

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-

COMMISSION  
CLERK

08 FEB 22 PM 2:08

RECEIVED-FPSC

**DATE:** February 21, 2008

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

**FROM:** Office of the General Counsel (Gervasi, Miller) *ps*  
Division of Economic Regulation (Colson, Futrell, Hinton, Kummer, Webb) *SMC. m7 CH JKW 198*

**RE:** Docket No. 070674-EI – Proposed amendment of Rule 25-6.065, F.A.C.,  
Interconnection and Net Metering of Customer-Owned Renewable Generation.

**AGENDA:** 03/04/08 – Regular Agenda – Rule Adoption – Participation is dependent on the  
Commission’s vote on Issue 1

**COMMISSIONERS ASSIGNED:** All Commissioners

**PREHEARING OFFICER:** McMurrian

**RULE STATUS:** Adoption Should Not Be Deferred

**SPECIAL INSTRUCTIONS:** None

**FILE NAME AND LOCATION:** S:\PSC\GCL\WP\070674.RCM.DOC

### Case Background

In 2002, the Commission promulgated Rule 25-6.065, Florida Administrative Code (F.A.C.), for the purposes of standardizing and expediting the interconnection of small solar photovoltaic (PV) systems of 10 kilowatts (kW) or less (Small PV Rule). The Small PV Rule requires investor-owned utilities (IOUs) to submit for Commission approval a Standard Interconnection Agreement for interconnecting small PV systems. The Small PV Rule also provides two metering options for excess energy supplied to the grid. An IOU may either install 1) a dual meter and pay for any customer-generated excess at the avoided energy rate; or 2) carry forward credit for excess energy to the next billing period. Credits may accumulate and be carried forward for a 12-month period, after which time the customer grants any remaining excess credits to the utility.

DOCUMENT NUMBER DATE

31386 FEB 22 08

FPSC-COMMISSION CLERK

In its 2005 session, the Florida Legislature enacted section 366.91, Florida Statutes (F.S.), requiring utilities to offer contracts for the purchase of renewable energy. Section 366.91(1), F.S., states:

The Legislature finds that it is in the public interest to promote the development of renewable energy resources in this state. Renewable energy resources have the potential to help diversify fuel types to meet Florida's growing dependency on natural gas for electric production, minimize the volatility of fuel costs, encourage investment within the state, improve environmental conditions, and make Florida a leader in new and innovative technologies.

Additionally, section 366.92, F.S., was enacted in 2006 to establish a renewable energy policy for Florida. Section 366.92(1), F.S., states:

It is the intent of the Legislature to promote the development of renewable energy; protect the economic viability of Florida's existing renewable energy facilities; diversify the types of fuel used to generate electricity in Florida; lessen Florida's dependence on natural gas and fuel oil for the production of electricity; minimize the volatility of fuel costs; encourage investment within the state; improve environmental conditions; and, at the same time, minimize the costs of power supply to electric utilities and their customers.

In January 2007, the Commission held a workshop to further explore the opportunities for development of renewable energy in Florida. The Commission collected information from a wide range of interested persons, including: renewable generators, environmental groups, Florida utilities, and financial experts. Two issues came to light during the workshop that could assist in encouraging renewable energy: 1) expedited interconnection and 2) net metering of customer-owned renewable generating facilities. Staff workshops were held in April 2007 to gather further information on these issues and to determine whether the Small PV Rule should be expanded to include the interconnection of larger customer-owned renewable generators, including technologies in addition to photovoltaic systems.

Following the April workshops, staff drafted a rule that addressed both interconnection and net metering of customer-owned renewable generators. The draft rule was provided to interested persons and discussed at an August 30, 2007, Commission rule development workshop. Following the workshop, staff reviewed written comments filed September 18, 2007, and revised the draft rule. This was followed by a staff rule development workshop on October 15, 2007, where further refinements to the draft rule amendments were discussed. Written comments were submitted by stakeholders<sup>1</sup> on October 26, 2007.

---

<sup>1</sup> Written comments were received from the following parties: Gulf Power Company; Tampa Electric Company; Progress Energy Florida; Florida Power & Light Company; The Vote Solar Initiative; The Solar Alliance; The Interstate Renewable Energy Council; The National Renewable Energy Laboratory; City of Tampa, Florida; Florida Industrial Cogeneration Association; Solid Waste Authority of Palm Beach County, Florida; All Source Energy; Advanced Green Technologies; and, various concerned citizens.

The Commission addressed the staff's draft rule proposal at its December 18, 2007, agenda conference. After hearing comments from the participants and revising the staff's draft to reflect its response to certain of those comments, the Commission proposed Rule 25-6.065, F.A.C., Interconnection and Net Metering of Customer-Owned Renewable Generation, which replaces the Small PV Rule in its entirety, and includes technologies in addition to photovoltaic systems and the interconnection and net metering of larger customer-owned renewable generators. The proposed rule is appended to this recommendation as Attachment A.

The Commission published its Notice of Rulemaking in the January 4, 2008, Florida Administrative Weekly (FAW). The Notice required that any comments or requests for hearing must be filed with the Commission within 21 days of the Notice, by Friday, January 25, 2008. The Commission did not receive a request for a rule hearing on the proposed rule. However, on January 25, 2008, four IOUs, Florida Power & Light Company (FPL), Gulf Power Company, Progress Energy Florida, and Tampa Electric Company, collectively filed comments suggesting that certain language of the proposed rule be deleted.

