

State of Florida



# Public Service Commission

CAPITAL CIRCLE OFFICE CENTER • 2540 SHUMARD OAK BOULEVARD  
TALLAHASSEE, FLORIDA 32399-0850

## -M-E-M-O-R-A-N-D-U-M-

**DATE:** November 17, 2009

**TO:** Office of Commission Clerk (Cole)

**FROM:** Division of Regulatory Analysis (Brown)  
Division of Economic Regulation (Lee)  
Office of the General Counsel (Brubaker)

*SAB*  
*JTB*  
*DLT*  
*RLT*  
*JB*

**RE:** Docket No. 090372-EQ – Petition for approval of negotiated purchase power contract with FB Energy, LLC by Progress Energy Florida.

**AGENDA:** 12/1/09 – Regular Agenda – Proposed Agency Action – Interested Persons May Participate

**COMMISSIONERS ASSIGNED:** All Commissioners

**PREHEARING OFFICER:** Administrative

**CRITICAL DATES:** None

**SPECIAL INSTRUCTIONS:** None

**FILE NAME AND LOCATION:** S:\PSC\SGA\WP\090372.RCM.DOC

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COMMISSION  
CLERK

### Case Background

On July 16, 2009, Progress Energy Florida, Inc. (PEF or Company) filed a petition requesting approval of a contract for the purchase of firm capacity and energy between PEF and Florida Biomass Energy, LLC (FB Energy). The contract is based on FB Energy constructing, owning, and operating a fluidized bed boiler power production generating Qualifying Facility (QF) located in Manatee County, Florida. The facility will use a waste wood and energy crop as its primary fuel to produce approximately 60 megawatts (MW) of electricity during a contract term beginning January 1, 2013, through December 31, 2032.

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Docket No. 090372-EQ  
Date: November 17, 2009

This recommendation addresses PEF's petition for approval of the contract with FB Energy. The Commission has jurisdiction over this matter pursuant to Sections 366.051, 366.81 and 366.91, Florida Statutes.

### Discussion of Issues

**Issue 1:** Should the Commission approve the proposed negotiated purchase power contract between Progress Energy Florida, Inc. (PEF) and Florida Biomass Energy, LLC. (FB Energy)?

**Recommendation:** Yes. Payments for capacity and energy are expected to produce savings between \$34.2 and \$80.2 million over the term of the contract. Upon a showing by PEF that expenses for the purchased power contract under the negotiated renewable energy contract were reasonable and prudently incurred, PEF should be permitted to recover those costs through the fuel clause. (Brown)

**Staff Analysis:** Rule 25-17.0832(3), Florida Administrative Code (F.A.C.), provides that in its review of a negotiated contract, the Commission must consider the following: the need for power, the cost-effectiveness of the contract, security provisions for capacity payments, and performance guarantees. Staff has evaluated each of these factors and provided a discussion below.

#### **A. Need for Power**

Rule 25-17.001(5)(d), F.A.C., encourages electric utilities to:

Aggressively integrate nontraditional sources of power generation including cogenerators with high thermal efficiency and small power producers using renewable fuels into the various utility service areas near utility load centers to the extent cost effective and reliable.

The 60 MW renewable facility is projected to be capable of generating 467,787 megawatt hours (MWh) annually. In its 2009 Ten Year Site Plan, PEF identifies as its avoided unit Suwannee Peaker Unit 4, a 178 MW Combustion Turbine (CT) with an in-service date of June 1, 2014. PEF's 2009 Ten Year Site Plan also indicates that it will not need any additional generating units to meet capacity needs through 2018. From a reserve margin standpoint, there is no need to add the FB Energy facility (with its in-service date of January 1, 2013), as PEF's reserve margin during that period is projected to be 22 percent without the added capacity that the facility would provide. In addition, PEF's Ten Year Site Plan shows that it would still be able to exceed its 20 percent reserve margin criterion despite plans to either shut down or place in stand-by less efficient generating units. In the event of excess capacity, utilities are encouraged to sell any excess capacity not needed for generation. The capacity from the FB Energy facility could defer the addition of future units while also adding to PEF's fuel diversity.

