

21 West Church Street
Jacksonville, Florida 32202-3139

August 17, 2018



Via E-mail
Via First Class Mail

Mr. James E. Fuller
President and Chief Executive Officer
MEAG Power
1470 Riveredge Parkway, N.W.
Atlanta, GA 30328-4640

E L E C T R I C

W A T E R

S E W E R

Re: Amended and Restated Power Purchase Agreement Between
MEAG and JEA – *Plant Vogtle Additional Units PPA*
Project (Project J)

Dear Mr. Fuller:

It was nice to briefly meet you at the LPPC event in Asheville recently. I regret that we did not speak at length. The meeting took place very early in my tenure as interim CEO of JEA. I was still working to understand the history of interactions between MEAG and JEA in order to provide better context to our long standing corporate relationship and in specific our relationship related to Plant Vogtle. I wish our first substantive interaction was under better circumstances. As you are aware, JEA and Municipal Electric Authority of Georgia (“MEAG”) are parties to an Amended and Restated Power Purchase Agreement (“PPA”) relating to Plant Vogtle Units 3 & 4 (“Additional Units”). After my thorough review of all relevant documents and correspondence it is readily apparent that MEAG and JEA have a starkly different understanding of our joint business and legal relationship as well as the fundamental viability of the Additional Units at Plant Vogtle.

The addition of these Additional Units at Plant Vogtle is the only remaining nuclear project under construction in the United States. Industry experts, analysts and the Georgia Public Service Commission’s own staff have all concluded that continued construction and operation of these nuclear facilities is no longer economically feasible. The most recent report by Georgia Power of an additional **\$2.3 Billion** cost overrun, just a few short months after the project owners proclaimed confidence in the cost-to-completion estimates provided in testimony before the Georgia PSC, underscores what JEA, the experts and

analysts concluded long ago. To summarize, in 2008 the project was expected to be a \$9.5 billion project with a guaranteed maximum price ("GMP") of \$14.5 billion and an expected service date of 2016. The GMP was in effect until Westinghouse's bankruptcy in March 2017, just over a year ago, and now the project budget stands at \$27.5 billion with a questionable service date of 2021. At a number of points in the past year, JEA has requested, without success, that MEAG take action to safeguard the financial interests of JEA, MEAG's constituent's and Power South. Regardless of our past differences of opinion about whether the project should be abandoned, it now is beyond reasonable debate that prudent utility practices and the interests of ratepayers require that MEAG and the other owners of the Additional Units vote no on continuing construction of the Additional Units.

Based upon MEAG's EMMA filing dated August 8, 2018, "the holders of at least 90% of the ownership interests in Vogtle Units 3&4 must vote to continue construction. The co-owners are expected to conduct these votes in the third quarter of 2018, and each of GPC, OPC and MEAG Power, acting through the Vogtle Units 3&4 Project Entities, will have to affirmatively vote to continue construction. If the co-owners vote to move forward, they will also approve a revised project budget." As you evaluate this decision on whether to proceed with construction of these two economically obsolete Additional Units, please note it is JEA's position that continuation would violate MEAG's obligations and common law duties owed to JEA, other participants and ratepayers. Any vote to continue this project ignores well-documented facts and is contrary not only to the interests of JEA and its constituents, but also to the interests of MEAG's own constituents and their ratepayers. Furthermore, I trust MEAG, MEAG's Board members and you as MEAG's Chief Executive Officer will use good business judgement when deciding how to proceed and/or vote as you, collectively and individually, stand as the fiduciaries of JEA's capital vis-a-vis our PPA relationship and MEAG's ability to solely direct the project.

A decision to continue cannot be justified on any rational basis. The latest cost overruns add an estimated \$10 Million annual PPA expense to JEA's ratepayers that can be replaced at a fraction of the cost for power that may never be produced. Continuing to saddle ratepayers with more debt for a project that will be subsidized by the government or the project's owners for years to come if it ever achieves COD, or worse, a project that will have to be abandoned before completion after even greater sums are invested, is inconsistent with prudent utility practices.

When JEA entered into the PPA, it justifiably relied on representations from MEAG including assurances that MEAG would not elevate its interests, or the interests of its participating members, above JEA's interests. (PPA §1014). It is not in JEA's interests for construction of the Additional Units to continue. JEA trusts that MEAG will run appropriate economic models and analysis with the

latest cost projections and come to the same conclusion as JEA. Attached is a third-party independent economic analysis that was prepared for JEA in September of 2017. The latest cost projections confirm the conclusions of this analysis and make the case even stronger for a “no vote” on continuing construction. JEA requests a copy of all MEAG analyses and models during the last two years, including current analyses in light of the recently announced cost overruns.