Moreover, on Monday, January 28, 2008, Mr. Steven Dan, a customer of FPL, filed comments to the proposed rule. Mr. Dan e-mailed his comments to staff counsel on January 25, 2008, and was directed to file them with the Clerk's Office as required by the Notice of Rulemaking. By his comments, Mr. Dan does not suggest specific changes to the language of the proposed rule. Instead, he responds to the comments of the IOUs and makes general comments. Because Mr. Dan is an individual customer who attempted to timely file his comments by e-mailing them to staff within the filing deadline, his comments are addressed herein for informational purposes.

Within their comments, the IOUs request the opportunity to participate on this item at the agenda conference. Issue 1 of this recommendation addresses that request. Issue 2 addresses the comments filed to the proposed rule and whether the Commission should adopt the proposed rule with the changes suggested by the IOUs.

The Commission has jurisdiction pursuant to sections 366.04, 366.05, 366.81, 366.82, 366.91, and 366.92, F.S., and rulemaking authority pursuant to sections 120.54, 350.127(2), and 366.05(1), F.S.

### Discussion of Issues

**Issue 1:** Should the IOUs' request to participate on this item at the agenda conference be granted?

**Recommendation:** No, pursuant to Rule 25-22.0021(5), F.A.C., the IOUs' request to participate at the agenda conference should be denied. (Gervasi, Miller)

**Staff Analysis:** Within their comments, the IOUs request the opportunity to participate on this item at the agenda conference in order to assist the Commission by answering any questions and further elaborating on their concerns and specific alternative rule language.

Rule 25-22.0021(5), F.A.C., provides that “[i]nformal participation is not permitted in a rulemaking proceeding after the record has been closed.”<sup>2</sup> In this instance, because no hearing was requested, the rulemaking proceeding ended and the record closed upon the filing of the comments within the 21-day period within which persons affected by the proposed rule could file comments or request a hearing. All that is left for the Commission to do at this juncture is to file the rule for adoption, either with or without the changes suggested in the comments.

Rule 25-22.0021(5), F.A.C., accords with section 120.54(3)(c), F.S., which requires the Commission to consider comments received within 21 days after the date of publication of the notice of the proposed rule and to make those comments a part of the record of the rulemaking proceeding. Section 120.54(3)(c), F.S., does not provide for oral participation by interested persons who file comments. Moreover, staff notes that because the Commission is a collegial body, it makes all of its decisions in a public forum. However, that does not mean that interested persons have a right to speak during the agenda conference at which the comments are considered. In the case of executive agencies, generally it is the agency head who considers the comments in determining whether to make any of the suggested rule changes included therein. Executive agencies generally do not have a process by which interested persons who file comments to a proposed rule are afforded an opportunity to speak about the comments.

Staff further notes that in their comments, the IOUs do not present new information. All of the points addressed in the comments have been previously discussed and considered in great detail. Finally, if the Commission were to allow participation in rulemaking dockets during agenda conferences at which it considers comments in cases where no hearing has been requested, such agenda conferences would be equivalent to rule hearings and would thus render the option of filing comments without a request for a hearing a meaningless option.

For the foregoing reasons, pursuant to Rule 25-22.0021(5), staff recommends that the IOUs' request to participate at the agenda conference should be denied.

---

<sup>2</sup> Rule 25-22.0021(5), F.A.C., was amended effective January 1, 2007, in order to make the provisions on agenda conference participation and oral argument conform with current Commission practice, and to clarify provisions that seemed to have caused confusion in the past. See the staff recommendation filed March 24, 2005, in Docket No. 050108-OT, In Re: Proposed revisions to rules in Chapter 25-22 and Chapter 25-40, Florida Administrative Code.

**Issue 2:** Should the Commission adopt the changes to proposed Rule 25-6.065, Florida Administrative Code, as suggested by the IOUs?

**Recommendation:** No. The Commission should adopt the proposed rule without the suggested changes. (Gervasi, Miller, Futrell, Hinton, Kummer, Webb)

**Staff Analysis:** In their comments, the IOUs expressed concerns with and requested clarification of the proposed rule on interconnection and net metering of customer-owned renewable generation. The IOUs' comments address subsidization, the ownership assignment of Renewable Energy Certificates (RECs) associated with the customer-owned renewable generation, the frequency of reconciliation of net excess generation, and the manual disconnect switch exemption for Tier 1 inverter-based systems. Additionally, the IOUs request clarification as to how demand charges would be applied to renewable generating customers. Finally, concerned citizen Steven Dan submitted a response to the IOUs' comments and general comments, as discussed below for informational purposes.

#### *Subsidization*

As in their prior comments regarding subsidization, the IOUs assert that the proposed rule provides substantial subsidies to net-metered customers at the expense of all other customers. The IOUs state that they continue to disagree that these subsidies are justified in order to promote the customer-owned generation targeted by the rule.

As discussed at the Commission's December 18, 2007, agenda conference and throughout staff's December 6, 2007, recommendation, the purpose of the proposed amendments to Rule 25-6.065, F.A.C., is to promote the development of customer-owned renewable generation in balance with ratepayer protection, to the extent practicable. Therefore, compromises have been made in the proposed rule amendments to provide incentive to renewable generators, while limiting ratepayer exposure. Staff does not believe any changes should be made to the rule in this regard.