#### **B. Cost-Effectiveness**

Traditional payments to QFs are divided into capacity and energy and are based on the cost of capacity and energy from the avoided unit. The traditional payment for avoided capacity is a monthly payment in \$/kilowatt-month. The traditional payment for energy costs is based on the current forecasted energy price of the avoided unit in \$/megawatt hours (MWh), but is adjusted as actual fuel costs become known. The terms of the contract calculate payments for avoided energy and capacity based on a projected committed capacity of 60 MW. In the

contract, FB Energy's negotiated energy payment increases each year by 1.5 percent. The contract rate includes both capacity and energy payments. Payments of this nature can encourage the development of renewable generation, and benefit FB Energy because it provides a predictable revenue stream that removes the risk of fuel cost fluctuations. Removing the risk of fuel cost fluctuations does shift cost obligation to the ratepayer. PEF must show that expenses for purchased power are reasonable and prudently incurred as a provision to recovering those costs through the fuel clause. Staff believes the fuel forecasts assumed by PEF are reasonable. The fuel forecasts results showed that PEF's ratepayers would continue to experience annual savings over the term of the contract.

The projected payments included in the contract were based on PEF's 2008 Standard Offer Contract and demonstrated an estimated ratepayer saving of \$34.2 million over the term of the contract. In order to analyze the cost-effectiveness of the contract, staff asked that PEF provide payment streams based on updated fuel forecasts using the 2009 Standard Offer Contract. The results showed that PEF ratepayers would continue to experience savings annually. Cumulative savings for PEF's ratepayers could amount up to \$80.2 million (See Attachment A). These savings are a result of replacing the energy from the avoided CT unit (10 percent capacity factor) mentioned in PEF's 2009 Ten Year Site Plan, with the energy generated from the more efficient FB Energy facility (89 percent capacity factor).

### **C. Security for Capacity Payments**

Rule 25-17.0832(3)(c), F.A.C., requires the contract to include some form of security to provide for reimbursement to PEF in the event FB Energy defaults on the contract. FB Energy must maintain performance security (in the form of deposits) in a set amount (confidential) based upon the committed capacity and its credit rating.

In the event of default by either FB Energy or PEF, the non-defaulting party may terminate the agreement immediately upon written notice to the defaulting party. The contract describes events of default as pertaining to any of the following: payment default, inability to deliver, and misrepresentation.

If the commercial operation date does not occur within 90 days after the stipulated commercial operation date (December 31, 2012), subject to an extension for force majeure, FB Energy is obligated to pay PEF delay damages in a confidential amount per day for each day until the commercial operation date is achieved.

If the commercial operation date does not occur within 180 days after the stipulated commercial operation date, subject to extension of force majeure, PEF has the right to terminate the agreement upon 15 days notice to FB Energy. Once the agreement is terminated, PEF is entitled to receive from FB Energy a confidential amount less than the amount of delay damages.

Staff believes the security provisions contained in the contract are reasonable and will protect PEF's ratepayers in the event that FB Energy defaults in its contract obligations.

#### **D. Performance Guarantees**

The contract contains conditions milestones which must be met by a confidential date. PEF explained that this date is kept confidential because of the need for FB Energy to have a reasonable amount of time to complete the conditions, and PEF's need to make sure that the project is proceeding in a timely manner. Some of the conditions include obtaining transmission service, construction authorization, construction financing and insurance policies. If these obligations are not met, the contract would be terminated without further liability to either FB Energy or PEF.

During any 12 month period, if the Annual Capacity Billing Factor (ACBF) falls below a set percentage amount (confidential), FB Energy will be notified that it has 30 days to bring the ACBF above that amount. If after 30 days the ACBF remains below the amount, the project energy payments for that month will be reduced by a percentage (confidential).

Staff believes the performance provisions contained in the contract are reasonable and will protect PEF's ratepayers if FB Energy fails to deliver the firm capacity and energy as specified by the contract. The confidential performance parameters previously mentioned are significantly higher the performance parameters of the avoided 2014 CT unit mentioned previously. As such, the proposed FB Energy facility will provide more energy than is typically generated from a CT unit.