If MEAG and 90% of the ownership interest affirmatively vote to continue with the construction of these Additional Units, JEA will demand that MEAG work cooperatively to address the changed circumstances on behalf of JEA’s ratepayers and develop a commercially reasonable solution. Some of the ideas that should be explored are an assignment, either partial or in whole, of the PPA to MEAG, MEAG cities or other interested party, reevaluation of the payment schedule based upon longer useful life cycle of the Additional Units (60 years instead of 40 years) and modifications to the PPA that would provide parity to JEA with other participating members. Any solution must provide for more equitable treatment of JEA as compared to the MEAG city members.


JEA has, in the past, requested a significant amount of documentation, financial data and project audit information only to be rebuffed by MEAG staff and been told that JEA had been provided with all relevant information. Please take specific notice to the audit rights and cooperation provisions of the PPA (§310 and §1015). JEA respectfully requests the following project related documents be made available for review: all project documents, including, but not limited to, all correspondence, financial reports, analysis, projection forecasts, models and a copy of MEAG’s Directors and Officers (D&O) liability insurance policy that includes the limits of available coverage. This request includes all project documents, minutes, agenda items and presentations provided to the MEAG Board or to the other Project participants – Project M, Project J – 39 Participants and Project P.

For all of the foregoing reasons, JEA demands MEAG vote not to continue the project. If MEAG votes to continue this project over JEA’s objections, MEAG will have failed to meet its obligations under the PPA. In that event, this letter constitutes (1) written notice to MEAG pursuant to §310 of the PPA, of JEA’s demand to examine the records of MEAG beginning promptly, and (2) a demand by JEA for and immediate meeting with MEAG to discuss terms for JEA’s exit from the PPA and substitution of MEAG or its designee for JEA. If MEAG refuses to immediately produce all of the documents requested from it by JEA, and refuses to meet with and reach a commercial solution with JEA, JEA reserves the right to pursue all of the remedies available to it under the law and the applicable agreements.

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Please provide response to this letter within five business days of receipt and indicate MEAG's: (1) position on continuing construction of the Plant Vogtle Additional Units; (2) process and timeline on the vote to continue the project; (3) willingness to work with JEA to find a commercial solution in the event of a vote to continue; (4) intention to comply with its obligations under the PPA to provide the requested documentation; and (5) proposed management plans and internal procedures MEAG intends to employ in light of its fiduciary obligations to JEA and ratepayers.

Sincerely,



Aaron Zahn, Interim Managing Director and CEO

Cc: MEAG Board of Directors
Peter M. Degnan, Esq., MEAG Senior VP & General Counsel
Carl F. Lyon, Esq.
Hon. Lenny Curry, Mayor, City of Jacksonville
Jacksonville City Council
JEA Board of Directors
G. Alan Howard, Esq., Chair, JEA
Allen Maines, Esq.



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Prepared at the Request of Counsel
DRAFT – 9/12/17

CONFIDENTIAL EXECUTIVE SUMMARY

Independent Economic Analysis: Cost Comparison of Vogtle 3&4 Costs Under JEA's Power Purchase Agreement vs. Alternative Generation Resources

Bottom-Line

Navigant evaluated the economics from JEA's perspective of construction activities at Vogtle 3&4 being terminated on January 1, 2018 ("No Go" scenario) relative to completion of the plant using the latest cost-to-complete estimate ("Go" scenario). Based on this preliminary evaluation:

- Under the cases evaluated thus far, cancellation of Vogtle 3&4 is less costly to JEA than completing the facility. The savings to JEA under the No Go scenario range from \$345 million to \$727 million (2017 present value).
- The No Go scenario is 15% to 32% less expensive in terms of JEA's cost per MWh (based on levelized nominal costs over 20 years). The projected levelized JEA cost for the Vogtle 3&4 capacity and energy in the Go scenario – including all costs incurred to date for Vogtle 3&4 (the Sunk Costs), all costs to complete the project, and reducing the cost by expected payments from the Toshiba settlement (the Toshiba Payments) – is \$119/MWh, while the projected JEA levelized cost for an equivalent amount of capacity and energy under the No Go scenario – including Sunk Costs and the Toshiba Payments – ranges from \$81 to \$101/MWh.