#### *Renewable Energy Certificates*

The IOUs state that subsection (9) of the proposed rule should be removed in its entirety, and that REC ownership should instead be decided as part of a comprehensive policy on promoting renewable generation, such as in a Renewable Portfolio Standard process. The IOUs state that assignment of ownership to the customer-generator constitutes a subsidy. Specifically, under the proposed rule, renewable generators would be subsidized by the general body of ratepayers by purchasing the customer's excess energy sold to the grid at effectively the retail rate. If the RECs are given to the generating customer in addition to the higher rate of payment, then the generating customer receives a second benefit at the ratepayers' expense.

In his response to the IOUs' comments, Mr. Dan disagreed with the IOUs on the ownership assignment of RECs. He stated that ownership belongs with the generating customer. Mr. Dan maintains that financial incentives, such as RECs, are necessary to encourage renewable

development, and that cleaner renewable generation would result in improved environmental measures that would benefit all parties, including the general body of ratepayers.

Staff believes that allowing the customer to own any RECs created as a result of the renewable generation, and to sell the RECs in the open market, provides the customer an additional benefit for investing in renewable generation. This is consistent with Commission policy codified in Rule 25-17.280, F.A.C., Tradable Renewable Energy Credits (TRECs), which states that “[t]radable renewable energy credits . . . shall remain the exclusive property of the renewable generating facility.”

Customer-owned renewable generators benefit from a variety of rebates and incentives associated with the purchase of renewable systems. For example, federal and state tax incentives are available, as well as state rebates. The Florida Department of Environmental Protection’s solar energy systems program rebate has provided eligible residential PV systems up to \$20,000 and commercial PV systems up to \$100,000. Because customer-owned renewable generators benefit from a variety of sources, the IOUs do not have an exclusive claim of ownership for any REC.

Staff recommends that REC ownership remain part of the rule. This will preclude the need for customers to negotiate case-by-case with the utilities for REC ownership when applying for interconnection. Further, of the 39 states with statewide net metering policies, 15 assign REC ownership. Of these 15 states, ten assign ownership of all RECs associated with customer-owned renewable generation to the customer-generator; four assign ownership of all RECs associated with the customer’s load to the customer-generator; and one state assigns ownership of all RECs to the customer if the customer paid all costs associated with purchasing and installing the renewable generating equipment, with no financial assistance from the utility. Staff believes that the proposed rule is consistent with the national trend of assigning RECs to the customer-generator.

Subsection (9) of the proposed rule states that any cost of metering equipment required to certify RECs that are retained by the customer should be borne by that customer. This provision provides a compromise between incenting renewable generation and ratepayer protection.

#### *Frequency of Reconciliation*

The IOUs indicate their preference for a monthly reconciliation for excess energy with the renewable generating customer. The proposed rule would provide for monthly crediting for excess energy at what equates to a retail rate, accumulating until the end of the calendar year, when reconciliation would occur at the as-available energy rate. The IOUs do not indicate in their comments the rate that their monthly reconciliation preference would entail. In their comments, the IOUs contend that monthly reconciliation would reduce the subsidies provided to renewable generators by the general body of ratepayers and would allow the utility to issue an immediate credit to the customer’s bill, thereby reducing the complexity of required billing system changes.

In his response, Mr. Dan indicated that his previous work includes that of a computer programmer who helped build part of FPL's meter reading COBOL program. He attests to the fact that rebuilding the IOUs' computer system to allow for year-end reconciliation, instead of monthly reconciliation, could be a very significant undertaking. Mr. Dan stated that monthly reconciliation would raise no objections, presumably with citizens such as himself, and would additionally benefit the general body of ratepayers. However, it is not clear from Mr. Dan's comments whether he understands that the IOUs' request for monthly reconciliation would be at the as-available rate, and not the retail rate as is proposed in the rule language. Further, Mr. Dan states his preference for renewable generating customers to be allowed to sell power back to the utility on a kWh for kWh basis, which suggests that he would not be agreeable to monthly reconciliation at the as-available rate.

As addressed in staff's December 6, 2007, recommendation filed in this docket, the carry-forward of excess generation to the next month's bill provides the customer-owned renewable generator with an additional incentive, as compared to monthly payment for excess generation. Carry-forward of excess generation recognizes the seasonal nature of some renewable generation and allows the customer to capture all of the benefits of such systems. Solar photovoltaics, for example, may produce excess generation in the fall and spring months, which can be used to lower the customer's bill during the summer months. Monthly reconciliation as proposed by the IOUs would provide the customer with less than the proposed rule. Monthly payment for excess generation would not provide the balance between encouraging renewable generation and ratepayer protection that the proposed rule amendments would provide. Twenty-nine of the 37 states with net metering legislation perform monthly crediting and carry-forward for net excess generation, as provided for in the proposed rule.

Staff believes that the proposed rule's combination of monthly retail crediting with an as-available payment at year-end is the best approach. The Commission proposed the year-end payment at the as-available rate for the purposes of assuaging the utilities' concerns of a subsidy, thereby providing balance between encouraging renewable generation and offering ratepayer protection.

Staff recommends that the Commission not accept the IOUs' suggestion that the reconciliation of net excess energy be performed monthly. The carry-forward of excess generation to the next month's bill provides the customer-owned renewable generator with an additional incentive and recognizes the seasonal nature of some renewable resources.

