

BEFORE
THE PUBLIC UTILITIES COMMISSION OF OHIO

In the Matter of PUCO's Response)
To Provisions of the Federal Energy Policy)
Act of 2005 Regarding Net Metering, Smart)
Metering and Demand Response,) Case No. 05-1500-EL-COI
Cogeneration and Power Production)
Purchase and Sale Requirements, and)
Interconnection)

COMMENTS OF THE CLEVELAND FOUNDATION

INTRODUCTION

The Cleveland Foundation ("The Foundation") is pleased to offer comments to the Public Utility Commission of Ohio ("PUCO") in regards to Case No. 05-1500-EL-COI ("the Case"). The Case pertains to four topics (stemming from the Federal Energy Policy Act of 2005) that are of concern to both electricity providers and consumers:

- Net metering
- Availability of stand-by power for cogeneration and small power production
- Distributed generation interconnection
- Smart metering for demand response

Founded in 1914, the Foundation represents the interests of all constituencies in the Greater Cleveland area, with the aim of improving the quality of life in our region. Because of the energy industry's pervasive and critical influence in all aspects of society, The Foundation is deeply concerned with a number of energy-related matters in Ohio, including:

- Energy price levels and volatility
- Energy supply reliability and security
- Environmental quality
- Economic growth associated with energy industry activity

With this opportunity to comment, The Foundation wishes to make certain of its positions on appropriate energy policy more widely known to PUCO, the investor-owned utilities (IOUs) that PUCO regulates, and other stakeholders in Ohio.

Before focusing on the four topical areas that are the specific subject of this Case, The Foundation would first like to offer some observations that set a proper context for its comments.

ELECTRICITY POLICY OBJECTIVES IN OHIO

As an outcome of the implementation of Amended Substitute Senate Bill 3 (“SB 3”), which was signed into law by Governor Bob Taft in July 1999, the State of Ohio codified a set of objectives for proper electricity policy:

§ 4928.02. State policy commencing with start of competitive retail electric service

It is the policy of this state to do the following throughout this state beginning on the starting date of competitive retail electric service:

- A. Ensure the availability to consumers of adequate, reliable, safe, efficient, nondiscriminatory, and reasonably priced retail electric service;
- B. Ensure the availability of unbundled and comparable retail electric service that provides consumers with the supplier, price, terms, conditions, and quality options they elect to meet their respective needs;
- C. Ensure diversity of electricity supplies and suppliers, by giving consumers effective choices over the selection of those supplies and suppliers and by encouraging the development of distributed and small generation facilities;
- D. Encourage innovation and market access for cost-effective supply- and demand-side retail electric service;
- E. Encourage cost-effective and efficient access to information regarding the operation of the transmission and distribution systems of electric utilities in order to promote effective customer choice of retail electric service;
- F. Recognize the continuing emergence of competitive electricity markets through the development and implementation of flexible regulatory treatment;
- G. Ensure effective competition in the provision of retail electric service by avoiding anticompetitive subsidies flowing from a noncompetitive retail electric service to a competitive retail electric service or to a product or service other than retail electric service, and *vice versa*;
- H. Ensure retail electric service consumers protection against unreasonable sales practices, market deficiencies, and market power;
- I. Facilitate the state’s effectiveness in the global economy.

It is beyond the scope for The Foundation herein to address most aspects of PUCO's implementation of SB 3. Further, The Foundation does not aim to retrospectively assess the efficacy of the activities that were taken by PUCO to "encourage" or "ensure" the policy objectives that have been signed into Ohio law.

ASSESSMENT OF CURRENT ELECTRICITY SITUATION

Although the Foundation will not review the past in any further detail, The Foundation is compelled to offer an assessment of the present status of electricity markets and regulation, as it applies to Ohio IOUs (which serve the vast majority of households and businesses in Ohio), relative to the electricity policy objectives codified in Ohio law as listed above.

Our assessment is clear: for whatever reasons, the implementation of SB 3 by PUCO has failed to achieve the policy objectives codified in Ohio law.

