
MEMORADUM TO THE FLORDIA ENEGERY COMMISSION

The Florida Public Service Commission (FPSC) staff is gathering information regarding enhancing development of solar technologies in Florida. To this end, we encourage individuals, businesses, and utilities to provide input on demand-side and supply-side policies and programs, and any other information that would be useful to the FPSC.

Comments of Dr. John N. O'Brien

Former Commissioner on the Florida Energy Commission (2006-2008)

These are my personal comments and not attributable to other persons or organizations.

Preface

The facts and issues with regard to third-party sales of electricity that were litigated in the 1980s, as discussed below, are very different than the issues that are attendant upon this request for comments in today's world. The facts and issues surrounding the sale of electricity from very small highly distributed rooftop solar generation systems are completely different facts and issues than were considered by the FPSC in the 1980s. That set of facts involved a large, utility scale fossil fuel generation facility that was going to serve only one large customer. The rationale for the decision that was made was that similar developers would in essence "cherry pick" the large customers on the utility system causing what some called the "death spiral" that would ultimately cripple the industry and also lead to higher rates for the remaining customers on the system. Those remaining customers would be typically residential and small commercial customers. The question today concerns the deployment of very small distributed solar generation systems that would displace part or all of a residential ratepayer's electricity requirements. It can be said that the very customers that were protected by the FPSC in the 1980s are being directly discriminated against in our current timeframe. This discrimination occurs because the same prohibitions that were applied to large, utility-scale fossil fuel plant and a single large customer are being applied to solar and highly distributed solar rooftop systems. That prohibition may have been logical in the 1980s, but not now. Clearly the logic of the decisions of the 1980s does not apply to the present issue. It is in the public interest to consider the new facts and issues and the resulting impacts of promoting the deployment of small rooftop solar generation and how such deployments will improve the general welfare in Florida.

Introduction

The State of Florida, which has been touting official nickname "the Sunshine State" for decades, is sorely lacking in the deployment of solar energy generation as opposed to many other jurisdictions that have less solar radiation. The reason for this has been the continued embrace of a Florida Supreme Court decision from 1988 called PW Ventures which was a controversy between Florida Power & Light and its 50% owned subsidiary to build a cogeneration plant in North Florida. While most norms of judicial interpretation would suggest that a controversy between a parent company and its 50% owned subsidiary would not meet the test of "a case in controversy", State of Florida has abided by that narrow 2-1

decision to disallow, on a blanket basis, any third-party ownership of electric generation and sale of that generation to anyone unless the seller is a heavily regulated public utility. Interestingly, the State of Florida is only one of four States in our union that enforce this regulatory anomaly. It's hard to believe that 46 States are wrong and with the willing compliance of Florida Public Service Commission (FPSC), that Florida is right.

This may not have been a gross injustice in the 1980s, but has continually been adhered to by the FPSC and the Florida legislature to the great advantage of the major electric utilities in the State.¹ Those utilities openly oppose the deployment of small rooftop solar generation in the State. As a result of that, in general terms the State of Florida ranks 13th among States with regard to solar generation, but also has the third greatest potential in the United States for that clean renewable electric generation source. Since the capital cost of solar electric generation has declined by almost 80% in the last several years, the investment necessary for constructing a rooftop solar generation system has come down dramatically. In fact, I just installed, at my own cost, a solar system on my home.²

There has been a great deal of controversy recently regarding the issue of cost shifting between net metering customers and customers who are not subject to net metering. It is clear that this issue is an integral part of the debate over expanding small rooftop solar generation in the State of Florida and certain groups with fossil fuel producer's support have promoted those arguments. The issue of cost shifting has caused some parties to object to the ballot initiative on the promotion of distributed solar generation. It remains to be seen whether the Florida Supreme Court will go forward to allow the ballot's language to be decided in the election in 2016. This issue really should be taken up not only by the FPSC, but also by the Florida Legislature. However, it is clear that the interests of the major electric utilities in Florida are also of paramount interest to our elected representatives. The FPSC commissioners should not be under the same pressure as legislators who need contributed funds from

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http://www.leagle.com/decision/1988814533So2d281_1810.xml/PW%20VENTURES,%20INC.%20v.%20NICHOLS, accessed June 17, 2015. Attachment A.

² Since I built this home as new construction, this is not coming out of my utility's pocket since this is a new load and whatever the load ends up being is will be in addition to the revenues that my utility already receives. New construction is a prime candidate for new rooftop solar generation and should be encouraged.

moneyed advocacy groups to be reelected to their positions. Florida's electric utilities are major contributors to political legislative campaigns and, as a result, exercise substantial influence in the Legislature.

Many other States have had to confront the issues associated with net metering and what has been called "fairness". These arguments are turning a blind eye towards the actual realities of rate making by the FPSC and how it operates with regard to "fairness". First, there are many cross subsidies that occur in rate making. For instance, rural and urban customers get the same rates but impose different costs, economic development and job retention discounts are granted and allowing customers to pay average electric rates rather than residential rates that are incurred where ratepayers actually live. By charging customers the same rates regardless of where they are or what generation they are served by, we are in essence "socializing" the real cost of electricity among customers which is clearly discriminatory in many respects. By charging rural customers the same price that is charged to urban customers it is clear that urban customers are subsidizing rural customers. Not much has been made of this form of cost shifting.