The "Go" analysis is based on the revised P80 schedule and cost-to-complete estimates for Vogtle 3&4 provided by MEAG. For a variety of reasons, the project has not met prior cost and schedule estimates.¹

Background

JEA has a 20-year, long-term off-take power purchase agreement (PPA) with the Municipal Electric Authority of Georgia (MEAG) for 206 MW of the electric output from Vogtle 3&4 over the first 20 years of the plants' operation. Under the PPA, JEA pays a share of the Vogtle 3&4 capital and operating costs during this period. Following the bankruptcy of Westinghouse Electric Company, the EPC contractor for Vogtle 3&4, JEA and other stakeholders (including Georgia Power Company (GPC) and MEAG) have been evaluating the expected cost of completion of Vogtle 3&4.

JEA, though its counsel, Gibson Dunn & Crutcher, retained Navigant to undertake an evaluation of JEA's expected costs assuming completion of Vogtle 3&4 as compared to alternative options for the supply of an equivalent amount of power. Navigant has completed a preliminary analysis. This Executive Summary describes the analytical assumptions, the sources of data relied upon and the preliminary results. The Navigant analysis covers the period from 2018 through 2042 (the end of the 20-year PPA in

¹ The revised overnight cost-to-complete Vogtle 3&4 is approximately twice the original estimate, and the revised construction schedule is approximately twice as long.

the P80 case). Other than for the assumed cost of replacement power in the No Go scenario, Navigant has largely relied on projected Vogtle 3&4 capital and operating costs provided by MEAG to JEA.

Scenarios Examined

"Go" Scenario. Vogtle 3&4 are completed and placed in service in January 2022 and January 2023, respectively, at a total incremental cost to complete of \$9.6 billion (including 100% of all parties' obligations). This is in addition to the more than \$15 billion of Sunk Costs (including interest through the in-service date) already incurred on the Vogtle 3&4 project. This is the "P80" scenario, which represents a 29-month delay in Vogtle 3&4 in-service dates from the prior (January 2017) estimate. MEAG provided JEA with the additional costs that JEA would incur under this P80 cost to complete, net of the expected proceeds from the Toshiba settlement. The P80 cost-to-complete was combined with the MEAG projection of JEA costs under the January 2017 Vogtle cost estimate to yield the total capital revenue requirement, including all Sunk Costs.

"No Go" Scenario. The No Go Scenario assumes that construction activities at Vogtle 3&4 are terminated on January 1, 2018. MEAG provided JEA with a projection of the annual debt service for the recovery of Vogtle 3&4 capital that JEA would incur under this scenario for all Sunk Costs incurred prior to the halt of construction, including expected payments from the Toshiba settlement that would be prepaid to the Department of Energy (DOE) under the Loan Guarantee Agreement, and an estimated \$732 million lump sum true-up payment that JEA would receive from MEAG in 2035 to reflect overpayment by JEA during the term of the PPA, due primarily to prepayment of the DOE loan using expected payments from the Toshiba settlement.

Analysis – Results and Observations

The analytical results are summarized in Table 1, which shows the Present Value (PV) of the JEA revenue requirements under the Go and No Go scenarios, as well as the Levelized Nominal \$/MWh of all costs, including Sunk Costs.² The first panel focuses on Vogtle 3&4 capital, operating and associated costs. The second panel focuses on replacement power costs under the No Go Scenario under various sensitivity cases, which are added to the Sunk Costs to provide the total cost for the No Go Scenario. The bottom panel summarizes the total present value of the Go vs. No Go case under the various replacement power sensitivity cases.

² An inflation rate of 2% is assumed. The discount rate applied is 4%, equivalent to JEA's debt rate. The levelized MWh is the cost in nominal dollars per MWh of the Vogtle 3&4 capacity and energy or its replacement, including all Sunk Costs. See Table for the equivalent cost in levelized 2017 real (i.e., net of inflation) dollars per MWh.

Table 1: JEA Revenue Requirement under the Go and No Go Scenarios

	PV (2017 M\$)			Level Nominal \$/MWh		
	Go	No Go	Change	Go	No Go	Change
Vogtle Capital, net of Toshiba Settlement	\$1,404	\$657	(\$747)	\$74	\$35	(\$39)
Vogtle Operating Costs	\$853	\$0	(\$853)	\$45	\$0	(\$45)
Termination Payments	\$0	\$32	\$32	\$0	\$2	\$2
Subtotal	\$2,257	\$689	(\$1,568)	\$119	\$36	(\$83)
Replacement Power Costs by Case						
Market Case	\$0	\$841	\$841	\$0	\$44	\$44
NCI Base Georgia	\$0	\$1,223	\$1,223	\$0	\$64	\$64
NCI Base Florida JEA	\$0	\$1,135	\$1,135	\$0	\$60	\$60
NCI Base, Florida JEA, NYMEX Hedge	\$0	\$1,009	\$1,009	\$0	\$53	\$53
NCI Base F-Class Toll, Florida JEA, NYMEX Hedge	\$0	\$1,006	\$1,006	\$0	\$53	\$53
Total by Case						
Market Case	\$2,257	\$1,530	(\$727)	\$119	\$81	(\$38)
NCI Base Georgia	\$2,257	\$1,912	(\$345)	\$119	\$101	(\$18)
NCI Base Florida JEA	\$2,257	\$1,824	(\$433)	\$119	\$96	(\$23)
NCI Base, Florida JEA, NYMEX Hedge	\$2,257	\$1,698	(\$559)	\$119	\$89	(\$29)
NCI Base F-Class Toll, Florida JEA, NYMEX Hedge	\$2,257	\$1,695	(\$562)	\$119	\$89	(\$30)