To demonstrate that the implementation of SB 3 has failed to achieve the required policy objectives, consider the following facts:

- After a relatively brief period of limited activity and presence, all competitive retail service providers have completely withdrawn from the Ohio marketplace, leaving customers in IOU service territories without any viable alternatives for retail electric service other than their local IOUs.
- As a result, retail electricity customers are now *de facto* forced to purchase electricity from their local IOUs, at prices that have been fixed by rate stabilization plans for a few more years, after which most observers expect significant price fly-ups (due to recent significant increases in fuel prices).
- There is an absence of vibrant commercial activity in the deployment of distributed energy (supply) sources or energy efficiency (demand-reduction) measures that could potentially reduce customer energy bills and exposure to increasing energy prices.
- Meanwhile, reliability of energy supplies has hardly been assured: Northeast Ohio was the triggering source of the August 2003 blackout, leaving hundreds of thousands of households and businesses in Ohio without electricity (and, as a result in some cases, water) for more than a day.

The electricity policy objectives in Ohio law are regrettably silent on environmental matters. Perhaps as a result of this apparent absence of concern, The Foundation's assessment cannot be positive here either:

- The area including and surrounding Cleveland has been designated by the US EPA as "moderate non-attainment" for ozone and fine particulates, a large portion of which are emitted from power generation sources. Failure to develop and

implement a credible plan for achieving “attainment” on these two pollutants threatens Northeast Ohio with potentially dramatic economic penalties.

- Furthermore, because a large majority of Ohio’s electricity is generated by powerplants that burn coal (with high carbon dioxide emission rates), Ohio is responsible for more greenhouse gas emissions than any other state in the U.S. Not only does this make Ohio a poor global citizen due to our disproportionately large contribution to the climate change crisis, our state faces unduly significant economic exposure when (not if) future carbon regulations or limitations are imposed.

Summarizing the current state of the electricity industry in Ohio IOU service territories:

- No true competition in retail electricity service
- Likely future electricity price increases to retail customers
- Minimal innovation or entrepreneurship in electricity markets
- Dubious reliability of electricity service
- Unsustainably high air emissions from electricity generation

From this, it is clear that the *status quo* in the Ohio electricity industry is unacceptable. Changes must be made. Without a move towards more progressive electricity industry regulation, Ohio faces the distinct possibility of a worsening economic and environmental future, as companies and citizens perish or leave the state for places that offer stronger prospects and a cleaner, healthier environment in which to live and work. At minimum, Ohio will be challenged to attract new businesses and citizens, who have many attractive choices across the country and around the world in which to locate.

New directions in electricity policy are thus necessary in Ohio:

- To better enable customers to minimize their expenditures on energy
- To better promote competitive alternatives in the energy marketplace from which customers can choose
- To better foster innovation and entrepreneurship that will continue to drive further efficiencies in the energy sector
- To better stimulate increased economic activity
- To better protect the environment

NEED FOR ADVANCED ENERGY STRATEGY

To improve the quality of life in our area, The Cleveland Foundation is committed to the development and implementation of an advanced energy strategy for Ohio. By our definition, advanced energy includes a full spectrum of renewable/alternative energy, distributed generation, cogeneration (or combined heat and power), energy efficiency, and innovative environmentally-beneficial means of using hydrocarbon fuels. Put another way, advanced energy means reducing environmental impact associated with

energy use and improving energy supply security – both of which are worsened by continued reliance on fossil fuels (especially petroleum products).

Advanced energy is thus in contrast to conventional energy. In the case of the electricity industry in Ohio, conventional energy generally means traditional coal-fired and nuclear generation in central station powerplants, transmitted and distributed over a grid mainly owned/controlled by IOUs, to residential and business consumers.

The Foundation is convinced that a transformation to advanced energy in the electricity sector is an important part of the solution to the problems facing the Ohio electricity industry.

