

State of Florida



Public Service Commission

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COMMISSION CLERK

DATE: SEPTEMBER 6, 2001

TO: DIRECTOR, DIVISION OF THE COMMISSION
ADMINISTRATIVE SERVICES (BAYO)

FROM: DIVISION OF APPEALS (MOORE) *VM*
DIVISION OF ECONOMIC REGULATION (HEWITT) *CS*
DIVISION OF LEGAL SERVICES (STERN) *RVE For MR*
DIVISION OF POLICY ANALYSIS & INTERGOVERNMENTAL LIAISON
(DEAN) *JWD*
DIVISION OF SAFETY & ELECTRIC RELIABILITY (COLSON) *RC/TB*

RE: DOCKET NO. 010982-EI - PROPOSED RULE 25-6.065, F.A.C.,
INTERCONNECTION OF SMALL PHOTOVOLTAIC SYSTEMS

AGENDA: SEPTEMBER 18, 2001 - REGULAR AGENDA - RULE PROPOSAL -
INTERESTED PERSONS MAY PARTICIPATE

RULE STATUS: PROPOSAL MAY BE DEFERRED

SPECIAL INSTRUCTIONS: NONE

FILE NAME AND LOCATION: S:\PSC\APP\WP\010982.RCM

CASE BACKGROUND

On May 13, 1999, Florida Power Corporation (FPC) asked the Commission to approve a proposed agreement to interconnect a solar photovoltaic system (SPS) owned by Disney Wilderness Preserve (DWP). An SPS is a solar powered generating system primarily used to offset part or all of the customer's current electricity requirements. These panels were rated at a peak output of approximately 10 kW and were not expected to ever exceed the customer's load. DWP was not seeking qualifying facility (QF) status, therefore, the parties asked that the QF Rules be waived. The proposed interconnection agreement set the liability insurance amount at \$100,000, and FPC was not required to pay DWP in the event that energy produced by the SPS was delivered to FPC's system. The agreement also established safety and electrical

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requirements specifically for the SPS. Current Commission rules do not require investor-owned utilities to interconnect with an SPS unless the SPS is certified as a QF as defined under the 1978 Public Utilities Regulatory Policy Act (PURPA) or Commission Rule 25-17.080, Florida Administrative Code.

The proposed agreement to interconnect was assigned Docket No. 990538-EI. Staff recommended that the interconnection agreement should be used as the blueprint for developing the small photovoltaic systems (SPS) interconnection rule. FPC withdrew its petition to interconnect with DWP before the recommendation was presented at the July 27, 1999, Agenda Conference. Staff learned later that the parties (FPC and DWP) did interconnect. FPC decided to place DWP in its Technology Development (Research and Development) program. Docket No. 990538-EI was closed, however, staff decided to go forward in developing rules for interconnecting SPS.

On November 22, 2000, a notice of proposed rule development for Rule 25-6.065, Florida Administrative Code, was published in the Florida Administrative Weekly and sent to all persons on the mailing list in Docket No. 990538-EI. Staff conducted a rule development workshop on January 10, 2001. Representatives from Florida Power Corporation (FPC), Florida Power and Light Company (FPL), Florida Solar Energy Center (FSEC), Florida Electrical Workers Association (FEWA), Florida Solar Energy Industries Association (FLASEIA), Lakeland Electric (Lakeland), Legal Environmental Assistance Foundation (LEAF), Gulf Power Company (GPC), Department of Community Affairs, Micro Power Corporation, Siemens Solar, Tampa Electric Company (TECO), P. A. Freeman and Sons, and Commission staff attended the workshop. In addition, FPC, FPL, FSEC, FEWA, FLASEIA, Lakeland, LEAF, and TECO submitted post-workshop comments.

DISCUSSION OF ISSUES

ISSUE 1: Should the Commission propose Rule 25-6.065, Florida Administrative Code, Interconnection of Small Photovoltaic Systems?

RECOMMENDATION: Yes.

STAFF ANALYSIS: The attached recommended rule, Rule 25-6.065, Florida Administrative Code, establishes standards for the interconnection of small photovoltaic systems (SPS) with the electric grid and requires investor-owned electric utilities to file a standard interconnection agreement with the Commission.