Since the States in Southeast decided to stop the development of an economic electric market as is in place in all areas United States with the exception of the Southeast US and the Northwest US.³ The absence of an economic electric market in the Southeast has created a number of problems with regard to pricing electricity, generation, and transmission. These difficulties will not be overcome easily or quickly and it is unfortunate that we do not have an economic electric market in southeastern United States. It is certainly arguable that our electric region and utilities would be far better off with an economic electric market which would end some of the discrimination and cost shifting that is clearly present today, but the political winds have made it likely that will never happen here.

With regard to net metering, the argument for a fixed customer charge for net metering customers is completely misplaced under common understanding of the rate making authority

³ This is because of the dominance of the Bonneville Power Administration, which is federal agency that provides low cost hydroelectric power in that region and serves as the principal transmission system for power in the Northwest US.

that the FPSC exercised. Most residential customers pay much more than their share of the “cost of service” to the utility that serves them. A reduction in one class of residential customers may of course lead to an increase in the costs of another set of residential customers and this is the case now in many instances as noted above. However, to assert that *any* residential customers do not pay their "fair" amount for the electricity they consume is simply untrue. It is also untrue to make a case that net metering customers don't pay their fair share of cost of service which they clearly do as do all residential customers.

In reviewing numerous studies that have been performed by States other than Florida⁴ that have researched and studied the same issue, it is clear that the answer to these issues is to create and allow a "minimum bill" to ratepayers in Florida. I have attached a very eloquent article on the use of a minimum bill versus a customer charge aimed at specific ratepayer classes and it is compelling to say the least. (See Attachment C) The FPSC has the authority to order such a rate design in order to allow for the deployment of rooftop solar systems throughout the State. Many benefits accrue to rooftop solar including, reduction of utility line losses which wastes 5 to 10% of electricity originally generated by a central power station, the reduction in emissions which affect health (for instance particulates from coal plants which are very dangerous for a geriatric society such as ours), the reduction in water use which is attendant upon all fossil fuel and nuclear generation, as a hedge against natural gas cost increases to which our State is particularly vulnerable, to decrease the carbon dioxide emissions causing climate change which will affect Florida disproportionately, and many other benefits.⁵ These benefits must be considered in any regulatory environment that will

⁴ These include California, Missouri, Texas, Arizona, and Massachusetts among others. A partial list of relevant studies is presented in Attachment B.

⁵ “Other cities, including Fort Lauderdale, Pompano Beach, Hollywood and Miami Beach, are dealing with sea water backing up into storm water pipes, flooding streets and neighborhoods. The storm water pipes are intended to funnel water, which accumulates on city streets during heavy rains, into the ocean. But during seasonal high tides, and during extreme high tides -- one of which will occur on October 16 and 17 -- the pipes can become submerged by sea water. The sea water then backs up into the pipes out onto city streets. In Miami Beach, city leaders are considering a \$206 million overhaul of their drainage system. In addition, South Florida’s canal system, designed to help funnel excess inland water out to the ocean, isn’t working as effectively as it used to.” Union of Concerned Scientists, Press Release October 11, 2012

stifle the use of solar and other renewable resources. It is also noteworthy that the parent company to Florida Power & Light, Nextera Energy Inc, is the largest developer of wind renewable energy in the United States and maybe in the world. It is also noteworthy that the same utility has openly opposed the development of renewable rooftop solar installations in our State and continues to do so. This duplicity should not go unnoted

Please answer the following questions:

1. What policies or programs would be most effective at promoting demand-side solar energy systems (i.e., programs effective on the customer side of the meter)?

Any rooftop solar system will promote demand-side reductions in consumption. Since consumption in Florida peaks during times similar to peak rooftop solar production, a large increase in rooftop solar systems would reduce demand. (See Attachment C) If the FPSC determined that third party ownership of renewable generation and sale of electricity was in the public interest (which it clearly is), then third-party ownership of small distributed solar electric generation would be allowed as 46 other States in the US. A typical business model for firms that deploy rooftop solar generation is through the sale of the electricity to the customer, which is illegal in the State of Florida because of the decision of the FPSC over 20 years ago and the continued adherence to that outmoded and outdated decision by the FPSC. The FPSC clearly has the authority to impose its authority under the PW Ventures case.⁶ It is clear from the decision that the FPSC could reverse its position on third party ownership of small rooftop solar systems and the sale of electricity all of these problems with regard to the sunshine State becoming a State with significant rooftop solar deployments would simply go away.

As discussed in the preface to these comments, the very ratepayers that the PW Ventures decision protected are the ones that are now being discriminated against. The FPSC should challenge that thinking on the merits that exist today rather than the concerns of the 1980s. As it was found to be in the public interest in the 1980s to

⁶ The case was primarily decided on the basis of judicial discretion in favor of a decision by an administrative agency. Justice McDonald's dissent reveals the strained nature of the Court's decision.

protect small electric customers by avoiding the cherry picking of large industrial customers, is equally in the public interest now to allow for and to facilitate the deployment of small, highly distributed solar rooftop generation.

2. What policies or programs would be most effective at promoting supply-side solar energy systems (i.e., utility or third-party owned)?

As in my answer in question 1, third-party owned deployment makes sense from the standpoint of the ability of customers to employ rooftop solar power without any upfront costs. However, the fact that third-party ownership and sale of electricity is not allowed at all in this State as ruled by the FPSC and upheld in the PW Ventures case from over 20 years ago, new facts and circumstances should be a guiding light for the FPSC to understand that the issues, technology and economics are different now and how to deal with them. The original FPSC ruling that resulted in the PW Ventures case involved a large, fossil fuel generating unit replacing a large electric load. The issue of small scale highly distributed solar generation has little in common with the original ruling by the FPSC. This fact alone should serve as an impetus for reconsideration.

