

State of Florida



Public Service Commission

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TALLAHASSEE, FLORIDA 32399-0850

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

DATE: March 28, 2013

TO: Office of Commission Clerk (Cole)

FROM: Division of Engineering (Ellis, Lee) *POE*
Division of Economics (Ollila) *J.O.*
Office of the General Counsel (Murphy) *cm MT*

RE: Docket No. 120314-EQ – Petition for approval of negotiated renewable energy contracts with U.S. EcoGen Okeechobee, LLC, U.S. EcoGen Clay, LLC, and U.S. EcoGen Martin, LLC, by Florida Power & Light Company.

AGENDA: 04/09/13 – Regular Agenda – Proposed Agency Action – Interested Persons May Participate

COMMISSIONERS ASSIGNED: All Commissioners

PREHEARING OFFICER: Edgar

CRITICAL DATES: None

SPECIAL INSTRUCTIONS: None

FILE NAME AND LOCATION: S:\PSC\ENG\WP\120314.RCM.DOC

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Case Background

On December 18, 2012, Florida Power & Light Company (FPL) filed a petition requesting approval of three negotiated contracts for the purchase of firm capacity and energy (collectively, the Contracts) between three subsidiaries of U.S. EcoGen, LLC (US EcoGen) and FPL. The subsidiaries are U.S. EcoGen Okeechobee, LLC, U.S. EcoGen Clay, LLC, and U.S. EcoGen Martin, LLC. The Contracts are based upon each subsidiary constructing, owning, and operating a biomass electric generating facility (collectively, the US EcoGen Facilities) with an in-service date by June 1, 2019, in Okeechobee, Clay, and Martin counties, respectively. The

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Contracts propose to sell 60 megawatts (MW) of firm capacity and associated energy from each US EcoGen Facility for a total contract term of 30 years.

The three US EcoGen Facilities would each use a bubbling bed fluidized boiler with biomass fuel. Fuel procurement is based on a closed loop biomass system, with dedicated energy crops grown on farmland owned or leased by each U.S. EcoGen subsidiary. Eucalyptus is anticipated to be the primary energy crop. The US EcoGen Facilities are planned to run at a capacity factor of 90 percent, resulting in 473,040 Megawatt-hours (MWh) of annual production each, or 1,419,120 MWh collectively. FPL and US EcoGen estimate that each US EcoGen Facility would generate 141 direct and indirect jobs from the operation of the Facilities and associated fuel procurement.

On February 8, 2013, the Florida Industrial Power Users Group (FIPUG) filed a petition to intervene in the docket. The Commission granted intervention to FIPUG on February 27, 2013.¹

The Commission has jurisdiction over this matter pursuant to Sections 366.051, 366.91, and 366.92, Florida Statutes (F.S.).

¹ See Order No. PSC 13-0103-PCO-EQ, issued February 27, 2013, in Docket No. 120314-EQ - In re: Petition for approval of negotiated renewable energy contracts with U.S. EcoGen Okeechobee, LLC, U.S. EcoGen Clay, LLC, and U.S. EcoGen Martin, LLC, by Florida Power & Light Company.

Discussion of Issues

Issue 1: Should the Commission approve for cost recovery the negotiated purchased power agreements between the US EcoGen Facilities and FPL?

Recommendation: Yes. The Contracts between the US EcoGen Facilities and FPL provide for renewable generation that meets all requirements of the Commission's Rules. The Contracts are estimated to produce a savings of \$89.4 million in net present value over the term of the Contracts. The Contracts include adequate security for early capacity payments and performance guarantees to protect ratepayers in the event of a default. (Ellis, Lee, Ollila)

Staff Analysis: US EcoGen proposes to sell a total of 180 MW of firm capacity and energy from three subsidiaries; U.S. EcoGen Okeechobee, LLC, U.S. EcoGen Clay, LLC, and U.S. EcoGen Martin, LLC. Under the Contracts, the US EcoGen Facilities would begin delivery of non-firm energy in 2019, with firm capacity and energy delivered beginning in 2021 through 2049, for a total term of 30 years. Rule 25-17.0832(3), Florida Administrative Code (F.A.C.), provides that in reviewing negotiated firm capacity and energy contracts for the purpose of cost recovery, the Commission shall consider factors relating to the contract that would impact the utility's general body of retail and wholesale customers, including: need for power, the cost-effectiveness of the contract, security provisions for early payments, and performance guarantees associated with the renewable facilities. These factors are evaluated below.