#### *Clarification on Demand Charge Application*

The IOUs request confirmation regarding the interpretation of subsection (8)(h), and its requirement that renewable generating customers would continue to pay the applicable demand charge. Staff agrees with the utilities' interpretation of the language in subsection (8)(h), that the applicable demand charge is for the maximum measured demand during the billing period, or in other words, the highest demand registered on the utility's meter during the billing period. This is the capacity that the customer actually used and which the utility incurred the cost to supply, whether or not the customer's generation was operating. If the customer's generation reduced the maximum kW demand registered on the meter, his bill would likewise be lower. However,

the maximum registered demand for the billing period would not be further offset or otherwise reduced by power produced by the customer. In lieu of a specific rule revision, the IOUs request that clarification on the interpretation of the demand charge be provided in a Commission order associated with the final rule, and that this interpretation be allowed to be reflected in the IOUs' tariff agreements. Staff has no concern with this request, and will include the clarification in the Notice of Adoption order that is issued by the Commission.

### *Manual Disconnect Switch*

Pursuant to subsection (6) of the proposed rule, each IOU's Standard Interconnection Agreement may require customers to install, at the customer's expense, a manual disconnect switch of the visible load break type. This requirement may be applied to all Tier 2 and 3 customers, as well as non-inverter-based Tier 1 customers. The rule exempts Tier 1 inverter-based systems (10 kW or less) from installing manual disconnect switches at the customer's expense. However, the rule allows the IOU to have a manual disconnect switch installed for these systems, at the IOU's expense. The IOUs argue that a manual disconnect switch of the visible load break type is a key safety and service requirement, and it should be required for all generating customers, including Tier 1 inverter-based systems. Therefore, the IOUs suggest the removal of the sentence in subsection (6)(a) of the proposed rule that states "[i]nverter-based Tier 1 customer-owned renewable generation systems shall be exempt from this requirement, unless the manual disconnect switch is installed at the investor-owned utility's expense."

The IOUs explain that for safety reasons, the utility must be able to disconnect customer-owned generation for emergency and maintenance requirements, hazardous conditions, and adverse electrical effects without affecting other customers or otherwise affecting service to the generating customer. However, without a manual disconnect switch, the utility will have no choice but to "pull" the meter and discontinue service to the customer in such situations. The IOUs state that this is not a desirable alternative.

The IOUs reference the 2001 staff recommendation to adopt the Small PV Rule, quoting staff's statement that the rule permits the utility to require the customer to install a manual disconnect switch so that the utility can isolate small PV systems for safety reasons. The IOUs argue that there has been nothing offered in the workshops, in staff's recommendation, or at the December 18, 2007, agenda conference to indicate that anything has changed to lessen these safety concerns. The IOUs believe that all customers should be required to have a manual disconnect switch installed at the customer's expense, particularly due to Florida's unique weather-related exposures. The IOUs also argue that the fact that California may not be utilizing disconnect switches, as cited in staff's December 6, 2007, recommendation, should not be persuasive. California does not have the same exposure to storms and hurricanes as Florida, and therefore does not have the same likelihood of power outages.

Finally, the IOUs argue that exempting Tier 1 customers from installing the manual disconnect switch at their own expense is yet another subsidy for Tier 1 customers. The IOUs suggest that Tier 1 customers already enjoy numerous subsidies under this rule and the additional subsidy of a free manual disconnect switch is unwarranted. The IOUs explain that the cost of installing the switch has been estimated as high as \$1,200 per switch. If Tier 1 installations were



to total between 200 and 250 per year, the manual disconnect switch subsidy by the general body of ratepayers would add up to between \$240,000 and \$300,000 per year. The IOUs suggest that this subsidy will be provided by customers who themselves cannot afford PV systems, such as fixed and low income customers.

Mr. Dan suggests that there are other options available, such as meters with a built-in key controlled mechanically latching disconnect switch. Mr. Dan states that if the IOUs were responsible for paying for and installing what they claim is a critical additional disconnect, their highly qualified engineers would re-engineer the meter or meter box and the cost would come down to a very reasonable negligible amount.

Staff agrees that manual disconnect switches are installed for safety purposes. However, staff disagrees with the IOUs that nothing has been offered to indicate anything has changed since manual disconnect switches were initially permitted in the Small PV Rule. First, staff believes that experience with these systems across the nation suggests they are safe, and that requiring a manual disconnect switch could be an unnecessary redundancy which imposes unnecessary cost on customers. Solar stakeholders argued during the rulemaking proceedings that, with over 30,000 PV systems interconnected in the United States, there has not been a single incident of line worker injury or grid damage caused by an inverter-based PV system.

Second, the proposed rule incorporates nationally recognized standards from the Institute of Electrical and Electronic Engineers, Inc. (IEEE) and Underwriters Laboratories Inc. (UL), which require that inverter-based systems automatically disconnect from the grid in the event of an electric outage. Specifically, IEEE 1547 4.4.1 states that distributed resources shall detect an island<sup>3</sup> and cease to energize the area electric power system within two seconds of the formation of an island. Testing of this capability is provided for in IEEE 1547.1. To be qualified for interconnection under the proposed rule, customer-owned equipment must be tested and certified by a national laboratory for continuous interactive operation with an electric distribution system in compliance with the IEEE and UL standards.