In providing comments on the above items, please address each of the following factors, as appropriate:

- a) Can the policies or programs be implemented under current Florida statutes?

Since the PW Ventures case only verified the authority of the FPSC to make its ruling on third-party generation, the Court in a narrow 2-1 decision simply upheld the decision of the, *then*, FPSC. The FPSC of today should reverse its regulation with regard to the ruling in PW Ventures and allow for third-party ownership of small scale distributed renewable electric generation and sale of that power to small and users in our Sunshine State. If the FPSC did reverse its position, it is likely that the major electric utilities in the State would call on the Florida Supreme Court to reverse the FPSC's decision. However, since the PW Ventures case had very little to do with the merits of the actions of the FPSC and, as a practical matter, only the jurisdiction of the FPSC to make that ruling, it is unlikely that those judicial actions

would be successful.

- b) Can the policies or programs be implemented under current FPSC rules? If not, what changes or additions to the rules would be needed?

The current FPSC rules do preclude that rooftop solar systems can be owned by third parties that also sell the electricity to small end users. The FPSC is able, under its own authority, to improve the reliability of the electric system and the environment that we live in and institute a rulemaking proceeding to allow for third-party ownership of rooftop solar electric systems. The PW Ventures judicial ruling simply confirms that the FPSC has that authority and the FPSC should change its regulations through a rulemaking proceeding to consider the situation that exists today and did not exist 20 years ago.

- c) What are the impacts of the policies or programs on system reliability?

I have studied the issues of system reliability with regard to rooftop solar generation. It is clear that the only problem that arises, which has arisen in jurisdictions such as Hawaii where penetration of rooftop solar is very high, is that when too much solar generation is deployed, local circuits can be overloaded with solar generated electricity. It is also been shown in studies that in order for any cost shifting to occur that deployment of rooftop solar net metering must go above 2.5% of the general consumption load.⁷ In our State we are so far below those levels it is not an issue. Currently, according to the 2013 Ten-Year Site Plan published by the FPSC,⁸ there were 178 MW of solar generation, but only 44 MW of customer owned solar generation. Out of an estimated 58,200 MW of overall generation capacity in Florida, customer owned solar generation constitutes only less than one tenth of one percent of overall capacity. Therefore, until the solar generation loads in our State reach a level which is many times higher than it is now, there are only de minimis issues with regard to system reliability or cost shifting. Further, the

⁷ Financial Impacts of Net-Metered PV on Utilities and Ratepayers: A Scoping Study of Two Prototypical US Utilities, Lawrence Berkley Laboratory, September 2014.

⁸ Review of the 2013 Ten-Year Site Plans, FPSC, October 2013, These statistics can be updated, however the changes are really insignificant with regard to the subject of this filing.

deployment of rooftop solar systems will increase system reliability and decrease the need for potentially costly improvements on our transmission and distribution system as well as avoid the need for much of the proposed additional central stations fossil fuel generation.

- d) What are the impacts of the policies or programs on system fuel diversity?

Fuel diversity in Florida is a major issue. The problem is that our State is becoming more and more dependent on natural gas for generating electricity and less dependent on other fuel sources. While natural gas has become a reliable and low-cost fuel, with much lower environmental impacts than coal, it still could be subject to price spikes as some of the world's major oil producers are preparing to price-discriminate against hydraulic fracturing producers in order to retain market share by keeping prices low. It is clear that if natural gas prices were to spike for any reason, whether it be because of exports of liquefied natural gas (exported natural gas can sell for over 5 times domestic prices putting upward pressure on domestic prices), major problems that may arise from the regulation of hydraulic fracturing or others, that Florida electricity costs would have an adverse outcome from that price spike. A solar system on the other hand produces electricity at a single price for a period from 20 to 30 years that is very stable and only uses no-cost sunlight as a fuel and has no operational environmental impacts. Since the nuclear plants in Florida that have been announced are not yet under construction or licensed by the NRC it is unlikely that our State will see new carbon free electric generation other than new, economic sources like solar.

- e) Identify the cost-effectiveness of the policies or programs compared to traditional forms of generation.

Rooftop solar generation is probably the most stable form generation that can be subject to regulatory scrutiny. It produces power at known times under known conditions without any effluents, without any waste products, without any water use, and without numerous other types of burdens that traditional forms of generation do impose on our society. It is imperative that this cost-effectiveness and

environmentally friendly generation source be recognized and integrated into the energy mix in Florida enjoy. A very effective way to accomplish this will be to encourage rooftop small solar generation that is highly distributed and add significantly to the mix of generation sources in our State.

Another consideration is that Florida currently imports a substantial amount of electricity from Georgia. In fact, according to the US DOE⁹ among the eleven most congested transmission corridors in the eastern interconnect, three of them run from Georgia to Florida. These are purchases that may be addressed by promoting rooftop solar generation lessening the export of Florida ratepayer dollars.

- e) Identify specific costs associated with the policies or programs and who will bear these costs.

The cost of deploying rooftop solar systems will be borne by either the owner of those systems or the third party owner of those systems so that it will not impose any cost with regard to capital investment to the utilities involved.¹⁰ Further, as discussed above, the issue of cost sharing or cost shifting can be mitigated entirely by instituting a regulatory minimum bill on accounts. The issue of promulgating a charge that is only applied to net metering customers has been rejected outright in many cases based on the fact that there is no rational, empirically-based justification for that charge under commonly accepted norms of ratemaking. Secondly, any fixed charge that is put on a customer in addition to volumetric charges will necessarily reduce the amount paid for the consumption of electricity and therefore, because of price-demand elasticity, increase the use of electricity across the board. A minimum bill does none of this and I refer to the attached article which should be read with great interest. (See Attachment C)

- f) Identify how the policies or programs will be fair, just, and reasonable across the general body of ratepayers.