Section 187.201(12)(a), Florida Statutes, states that Florida's energy goal is to reduce its energy requirements through enhanced conservation and efficiency measures, while at the same time promoting an increased use of renewable energy resources. Section 187.201(12)(b)7., Florida Statutes, specifically states the policy to promote the development and application of solar energy technologies and passive solar design techniques. In addition, section 366.81, Florida Statutes, of the Florida Energy Efficiency and Conservation Act (FEECA), states the Legislature's intent that the use of solar energy be encouraged.

Staff believes that the recommended interconnection rule is consistent with Florida's energy policy. The intent of the rule is to encourage customers to use renewable generation for their own needs. By setting a maximum size of 10 kW, the SPS is unlikely to exceed the electric needs of the customer-generator's own residential or small commercial facility, and will not become a net seller of electricity. Staff believes the rule adequately addresses the need to protect the reliability and safety of the utility's system, but does not impose requirements that are too burdensome for a homeowner or small business to comply with.

Summary of the Rule:

Section (1) defines a small photovoltaic system (SPS) as a solar powered generating system that uses an inverter rated at no more than 10 kW alternating current (AC) power output.

Section (2) requires each utility to file with the Commission a Standard Interconnection Agreement for interconnecting an SPS which must contain the provisions stated in (2)(a) through (e).

Section (2)(a) requires the agreement to contain a list of standards approved by nationally recognized professional organizations that address the design, installation, and operation of the SPS prior to its operation in parallel with the utility. The rule provides that it is the customer's responsibility to insure compliance with such standards.

Section (2)(b) requires that the SPS must be inspected and approved by local code officials prior to its operation in parallel with the utility system.

Section (2)(c) requires the SPS owner to provide proof of general liability insurance for personal and property damage in the amount of no more than \$100,000.

Section (2)(d) permits the utility to inspect the SPS and its component equipment and ensure compliance with subsections (a) through (c).

Section (2)(e) requires a provision in the agreement that the SPS customer is responsible for maintaining and protecting its generating equipment and other system components to ensure that it is operating correctly and safely.

Section (3)(a) permits the utility to require the customer to install a manual disconnect switch so that the utility can isolate the SPS for safety reasons.

Section (3)(b) provides that the agreement may contain a provision requiring the SPS customer to hold harmless and indemnify the utility from all loss resulting from the operation of the SPS, except in those cases where loss occurs due to the negligence of the utility.

Section (4) requires the utility to provide the SPS owner with written notice that it has received the documents required by section (2) within ten business days of receipt. The customer shall not begin parallel operations until the customer has received this written notice.

Section (5) lists the conditions that will permit a utility to disconnect the SPS from its electrical system.

Section (6) provides for two methods of accounting for any power that is delivered to the utility by the SPS. The SPS customer may net meter any excess energy delivered to the utility by use of a single standard watt-hour meter capable of reversing directions to offset recorded consumption by the customer. Any excess may be accumulated over a 12-month period.

Alternatively, at the option and expense of the utility, the utility may install additional metering equipment on the customer's premises to measure any excess kilowatt-hours produced by the SPS and delivered to the utility. The value of such excess generation shall be credited to the customer's bill based on the host utility's COG-1 tariff (the tariff filed by investor-owned electric utilities setting forth the rate paid to qualifying facilities for as-available energy), or by other applicable tariffs approved by the Public Service Commission.

Post-Workshop Comments

In their post-workshop comments on the rule, the two major concerns stated by FPC, FPL, GPC, and TECO were the liability limits and net metering. In addition, GPC and TECO are concerned about who will bear the cost of interconnection. GPC stated that the entity causing the expense--in this case the SPS customer--should bear the cost. TECO asked for a provision for cost-recovery of any expenses the host utility incurs for metering, billing and payments for any energy it purchases from the SPS. Other provisions, such as the appropriate interconnection safety standards, inspection requirements, and disconnection standards, were generally agreed upon by the utilities and the workshop participants representing the solar industry interests. The recommended rule reflects changes as a result of the comments.

Insurance Requirements:

GPC and TECO stated in their comments that the amount of liability insurance an SPS customer is required to maintain should be \$1,000,000 and that the utility should be named as an additional insured on the policy. TECO also asked for requirements that the utility be named on the policy as an additional insured and notification from the insurer 30 days prior to cancellation or material change in the policy.