Each category in Table 1 is explained in further detail below:

Vogtle Capital Cost, net of Toshiba Settlement. As shown, there is an estimated \$747 million savings to JEA in the No Go case in capital cost recovery if Vogtle 3&4 is cancelled, using the capital and Toshiba settlement assumptions provided by MEAG discussed above.³

Vogtle Operating Costs. In the Go scenario, JEA is projected to pay Vogtle operating costs (O&M, fuel and capital additions) of \$853 million (present value), or about \$45/MWh levelized (nominal\$).⁴ These costs are avoided in the No Go scenario. Again, these are based on assumptions provided by MEAG.

Termination Costs. In the No Go scenario, MEAG estimated JEA would incur termination costs of \$32 million (present value) if Vogtle 3&4's construction activities are terminated on January 1, 2018. These costs would not be incurred in the Go scenario.

The above categories total to a positive benefit to JEA for the No Go Scenario, before consideration of replacement power, of \$1,568 million (present value), or \$83/MWh levelized (nominal\$).

Replacement Power Costs. In the No Go scenario, JEA would need to replace the 206 MW of power provided by Vogtle 3&4 over the 20-year term of the PPA. Navigant examined a range of cases as described below. The key components of the replacement power cost forecast are natural gas prices; the heat rate for market purchases, and capacity prices. As shown, these forecasts yield a preliminary estimated cost for Vogtle 3&4 replacement power (capacity and energy) of between \$44 and \$64/MWh levelized (nominal\$).

³ Using some simplifying assumptions, the Toshiba Settlement is estimated to have reduced the JEA share of the Vogtle capital cost in the Go Scenario by \$267 million (present value), or about \$14/MWh (nominal\$), including the impact on capitalized interest on new debt. A similar settlement amount is reflected in the No Go Scenario.

⁴ For purposes of this analysis, the projected Vogtle operating costs estimated by GPC and provided to JEA by MEAG in January 2017 for Vogtle 3&4 in-service years of 2019/2020 were simply shifted two years later. These costs conservatively were not escalated for two years of inflation from the original estimate. Updated MEAG forecasts using the P80 forecast are under development by MEAG and may modify these figures.

1. Market Case. Replacement power costs are projected based upon recent purchase power offers to JEA for energy and capacity, with energy prices increasing at 1% above inflation and capacity prices increasing at inflation in the out years. This yields a levelized cost for capacity and energy of \$44/MWh over the 2022-2042 period.
2. Navigant Base Case (Georgia Market Prices). Replacement power costs are based on Navigant's forecast for natural gas, capacity, and energy market prices in Georgia, yielding a levelized cost for capacity and energy of \$64/MWh over the 2022-2042 period.
3. Navigant Base Case Alternative (FRCC Market Prices). Replacement power cost are based on Navigant's forecast for natural gas, capacity, and energy market prices in the FRCC yielding a levelized cost for capacity and energy of \$60/MWh over the 2022-2042 period.
4. NYMEX Gas Price Hedge + FRCC Market Prices. This forecast is based on gas prices hedged against the NYMEX index through 2029, reverting to Navigant's FRCC market price forecast thereafter. This yields a levelized cost for capacity and energy of \$53/MWh over the 2022-2042 period. The use of a hedge against the NYMEX index reduces gas prices, and creates a lower forecast cost for replacement power, but in practice the hedge may not be available for that length of time.⁵
5. NYMEX Gas Price Hedge + Tolling Agreement for New Combined Cycle Plant + FRCC Market Prices. This forecast is based on gas prices hedged against the NYMEX index through 2029, reverting to Navigant's FRCC forecast thereafter, with the market heat rate based on a new combined-cycle plant, yielding a \$53/MWh cost over the 2022-2042 period.