The National Renewable Energy Laboratory (NREL), in a recently released technical report,<sup>4</sup> suggested that manual disconnect switches are increasingly viewed as redundant and unnecessary for residential and small-commercial PV systems with UL-listed inverters. NREL stated that modern electronic inverters are reliable, intelligent, and comprehensively tested to ensure they do not backfeed to the grid during an outage. NREL explained that in the event of a feeder outage, a line crew would risk injury from an inverter-based system only if the inverter's

---

<sup>3</sup> Islanding is a condition in which a portion of an electric grid is energized solely by a customer-owned generating system through the point of common coupling while that portion of the grid is electrically separated from the rest of the area electric grid.

<sup>4</sup> Utility-Interconnected Photovoltaic Systems: Evaluating the Rationale for the Utility-Accessible External Disconnect Switch (January 2008).

multiple safety features were to fail, and at the same time the line worker failed to follow safe working practices outlined in the National Electrical Safety Code.<sup>5</sup>

Staff agrees with the IOUs that pulling the meter is a less than desirable alternative. However, staff does not believe this is the only option left to IOUs. NREL explained in their report that Pacific Gas and Electric (PG&E) and Sacramento Municipal Utility District (SMUD) eliminated manual disconnect switch requirements for smaller PV systems based upon expected cost and time savings. NREL stated that PG&E and SMUD have become confident that the UL-listed and labeled systems operate properly when there are system problems, and one of the largest benefits of eliminating the switch requirement was the administrative costs savings realized from the utilities not having to check plans, validate installation locations, and track the devices in customer information systems and geographic information systems.

If the IOUs insist upon having manual disconnect switches for all Tier 1 customers, the proposed rule gives IOUs the option of installing the switch at their own expense. The IOUs argue that if 250 PV systems were to be interconnected in a year, it could result in a subsidy of up to \$300,000. However, staff believes that such a subsidy would have a negligible impact.

Staff recommends that the Commission not accept the IOUs' request to modify the proposed rule in order to require manual disconnect switches for all Tier 1 customers. Staff believes that the proposed rule's exemption for Tier 1 inverter-based systems will help to minimize economic barriers to deployment of customer-owned renewable generation, without sacrificing safety.

#### *General Comment Regarding PW Ventures*

Mr. Dan comments that small system power producers should not have to become a public utility just to install a small PV system on a rooftop on their premises and sell the power back to their own tenant. He states that in PW Ventures, Inc. v. Nichols,<sup>6</sup> the Florida Supreme Court ruled that as the agency charged with regulating the industry, the Commission may interpret the statutes as it sees fit.

The PW Ventures case holds that the retail sale of electricity to any member of the public makes the electric provider a public utility, and thus subject to Commission regulation.<sup>7</sup> In so holding, the Court noted "the well established principle that the contemporaneous construction of a statute by the agency charged with its enforcement and interpretation is entitled to great weight."<sup>8</sup> The PW Ventures holding is controlling law and must be followed regardless of this principle. Nevertheless, as stated in staff's recommendation dated December 6, 2007, on the

---

<sup>5</sup> Line workers must "consider the electric supply equipment and lines to be energized, unless they are positively known to be de-energized." NESC Section 42 420.D.

<sup>6</sup> 533 So. 2d 281 (Fla. 1988).

<sup>7</sup> Id. at 282-283.

<sup>8</sup> Id. at 283.

Docket No. 070674-EI  
Date: February 21, 2008

matter, subsection (2)(a) of the proposed rule states that “[t]he term ‘customer-owned renewable generation’ does not preclude the customer of record from contracting for the purchase, lease, operation, or maintenance of an on-site renewable generation system with a third-party under terms and conditions that do not include the retail purchase of electricity from the third party.”

For the foregoing reasons, staff recommends that the Commission should adopt the proposed Rule 25-6.065, F.A.C., without the suggested changes.

Docket No. 070674-EI  
Date: February 21, 2008

**Issue 3:** Should proposed Rule 25-6.065 be filed for adoption with the Secretary of State and the docket be closed?

**Recommendation:** Yes, the rule as approved by the Commission should be filed for adoption with the Secretary of State and the docket should be closed. (Gervasi, Miller)

**Staff Analysis:** If the Commission approves staff's recommendation in Issue 2, the proposed rule, as set forth in Attachment A, should be filed for adoption with the Secretary of State and the docket should be closed.

If the Commission approves any changes to the proposed rule, as suggested by the IOUs, a Notice of Change must be published in the FAW. The rule may be filed for adoption with the Secretary of State 21 days after the Notice of Change is published in the FAW and the docket may then be closed.

1 (Substantial rewording of Rule 25-6.065 follows. See Florida Administrative Code for present  
2 text.)

3 25-6.065 Interconnection and Net Metering of Customer-Owned Renewable Generation

4 (1) Application and Scope. The purpose of this rule is to promote the development of  
5 small customer-owned renewable generation, particularly solar and wind energy systems;  
6 diversify the types of fuel used to generate electricity in Florida; lessen Florida's dependence  
7 on fossil fuels for the production of electricity; minimize the volatility of fuel costs; encourage  
8 investment in the state; improve environmental conditions; and, at the same time, minimize  
9 costs of power supply to investor-owned utilities and their customers. This rule applies to all  
10 investor-owned utilities, except as otherwise stated in subsection (10).