Need for Power

FPL maintains a planning reserve margin of 20 percent pursuant to a stipulation approved by the Commission.² FPL's next major generating additions are the Cape Canaveral Modernization (1,210 MW) in 2013, the Riviera Modernization (1,212 MW) in 2014, and the Port Everglades Modernization (1,277 MW) in 2016, followed by Turkey Point Units 6 and 7 (1,100 MW each) in 2022 and 2023.

In order to maintain a 20 percent reserve margin, FPL identifies in its 2012 Ten-Year Site Plan (TYSP) a resource need of 250 MW in 2021. FPL satisfied the planning reserve margin requirement by including in the 2012 TYSP the planning assumption that FPL would enter into a one year term Purchased Power Agreement (PPA) for 250 MW in 2021. This PPA was also the basis of FPL's 2012 standard offer contract.³ At this time, FPL has not signed any standard offer contracts for the 2021 time period.

FPL currently projects that renewable generation will only account for 1.37 percent of net energy for load by 2021. With the energy from the US EcoGen Facilities, the renewable energy provided would increase to 2.43 percent of net energy for load by 2021, or a 77.4 percent increase. Because of the size of FPL's system, the proposed Contracts provide a small reliability benefit over the term of firm capacity delivery. However, along with other potential purchased power contracts from renewable facilities, the Contracts may help to defer the construction of

² See Order No. PSC-99-2507-S-EU, issued December 22, 1999, in Docket No. 981890-EU - In re: Generic investigation into the aggregate electric utility reserve margins planned for Peninsular Florida.

³ See Order No. PSC-12-0336-TRF-EQ, issued June 27, 2012, in Docket No. 120072-EQ, In re: Petition for approval of renewable energy tariff and standard offer contract, by Florida Power & Light Company.

future utility fossil-fueled generation units. It has been the Commission's policy to approve cost-effective contracts that use renewable resources as the primary fuel. Pursuant to Rule 25-17.001(5)(d), F.A.C., electric utilities must:

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 firm capacity to be delivered under the terms of the Contracts and its potential to defer or delay a portion of FPL's next generating unit satisfies Rule 25-17.0832(3)(a), F.A.C., which addresses the need for capacity by the purchasing utility and the state as a whole. Therefore, staff recommends that approval of the proposed Contracts would enhance FPL's system reliability, encourage the use of renewable fuels in Florida, and promote fuel diversity for FPL's ratepayers.

Cost Effectiveness

Rule 25-17.0832(3)(b), F.A.C., provides in part that consideration should be given as to whether the cumulative present worth of payments to a qualifying facility are no greater than the cumulative present worth of the purchasing utility's avoided cost of capacity and energy. FPL provided a cumulative present value revenue requirement (CPVRR) of its system with and without the US EcoGen Facilities. FPL's analysis suggests a net present value (NPV) savings of \$159.1 million using the baseline fuel forecast, with net savings projected to begin in 2034. A substantial portion of savings associated with this analysis are based on deferral of generation assets beginning in 2034 and high emissions costs.

While a system level CPVRR is a valid form of cost-effectiveness analysis, a value-of-deferral analysis based on the utility's next avoidable unit allows for a better comparison for smaller resource options. The next avoidable unit is usually identified in the company's TYSP and the standard offer contract, both of which are filed annually. In this instance, the 2012 standard offer is not comparable to the Contracts, as the US EcoGen Facilities would be providing over 28 years of firm capacity to FPL, versus a single year from the PPA. A comparison of the payments to the US EcoGen Facilities and the 2012 standard offer show a net present value cost of \$12.4 million.