Preliminary Findings

- Across all of the replacement power sensitivity cases, cancellation of Vogtle 3&4 is less costly to JEA than completion of the facility. The present value of savings under the No Go scenario ranges from \$345 million to \$727 million.
- As compared to a forecasted all-in levelized cost under the Go scenario, the No Go scenario is 15% to 32% less expensive in terms of levelized nominal \$/MWh. The forecasted levelized cost under the Go scenario, including all Sunk Costs and the cost to complete, offset by the Toshiba Payments, is \$119/MWh (nominal\$). The forecasted levelized costs under No Go scenario range, including all Sunk Costs, from \$81 to \$101/MWh (nominal\$).
- A Production Tax Credit (PTC) may apply to the Vogtle 3&4 plants if supporting legislation is enacted to extend the date in which Vogtle 3&4 must be in service to qualify for the credit and JEA is able to recover the tax credits with respect to the tax-exempt MEAG Project J.⁶ If so, the JEA costs in the Go Scenario would decrease by \$85 million (present value), or about \$4.5/MWh (nominal\$), which would still result in the cancellation of Vogtle 3&4 being significantly less costly to JEA.
- Even these differences understate what a fully risk-adjusted analysis may indicate. Based on the history of the Vogtle 3&4 project, there are potential risks associated with completing the project. In particular, the Go scenario does not account for risks such as:

⁵ To address this issue, 75% of the gas is assumed to be hedged through 2023, declining to 50% for 2025-2029.

⁶ The credit for MEAG Project J would be \$18/MWh for the first 8-years of Vogtle 3&4 operation, and the MEAG Project J share would be split 50/50 between JEA and MEAG. The PTC would not apply in the No Go scenario.

- o Further cost increases or construction delays for the first-of-its-kind Vogtle 3&4 beyond those incorporated in the P80 case.
- o Availability of the PTC and ability to recover the tax credits for MEAG Project J
- o NRC approvals/inspections/costs/time for first-of-a-kind NRC inspection and approval process
- There also are risks around the replacement power forecast in the No Go scenario. While the No Go scenario eliminates the significant construction/cost risk related to Vogtle, there is some uncertainty around the replacement power forecasts which are driven by gas prices over the 20-year period, environmental regulations, future technological advancement, and potentially carbon prices.

Additional Calculations

Table 1a below is a duplicate of Table 1, but also includes Levelized \$2017/MWh.

**Table 1a: JEA Revenue Requirement under the Go and No Go Scenarios
including Level 2017 and Level Nominal \$/MWh**

	PV (2017 M\$)			Level 2017 \$/MWh			Level Nominal \$/MWh		
	Go	No Go	Change	Go	No Go	Change	Go	No Go	Change
Vogtle Capital, net of Toshiba Settlement	\$1,404	\$657	(\$747)	\$57	\$30	(\$27)	\$74	\$35	(\$39)
Vogtle Operating Costs	\$853	\$0	(\$853)	\$34	\$0	(\$34)	\$45	\$0	(\$45)
Termination Payments	\$0	\$32	\$32	\$0	\$1	\$1	\$0	\$2	\$2
Subtotal	\$2,257	\$689	(\$1,568)	\$91	\$31	(\$60)	\$119	\$36	(\$83)
Replacement Power Costs by Case									
Market Case	\$0	\$841	\$841	\$0	\$34	\$34	\$0	\$44	\$44
NCI Base Georgia	\$0	\$1,223	\$1,223	\$0	\$49	\$49	\$0	\$64	\$64
NCI Base Florida JEA	\$0	\$1,135	\$1,135	\$0	\$46	\$46	\$0	\$60	\$60
NCI Base, Florida JEA, NYMEX Hedge	\$0	\$1,009	\$1,009	\$0	\$41	\$41	\$0	\$53	\$53
NCI Base F-Class Toll, Florida JEA, NYMEX Hedge	\$0	\$1,006	\$1,006	\$0	\$41	\$41	\$0	\$53	\$53
Total by Case									
Market Case	\$2,257	\$1,530	(\$727)	\$91	\$65	(\$26)	\$119	\$81	(\$38)
NCI Base Georgia	\$2,257	\$1,912	(\$345)	\$91	\$81	(\$10)	\$119	\$101	(\$18)
NCI Base Florida JEA	\$2,257	\$1,824	(\$433)	\$91	\$77	(\$14)	\$119	\$96	(\$23)
NCI Base, Florida JEA, NYMEX Hedge	\$2,257	\$1,698	(\$559)	\$91	\$72	(\$19)	\$119	\$89	(\$29)
NCI Base F-Class Toll, Florida JEA, NYMEX Hedge	\$2,257	\$1,695	(\$562)	\$91	\$72	(\$19)	\$119	\$89	(\$30)