#### **E. Conclusion**

Staff's analysis shows that the contract between PEF and FB Energy could save PEF's ratepayers between \$34.2 million and \$80.2 million. If the renewable generation cannot be delivered as stated in the contract, the contract contains security provisions and performance guarantees that would mitigate any risks to ratepayers. As such, staff recommends that the contract between PEF and FB Energy be approved. PEF must show that expenses for purchased power are reasonable and prudently incurred as a provision to recovering those costs through the fuel clause.

Docket No. 090372-EQ  
Date: November 17, 2009

**Issue 2:** Should this docket be closed?

**Recommendation:** If no person whose substantial interests are affected files a protest within 21 days of the issuance of the Commission's order approving the petition and contract, this docket should be closed upon the issuance of a consummating order. (Brubaker)

**Staff Analysis:** If no person whose substantial interests are affected files a protest within 21 days of the issuance of the Commission's order approving the petition and contract, this docket should be closed upon the issuance of a consummating order.

**REDACTED**

**Comparison of Projected Payments**  
 FB Energy vs. 2008 Standard Offer Contract As Filled  
 Discount Rate 8.48%  
 Discount Date 6/30/2009  
 Capacity 60  
 Capacity Factor 89%

Year	(1)	(2)			(3)	(4)			(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
	Negotiated Capacity Payments \$/kW-mo.	Negotiated Energy Payments \$/MWh	Delivery Voltage Adj. \$/MWh	Total Negotiated Energy Payments \$/MWh	SOC Capacity Payments \$/kW-mo.	SOC Energy Payments \$/MWh	Delivery Voltage Adj. \$/MWh	Total SOC Energy Payments \$/MWh	Negotiated Capacity Payments \$000	Negotiated Energy Payments \$000	Negotiated Total Payments \$000	Negotiated Total Payment \$/MWh	SOC Capacity Payments \$000	SOC Energy Payments \$000	SOC Total Payments \$000	SOC Total Payment \$/MWh	Difference Between Negotiated and SOC
2009				\$ -				\$ -			\$ -				\$ -		\$ -
2010				\$ -				\$ -			\$ -				\$ -		\$ -
2011				\$ -				\$ -			\$ -				\$ -		\$ -
2012				\$ -				\$ -			\$ -				\$ -		\$ -
2013				\$ 71.00	\$ 10.70	\$ 60.48	\$ 1.28	\$ 61.75	\$ 33,215	\$ 33,215	\$ 71.00	\$ 4,494	\$ 28,888	\$ 33,382	\$ 71.38	\$ (167)	
2014				\$ 72.07	\$ 11.12	\$ 63.24	\$ 1.33	\$ 64.58	\$ 33,711	\$ 33,711	\$ 72.07	\$ 8,004	\$ 30,208	\$ 38,212	\$ 81.69	\$ (4,501)	