It is The Foundation's strong belief that virtually all new energy production – whether advanced energy technologies or even new conventional plant built to modern standards – will be both cleaner and more efficient than the current base of generation. Any actions that facilitate new entrants coming into the electricity marketplace will be good for healthy energy markets, will be good for reducing customers' expenditures on energy, and will be good for the environment.

Furthermore, The Foundation believes that advanced energy represents more than just an ameliorating force to the problems facing the state's electricity sector, but also an immense opportunity for the state's economy.

It is difficult to come to any other conclusion than advanced energy will be a multi-trillion dollar global industry within the space of a few decades, one which needs now to be invented largely from scratch. With its manufacturing heritage and materials excellence, Ohio can become a global hub of technology and business expertise in advanced energy. No place in the world is necessarily poised to dominate all forms of advanced energy, and Ohio can effectively compete to claim a major place at the advanced energy table. Thus, advanced energy can be the vehicle by which Ohio can reclaim the economic leadership it had achieved in the early 20th Century and has since lost.

To become once again a compelling place to live and do business in the 21st Century, Ohio must more aggressively foster:

- The development of advanced energy technologies
- The emergence of advanced energy businesses
- The completion of advanced energy projects
- The adoption of advanced energy solutions

This is not just an issue, and an opportunity, for Northeast Ohio, but for the entire state.

If we solve the issues facing conventional energy and capture the economic opportunity afforded by a transformation to advanced energy here in Ohio, the export potential to the rest of the nation, and indeed the entire world, is staggeringly large.

PUCO ROLE IN ADVANCED ENERGY STRATEGY

A coherent advanced energy program requires leadership by all key constituencies in the Ohio energy industry, especially including PUCO.

The Foundation would like to take this opportunity to articulate a set of fundamental regulatory principles for PUCO's consideration that we believe will be important in promoting a needed shift to advanced energy in Ohio:

- The proper role of PUCO is to set electricity rules/regulations of Ohio IOU's that best serve the long-term interests of Ohio's citizens and businesses.
- The long-term interests of Ohio's citizens and businesses are best served only when PUCO takes actions that ensure the unfettered and non-discriminatory availability of adequate information and choices, along with appropriate pricing signals in conditions akin to a free-market, for making energy-related decisions in a free-market context, thereby enabling Ohio electricity customers to minimize expenditures on energy while operating profitable businesses and living enjoyable/productive lives.
- PUCO must also take a role of public steward or guardian on energy policy/regulatory matters so as to adjust pricing signals appropriately, or otherwise achieve the long-term collective good of Ohio's citizens and businesses where individual decision-makers cannot independently act effectively, on such matters as future energy supply security/reliability, environmental protection and economic development.
- While it is entirely appropriate for PUCO to create financial incentives for IOUs that encourage behaviors by IOUs that are consistent with the long-term interests of Ohio's citizens and businesses, it is not appropriate for PUCO to create financial incentives for IOUs that encourage behaviors by IOUs that are inconsistent with the long-term interests of Ohio's citizens and businesses.
- It is also appropriate for PUCO to be bold in setting new policy directions that should better serve the long-term interests of Ohio's citizens and businesses, at the risk of creating future conditions and situations that subsequently need corrective action, rather than adopting a risk-averse stance that preserves the *status quo* – which as shown above, is badly broken.
- PUCO should not take actions that favor specific technologies or supply choices, including creating or maintaining advantages for incumbent IOUs over other competing alternative providers of electricity supply and demand-reduction.

The Foundation has heard the comments of numerous parties in Ohio, pertaining to this Case but also more broadly, which indicate that Ohio IOUs exploit unfair advantages that

may be subtle but nevertheless significant. Such advantages protect the interests of their shareholders and management/employees at the expense of the interests of their customers – Ohio citizens and businesses – which are PUCO’s core constituency. It is conflicts of interest of this type that PUCO must investigate.