TECO stated that it's concern stems from the risk to human life that can exist when it is restoring its distribution system following severe weather. It states that an SPS can be functioning before the utility's system and can be producing power that is back-feeding onto downed power lines. FPL also believes that the potential for liability litigation would be greatly increased if the utilities were required to inspect SPS installations.

FPL and FPC stated that if the utility's liability was limited by the SPS customer agreeing to indemnify and hold the company harmless for all losses resulting from operating the SPS, and the utility does not have the burden to inspect or certify the SPS, then the reduction in insurance coverage from \$1,000,000 to \$100,000 would be acceptable. FLASEIA agreed with the indemnification and inspection requirements as long as the requirement for insurance coverage not exceed \$100,000, which it stated can be met with a standard homeowner policy. Under TECO's pilot program for interconnecting SPS's, which was approved by the Commission on November 6, 2000, the customer must provide proof of liability insurance in an amount not less than \$100,000 and that requirement can be satisfied by a standard homeowner's insurance policy.

Staff believes that requiring insurance in an amount greater than \$100,000 could be burdensome and too costly for a homeowner. Staff also believes that this amount of insurance is reasonable because the rule requires that the SPS comply with standards approved by nationally recognized professional organizations. Organizations such as Underwriters Laboratories (UL) and the Institute of Electrical and Electronics Engineers (IEEE) have adopted standards that specifically address the design, installation, and operation of photovoltaic systems. In addition, the rule gives the utility the option to require the SPS owner to install a manual disconnect switch that will be accessible to utility personnel and may be used to manually isolate the SPS from the grid in case of emergency.

Net Metering:

Net metering means that the owner of the SPS is billed for the difference between the amount of electricity supplied by the utility in a given billing period and the electricity delivered from the customers' side of the meter using the SPS. With a single meter, the customer receives a credit for the electricity the

customer provides to the utility at a price equal to the utility's retail electric rate. Without net metering, SPS customers sell excess electricity on an instantaneous basis at the as-available energy rate, which is lower than the retail rate.

FPC believes that net metering results in cross-subsidization, and that the customer should receive no more than the avoided generation cost, which is lower. FPC also stated, however, that the amount of excess energy that is produced by an SPS is so little as to be inconsequential.

FPL stated that "the SPS customer may cause the utility to avoid some short-run generation cost but has little or no impact on reducing the cost of transmission or distribution service, or for that matter, fixed generation cost. It is unfair for SPS customers to avoid paying for services that they use, such as distribution and transmission of electricity which are currently bundled in FPL's retail rates." FPL asserts that as a result, the utility and ultimately its other customers will subsidize the net metering SPS customers, contrary to the provisions in section 366.03, Florida Statutes, against unreasonable and undue preferences.

FPL further stated that the mechanics of net metering (the flow of current through the meter in the reverse direction), even though generally accurate, have only been tested over a short period of time, and that the manufacturer might not stand behind its product if used in this application. GPC also believes that a standard residential meter is not sufficient to adequately measure the exchange of power between the SPS and the utility. Lakeland stated that based on its research with its metering staff and the manufacturers of its meters, there is no measurable meter error in running a meter backwards. Lakeland has 20 SPS's operating on its system.

TECO supports a provision that gives the utility the option of installing an additional meter or metering equipment on the customer's premises to measure any excess kilowatt-hours produced by the SPS and delivered back to the utility. FPL also supports such an option. Staff has included this option in the recommended rule, along with the requirement that if the utility exercises the option, it shall bear the cost. Staff believes that this option fairly balances the concerns of both the utilities and the SPS customer.

LEAF objects to giving utilities the option to install an additional meter to measure excess generation produced by the SPS. LEAF believes the option should be the customer's, as does FLASEIA. LEAF states that the customer has the option under Rule 25-17.092(2)(b), Florida Administrative Code. That rule applies to cogeneration and qualifying facilities (QF). An SPS owner could seek QF status under that rule, however, the additional requirements are probably more costly than an SPS would be likely to undertake for the relatively small benefit.