⁹ National Electric Transmission Congestion Study, US Department of Energy, 2006

¹⁰ In fact, deployment of solar will reduce the need for public utilities to incur capital costs for additional generation capacity.

As discussed above, there are many unfair, unjust and unreasonable cross subsidies that are made in the view of anyone who pays more than the cost of service to serve them. As pointed out above, urban electric customers subsidize rural electric customers because the cost of service in a densely populated area is less than the cost of service in sparsely populated rural areas and instead the cost shifting is “socialized”. The FPSC has authorized numerous types of cross subsidies and it can simply pick and choose which cross subsidies it likes and which it doesn't like. The significant benefits of rooftop solar in our State cannot and should not be ignored. A simple change in rate structure including a minimum bill rather than targeted fixed charges will alleviate these cost shifting concerns. In addition, as discussed above, until the saturation of rooftop solar becomes more than 2 1/2% of general consumption there is no cost shifting. It is a simple and somewhat uninformed view that a specific customer fixed charge that is levied upon net metering customers would ameliorate what really, at this point, is an imaginary problem trumpeted by opponents to small rooftop distributed solar generation. It will stay a non-problem until substantial increases in the deployment of rooftop small solar generation occur along with its substantial social and economic benefits.

3. Are there any other policies or programs that could promote the development and deployment of solar energy systems in Florida?

There's little doubt that community solar is a good thing, however it should not be owned and operated by a regulated utility and added into the rate base. It should be placed in the hands of independent developers who can attract customers to purchase the power that is generated from the community solar system. This approach has been used other States successfully. Unfortunately in Florida the decisions of the FPSC have only allowed large-scale or utility-scale solar facilities that have been built under the auspices of large, major electric utilities in our State and presumably added to its rate base. There is no reason for this except that there is a prohibition that has been put out there under the current FPSC regulations which I have already Stated should be reversed by the FPSC, stand the onslaught by the major electric utilities which want to

control *all* electric generation and allow for the State to finally *really* shine as the Sunshine State.

ATTACHMENT A

PW VENTURES, INC. v. NICHOLS No. 71462.

533 So.2d 281 (1988)

PW VENTURES, INC., Appellant, v. Katie NICHOLS, Chairman of Florida Public Service Commission, and Florida Public Service Commission, Appellees.

Supreme Court of Florida.

October 27, 1988.

Richard D. Melson of Hopping, Boyd, Green & Sams, Tallahassee, for appellant.

Susan F. Clark, Gen. Counsel, Florida Public Service Com'n, Tallahassee, for appellees.

Richard A. Zambo and Paul Sexton of Richard A. Zambo, P.A., Brandon, for amici curiae, C.F. Industries, Inc., IMC Fertilizer, Inc., Monsanto Co. and W.R. Grace & Co.

GRIMES, Justice.

PW Ventures, Inc. (PW Ventures) appeals from an adverse ruling of the Florida Public Service Commission (PSC). We have jurisdiction. Art. V, § 3(b)(2), Fla. Const.

PW Ventures¹ signed a letter of intent with Pratt and Whitney (Pratt) to provide electric and thermal power at Pratt's industrial complex in Palm Beach County. PW Ventures proposes to construct, own, and operate a cogeneration² project on land leased from Pratt and to sell its output to Pratt under a long-term take or pay contract.³ Before proceeding with construction of the facility that would provide the power, PW Ventures sought a declaratory statement from the PSC that it would not be a public utility subject to PSC regulation. After a hearing, the PSC ruled that PW Ventures proposed transaction with Pratt fell within its regulatory jurisdiction.

At issue here is whether the sale of electricity to a single customer⁴ makes the provider a public utility. The decision hinges on the phrase "to the public," as it is used in section 366.02(1), Florida Statutes (1985). In pertinent part that subsection provides:

"Public utility" means every person, corporation, partnership, association, or other legal entity and their lessees, trustees, or receivers supplying electricity or gas (natural, manufactured, or similar gaseous substance) to or for the public within this state... .

Distilled to their essence, the parties' views are as follows: PW Ventures says the phrase "to the public" means to the general public and was not meant to apply to a bargained-for transaction between two businesses. The PSC says the phrase means "to any member of the public." While the issue is not without doubt, we are inclined to the position of the PSC.

At the outset, we note 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. *Warnock v. Florida Hotel & Restaurant Comm'n*, [178 So.2d 917](#) (Fla. 3d DCA 1965), *appeal*

dismissed, [188 So.2d 811](#) (Fla. 1966). The courts will not depart from such a construction unless it is clearly unauthorized or erroneous. *Gay v. Canada Dry Bottling Co.*, [59 So.2d 788](#) (Fla. 1952).

Also, it is significant that the statute itself would permit the type of transaction proposed by PW Ventures and Pratt to be unregulated if it were for natural gas services. Section 366.02(1) provides the following exemption: "[T]he term 'public utility' as used herein does not include ... any natural gas pipeline transmission company making only sales of natural gas at wholesale and to direct industrial consumers... ." The legislature did not provide a similar exemption for electricity. The express mention of one thing implies the exclusion of another. *Thayer v. State*, [335 So.2d 815](#) (Fla. 1976).