FPL's 2012 TYSP contains no avoidable generating units during the ten-year planning horizon. FPL's next generating unit additions outside the TYSP, Turkey Point 6 and 7 in 2022 and 2023, have received a determination of need.⁴ As such, these units are not considered avoidable. Consistent with the Commission's Order approving the 2012 standard offer contract, FPL identifies its next avoidable generating unit as a greenfield natural gas-fired combined cycle with an in-service date in 2025.⁵

⁴ See Order No. PSC-08-0237-FOF-EI, issued April 11, 2008, in Docket No. 070650-EI - In re: Petition to determine need for Turkey Point Nuclear Units 6 and 7 electrical power plant, by Florida Power & Light Company.

⁵ See Order No. PSC-12-0336-TRF-EQ, issued June 27, 2012, in Docket No. 120072-EQ, In re: Petition for approval of renewable energy tariff and standard offer contract, by Florida Power & Light Company.

The Commission has recognized that a company's next avoided unit may fall outside the ten-year planning horizon, and a list of recent avoided units outside of the TYSP planning horizon approved for use in a company's standard offer is provided in Table 1 below.

Table 1 – Standards Offers with Avoided Units Outside of Ten-Year Planning Horizon

Standard Offer Year	Utility	Avoided Unit	TYSP Planning Horizon	Commission Order
2012	Gulf Power Company	2022 Combustion Turbine	2012–2021	PSC-12-0332-TRF-EQ
2011	Gulf Power Company	2022 Combustion Turbine	2011–2020	PSC-11-0288-TRF-EQ
2010	Florida Power & Light	2025 Combined Cycle	2010–2019	PSC-10-0463-TRF-EI
2010	Gulf Power Company	2020 Combustion Turbines	2010–2019	PSC-10-0466-TRF-EQ
2009	Florida Power & Light	2021 Combined Cycle	2009–2018	PSC-09-0634-TRF-EQ

Payments under the Contracts are broken up into three categories: Capacity, Energy, and Energy Performance Bonus. The specific values of each payment type are based on formulas including confidential components. Capacity payments would begin in 2021 after an initial two year commissioning period, and be based on a formula requiring a 90 percent capacity factor for a full payment. Energy payments are based on two indexes and are paid based on MWh-delivered for the entire 30 year term of the contract. The relevant indexes are the consumer price index and the reported gas price for Florida Gas Transmission Zone 3. By using indexed energy prices rather than a fixed price, US EcoGen Facilities share some risk of fuel price fluctuations along with FPL's ratepayers. This risk sharing is preferable to fully fixed energy prices which cause ratepayers alone to be subject to changes in fuel markets. Energy payments are increased during the initial two year commissioning period by an amount referred to as Energy Performance Bonus payments, based on MWh-delivered.

Staff requested that FPL provide a comparison of the estimated payments in the Contracts to the 2025 combined cycle, including fuel forecast sensitivities to estimate the range of potential benefits or costs. When compared to the 2025 combined cycle, the Contracts show an estimated NPV savings of \$89.4 million in the baseline fuel scenario, with net savings projected to begin in 2032. The results of the fuel sensitivities are listed below in Table 2.

Table 2 – Cost Effectiveness Analysis of the US EcoGen Facilities (2012\$)

Fuel Forecast Scenario	Baseline	High	Low
Estimated NPV Savings (\$000)	\$89,451	\$236,771	(\$60,240)

Staff would note that the high and low fuel forecasts were not independently developed using specific economic conditions, but rather were based upon a flat 15 percent increase or decrease in fuel prices over the full term of the contract. Overall, staff recommends that the Contracts are cost-effective as required by Rule 25-17.0832(b), F.A.C., and could result in a NPV savings of \$89.4 million to FPL's ratepayers over the 30-year period when compared to the 2025 combined cycle avoided unit.