2015				\$ 73.15	\$ 11.55	\$ 66.22	\$ 1.40	\$ 67.62	\$ 34,215	\$ 34,215	\$ 73.15	\$ 8,318	\$ 31,633	\$ 39,949	\$ 85.40	\$ (5,734)	
2016				\$ 74.24	\$ 12.00	\$ 62.97	\$ 1.33	\$ 64.29	\$ 34,829	\$ 34,829	\$ 74.24	\$ 8,840	\$ 30,158	\$ 38,798	\$ 82.71	\$ (3,969)	
2017				\$ 75.38	\$ 12.47	\$ 59.24	\$ 1.25	\$ 60.49	\$ 35,250	\$ 35,250	\$ 75.38	\$ 8,976	\$ 28,296	\$ 37,272	\$ 79.68	\$ (2,022)	
2018				\$ 76.49	\$ 12.85	\$ 60.57	\$ 1.26	\$ 61.85	\$ 35,782	\$ 35,782	\$ 76.49	\$ 9,324	\$ 28,934	\$ 38,258	\$ 81.78	\$ (2,476)	
2019				\$ 77.63	\$ 13.47	\$ 61.93	\$ 1.31	\$ 63.24	\$ 36,314	\$ 36,314	\$ 77.63	\$ 9,698	\$ 29,583	\$ 39,279	\$ 83.67	\$ (2,965)	
2020				\$ 78.80	\$ 13.98	\$ 63.33	\$ 1.34	\$ 64.67	\$ 36,966	\$ 36,966	\$ 78.80	\$ 10,068	\$ 30,333	\$ 40,401	\$ 86.13	\$ (3,435)	
2021				\$ 79.98	\$ 14.53	\$ 64.75	\$ 1.37	\$ 66.12	\$ 37,416	\$ 37,416	\$ 79.98	\$ 10,464	\$ 30,930	\$ 41,394	\$ 88.49	\$ (3,978)	
2022				\$ 81.18	\$ 15.10	\$ 66.21	\$ 1.40	\$ 67.61	\$ 37,972	\$ 37,972	\$ 81.18	\$ 10,872	\$ 31,626	\$ 42,498	\$ 90.85	\$ (4,526)	
2023				\$ 82.40	\$ 15.70	\$ 67.70	\$ 1.43	\$ 69.13	\$ 38,547	\$ 38,547	\$ 82.40	\$ 11,304	\$ 32,338	\$ 43,642	\$ 93.30	\$ (5,095)	
2024				\$ 83.63	\$ 16.30	\$ 69.22	\$ 1.46	\$ 70.68	\$ 39,233	\$ 39,233	\$ 83.63	\$ 11,736	\$ 33,155	\$ 44,891	\$ 95.70	\$ (5,658)	
2025				\$ 84.89	\$ 16.95	\$ 70.78	\$ 1.49	\$ 72.28	\$ 39,713	\$ 39,713	\$ 84.89	\$ 12,204	\$ 33,811	\$ 46,015	\$ 98.37	\$ (6,302)	
2026				\$ 86.16	\$ 17.62	\$ 72.37	\$ 1.53	\$ 73.90	\$ 40,305	\$ 40,305	\$ 86.16	\$ 12,884	\$ 34,570	\$ 47,254	\$ 101.02	\$ (6,949)	
2027				\$ 87.45	\$ 18.30	\$ 74.00	\$ 1.56	\$ 75.57	\$ 40,911	\$ 40,911	\$ 87.45	\$ 13,176	\$ 35,348	\$ 48,524	\$ 103.73	\$ (7,613)	
2028				\$ 88.77	\$ 19.02	\$ 75.67	\$ 1.60	\$ 77.27	\$ 41,640	\$ 41,640	\$ 88.77	\$ 13,692	\$ 36,243	\$ 49,935	\$ 106.46	\$ (8,295)	
2029				\$ 90.10	\$ 19.77	\$ 77.37	\$ 1.63	\$ 79.00	\$ 42,149	\$ 42,149	\$ 90.10	\$ 14,232	\$ 36,957	\$ 51,189	\$ 109.43	\$ (9,040)	
2030				\$ 91.45	\$ 20.55	\$ 79.12	\$ 1.67	\$ 80.78	\$ 42,777	\$ 42,777	\$ 91.45	\$ 14,796	\$ 37,790	\$ 52,586	\$ 112.41	\$ (9,809)	
2031				\$ 92.82	\$ 21.35	\$ 80.90	\$ 1.71	\$ 82.60	\$ 43,423	\$ 43,423	\$ 92.82	\$ 15,372	\$ 38,640	\$ 54,012	\$ 115.46	\$ (10,589)	
2032				\$ 94.21	\$ 22.18	\$ 82.71	\$ 1.75	\$ 84.45	\$ 44,191	\$ 44,191	\$ 94.21	\$ 15,972	\$ 39,615	\$ 55,587	\$ 118.50	\$ (11,396)	
Total									\$ 768,559	\$ 768,559		\$ 224,022	\$ 659,056	\$ 883,078		\$ (114,519)	
NPV									\$ 274,171	\$ 274,171		\$ 73,827	\$ 234,579	\$ 308,406		\$ (34,234)	