Competitive flaws do exist in the Ohio electricity marketplace today, and must be rooted out. The Cleveland Foundation strongly encourages PUCO to increase its emphasis on rectifying these flaws in the electricity sector, in making a more concerted effort to move Ohio towards an advanced energy future.

COMMENTS ON MATTERS UNDER INVESTIGATION

Reflecting its commitment to advanced energy for Ohio, The Foundation recently created a BP Fellowship for Energy and Environmental Advancement, which was assumed on March 6 by Richard Stuebi. The recent creation of this role means that The Foundation has not been able to fully participate in the technical workshops associated with this Case, nor to review all of the issues and considerations in the depth that would be desirable to offer highly detailed commentary.

From our initial review of the questions, issues and topics covered, and the commentary that has been offered by the parties to date, The Foundation submits the following additional comments on the specific electricity regulatory and policy topical areas being addressed in the Case.

Net Metering

The Foundation agrees with the Ohio Consumers’ Counsel (OCC) that the net metering tariffs in Ohio should be rewritten for greater simplicity and standardization, as the current net metering approach appears to be perversely serving as a disincentive for economic self-generation. Streamlining the net metering provisions would help expedite adoption of distributed generation in Ohio, which otherwise appears to be lagging significantly behind the adoption rates in other states.

With specific regards to PUCO’s questions on this topic, The Foundation finds the present net metering rule – which somehow stipulates a limitation on net metering to on-site generation installations involving one microturbine of 100 kilowatts or less – to be unclear at best, certainly puzzling, and potentially quite problematic.

First, there is no reason that a net metering rule should specify the type of on-site power generation technology to be used: it could be a microturbine, but it could (or should) equally well be a fuel cell, or reciprocating engine gen-set, or photovoltaic system, or wind turbine, or micro-hydro system, or any number of other possible generation technologies.

Second, there is no reason that the rule should limit the on-site generation system to have just one unit. Indeed, there are strong reliability reasons for customers to install multiple

on-site generators for redundancy and back-up purposes. The number of generators at the customer's site should be totally irrelevant to the concerns of the local IOU.

Finally, the 100 kilowatt limitation seems low. Eliminating (or at least increasing) the limitation will serve to help promote the adoption of on-site generation, which can have important economic and reliability benefits to customers. According to the comments submitted by Mr. Ted Bronson of Power Equipment Associates, the United States Combined Heat and Power Association (USCHPA) recommends a limit of 500 kilowatts, which seems more reasonable.

In general, The Foundation agrees with the comments of OCC that the on-site generation system in a net metering application should be limited only by safety and reliability concerns relative to the IOU's distribution grid – and these issues are more properly addressed in interconnection provisions.

The Foundation also supports the suggestion made to PUCO by Mr. Tom Rapini (a net metering customer of First Energy's) wherein net energy balances between the IOU and the customer should be "zeroed out" annually rather than monthly. While either time frame is arbitrary, accruing customer energy balances over the course of a year rather than for each month will better enable the true economic value to the customer of small-scale renewable generation systems (such as photovoltaics) to be realized, thus promoting their adoption.

Availability of Stand-By Power for Cogeneration and Small Power Production

Based on what we have heard and learned about the matter, The Foundation agrees with the claim of the Ohio Manufacturers' Association (OMA) that there are few tariff provisions in Ohio for "supplementary power", "back up power", or "maintenance power", thus forcing the customer to enter often tedious and lengthy (and sometimes contentious) negotiations with the IOU.

OMA's comment that customers are typically required to purchase standby at firm power rates and conditions is corroborated by the submission of Mr. Ted Bronson, who relayed comments of parties knowledgeable about Ohio IOU standby rates, in which it was asserted that fixed standby rates were up to three times higher than those found at one Midwestern utility.

The requirement to negotiate standby power with the local IOU, and the common result from the negotiations of a relatively high price for such services, severely discourages the adoption of on-site generation in Ohio, which in turn suppresses innovation and efficiency in the electricity markets.