Staff believes that net metering will encourage customers to install renewable generation for their own needs using solar photovoltaic systems. Further, with the maximum size SPS set by the rule at 10 kW, it is unlikely that the power produced by an SPS will exceed the electric needs of the customer-generator's own residential or small commercial facility. Net metering will require the utility to continue reading the SPS customer's meter as it currently does. Any excess kWhs produced by the SPS would automatically reverse the meter. In this manner, the SPS can be considered as similar to other conservation measures that reduce kW demand and kWh consumption. In the rare instance where the SPS produces more kWhs than the customer consumes from the utility for the month, the customer will only pay the monthly fixed charge. The meter reading for the next month will automatically reflect any excess kWhs supplied by the SPS as the excess kWhs are in effect applied to the next month's bill. At the end of the 12-month period, any remaining excess kWhs become the utility's.

Statement of Estimated Regulatory Costs:

The attached Statement of Estimated Regulatory Costs details the various estimated costs reported in response to staff's data request by the utilities required to comply with the rule. Additional costs are expected for activities such as reviewing and processing applications for interconnection, the cost of an engineer to be present at testing and inspecting of the SPS, modification of billing systems to handle customer generated kWh credits, additional meter costs if the utility chooses to install a separate meter, and the cost of developing a new tariff. The most significant costs appear to be associated with changing billing systems and installing additional meters. Although there is an additional cost in lost revenues to the utility under net metering, because the customer is essentially being compensated at the retail rate rather than the avoided cost rate, there are

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additional administrative costs when a second meter is installed instead of net metering.

In addition to the cost of equipment, the customer will be responsible for paying the utility a fee for processing the application. Customers may also have the cost of purchasing and installing a manual disconnect switch if it is required by the host utility.

ISSUE 2: If no request for hearing or comments are filed, should the proposed rule be filed for adoption with the Secretary of State and the docket be closed?

RECOMMENDATION: Yes, the docket should be closed if no requests for hearing or comments are filed.

STAFF ANALYSIS: Unless comments or requests for hearing are filed, the proposed rule may be filed with the Secretary of State without further Commission action. The docket may then be closed.

Attachments:

- A - Recommended Rule 25-6.065
- B - Statement of Estimated Regulatory Costs

1 25-6.065 Interconnection of Small Photovoltaic Systems

2 (1) A small photovoltaic system (SPS) is a solar powered
3 generating system that uses an inverter rated at no more than 10 kW
4 alternating current (AC) power output and is primarily intended to
5 offset part or all of a customer's current electricity requirements.

6 (2) Each investor-owned electric utility (utility), within 30
7 days of the effective date of this rule, shall file for Commission
8 approval a Standard Interconnection Agreement for interconnecting
9 an SPS. Where a utility refuses to interconnect with an SPS or
10 attempts to impose unreasonable standards or conditions, the SPS
11 customer may petition the Commission for relief. The utility shall
12 have the burden of demonstrating to the Commission why
13 interconnection with the SPS should not be required or that the
14 standards or conditions the utility seeks to impose on the SPS are
15 reasonable. The SPS Standard Interconnection Agreement shall, at
16 a minimum, contain the following:

17 (a) A list of standards approved by nationally recognized
18 professional organizations that address the design, installation,
19 and operation of the SPS. It is the customer's responsibility to
20 ensure compliance with such standards.

21 (b) A requirement that the SPS must be inspected and approved
22 by local code officials prior to its operation in parallel with an
23 investor-owned electric utility to ensure compliance with applicable
24 local codes.

25

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~~struck through~~ type are deletions from existing law.

1 (c) A requirement for general liability insurance for personal
2 and property damage in the amount of no more than \$100,000. A
3 homeowner's policy that furnishes at least this level of liability
4 coverage will meet the requirement for insurance.

5 (d) Identification of a reasonable charge for processing the
6 application for interconnection.

7 (e) Provisions that permit the utility to inspect the SPS and
8 its component equipment, and the documents necessary to ensure
9 compliance with subsections (a) through (d). The utility has the
10 right to have personnel present at the initial testing of customer
11 equipment and protective apparatus.