11 (2) Definitions. As used in this rule, the term

12 (a) "Customer-owned renewable generation" means an electric generating system  
13 located on a customer's premises that is primarily intended to offset part or all of the  
14 customer's electricity requirements with renewable energy. The term "customer-owned  
15 renewable generation" does not preclude the customer of record from contracting for the  
16 purchase, lease, operation, or maintenance of an on-site renewable generation system with a  
17 third-party under terms and conditions that do not include the retail purchase of electricity  
18 from the third party.

19 (b) "Gross power rating" means the total manufacturer's AC nameplate generating  
20 capacity of an on-site customer-owned renewable generation system that will be  
21 interconnected to and operate in parallel with the investor-owned utility's distribution  
22 facilities. For inverter-based systems, the AC nameplate generating capacity shall be  
23 calculated by multiplying the total installed DC nameplate generating capacity by .85 in order  
24 to account for losses during the conversion from DC to AC.

25

CODING: Words underlined are additions; words in ~~struck through~~ type are deletions from existing law.

1           (c) “Net metering” means a metering and billing methodology whereby customer-  
2 owned renewable generation is allowed to offset the customer's electricity consumption on-  
3 site.

4           (d) “Renewable energy,” as defined in Section 377.803, Florida Statutes, means  
5 electrical, mechanical, or thermal energy produced from a method that uses one of more of the  
6 following fuels or energy sources: hydrogen, biomass, solar energy, geothermal energy, wind  
7 energy, ocean energy, waste heat, or hydroelectric power.

8           (3) Standard Interconnection Agreements. Each investor-owned utility shall, within  
9 30 days of the effective date of this rule, file for Commission approval a Standard  
10 Interconnection Agreement for expedited interconnection of customer-owned renewable  
11 generation, up to 2 MW, that complies with the following standards:

12           (a) IEEE 1547 (2003) Standard for Interconnecting Distributed Resources with  
13 Electric Power Systems;

14           (b) IEEE 1547.1 (2005) Standard Conformance Test Procedures for Equipment  
15 Interconnecting Distributed Resources with Electric Power Systems; and

16           (c) UL 1741 (2005) Inverters, Converters, Controllers and Interconnection System  
17 Equipment for Use With Distributed Energy Resources.

18           (d) A copy of IEEE 1547 (2003), ISBN number 0-7381-3720-0, and IEEE 1547.1  
19 (2005), ISBN number 0-7381-4737-0, may be obtained from the Institute of Electric and  
20 Electronic Engineers, Inc. (IEEE), 3 Park Avenue, New York, NY, 10016-5997. A copy of  
21 UL 1741 (2005) may be obtained from COMM 2000, 1414 Brook Drive, Downers Grove, IL  
22 60515.

23           (4) Customer Qualifications and Fees.

24           (a) To qualify for expedited interconnection under this rule, customer-owned  
25

1 renewable generation must have a gross power rating that:

2 1. does not exceed 90% of the customer's utility distribution service rating; and

3 2. falls within one of the following ranges:

4 Tier 1 - 10 kW or less;

5 Tier 2 – greater than 10 kW and less than or equal to 100 kW; or

6 Tier 3 – greater than 100 kW and less than or equal to 2 MW.

7 (b) Customer-owned renewable generation shall be considered certified for  
8 interconnected operation if it has been submitted by a manufacturer to a nationally recognized  
9 testing and certification laboratory, and has been tested and listed by the laboratory for  
10 continuous interactive operation with an electric distribution system in compliance with the  
11 applicable codes and standards listed in subsection (3).

12 (c) Customer-owned renewable generation shall include a utility-interactive inverter,  
13 or other device certified pursuant to subsection (4)(b) that performs the function of  
14 automatically isolating the customer-owned generation equipment from the electric grid in the  
15 event the electric grid loses power.

16 (d) For Tiers 1 and 2, provided the customer-owned renewable generation equipment  
17 complies with subsections (4)(a) and (b), the investor-owned utility shall not require further  
18 design review, testing, or additional equipment other than that provided for in subsection (6).  
19 For Tier 3, if an interconnection study is necessary, further design review, testing and  
20 additional equipment as identified in the study may be required.

21 (e) Tier 1 customers who request interconnection of customer-owned renewable  
22 generation shall not be charged fees in addition to those charged to other retail customers  
23 without self-generation, including application fees.

24 (f) Along with the Standard Interconnection Agreement filed pursuant to subsection  
25

1 (3), each investor-owned utility may propose for Commission approval a standard application  
2 fee for Tiers 2 and 3, including itemized cost support for each cost contained within the fee.

3 (g) Each investor-owned utility may also propose for Commission approval an  
4 Interconnection Study Charge for Tier 3.

5 (h) Each investor-owned utility shall show that their fees and charges are cost-based  
6 and reasonable. No fees or charges shall be assessed for interconnecting customer-owned  
7 renewable generation without prior Commission approval.

8 (5) Contents of Standard Interconnection Agreement. Each investor-owned utility's  
9 customer-owned renewable generation Standard Interconnection Agreement shall, at a  
10 minimum, contain the following:

11 (a) A requirement that customer-owned renewable generation must be inspected and  
12 approved by local code officials prior to its operation in parallel with the investor-owned  
13 utility to ensure compliance with applicable local codes.

