogtle Construction Monitoring Report Period Ending December 31, 2011 (Docket 29849-U).

Filed Direct testimony April 2011 at the Georgia Public Service Commission concerning Georgia Power's Fuel Cost Recovery Filing (FCR-22) (Docket 33302).

Filed direct testimony (January 2011) and Cross Answering Testimony (February 2011) at FERC regarding the reasonableness of Entergy's 2009 production costs that were used to develop bandwidth payments in Docket ER09-1350.

Filed direct testimony December 2010 at the Georgia Public Service Commission concerning Georgia Power's Third Semi-Annual Vogtle Construction Monitoring Report Period Ended June 30, 2010 (Docket 29849-U)

Filed direct testimony June 2010 at the Georgia Public Service Commission concerning Georgia Power's Second Semi-Annual Vogtle Construction Monitoring Report Period Ended December 31, 2009 (Docket 29849-U)

Testified at FERC in 2010 regarding an LPSC complaint that Entergy violated provisions of its System Agreement related to individual operating company sales in FERC Docket EL09-61.

Filed direct testimony January 2010 at the Georgia Public Service Commission concerning

## **QUALIFICATIONS OF PHILIP HAYET**

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Georgia Power's Fuel Cost Recovery Filing in Docket No. 28945.

Filed testimony at FERC December 2009 regarding the reasonableness of Entergy's 2008 production costs that were used to develop bandwidth payments in Docket ER08-1224.

Filed Direct testimony December 2009 at the Georgia Public Service Commission concerning Georgia Power's First Semi-Annual Vogtle Construction Monitoring Report Period Ended June 30, 2009 (Docket 29849-U)

Filed Direct and Surrebuttal testimony in September and October 2009, respectively at the Utah Public Service Commission concerning PacifiCorp's 2009 Rate Case with regard to net power costs (Docket 09-035-23)

Filed testimony at the Public Utilities Commission of the State of Colorado, in October 2009 concerning Black Hills/Colorado's CPCN application to construct two LMS 100 natural gas combustion turbine units. Docket No. 09A-415E

Testified in front of the Minnesota Public Service Commission, September 2009 concerning Minnesota Power's Request for Approval to Purchase Square Butte's 500 kV DC transmission line, and to restructure a coal based power purchase agreement. MPUC Docket No. E015/PA-09-526

Filed testimony on behalf of the LPSC Staff in July 2009, concerning SWEPCO and CLECO's application to acquire the Oxbow Mine to supply the Dolet Hills Power Station in LPSC Docket No.U-30975.

Testified at FERC in July 2009, concerning the Louisiana Public Service Commission's complaint regarding Entergy's 2007 rough production cost equalization compliance filing in the System Agreement Case in FERC Docket No. ER08-1056.

Filed Testimony December 2008 at the Georgia Public Service Commission concerning Georgia Power's Certification request for the Vogtle 3 and 4 Nuclear units (Docket 27800)

Filed Testimony November 2008 at the West Virginia Public Service Commission concerning their fuel cost recovery filing (Docket 08-15-11-E-61)

Testified in front of the Wisconsin Public Service Commission in September 2008 regarding WPL's certification proceeding concerning the Nelson Dewey CFB coal-fired generating unit. (6680-CE-170).

Testified at FERC in July 2008, concerning the Louisiana Public Service Commission's complaint regarding Entergy's 2006 rough production cost equalization compliance filing in the System Agreement Case in FERC Docket No. ER07-956.

Testified in front of the Wisconsin Public Service Commission in 2008 regarding WEPCO's request to implement environmental upgrades at its Oak Creek Power Plant in Docket 6630-CE-299.

Filed direct testimony April 2008 at the Georgia Public Service Commission concerning Georgia

## **QUALIFICATIONS OF PHILIP HAYET**

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Power's Fuel Cost Recovery Filing in Docket No. 26794 (FCR-20).

Testified in October 2007 in front of the Louisiana Public Service Commission regarding ClecoPower's 2008 Short Term RFP in Docket No.U-30334.