This rationale is further illustrated in the statutory regulation of water and sewer utilities. As explained in the PSC order:

In parallel with Section 366.02(1), Section 367.021, Florida Statutes (1985), defines a water or sewer utility as every person "providing, or who proposes to provide, water or sewer service to the public for compensation." Section 367.022(6), Florida Statutes, expressly exempts from this definition "systems with the capacity or proposed capacity to serve 100 or fewer persons". There is not a parallel numerical exemption to the statutory definition of a public utility supplying electricity. Yet the statutory interpretation advocated by PW Ventures would require a line to be drawn somewhere between sales to some members of the public, as a presumably nonjurisdictional activity, and sales to the public generally and indiscriminately, an admittedly jurisdictional activity.

Moreover, the PSC's interpretation is consistent with the legislative scheme of chapter 366. The regulation of the production and sale of electricity necessarily contemplates the granting of monopolies in the public interest. *Storey v. Mayo*, [217 So.2d 304](#) (Fla. 1968), *cert. denied*, 395 U.S. 909, 89 S.Ct. 1751, 23 L.Ed.2d 222 (1969). Section 366.04(3), Florida Statutes (1985), directs the PSC to exercise its powers to avoid "uneconomic duplication of generation, transmission, and distribution facilities." If the proposed sale of electricity by PW Ventures is outside of PSC jurisdiction, the duplication of facilities could occur. What PW Ventures proposes is to go into an area served by a utility and take one of its major customers.⁵ Under PW Ventures' interpretation, other ventures could enter into similar contracts with other high use industrial complexes on a one-to-one basis and drastically change the regulatory scheme in this state. The effect of this practice would be that revenue that otherwise would have gone to the regulated utilities which serve the affected areas would be diverted to unregulated producers. This revenue would have to be made up by the remaining customers of the regulated utilities since the fixed costs of the regulated systems would not have been reduced.

We do not believe that *Fletcher Properties v. Florida Public Service Commission*, [356 So.2d 289](#) (Fla. 1978), mandates a different result. In that case, we did approve a PSC order which included reasoning to the effect that service to the public meant service to the indefinite public or to all individuals within a given area. However, the case did not arise in the context of a sale to a single customer. We simply affirmed the PSC's determination that the developer and owner of lines and lift stations who proposed to furnish water and sewer service to single family homes at

the same rate as it was charged by the area water and sewer utility occupied the status of a public utility.⁶

The fact that the PSC would have no jurisdiction over the proposed generating facility if Pratt exercised its option under the letter of intent to buy the facility and elected to furnish its own power is irrelevant. The expertise and investment needed to build a power plant, coupled with economies of scale, would deter many individuals from producing power for themselves rather than simply purchasing it. The legislature determined that the protection of the public interest required only limiting competition in the sale of electric service, not a prohibition against self-generation.

We approve the decision of the Public Service Commission.

It is so ordered.

EHRlich, C.J., and OVERTON, SHAW, BARKETT and KOGAN, JJ., concur.

McDONALD, J., dissents with an opinion.

McDONALD, Justice, dissenting.

I dissent. In doing so, I accept the argument of PW Ventures, Inc. as set forth in its brief where it urges:

The cornerstone of "public utility" status and Commission jurisdiction under Chapter 366 is the provision of electric service "to the public". This phrase is not defined in Chapter 366, nor in any of the Commission's other jurisdictional statutes. Under Florida's rules of statutory construction, the phrase "to the public" must therefore be given either its plain and ordinary meaning or, if it is a legal term of art, its legal meaning. *City of Tampa v. Thatcher Glass Corporation*, [445 So.2d 578](#) (Fla. 1984); *Citizens v. Florida Public Service Commission*, [425 So.2d 534](#) (Fla. 1982); *Tatzel v. State*, [356 So.2d 787](#) (Fla. 1978); *Ocasio v. Bureau of Crimes Compensation*, [408 So.2d 751](#) (Fla. 3d DCA 1982). Under either test, a sale to a single industrial host in the circumstances of this case is not a sale "to the public." * * * * * The phrase "to the public" commonly connotes the people as a whole, or at least a group of people. Webster's Ninth New Collegiate Dictionary (1983) gives two relevant definitions for "public": 2: the people as a whole: POPULACE 3: a group of people having common interests or characteristics: *specif*: the group at which a particular activity or enterprise aims Black's Law Dictionary (Revised 4th ed.) similarly defines "public" to mean: The whole body politic, or the aggregate of the citizens of a state, district, or municipality.... In one sense, everybody; and accordingly the body of the people at large; the community at large, without reference to the geographical limits of any corporation like a city, town, or county; the people. In another sense the word does not mean all the people, nor most of the people, nor very many of the people of a place, but so many as contradistinguishes them from a few. Thus if Section 366.02(1) is given its plain and ordinary meaning, a person is not supplying electricity "to the public," if it supplies electricity only to a single industrial customer on whose property the electric generating facility is located.

FootNotes

1. PW Ventures is a Florida corporation which was originally owned by FPL Energy Services, Inc. (a wholly owned subsidiary of FPL Group, Inc.) and Impell Corporation (a wholly owned subsidiary of Combustion Engineering, Inc.). After the entry of the PSC order, FPL Energy Services, Inc. transferred its 50% interest to Combustion Engineering, Inc.
2. Cogeneration involves the use of steam power to produce electricity, with some of the energy from the steam being recaptured for further use. The PSC seeks only to regulate the sale of electrical power.
3. The power would be used by Pratt and several affiliated corporate entities and by the Federal Aircraft Credit Union which is also located on the property.
4. While the PSC reminds us that the power generated by the project will actually be passed on to several entities, we prefer to address the issue in the context argued by PW Ventures.
5. Initially, Florida Power and Light had an interest in PW Ventures and would, in effect, transfer its own client to a subsidiary. FP & L is not now involved. Yet, if the argument of PW Ventures is accepted, there might be nothing to prevent one utility company from forming a subsidiary and raiding large industrial clients within areas served by another utility.
6. The holding of that case actually supports the PSC's alternative position that PW Ventures will actually serve several customers at the Pratt facility.

