

MEMORANDUM

TO: Fort Pierce Utilities Authority Board

FROM: Director of Utilities *W.Y.T.*

DATE: June 7, 2007

SUBJECT: Recommended Decision on Implementation of PURPA Standards 14 and 15, Smart Metering and Interconnection of Customer Electric Generation

Recommendation:

Request the Board reaffirm its decision of June 5, 2007, not to implement a Smart Metering program pursuant to PURPA Standard 14, and request the Board adopt Institute of Electrical and Electronics Engineers (IEEE) Standard 1547 and an application process for the interconnection of customer-owned electric generation pursuant to PURPA Standard 15.

Summary/Supporting Information:

The Energy Policy Act of 2005 approved by the United States government modified the Public Utility Regulatory Policy Act. The 2005 Act requires electric utilities to consider implementation of two programs known as Smart Metering and Interconnection of Customer-Owned Electric Generation. Staff prepared position papers on these programs in late April of 2007 and made them available to the public. On June 5, 2007, public hearings were held to receive statements and questions from the public regarding implementation of these programs. No comments from the public have been received. Staff maintains the views stated in its position papers. Implementation of a Smart Metering program is not recommended due to more practical alternatives already undertaken. While the Fort Pierce Utilities Authority already has an interconnection policy, the adoption of IEEE Standard 1547 updates that policy with well developed and nationally recognized technical requirements. The application process is intended to clarify customer generation proposals and direct them to the Florida Municipal Power Agency (FMPA) if output of the proposed project is greater than 10 kilowatts. This redirection is necessary to conform to the contract requirements of the All-Requirements Project entered into by the Fort Pierce Utilities Authority and FMPA. The application process will be developed and maintained by the Utilities Authority's Electric Engineering Department.

Alternatives:

Standard 14 on Smart Metering could be implemented. This is not recommended because it would require additional expenditures. The Utilities Authority and its customers already address peak demand through the Treasure Coast Energy Center and a variety of available efficiency measures. The Board could also decide not to implement Standard 15 on Interconnection. This is not recommended because it would be unfriendly toward residents and businesses seeking to establish their own generation for economic and environmental reasons.

WGT/TT/lcc

MEMORANDUM

TO: Director of Utilities

THRU: Director of Electric and Gas System *JMB*

FROM: Supervising Electrical Engineer *WEB*

DATE: April 25, 2007

SUBJECT: PURPA Standard 14, Smart Metering

The 2005 Energy Policy Act of the United States Congress modified the Public Utility Regulatory Policies Act (PURPA) of 1978. The new Act requires electric utilities such as the Fort Pierce Utilities Authority (FPUA) to *consider* implementing a "Smart Metering" program. "Smart Metering" involves the use of advanced electric meters and load control devices to provide customers with more sophisticated price signals to encourage the reduction of peak demand and general electric energy conservation. The Act does not require the Fort Pierce Utilities Authority to implement a program, but to *consider* an implementation in public hearings. In the consideration process, the FPUA must state any reasons for not implementing "Smart Metering", and allow for and respond to public comments received during the hearing process. This staff position document commences the staff component of the hearing process, which, by the provisions of the Act, must culminate in a formal Board determination no later than August 8, 2007. A public workshop is to be held during the public hearing portion of the Regular Meeting of the Fort Pierce Utilities Authority Board on June 5, 2007, at 4:00 p.m., in the Commission Chambers of the Fort Pierce City Hall, 100 N. U.S. 1, Fort Pierce, Florida.

Staff recommends that the Fort Pierce Utilities Authority not implement a Smart Metering program per PURPA Standard 14 at the present time for the following reasons:

1. Our wholesale rate from the Florida Municipal Power Agency (FMPA) is not based on time-of-use but simply demand and energy. See the attached memorandum from FMPA on the All Requirements Project terms and conditions on this subject.
2. Per American Public Power Association information, such programs generally succeed in utilities with much larger numbers of customers over which the fixed Smart Metering infrastructure costs can be distributed at an attractive price per customer. To be effective, Smart Metering must be complemented by a reliable Automated Demand Response System (ADRS). Implementation of that system increases fixed costs which may not be recovered by program savings.

The cost of peak generating capacity is actually quite favorable when compared to the capacity cost of new base load generation.

3. Smart Metering requires additional staff support similar to the energy services positions which FPUA eliminated a few years ago to reduce costs and simplify customer service. Smart Metering would complicate customer service and raise customer service costs.
4. Smart Metering shifts energy price risk from the utility to the customer, reducing the utility's value to the customer. It is the utility that is most expert at managing energy price risk. Even large firms often see too much energy services activity on their part as a distraction from their core business. Or they see their core business activity as not being amenable to demand reduction during business hours. It is often the flat, stable electricity rate that is preferred.
5. A successful customer experience with Smart Metering without an effective ADRS requires considerable customer involvement in demand response investments and frequent tasks that can quickly become too inconvenient for the savings achieved. Indeed, a substantial number of customers might find themselves paying higher bills in a Smart Metering environment.
6. There are simpler methods to send a straightforward price signal to conserve energy overall (rather than simply shifting use), reduce pollution, and in some instances, provide a mechanism for achieving reduced bills. First and foremost is a periodic general rate increase to which customers predictably react by reducing their usage. Second, existing demand and energy charges for general service customers can be adjusted to improve returns on energy conservation investments, saving customers and the utility on the cost of demand and energy charges from our wholesale provider. Finally, a conservation price signal can be sent to residential customers through adoption of a three-tiered inverted rate that provides approximately the first 350 kWh at a discounted or "lifeline" rate with no power cost adjustment added, approximately the next 650 kWh at a rate designed to achieve full cost recovery at or somewhat below 1000 kWh, and remaining monthly kWh at an elevated rate that provides a satisfactory return on investments such as additional insulation, high-efficiency air-conditioning and refrigeration, improved lighting technology, and general conscientious use of energy. These system-wide changes are fairly simple to implement in conventional utility billing software without staff additions. Existing commercially available products and services are already in place and will continue to be developed to provide the suggested energy conservation measures.