Testified in June 2007 in front of the Georgia Public Service Commission regarding Georgia Power's 2007 Integrated Resource Planning Study.

Testified on behalf of the Georgia Public Service Commission Staff.in Docket No. 24505-U.

Filed testimony in Apr 2007 regarding the reasonableness of PacifiCorp's determination of Utah jurisdictional Net Power Costs in PacifiCorp's General Rate Case Docket 07-035-93.

Testified in January 2007 in front of the Georgia Public Service Commission concerning Georgia Power's November 2006 fuel Cost Recovery Filing in Docket No. 23540-U.

Testified in November 2006 in front of the Louisiana Public Service Commission concerning transmission issues associated with the audit of Entergy Louisiana's Fuel Adjustment Clause Filings (Docket U-25116).

Filed Testimony in August 2006 in front of the Louisiana Public Service Commission concerning jurisdictional separation of EntergyGulf States in Docket No. U-21453

Testified in May 2006 in front of the Georgia Public Service Commission regarding Georgia Power and Savannah Electric's March 2006 Fuel Cost Recovery filing (Docket 22403-U).

Testified in Apr 2006 in front of the Utah Public Service Commission regarding PacifiCorp Certification request to expand the Blundell Geothermal Power Station (Docket -05-035-54). Related to Mid-American Energy Holding's Acquisition of PacifiCorp.

Filed Testimony in July 2005 regarding PacifiCorp's Avoided Cost proceeding (03-035-14).

Filed Testimony in December 2005 regarding the reasonableness of PacifiCorp's determination of Utah jurisdictional Net Power Costs in PacifiCorp's General Rate Case (Docket 04-035-42).

Testified in March 2005 in front of the Utah Public Service Commission regarding whether the Stipulation that had previously been agreed to concerning PacifiCorp's Schedule 38 avoided cost tariff was still valid for the remaining unsubscribed capacity available under the Stipulation's cap.

Testified in November 2004 in front of the Utah Public Service Commission regarding an industrial customer's request for both a special economic development tariff and a large QF tariff. Testimony was provided on behalf of the Utah Committee of Consumer Services in Docket No. 03-035-19 (Special Contract) and No. 03-035-38 (QF proceeding).

Testified in August 2004 in front of FERC on behalf of the Louisiana Public Service Commission concerning a complaint that had been filed against Entergy concerning a series of affiliate power purchase agreements FERC Docket ER03-583-000.

Testified in June 2004 in front of the Georgia Public Service Commission regarding Georgia

## **QUALIFICATIONS OF PHILIP HAYET**

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Power and Savannah Electric's 2004 Integrated Resource Planning Studies. Testimony was provided on behalf of the Georgia Public Service Commission Staff. Georgia Docket Nos. 17687 and 17688.

Testified in May 2004 in front of the Utah Public Service Commission concerning the development of a large QF avoided cost methodology. Testimony was provided on behalf of the Utah Committee of Consumer Services in Docket 03-035-14.

Testified in July 2003 in front of FERC in support of the Louisiana Public Service Commission's complaint regarding cost allocation issues amongst the Entergy Operating Companies in the FERC Docket Number EL01-88-000.

Submitted an expert report in August 2002 in the United States District Court for the Middle District of North Carolina in the Civil Action No. 1:00 CV 1262, United States v. Duke Energy Corporation.

Testified in July 2002 on behalf of the Utah committee for consumer services regarding a special contract for an industrial consumer in support of a settlement agreement in a PacifiCorp Utah proceeding in Docket Number 02-035-02.

Provided testimony in the Fall of 2001 in front of FERC on behalf of the Louisiana Public Service Commission's intervention in Entergy's proposed System Agreement modifications in the FERC Docket No. ER00-2854-000.

Testified in July 2001 regarding the reasonableness of PacifiCorp's determination of Utah jurisdictional Net Power Costs in PacifiCorp's General Rate Case Docket 01-035-01

Testified in September 1998 regarding the reasonableness of PacifiCorp's determination of Utah jurisdictional Net Power Costs as part of a Settlement Proceeding in Pacificorp's rate case Docket Number 97-035-01.