ATTACHMENT B

Studies Examining Costs & Benefits of Distributed Generation And Net-metering

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Rocky Mountain Institute review of 13 cost/benefit studies:

http://www.rmi.org/Content/Files/eLab-DER_cost_value_Deck_130722.pdf

For the City of Austin, TX <http://www.ilsr.org/wp-content/uploads/2013/03/Value-of-PV-to-Austin-Energy.pdf>

New Jersey and Pennsylvania: <http://mseia.net/site/wp-content/uploads/2012/05/MSEIA-Final-Benefits-of-Solar-Report-2012-11-01.pdf>

ATTACHMENT C



Electric Utility Residential Customer Charges and Minimum Bills: Alternative Approaches for Recovering Basic Distribution Costs

By Jim Lazar¹

Electric utilities have certain costs that do not vary with the usage of electricity. It is generally accepted that these include the costs of metering, billing, and payment processing. These costs are most often recovered through what is variously called a “customer charge” or a “service charge” or a “basic charge.” In the United Kingdom, this is known as a “standing charge.”

Regardless of the title, it is a charge (usually less than \$10/month for residential service) that is levied each month regardless of electricity usage, with additional charges applying for each kilowatt-hour of electricity consumed. For most utilities in the US, the customer charge covers the cost of billing and collection, and perhaps other customer-specific costs like meter reading, but not the costs of distribution facilities like poles, conductors, or transformers.

Nearly all electric utilities worldwide bundle the cost of distribution service, as well as the power supply cost, into a usage charge, calculated as a price per kilowatt-hour. This is consistent with how competitive firms price their products, whether it is gasoline, groceries, or hotel rooms: the price per unit recovers all of the costs involved in producing, transporting, and retailing of goods and services.

Some rate analysts argue that a portion of the distribution system – poles, wires, and transformers – constitute a fixed cost that does not vary with sales and should be included in the fixed customer charge. Some recent proposals from electric utilities reflect this view. This is controversial.

Many state regulatory authorities rejected this approach when they held hearings and made determinations under the Public Utility Regulatory Policies Act of 1978.² The Washington Utilities and Transportation Commission, for example, explicitly rejected the concept that distribution costs were customer-related in nature:

In this case, the only directive the Commission will give regarding future cost of service studies is to repeat its rejection of the inclusion of the costs of a minimum-sized distribution system among customer-related costs. As the Commission

*stated in previous orders, the minimum system method is likely to lead to the double allocation of costs to residential customers and over-allocation of costs to low-use customers. Costs such as meter reading, billing, the cost of meters and service drops, are properly attributable to the marginal cost of serving a single customer. The cost of a minimum sized system is not. The parties should not use the minimum system approach in future studies.*³

However, as sales have flattened or declined in recent years, and as more customers install on-site generating resources but remain dependent on grid services for some service, the concept of recovering distribution network costs in fixed charges has experienced resurgence.

Utility sales volumes in some regions have stagnated or declined as appliances, homes, equipment and systems become more efficient. Sales volumes also vary with weather, declining in mild years. Many state net-metering laws allow consumers installing rooftop solar arrays to incur net-bills for zero or very few kilowatt-hours, depending on the geographic location and the design of the net-metering tariff. To improve revenue stability, and to collect distribution system costs from PV customers, some utilities are arguing that “fixed” costs should be recovered in fixed customer charges. Some utilities are seeking customer charges of \$20/month or more. In one extreme case, Madison Gas and Electric Company proposed a \$69/month customer charge, to recover all costs except for fuel and purchased power expenses.⁴ The Wisconsin PUC recently voted 2-1 to approve an increase in the customer charge to

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- 1 Rich Sedano, Janine Migden-Ostrander, Brenda Hausauer and Camille Kadoch provided reviews.
 - 2 Public Utility Regulatory Policies Act of 1978, 16 U.S.C. §§2601-2645 (1978). Available at: <http://www.gpo.gov/fdsys/pkg/STATUTE-92/pdf/STATUTE-92-Pg3117.pdf>.
 - 3 WUTC v. Puget Sound Power and Light Company, Cause U-89-2688-T, Third Supp. Order, P. 71, 1990.

\$19/month for Wisconsin Public Service Company.⁵

An electric utility has a defined revenue requirement, determined by their regulator. A higher customer charge therefore means a lower per-kWh rate will be required. This has important impacts on the utility and its customers. Utility revenue is stabilized by a high customer charge, independent of weather, conservation, or other impacts on sales. However, the impacts on customers of high customer charges can be inconsistent with policy objectives:

- Small-use customers, such as apartment dwellers, low-income households, and second homes will receive much higher electric bills; the vast majority of low-income consumers are also low-use consumers. This is anathema to public policy objectives that normally tend to protect low-income customers and/or reward low usage;
- Urban area residents who use natural gas for space and water heat will receive much higher electric bills;
- Large-use customers, including large single-family homes in suburban and rural areas without access to natural gas most often will receive lower electric bills, depending on the existing utility rate design; and
- The lower per-kWh prices that result when a significant portion of costs are recovered in a fixed monthly customer charge will stimulate consumption. This creates consequences for incremental utility investment and for the environment. It also reduces the economic incentive for careful customer energy management practices and investment in energy efficiency measures by increasing pay-back periods.