12 (f) A provision that the customer who operates an SPS is
13 responsible for protecting its generating equipment, inverters,
14 protection devices, and other system components from damage from the
15 normal and abnormal conditions and operations that occur on the
16 utility system in delivering and restoring system power; and is
17 responsible for ensuring that the SPS equipment is inspected,
18 maintained, and tested in accordance with the manufacturer's
19 instructions to insure that it is operating correctly and safely.

20 (3) The SPS Interconnection Agreement may require the customer
21 to:

22 (a) Install, at the customer's expense, a manual disconnect
23 switch of the visible load break type to provide a separation point
24 between the AC power output of the SPS and any customer wiring
25 connected to the utility's system. The manual disconnect switch

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1 shall be mounted separate from the meter socket and shall be readily
2 accessible to the utility and capable of being locked in the open
3 position with a utility padlock. The utility may open the switch,
4 isolating the SPS, without prior notice to the customer. To the
5 extent practicable, however, prior notice shall be given.

6 (b) Provide a written agreement to hold harmless and indemnify
7 the utility from all loss resulting from the operation of the SPS,
8 except in those cases where loss occurs due to the negligent actions
9 of the utility.

10 (4) The utility shall provide the customer with written notice
11 that it has received the documents required by the Standard
12 Interconnection Agreement within 10 business days of receipt. The
13 customer shall not begin parallel operations until the customer has
14 received this written notice.

15 (5) Any of the following conditions shall be cause for the
16 utility to disconnect the SPS from its system:

17 (a) Utility system emergencies or maintenance requirements;

18 (b) Hazardous conditions existing on the utility system due to
19 the operation of the customer's SPS generating or protective
20 equipment as determined by the utility;

21 (c) Adverse electrical effects (such as power quality problems)
22 on the electrical equipment of the utility's other electric
23 consumers caused by the SPS as determined by the utility; or

24 (d) Failure of the customer to maintain the required insurance.
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1 The SPS shall be reconnected to the utility grid as soon as
2 practical once the conditions causing the disconnection cease to
3 exist.

4 (6) The utility may install, at its own expense, an additional
5 meter or metering equipment on the customer's premises capable of
6 measuring any excess kilowatt-hours produced by the SPS and
7 delivered back to the utility. The value of such excess generation
8 shall be credited to the customer's bill based on the host utility's
9 COG-1 tariff, or by other applicable tariffs approved by the Florida
10 Public Service Commission. If the utility does not install such a
11 meter or metering equipment, the utility shall permit the customer
12 to net meter any excess power delivered to the utility by use of a
13 single standard watt-hour meter capable of reversing directions to
14 offset recorded consumption by the customer. If the kilowatt-hour
15 of energy produced by the SPS exceeds the customer's kilowatt-hour
16 consumption for any billing period, such that when the meter is read
17 the value displayed on the register is less than the value displayed
18 on the register when it was read at the end of the previous billing
19 period, the utility shall carry forward credit for the excess energy
20 to the next billing period. Credits may accumulate and be carried
21 forward for a 12-month period specified by the utility in the SPS
22 Interconnection Agreement. In no event shall the customer be paid
23 for excess energy delivered to the utility at the end of the 12-
24 month period.

25 **Specific Authority: 350.127(2), 366.05(1), F.S.**

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1 Law Implemented: 366.04(2)(c) (5) (6), 366.05(1), 366.81, F.S.

2 History: New _____.

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MEMORANDUM

June 18, 2001

TO: DIVISION OF APPEALS (MOORE)
FROM: DIVISION OF ECONOMIC REGULATION (HEWITT)
SUBJECT: STATEMENT OF ESTIMATED REGULATORY COSTS FOR PROPOSED RULE
25-6.065, F.A.C., INTERCONNECTION OF SMALL PHOTOVOLTAIC
SYSTEMS

SUMMARY OF THE RULE

The purpose of proposed Rule 25-6.065, F.A.C., Interconnection of Small Photovoltaic Systems, is to require the investor-owned electric utilities (IOUs) to provide service standards and interconnection for any small solar photovoltaic system (SPS). A SPS is defined as a solar powered generating system that uses an inverter rated at no more than 10 kW intended to offset part or all of a customer's current electricity requirements. A SPS system would have to meet the safety standards and insurance minimum set by the proposed rule to interconnect with the electric grid.