14 (b) Provisions that permit the investor-owned utility to inspect customer-owned  
15 renewable generation and its component equipment, and the documents necessary to ensure  
16 compliance with subsections (2) through (4). The customer shall notify the investor-owned  
17 utility at least 10 days prior to initially placing customer equipment and protective apparatus  
18 in service, and the investor-owned utility shall have the right to have personnel present on the  
19 in-service date. If the customer-owned renewable generation system is subsequently modified  
20 in order to increase its gross power rating, the customer must notify the investor-owned utility  
21 by submitting a new application specifying the modifications at least 30 days prior to making  
22 the modifications.

23 (c) A provision that the customer is responsible for protecting the renewable  
24 generating equipment, inverters, protective devices, and other system components from

25

CODING: Words underlined are additions; words in ~~struck through~~ type are deletions from existing law.



1 damage from the normal and abnormal conditions and operations that occur on the investor-  
2 owned utility system in delivering and restoring power; and is responsible for ensuring that  
3 customer-owned renewable generation equipment is inspected, maintained, and tested in  
4 accordance with the manufacturer's instructions to ensure that it is operating correctly and  
5 safely.

6 (d) A provision that the customer shall hold harmless and indemnify the investor-  
7 owned utility for all loss to third parties resulting from the operation of the customer-owned  
8 renewable generation, except when the loss occurs due to the negligent actions of the investor-  
9 owned utility. A provision that the investor-owned utility shall hold harmless and indemnify  
10 the customer for all loss to third parties resulting from the operation of the investor-owned  
11 utility's system, except when the loss occurs due to the negligent actions of the customer.

12 (e) A requirement for general liability insurance for personal and property damage, or  
13 sufficient guarantee and proof of self-insurance, in the amount of no more than \$1 million for  
14 Tier 2, and no more than \$2 million for Tier 3. The investor-owned utility shall not require  
15 liability insurance for Tier 1. The investor-owned utility may include in the Interconnection  
16 Agreement a recommendation that Tier 1 customers carry an appropriate level of liability  
17 insurance.

18 (f) Identification of any fees or charges approved pursuant to subsection (4).

19 (6) Manual Disconnect Switch

20 (a) Each investor-owned utility's customer-owned renewable generation Standard  
21 Interconnection Agreement may require customers to install, at the customer's expense, a  
22 manual disconnect switch of the visible load break type to provide a separation point between  
23 the AC power output of the customer-owned renewable generation and any customer wiring  
24 connected to the investor-owned utility's system. Inverter-based Tier 1 customer-owned  
25

CODING: Words underlined are additions; words in ~~struck through~~ type are deletions from existing law.

1 renewable generation systems shall be exempt from this requirement, unless the manual  
2 disconnect switch is installed at the investor-owned utility's expense. The manual disconnect  
3 switch shall be mounted separate from, but adjacent to, the meter socket and shall be readily  
4 accessible to the investor-owned utility and capable of being locked in the open position with  
5 a single investor-owned utility padlock.

6 (b) The investor-owned utility may open the switch pursuant to the conditions set  
7 forth in subsection (6)(c), isolating the customer-owned renewable generation, without prior  
8 notice to the customer. To the extent practicable, however, prior notice shall be given. If  
9 prior notice is not given, the utility shall at the time of disconnection leave a door hanger  
10 notifying the customer that their customer-owned renewable generation has been  
11 disconnected, including an explanation of the condition necessitating such action. The  
12 investor-owned utility shall reconnect the customer-owned renewable generation as soon as  
13 the condition necessitating disconnection is remedied.

14 (c) Any of the following conditions shall be cause for the investor-owned utility to  
15 disconnect customer-owned renewable generation from its system:

16 1. Emergencies or maintenance requirements on the investor-owned utility's electric  
17 system;

18 2. Hazardous conditions existing on the investor-owned utility system due to the  
19 operation of the customer's generating or protective equipment as determined by the investor-  
20 owned utility;

21 3. Adverse electrical effects, such as power quality problems, on the electrical  
22 equipment of the investor-owned utility's other electric consumers caused by the customer-  
23 owned renewable generation as determined by the investor-owned utility;

24 4. Failure of the customer to maintain the required insurance coverage.

25

CODING: Words underlined are additions; words in ~~struck through~~ type are deletions from existing law.

1           (7) Administrative Requirements.  
2           (a) Each investor-owned utility shall maintain on its website a downloadable  
3 application for interconnection of customer-owned renewable generation, detailing the  
4 information necessary to execute the Standard Interconnection Agreement. Upon request the  
5 investor-owned utility shall provide a hard copy of the application within 5 business days.  
6           (b) Within 10 business days of receipt of the customer's application, the investor-  
7 owned utility shall provide written notice that it has received all documents required by the  
8 Standard Interconnection Agreement or indicate how the application is deficient. Within 10  
9 business days of receipt of a completed application, the utility shall provide written notice  
10 verifying receipt of the completed application. The written notice shall also include dates for  
11 any physical inspection of the customer-owned renewable generation necessary for the  
12 investor-owned utility to confirm compliance with subsections (2) through (6), and  
13 confirmation of whether a Tier 3 interconnection study will be necessary.  
14           (c) The Standard Interconnection Agreement shall be executed by the investor-owned  
15 utility within 30 calendar days of receipt of a completed application. If the investor-owned  
16 utility determines that an interconnection study is necessary for a Tier 3 customer, the  
17 investor-owned utility shall execute the Standard Interconnection Agreement within 90 days  
18 of a completed application.  
19           (d) The customer must execute the Standard Interconnection Agreement and return it  
20 to the investor-owned utility at least 30 calendar days prior to beginning parallel operations  
21 and within one year after the utility executes the Agreement. All physical inspections must be  
22 completed by the utility within 30 calendar days of receipt of the customer's executed  
23 Standard Interconnection Agreement. If the inspection is delayed at the customer's request,  
24 the customer shall contact the utility to reschedule an inspection. The investor-owned utility  
25

CODING: Words underlined are additions; words in ~~struck through~~ type are deletions from existing law.