There are several ways besides high fixed charges to address utility revenue stability issues:

- **Financial Reserves:** The traditional approach has been to set rates in a manner that recovers distribution and power costs in a per-kWh charge, and expect utilities to have adequate financial reserves to manage the volatility that occurs with weather. This is reflected in the 40% – 50% equity ratios allowed for electric utilities in determining the cost of capital.
- **Frequent rate cases:** If regulators hold rate proceedings every year or two, there is little time for sales volumes to deviate far from the level used to set volumetric rates.
- **Revenue Decoupling:** Many regulators have adopted revenue regulation mechanisms that calculate a true-up at the end of the month or year to align actual revenues with allowed revenues.

All of these methods allow the per-kWh charge to continue to reflect substantially all of the costs of service. By structuring rates this way, regulators preserve the consumer incentive to use electricity wisely.

Rate Designs with Minimum Bill Charges

One alternative to address utility concerns for revenue adequacy in addition to Revenue Regulation and frequent rate cases is a concept known as a “minimum bill.” A minimum bill guarantees the utility a minimum annual revenue level from each customer, even if their usage is zero. The vast majority of customers, who consume the overwhelming majority of energy, have usage that exceeds those low thresholds. For these customers, a minimum bill “disappears” when the usage passes that level, and the customer effectively pays a volumetric rate to cover both power supply and distribution costs.

It is important to understand that a very small number of customers will be adversely affected by the minimum bill, because a large majority of all customers have usage in excess of the minimum billed amount. Figure 1 compares the number of customers served at each usage level, and the kilowatt-hours used by those customers at each usage level. Only a few percent of the customers, using less than one percent of the energy, have usage below 150 kWh per month in this illustrative example, and are arguably not making a meaningful contribution to system costs when those costs are built into the per-kWh charge.

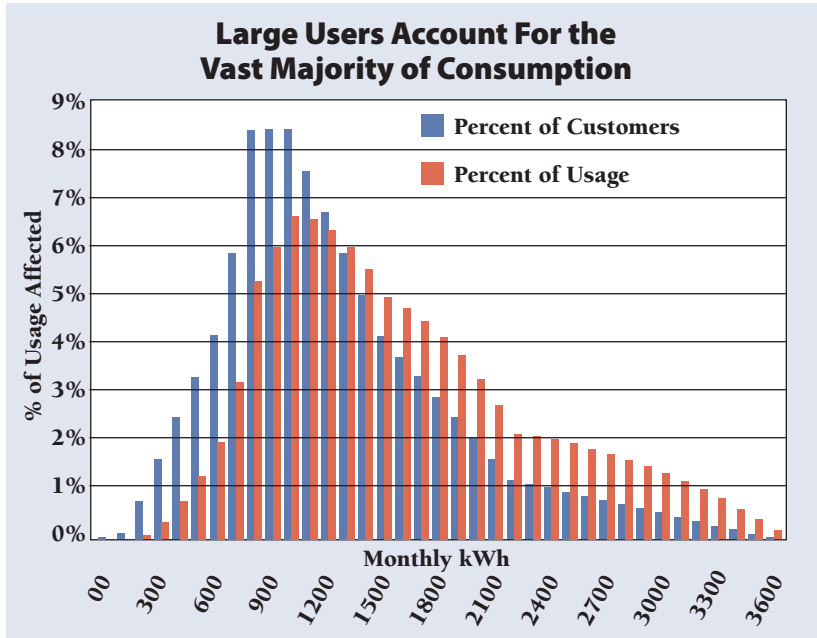
Table 1 compares three example residential rates, all designed to produce the same total level of residential revenue for an illustrative utility with average usage for this example of 1,000 kWh/month/customer.

- **Low Customer Charge:** \$5/month, to cover billing and collection
- **High Customer Charge:** \$20/month, to cover billing, collection, and a portion of distribution costs
- **Minimum Bill:** \$5.00/month to cover billing and collection, with a minimum bill of \$20 (which applies if usage falls below 150 kWh/month).

4 Application of Madison Gas and Electric Company for Authority to Change Electric and Natural Gas Rates, Docket 3270-UR-120, April 9, 2014. Available at: http://psc.wi.gov/apps40/dockets/content/detail.aspx?dockt_id=3270-UR-120.

5 Content, T. (2014, November 6). State regulators approve 83% increase in Green Bay utility's fixed charge. *Milwaukee Journal-Sentinel*. Retrieved from: www.jsonline.com.

Figure 1



This shows that for the average customer, the three rate designs produce almost identical bills. With a high customer charge rate design, because the \$20 customer charge is collecting \$15 more than the \$5 low customer charge, the price per kWh is lower by \$0.015/kWh. For the minimum bill rate design, however, less than 1% of kWh sales will typically be to those customers using under 150 kWh/month. This group has historically been limited to unoccupied dwellings; more recently, it has come to include customers with solar PV systems that produce as many kilowatt-hours as they consume, but remain dependent

Table 1

	kWh	Low Customer Charge	High Customer Charge	\$20 Minimum Bill*
Customer Charge		\$5.00	\$20.00	\$5.00
Minimum Bill				\$20.00
Per-kWh Charge		\$0.10	\$0.085	\$0.099
Customer Bills	10 kWh	\$6.00	\$20.85	\$20.00
	100 kWh	\$15.00	\$28.50	\$20.00
	200 kWh	\$25.00	\$37.00	\$24.80
	500 kWh	\$55.00	\$62.50	\$54.50
	1,000 kWh	\$105.00	\$105.00	\$104.00
	1,500 kWh	\$155.00	\$147.50	\$153.50
	2,000 kWh	\$205.00	\$190.00	\$203.00

**The minimum bill will only apply when customer's usage is so low that their bill falls below \$20.*

on the grid to serve as a “battery” taking excess production during the day, and supplying power when the sun is not shining.