REDACTED

**Table 4**  
Comparison of Projected Payments  
FB Energy vs. 2009 Standard Offer Contract  
Discount rate 8.48%  
Discount Date 6/30/2009  
Capacity 60  
Capacity Factor 88%

Year	(1)			(2)			(3)			(4)			(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
	Negotiated Capacity Payments \$/kW-mo.	Negotiated Energy Payments \$/MWh	Delivery Voltage Adj. \$/MWh	Total Negotiated Energy Payments \$/MWh	SOC Capacity Payments \$/kW-mo.	SOC Energy Payments \$/MWh	Delivery Voltage Adj. \$/MWh	Total SOC Energy Payments \$/MWh	Negotiated Capacity Payments \$000	Negotiated Energy Payments \$000	Negotiated Total Payments \$000	Negotiated Total Payment \$/MWh	SOC Capacity Payments \$000	SOC Energy Payments \$000	SOC Total Payments \$000	SOC Total Payment \$/MWh	SOC Total Payments \$000	SOC Total Payment \$/MWh	SOC Total Payments \$000	SOC Total Payment \$/MWh	Difference Between Negotiated and SOC
2008				\$ -			\$ -														\$ -
2010				\$ -			\$ -														\$ -
2011				\$ -			\$ -														\$ -
2012				\$ -			\$ -														\$ -
2013				\$ 71.00	\$ -	\$ 83.83	\$ 1.78	\$ 85.39		\$ 33,215	\$ 33,215	\$ 71.00	\$ -	\$ 39,948	\$ 39,948	\$ 85.39		\$ 39,948	\$ 85.39	\$ (8,731)	
2014				\$ 72.07	\$ 8.55	\$ 82.11	\$ 1.73	\$ 83.85		\$ 33,711	\$ 33,711	\$ 72.07	\$ 4,011	\$ 39,222	\$ 43,233	\$ 92.42		\$ 39,222	\$ 92.42	\$ (9,522)	
2015				\$ 73.15	\$ 9.92	\$ 85.18	\$ 1.80	\$ 86.97		\$ 34,215	\$ 34,215	\$ 73.15	\$ 7,140	\$ 40,685	\$ 47,825	\$ 102.24		\$ 40,685	\$ 102.24	\$ (13,610)	
2016				\$ 74.24	\$ 10.28	\$ 79.32	\$ 1.67	\$ 80.99		\$ 34,829	\$ 34,829	\$ 74.24	\$ 7,404	\$ 37,992	\$ 45,396	\$ 96.78		\$ 37,992	\$ 96.78	\$ (10,587)	
2017				\$ 75.36	\$ 10.68	\$ 72.10	\$ 1.52	\$ 73.82		\$ 35,250	\$ 35,250	\$ 75.36	\$ 7,682	\$ 34,439	\$ 42,131	\$ 90.06		\$ 34,439	\$ 90.06	\$ (6,881)	
2018				\$ 76.49	\$ 11.10	\$ 72.33	\$ 1.53	\$ 73.85		\$ 35,782	\$ 35,782	\$ 76.49	\$ 7,992	\$ 34,548	\$ 42,540	\$ 90.94		\$ 34,548	\$ 90.94	\$ (6,758)	
2019				\$ 77.63	\$ 11.52	\$ 73.39	\$ 1.55	\$ 74.94		\$ 36,314	\$ 36,314	\$ 77.63	\$ 8,292	\$ 35,057	\$ 43,349	\$ 92.67		\$ 35,057	\$ 92.67	\$ (7,035)	