ESTIMATED NUMBER OF ENTITIES REQUIRED TO COMPLY AND
GENERAL DESCRIPTION OF INDIVIDUALS AFFECTED

There are five investor-owned electric utility companies operating in Florida. Each would have to comply with the proposed rule to allow SPSs to interconnect with their system under certain conditions. There are an unknown number of SPSs in Florida eligible for interconnection under the proposed rule. Entities would not have to comply with the proposed rule to install a stand-alone SPS where SPSs have a dedicated purpose, e.g., running a pool pump. Entities would have to comply with the relevant rule requirements if they wanted to interconnect with a regulated IOU.

RULE IMPLEMENTATION AND ENFORCEMENT COST AND IMPACT ON REVENUES
FOR THE AGENCY AND OTHER STATE AND LOCAL GOVERNMENT ENTITIES

The Public Service Commission and other state entities are not expected to experience implementation costs other than the costs associated with promulgating a proposed rule. Existing Commission staff would continue to handle the monitoring and review of IOU compliance.

Local government entities may install SPSs, e.g., on a school roof, and would have to conform to the rule requirements to interconnect with an IOU. The cost would be similar to an individual customer: submit certification, have the proper insurance, and, if required by the utility, install a manual disconnect switch.

ESTIMATED TRANSACTIONAL COSTS TO INDIVIDUALS AND ENTITIES

IOUs would have transactional costs to comply with the proposed rule. IOU costs would be borne by the IOU until a rate case. Then, if the costs associated with accommodating SPSs are allowed, the rest of the ratepayers would be subsidizing SPS owners.

Gulf Power Company (GULF) estimated three areas for transactional costs: a) the time for an engineering representative to review and process the customer's documents would cost \$600; b) the cost for a power quality engineer to investigate any power quality issues would be an estimated \$600 per occurrence; c) the incremental cost for an engineering representative to be present at testing and inspecting the customer's site and equipment would be \$600. In addition, GULF does not do net metering and would have to modify its existing billing system to handle customer generated kWh credits and maintain separate account balances, but at an unknown cost. GULF believes that standardizing procedures for interconnecting SPSs will be beneficial the development of these alternative energy resources and provide the information necessary to insure the safe and proper connection between the SPS and host IOU grid.

Florida Public Utilities (FPU) stated that the proposed rule would significantly impact operations at FPU in several areas. Depending on the acceptance of this type of technology, operational cost involved with inspections and documentation of SPS installations could be significant. Cost would depend on the complexity and size of the installation. Safety problems and injuries could result from this proposed rule with associated cost varying dependent on the situation. Back feed could result from SPSs with improperly operating protection features thereby endangering utility personnel. Restoration times of utility systems would be increased due to the requirement to verify the condition of all SPSs prior to beginning restoration efforts. FPU's Marianna Division has not filed a COG-1 tariff and should it be filed and changes required to the computer information system, cost could easily approach \$100,000. The additional metering costs for multiple meter installations would be a minimum of \$500. However, the use of single meters capable of metering the reverse flow of electricity would not result in significant additional costs.

Tampa Electric Company (TECO) filed the most detailed cost estimates. The estimates are attached as Table 1 and Table 2. The total costs would be \$1,105 the first year for two additional SPS

customers. The cumulative total cost to add two SPS customers each year for five years would be \$9,602 or \$960 per customer.

Florida Power & Light (FPL) stated that it believes that the rule as proposed is inadequate since it does not address issues identified by FPL in its response to FPSC staff's post-workshop comments. However, for the proposed rule, FPL estimated costs, based on certain assumptions. Processing 1000 SPS interconnection inquiries would cost \$13,841 and 25 applications would cost \$12,228 for a total of \$26,070 annually. Considering that SPS installations would be few and far between, FPL estimated that the cost to identify, locate, and disconnect would be \$118 per SPS for a total the first year of \$2,950. The estimated cost for SPS disconnect switch inspections would be \$30 times 25 or \$750 per year. Legal review of the rule, the compliance process, and tariff revisions, if any, would take 100 hours at a cost of \$17,000 to \$20,000. The total would be a maximum of \$49,770 the first year for FPL to interconnect 25 SPSs.