Based on this, Mr. Bronson recommended that PUCO require Ohio IOUs to waive fixed standby charges for distributed generation systems, similar to Rule 21 in California. As the California rules were recently developed as a result of a lengthy and balanced process

among all stakeholders, it seems reasonable to The Foundation that PUCO should consider adopting similar provisions.

The Foundation agrees with OMA that any competitive market in standby power should not be codified in tariffs, which are an instrument of regulation, not the product of free-market forces between buyers and sellers. The Foundation also believes that OMA's further suggestion of a regional standby power pool is an interesting concept that merits additional investigation by PUCO.

Distributed Generation Interconnection

The Foundation has heard from multiple parties who have been involved in such efforts that the process of applying for, engineering, and obtaining an interconnection permit from an Ohio IOU – as well as installing an interconnection – is slow and expensive, usually highly disproportionate to the magnitude of the distributed generation source being considered. This unduly burdens would-be participants in the marketplace and thwarts the adoption of advanced energy solutions that could otherwise reduce customer energy costs and reduce emissions.

If the slowness in obtaining transmission interconnection agreements is a result of inadequate staffing at an IOU, then The Foundation suggests that PUCO should require (and allow cost recovery for) increased staffing on the part of IOUs, and establish fines for IOUs that fail to process applications within a specific time frame.

But, a better solution to this issue would probably be achieved through statewide standardization of the interconnection process, as presently each Ohio IOU seems to have its own interconnection requirements. Seconding Mr. Bronson's recommendations, The Foundation suggests that PUCO establish a uniform interconnection standard for the entire state of Ohio referencing IEEE 547. As OCC notes, this would also have the effect of increasing the size limit for streamlined interconnection applications to 10 MVA, from the currently low level of 300 kilowatts for three-phase systems (and just 25 kilowatts for single-phase systems. The Foundation also supports Mr. Bronson's suggestion that Ohio should build its standardized interconnection provisions from the work underway by the Mid Atlantic Distributed Resource Initiative, which includes the input of several utilities.

With regard to the cost of interconnections, The Foundation suggests that Ohio IOUs should be required to justify their expenses and be subject to audits by PUCO. Furthermore, Ohio IOUs should be required to competitively bid interconnection work as an alternative to executing the work themselves, or allow a means by which entities seeking interconnection can contract for the work themselves from qualified vendors without resistance from the IOUs.

Smart Metering for Demand Response

The Foundation believes that demand response must become an important part of the electricity resource mix in Ohio. Demand response alleviates potential generation and

transmission capacity shortfalls, thereby improving grid reliability and deferring the need for new asset construction. Demand response reduces electricity generation requirements typically when environmental conditions are at their worst and emission reductions are hence most beneficial. And, demand response can also save customers substantial money on their energy bills.

As for smart metering, while The Foundation has not conducted any assessment of the current availability and economics of technologies and product/service offerings, The Foundation believes that smart metering has advanced to the point where some customers would find it economically attractive and beneficial to adopt smart metering. The Foundation agrees with the comments of OMA and Elster Electricity that smart metering should be at the customer's choice, not mandated by PUCO. However, The Foundation believes that PUCO should mandate Ohio IOUs to offer (or to enable third-party competitive providers to offer) smart metering systems to customers located in their service territories.

The pricing of smart metering programs, as offered by Ohio IOUs, should be cost-based and subject to the review of PUCO. The Foundation agrees with the comments of the Demand Response and Advanced Metering (DRAM) Coalition that IOUs should be assured full rate recovery for any costs associated with the installation of smart meters at a customer's request. Like DRAM, The Foundation believes that additional financial incentives for IOU smart metering programs may be warranted, so that they will more vigorously promote smart metering for its future societal benefits stemming from improved customer awareness of energy price variability (and the impact of their consumption choices), reduced air emissions from avoided power generation, and deferred generation/transmission capacity installations.