2020				\$ 78.80	\$ 11.97	\$ 74.98	\$ 1.58	\$ 76.56		\$ 36,966	\$ 36,966	\$ 78.80	\$ 8,616	\$ 35,914	\$ 44,530	\$ 94.93		\$ 35,914	\$ 94.93	\$ (7,564)	
2021				\$ 79.98	\$ 12.42	\$ 79.07	\$ 1.67	\$ 80.74		\$ 37,418	\$ 37,418	\$ 79.98	\$ 8,940	\$ 37,769	\$ 46,709	\$ 99.85		\$ 37,769	\$ 99.85	\$ (9,293)	
2022				\$ 81.18	\$ 12.90	\$ 81.75	\$ 1.72	\$ 83.48		\$ 37,972	\$ 37,972	\$ 81.18	\$ 9,288	\$ 39,050	\$ 48,338	\$ 103.33		\$ 39,050	\$ 103.33	\$ (10,366)	
2023				\$ 82.40	\$ 13.40	\$ 85.55	\$ 1.81	\$ 87.35		\$ 38,547	\$ 38,547	\$ 82.40	\$ 9,648	\$ 40,863	\$ 50,511	\$ 107.98		\$ 40,863	\$ 107.98	\$ (11,964)	
2024				\$ 83.63	\$ 13.92	\$ 83.56	\$ 1.76	\$ 85.32		\$ 39,233	\$ 39,233	\$ 83.63	\$ 10,020	\$ 40,020	\$ 50,040	\$ 106.68		\$ 40,020	\$ 106.68	\$ (10,807)	
2025				\$ 84.89	\$ 14.45	\$ 88.45	\$ 1.87	\$ 90.31		\$ 39,713	\$ 39,713	\$ 84.89	\$ 10,404	\$ 42,248	\$ 52,652	\$ 112.56		\$ 42,248	\$ 112.56	\$ (12,939)	
2026				\$ 86.16	\$ 15.00	\$ 91.63	\$ 1.93	\$ 93.56		\$ 40,305	\$ 40,305	\$ 86.16	\$ 10,800	\$ 43,765	\$ 54,585	\$ 118.65		\$ 43,765	\$ 118.65	\$ (14,260)	
2027				\$ 87.45	\$ 15.58	\$ 97.35	\$ 2.05	\$ 99.40		\$ 40,911	\$ 40,911	\$ 87.45	\$ 11,220	\$ 46,498	\$ 57,718	\$ 123.38		\$ 46,498	\$ 123.38	\$ (16,807)	
2028				\$ 88.77	\$ 16.18	\$ 97.31	\$ 2.05	\$ 99.37		\$ 41,640	\$ 41,640	\$ 88.77	\$ 11,652	\$ 46,610	\$ 58,262	\$ 124.21		\$ 46,610	\$ 124.21	\$ (16,622)	
2029				\$ 90.10	\$ 16.82	\$ 99.53	\$ 2.10	\$ 101.63		\$ 42,149	\$ 42,149	\$ 90.10	\$ 12,108	\$ 47,543	\$ 59,851	\$ 127.52		\$ 47,543	\$ 127.52	\$ (17,502)	
2030				\$ 91.45	\$ 17.47	\$ 101.77	\$ 2.15	\$ 103.92		\$ 42,777	\$ 42,777	\$ 91.45	\$ 12,576	\$ 48,613	\$ 61,189	\$ 130.80		\$ 48,613	\$ 130.80	\$ (18,412)	
2031				\$ 92.82	\$ 18.13	\$ 104.06	\$ 2.20	\$ 106.26		\$ 43,423	\$ 43,423	\$ 92.82	\$ 13,056	\$ 49,705	\$ 62,781	\$ 134.17		\$ 49,705	\$ 134.17	\$ (19,338)	
2032				\$ 94.21	\$ 18.83	\$ 106.37	\$ 2.24	\$ 108.61		\$ 44,191	\$ 44,191	\$ 94.21	\$ 13,560	\$ 50,948	\$ 64,508	\$ 137.52		\$ 50,948	\$ 137.52	\$ (20,317)	
Total										\$ -	\$ 788,559	\$ 788,559		\$ 184,419	\$ 831,437	\$ 1,015,856		\$ 831,437	\$ 1,015,856	\$ (247,297)	
NPV										\$ -	\$ 274,171	\$ 274,171		\$ 58,402	\$ 296,034	\$ 354,436		\$ 296,034	\$ 354,436	\$ (80,265)	