Security for Early Capacity Payments

In cases when a renewable provider receives capacity payments prior to the in-service date of the avoided unit, Rule 25-17.0832(3)(c), F.A.C., requires the Commission to consider whether sufficient security is provided for these payments, and allows the use of forecasted data for this purpose. These early capacity payments incur an early cost to ratepayers that are gradually recovered over the term of the contract with lower payments in outer years and may require several years to realize savings. Security is designed to ensure repayment of early costs that are incurred but may not be fully recovered as a result of a default during the term of the contract.

The Contracts establish a payment security that is meant to address early payments to the US EcoGen Facilities, which is to be held as collateral with either cash or a letter of credit. The payment security is to be updated annually, and reflects the forecasted value of early payments to the US EcoGen Facilities that are in excess of the cumulative avoided cost of the 2025 combined cycle avoided unit, including a confidential modifier. Based on the negotiated contract's formula, the amount required for payment security would increase until the avoided unit's 2025 in-service date, at which time the payment security would decrease annually until it reaches a value of zero. In the event of a default by any of the three US EcoGen subsidiaries, FPL would be able to draw upon the payment security to make ratepayers whole for any early payments. Staff recommends that the provisions of the Contracts adequately provide security for early payments made to the US EcoGen Facilities in accordance with the Commission's Rule 25-17.0832(3)(c), F.A.C.

Performance Guarantees

Performance guarantees, such as those included in these Contracts, detail how a renewable facility is to operate and requires financial penalties or other remedies should it fail to do so within a contract's terms and conditions. Rule 25-17.0832(3)(d), F.A.C., requires the Commission to consider whether the utility's ratepayers will be protected by the contract's terms. The Contracts include multiple terms and conditions that protect the ratepayers in the event of a default of the contract. Each US EcoGen Facility is required to maintain performance security, with a confidential amount of collateral based upon the creditworthiness of the US EcoGen Facilities and the period of the contract. The performance security can be drawn upon in the event of a default to recover from any damages that may occur to FPL ratepayers by non-performance under the contract.

The US EcoGen Facilities are required to operate on a must-run basis and capacity payments are based on a sliding formula after the initial two-year commissioning period. If the US EcoGen Facilities maintain an average capacity factor of 90 percent, a full payment is provided, with reduced payments until an average capacity factor of 70 percent, at which time no capacity payment is provided and may constitute an event of default. Other terms and conditions include milestones associated with permitting and construction of each facility, and requirements for the operation of each facility, such as maintaining a specified minimum quantity of fuel on-site. Staff has reviewed the performance guarantees contained in each contract and recommends that they are adequate to protect the ratepayers, as required by Rule 25-17.0832(d), F.A.C.

Conclusion

The negotiated purchased power Contracts between US EcoGen Facilities and FPL meet all the requirements of the Commission's Rules governing renewable energy. The Contracts provide for renewable capacity and energy to FPL's system, increasing fuel diversity. The Contracts are cost-effective when compared to FPL's next avoidable fossil fueled generating unit, and are projected to create a net present value savings of \$89.4 million. In the event of a default, early payments to the US EcoGen Facilities are covered under the contract's payment security terms. The terms and conditions of the Contracts provide protection and performance security for ratepayers in the event the US EcoGen Facilities fail to deliver firm capacity as specified. Therefore, staff recommends that the Commission approve, for cost recovery, the Contracts between the US EcoGen Facilities and FPL.

Docket No. 120314-EQ
Date: March 28, 2013

Issue 2: Should this docket be closed?

Recommendation: Yes. This docket should be closed upon issuance of a Consummating Order unless a person whose substantial interests are affected by the Commission's decision files a protest within 21 days of the issuance of the proposed agency action. (Murphy)

Staff Analysis: This docket should be closed upon issuance of a Consummating Order unless a person whose substantial interests are affected by the Commission's decision files a protest within 21 days of the issuance of the proposed agency action.