As stated eloquently in the comments submitted by Dr. Steven A. George of CRA International, The Foundation believes that smart meters alone will have minimal impact on reducing aggregate electricity consumption. It is therefore imperative that smart metering programs also be accompanied by viable retail electric service offerings involving meaningful time-varying pricing signals – otherwise, smart metering will just be an added economic cost, and customers will do little to shift their behaviors. As a consequence, The Foundation believes that PUCO should similarly mandate Ohio IOUs to offer (and encourage competing providers to enter and offer) time-varying pricing programs to their customers.

Even so, The Foundation agrees with OMA's policy position that customers adopting smart meters should not be required to also select a time-varying pricing schedule. This should be a matter of customer choice. There may in fact be some customers who value the information from smart metering and change their behaviors accordingly, with salubrious effect on energy markets, without adopting a time-varying pricing schedule.

We concur with DRAM that smart metering, and time-varying pricing programs, can provide a new start for a viable competitive retail electricity market in Ohio. The

Foundation thus suggests that both smart metering and time-varying prices should be promoted by PUCO.

CONCLUSIONS

Clearly, several Ohio electricity policy revisions are appropriate, in response to the questions raised in this Case. The Foundation hopes that PUCO will hear, and then remedially act upon, the valid concerns raised by the parties who have participated in the technical workshops and/or submitted comments as part of this Case.

However, there are broader issues at stake of even greater urgency and significance than the particular issues put forth by PUCO for consideration in this Case.

If there is one message to draw from The Foundation's comments herein, it is that the current situation in the Ohio electricity industry is highly unsatisfactory, and needs to be repaired by Commission action, preceded by additional investigations and hearings if necessary.

From the foregoing commentary, The Foundation wants to make very clear that it has no intrinsic opposition to IOUs. We do not seek to deny IOUs their right to exist as businesses, nor to earn reasonable returns on their regulated business activities, nor to compete fairly and if thereby possible to achieve outstanding returns on their unregulated business activities.

Our assessment is simply that the current set of electricity policies and regulations in Ohio encourage IOUs to transmit, distribute and sell as many kilowatts and kilowatt-hours as possible – and to obtain these kilowatts and kilowatt-hours as much as possible from their own conventional generation sources. By repressing the evolution to an advanced energy industry infrastructure, this is not in the long-term interest of Ohio's citizens and businesses.

Because of this regulatory structure, IOUs thereby tend to financially suffer from encouraging energy efficiency measures, and from accommodating others' sources of power generation. As would any other organization facing a similar set of incentives, IOUs do not welcome other parties to provide electricity alternatives, but instead tend to inhibit the pursuit of such opportunities, even when they are financially sound for customers and providers alike. This too is not in the long-term interest of Ohio's citizens and businesses.

It is probable that a successful advanced energy strategy will ultimately require the "decoupling" of IOU revenues and profitability from kilowatt and kilowatt-hour sales, as well as performance-based or incentive ratemaking on transmission and distribution operations to encourage maximum cost-effective reliability of service. However, discussion of these critical but complex topics is beyond the scope of this Case and these comments.

The Foundation recognizes that regulation of an industry as complex as the electricity industry is extremely challenging, and even well-intentioned policies can result in dissatisfactory outcomes. And, Ohio is not alone: there are many other states in the nation that suffer from similar problems and challenges in their electricity sectors. No doubt, this is in part because there are also fundamental breakdowns in Federal electricity policies and regulations, and in the interface between Federal and state regulation on electricity matters.

But, these observations should not be used as excuses by Ohioans for inaction going forward. With these comments, The Cleveland Foundation issues a call for change: for all parties, including PUCO, to begin working together to move Ohio towards a brighter future that is based on advanced energy.

The Foundation looks forward to working with PUCO, Ohio IOUs and other stakeholders in the state to revamp electricity policy and regulation in a manner that fosters a transformation to advanced energy, thereby facilitating competition, innovation and efficiency, while providing IOUs fair opportunities to earn attractive returns to shareholders.

Thank you.

Respectfully submitted on behalf of,
THE CLEVELAND FOUNDATION



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