There is a scenario in which staff might recommend implementation of a specialized form of Smart Metering. That scenario would be significant customer purchases of plug-in hybrid electric vehicles. The increased electricity sales would improve energy sales per employee and per circuit-mile, justifying the provision of a discounted charging rate and credits for providing energy from the battery to the grid while parked at work or at home. It is the prospect of increased sales and hybrid vehicle customers seeking consideration for them, not peak demand reduction, which would prompt this change in view of Smart Metering. However, it might also be possible to develop a rate to accommodate such customers without the use of smart metering. Staff recommends that it is in FPUA's interest to support other APPA members in their campaign to make plug-in hybrids a part of the menu of transportation options.

In conclusion, Smart Metering provides time-stamped demand and energy readings that are oriented toward peak demand reduction, not good customer service. These systems add to the cost of service, diminishing and potentially nullifying economic savings, and complicating customer service. Staff does advocate for conservation in traditional electricity use, complemented by increased use of electricity in hybrid electric vehicles. However, staff believes Smart Metering is not necessary to provide an incentive to make the best use of electricity and conserve resources.

WEB/tct

MEMORANDUM

TO: Director of Utilities
THRU: Director of Electric and Gas System
FROM: Supervising Electrical Engineer
DATE: April 25, 2007
SUBJECT: PURPA Standard 15

The 2005 Energy Policy Act of the United States Congress modified the Public Utility Regulatory Policies Act (PURPA) of 1978. The new Act requires electric utilities such as the Fort Pierce Utilities Authority (FPUA) to consider implementing a policy for customers to connect their own electric generation equipment to the FPUA distribution system. Currently, FPUA has no such customers, but does have a policy and application process for customers proposing to interconnect generation. The Act does not require the Fort Pierce Utilities Authority to implement a policy, but to consider an implementation in public hearings. In the consideration process, the FPUA must state any reasons for not implementing a policy and allow for and respond to public comments received during the hearing process. This staff position document commences the staff component of the hearing process, which, by the provisions of the Act, must culminate in a formal Board determination no later than August 8, 2007. A public workshop is to be held during the public hearing portion of the Regular Meeting of the Fort Pierce Utilities Authority Board on June 5, 2007, at 4:00 p.m., in the Commission Chambers of the Fort Pierce City Hall, 100 N. U.S. 1, Fort Pierce, Florida.

Staff recommends that the Fort Pierce Utilities Authority implement a limited customer generation interconnection program per PURPA Standard 15 at the present time for the following reasons:

1. Staff recommends interconnection of customer owned electric generation be allowed upon proper application to and acceptance by Fort Pierce Utilities Authority. Applications will be reviewed by Fort Pierce Utilities Authority for adherence to all policy and procedures of Fort Pierce Utilities Authority, with particular attention to IEEE 1547, safety and operating needs of Fort Pierce Utilities Authority. The application process shall also include the satisfaction of requirements by all other regulatory agencies with jurisdiction over the siting of electric generation facilities. Upon approval of the

application, the customer shall be required to execute a written interconnection agreement establishing all terms and conditions for the construction, operation, ancillary services, maintenance, improvement, risk management, dispute resolution and decommissioning of the generator plant that pertain to the interconnection to and use of the FPUA electric utility system.

2. Staff further recommends that FPUA adopt the Institute of Electrical and Electronics Engineers Standard Number 1547 as its technical requirement for interconnection with the Fort Pierce Utilities Authority distribution system for any customer owned electric generation rated 10MVA or less. The Standard has been carefully developed over a number of years by the full spectrum of relevant interests. This standard shall supersede the FPUA "Facility Connection Requirements" document dated August 1999. Generators larger than 10MVA shall require a customized, detailed feasibility study and interconnection design.
3. The size of generator to be interconnected is limited by the capacity of the FPUA Transmission and Distribution System available at the site of the generator. The customer will be responsible for all costs incurred by FPUA to upgrade its system to accommodate the generator.
4. The Fort Pierce Utilities Authority (FPUA) is a contracting party in the Florida Municipal Power Agency's (FMPA) All Requirements Project. The Project's contract states to the effect that all "necessary" electric power generation for the contracting parties is to be provided by FMPA contracted power resources. Therefore, the interconnection of customer generation shall not obligate Fort Pierce Utilities Authority to purchase any power from the interconnected party.
5. Any customer requesting standby or auxiliary service is advised that the standard retail rate structure is not available to customers with such requirements. Upon application, special arrangements will be made for standby and/or auxiliary service.
6. FPUA shall generally abide by the policies and procedures for interconnection detailed in the NRECA Distributed Generation Application Guide at

<http://www.nreca.org/Documents/PublicPolicy/DGApplicationGuide-Final.pdf>