Therefore, there will not be a lot of revenue recovered by the minimum bill charge, leaving most of the revenue requirement recovered by the volumetric charge. The per-kWh rate would only be reduced by about \$0.001/kWh (1%) as a result. Under this rate design, very small-use customers, such as PV customers whose panels produce as many kilowatt-hours as the house uses, would pay slightly higher bills. However, as nearly all usage by customers remains priced at a cost-based rate that includes all of the costs of producing and distributing electricity, the low-use PV customer would have negligible usage charges.

Impact on Usage

Electricity usage varies with the price paid. Higher kWh charges create greater incentives for consumers to turn out unneeded lights, manage thermostat settings, and invest in more efficient appliances, windows, and insulation. There is an economic science tool, price elasticity, which measures the expected change in consumption if prices change. Economists variously estimate the price elasticity of demand for electricity in the range of -0.1 to -0.7, with some long-run estimates going higher. An elasticity of -0.2, meaning that a 1% increase in price results in a 0.2% decrease in the quantity demanded, is considered a conservative estimate of long-run price elasticity.

The high customer charge rate design results in a 15% lower price per kilowatt-hour compared to the low customer charge rate design. Assuming an elasticity of -0.2, that would imply that customers would consume about 3% more electricity (-0.2 elasticity x 15% change in rate = 3% change in usage) as a result of the lower per-kWh price.

The minimum bill rate form, on the other hand, only reduces the price per kWh by 1% compared to the low customer charge rate design; assuming the same elasticity factor, the minimum bill design would increase usage by only about 0.2% among customers using more than the minimum billed quantity, when compared with their usage under the low customer charge rate form.

There is, however, a chance that the very small users might increase their usage up to the 150 kWh minimum. With this \$20 minimum bill, customers using less than

150 kWh per month would see no change in their bills if they increased usage up to 150 kWh. But, since only a small percentage of customers use that little power, even if they did so, usage would not increase very much.

Evaluating a choice between a \$20 fixed customer charge and a \$20 minimum bill charge, we would expect about 15 times as much additional usage under the \$20 fixed charge as under the \$20 minimum bill charge.

Impact on PV Customers

Part of the concern that is raised by utilities is that customers with solar PV systems are “net-metering” to zero kWh, and paying only the customer charge in a monthly bill. These customers remain dependent on the grid for storage and shaping of their daytime energy production. Solar advocates argue that the grid is receiving a more valuable product – daytime renewable energy – than it is providing to the customers at night from conventional generation, and that this is a form of rough equity.

A minimum bill would ensure that a PV customer with net consumption of zero would still contribute to system costs. In the example, these customers would pay \$20 per month. But, rather than distort the rate design for all customers, only the low-consumption consumers would be affected, allowing rates that continue to reflect all system costs to be applied to the overwhelming majority of energy sales.

Advantages and Disadvantages

A rate design that uses a customer charge combined with a kWh charge is simple to understand and administer. It provides a clear price signal for each kWh. If the customer charge is lower, the per-kWh charge is higher. However, the public is used to doing business for other purchases with a zero customer charge – grocery stores, gas stations, and virtually all other retailers only charge customers for what they buy, not for the privilege of being a customer (membership warehouse clubs are exceptions, with fees designed to weed out “browsers” from their stores.) There may also be conflict with intended outcomes for low use customers.

A minimum bill rate design has an advantage in that the per-kWh price is higher, more closely reflecting long-run marginal costs (all costs are variable in the long run). This rate design encourages prudent usage, better aligned with

investment impacts from consumption and investment in energy efficiency. This means customer choices about usage and, importantly, energy-related investments, will be informed by electricity prices that reflect long run grid value. The disadvantage is that, for the very small number of customers whose usage is below the “minimum,” this rate design provides no disincentive at all to using the minimum amount of electricity. It can be perceived to have a disadvantage of encouraging additional usage by those users with usage below the minimum billed amount, but there are very few of these customers, and their prospective additional usage increase is minimal. Users in this group may argue that the minimum bill is unfair to them.

Finally, a minimum bill rate form ensures that second-homes, which may have no consumption during the off-season, contribute to utility revenues. This is sometimes presented as an economic justice issue, since second homes are generally held only by upper-income consumers.

Conclusion

The primary purpose of utility regulation is to enforce the pricing discipline on monopolies that competitive markets impose on most firms. Competitive firms nearly always recover all of their costs in the price per unit of their products. Therefore, any fixed monthly charge for electricity service represents a deviation from this underlying principle of utility regulation. The most commonly applied customer charges recover only customer-specific costs, such as billing and collection, in a fixed customer charge, leaving all costs of the shared system to be recovered in usage charges.

A regulator seeking to increase the contribution to utility system costs from those customers with minimal consumption can do so with either a higher customer charge, or establishing a minimum bill. The minimum bill option will ensure that all customers contribute to distribution costs, but without significantly stimulating consumption by higher-use customers or raising the bills of lower-income, low-use customers.

Forthcoming in Second Quarter, 2015: *Electric Rate Design for the Utility of the Future*. Watch for this on our website, www.raonline.org



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ATTACHMENT D

PEAK DEMAND CURVES FLORIDA

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