If, however, FPL chose to install an additional meter for SPSs, the cost would jump significantly by approximately \$1,467,500. FPL stated it would incorporate an electronic meter with two channels to capture the two readings necessary for billing purposes under FPL's COG-1 rate. The electronic meter would cost \$400 each including installation, \$10,000 for 25 meters. A one-time software to interface the data gathering system would be approximately \$40,000. The major cost of a new Photovoltaic Residential Tariff would be to change the Billing System, estimated at approximately \$1,404,000. A detailed cost list was provided by FPL, but the alternative to changing the automated CIS II billing system would be to hand-bill the SPS ratepayers. Additionally, for a new tariff, development costs would be an estimated \$8,000 for 150 hours time and a yearly administrative cost of \$5,500. Finally, FPL is concerned that the insurance provision is illusory because homeowners' insurance policies may not provide coverage under the circumstances required by the rule. When the ratepayer receives monetary consideration for the amount of electricity they put onto the system, FPL believes that makes the SPS a business and a homeowner's policy would not provide coverage.

The Florida Solar Energy Center (FSEC) submitted an example one-page form for a SPS application and compliance for interconnection. FSEC also submitted comments on clarification and suggestions for the proposed rule. FSEC is concerned that a SPS customer may think they have to hire an attorney to comply with the "certification" requirements or to draw up a contract, costing \$500 or more. Although the cost of the manual disconnect may not be great, the cost of installing

the disconnect will be high (around \$250), especially if there is a long distance between the inverter(s) and the location of the disconnect. FSEC also stated that the meter cost could be as low as \$10 for a reconditioned residential meter or \$250 for a single-phase electronic meter with automatic meter reading functions. The lowest cost alternative would be net metering, which is allowed if the utility does not choose to install, at its own expense, an additional meter or metering equipment.

The Legal Environmental Assistance Foundation (LEAF) submitted comments on the proposed rule also. LEAF stated that it, "strongly objects to the proposed rule's failure to continue the Commission's current net metering policy. The Commission now gives a customer who owns a small grid-connected PV system the option of net metering (Rule 25-17.082(2)(b), FAC). The rule as proposed would give utilities this option." However, the cited rule concerns cogeneration and Qualifying Facilities (QFs). A SPS owner apparently could, under that rule, petition the Commission for QF status. But, the small PV (under 10 kW) owner would not likely undertake the additional expense and procedural requirements to seek QF status for a small SPS costing around \$8,000 to save approximately \$9 per month on his utility bill. Whether the utility, at its own cost, would decide to install an additional meter or metering equipment for small SPSs, is unknown at this time.

IMPACT ON SMALL BUSINESSES, SMALL CITIES, OR SMALL COUNTIES

Small businesses, small cities, and small counties would be affected if they installed SPSs and wished to interconnect with an IOU. The cost would be similar for any individual customer: submit certification, have the proper insurance, and, if required by the utility, install a manual disconnect switch.

ALTERNATIVE METHODS

Several alternatives were suggested by parties. Gulf Power Company (GULF) believes that the required insurance coverage should be \$1,000,000 rather than \$100,000 with the utility named as an additional insured. This requirement would raise the cost for SPS owners unless they were already insured for \$1,000,000. In addition, GULF proposes that the reference to a "standard" homeowner's policy be stricken since homeowner policies vary for diverse reasons. GULF also recommends changing the Section 3 requirement to provide the customer with written notice of

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receiving documentation within ten(10) business days to thirty(30) days to insure adequate time to review and inspect for proper installation and operation of the SPS.

TECO suggested an alternative metering scheme, which would eliminate additional expense for hand billing, to allow a single totalizing detented meter (detented means it will only record energy moving from the grid to the customer). Then the standard billing programs, meter reading, and record keeping systems could operate without modification. Eliminating dual meter reading and hand billing would reduce the incremental cost over the first five years by about 50%. Also, TECO believes that Section 8 needs to be modified to state that the costs for interconnection should be borne by the cost-causing customers that choose to interconnect. However, the best lower cost alternative according to TECO, would be to allow utilities to move forward with pilot interconnection agreements designed to collect information that would be beneficial in ultimately crafting a comprehensive, well-designed rule that would address the uncertainties found in the current proposed rule.

Cc: Mary Bane
Hurd Reeves
Lee Colson

svserc.cbh