1 shall reschedule the inspection within 10 business days of the customer's request.

2 (8) Net Metering.

3 (a) Each investor-owned utility shall enable each customer-owned renewable  
4 generation facility interconnected to the investor-owned utility's electrical grid pursuant to this  
5 rule to net meter.

6 (b) Each investor-owned utility shall install, at no additional cost to the customer,  
7 metering equipment at the point of delivery capable of measuring the difference between the  
8 electricity supplied to the customer from the investor-owned utility and the electricity  
9 generated by the customer and delivered to the investor-owned utility's electric grid.

10 (c) Meter readings shall be taken monthly on the same cycle as required under the  
11 otherwise applicable rate schedule.

12 (d) The investor-owned utility shall charge for electricity used by the customer in  
13 excess of the generation supplied by customer-owned renewable generation in accordance  
14 with normal billing practices.

15 (e) During any billing cycle, excess customer-owned renewable generation delivered  
16 to the investor-owned utility's electric grid shall be credited to the customer's energy  
17 consumption for the next month's billing cycle.

18 (f) Energy credits produced pursuant to subsection (8)(e) shall accumulate and be used  
19 to offset the customer's energy usage in subsequent months for a period of not more than  
20 twelve months. At the end of each calendar year, the investor-owned utility shall pay the  
21 customer for any unused energy credits at an average annual rate based on the investor-owned  
22 utility's COG-1, as-available energy tariff.

23 (g) When a customer leaves the system, that customer's unused credits for excess  
24 kWh generated shall be paid to the customer at an average annual rate based on the investor-

25

CODING: Words underlined are additions; words in ~~struck through~~ type are deletions from existing law.

1 owned utility's COG-1, as-available energy tariff.

2 (h) Regardless of whether excess energy is delivered to the investor-owned utility's  
3 electric grid, the customer shall continue to pay the applicable customer charge and applicable  
4 demand charge for the maximum measured demand during the billing period. The investor-  
5 owned utility shall charge for electricity used by the customer in excess of the generation  
6 supplied by customer-owned renewable generation at the investor-owned utility's otherwise  
7 applicable rate schedule. The customer may at their sole discretion choose to take service  
8 under the investor-owned utility's standby or supplemental service rate, if available.

9 (9) Renewable Energy Certificates. Customers shall retain any Renewable Energy  
10 Certificates associated with the electricity produced by their customer-owned renewable  
11 generation equipment. Any additional meters necessary for measuring the total renewable  
12 electricity generated for the purposes of receiving Renewable Energy Certificates shall be  
13 installed at the customer's expense, unless otherwise determined during negotiations for the  
14 sale of the customer's Renewable Energy Certificates to the investor-owned utility.

15 (10) Reporting Requirements. Each electric utility, as defined in Section 366.02(2),  
16 Florida Statutes, shall file with the Commission as part of its tariff a copy of its Standard  
17 Interconnection Agreement form for customer-owned renewable generation. In addition, each  
18 electric utility shall report the following, by April 1 of each year.

19 (a) Total number of customer-owned renewable generation interconnections as of the  
20 end of the previous calendar year;

21 (b) Total kW capacity of customer-owned renewable generation interconnected as of  
22 the end of the previous calendar year;

23 (c) Total kWh received by interconnected customers from the electric utility, by  
24 month and by year for the previous calendar year;

25

CODING: Words underlined are additions; words in ~~struck through~~ type are deletions from existing law.

1           (d) Total kWh of customer-owned renewable generation delivered to the electric  
2 utility, by month and by year for the previous calendar year; and

3           (e) Total energy payments made to interconnected customers for customer-owned  
4 renewable generation delivered to the electric utility for the previous calendar year, along with  
5 the total payments made since the implementation of this rule.

6           (f) For each individual customer-owned renewable generation interconnection:

7           1. Renewable technology utilized;

8           2. Gross power rating;

9           3. Geographic location by county; and

10          4. Date interconnected.

11          (11) Dispute Resolution. Parties may seek resolution of disputes arising out of the  
12 interpretation of this rule pursuant to Rule 25-22.032, F.A.C, Customer Complaints, or Rule  
13 25-22.036, F.A.C., Initiation of Formal Proceedings.

14 Specific Authority 350.127(2), 366.05(1), 366.92, FS. Law Implemented 366.02(2),  
15 366.04(2)(c), (5), (6), 366.041, 366.05(1), 366.81, 366.82(1),(2), 366.91(1),(2), 366.92, FS.  
16 History—New 2-11-02, Amended \_\_\_\_\_.

17  
18 InterconnectionNetMeteringRule.rg.doc

19  
20  
21  
22  
23  
24  
25

CODING: Words underlined are additions; words in ~~struck-through~~ type are deletions from existing law.