BEFORE THE
PENNSYLVANIUA PUBLIC UTILITY COMMISSION

Comments Of
Citizens for Pennsylvania's Future
(PennFuture)

Regarding

Docket No. M-00051865
Implementation of the Alternative
Energy Portfolio Standards Act of 2004

Submitted by:
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January 14, 2005

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PennFuture is a statewide public interest membership organization working to enhance Pennsylvania's environment and economy, with offices in Harrisburg, Philadelphia and Pittsburgh. We appreciate the opportunity to submit comments concerning the implementation of Act 213, and we commend the Pennsylvania Public Utility Commission and the Pennsylvania Department of Environmental Protection for convening this conference.

PennFuture has been working for 3 years to pass a state law that set portfolio standards for renewable and alternative electricity generation technologies. We provided testimony to the Pennsylvania Senate and House of Representatives as they worked to craft legislation. We have had numerous conversations about this topic with the Governor and his representatives as well as many Republican and Democrat members of the General Assembly. PennFuture enjoyed a close working relationship with key members of the General Assembly such as Sen. Erickson, Sen. White, Sen. Musto, Rep. Adolph, Rep. Ross, and Rep. Veon as they played decisive roles in writing and passing Act 213. As a result of this work, PennFuture understands what policymakers intend Act 213 to accomplish.

The General Assembly's passage of the Alternative Energy Portfolio Standards (AEPS) Act provides the Commonwealth with the tools to revolutionize how our electricity is made, create thousands of manufacturing and construction jobs, attract billions in private investment to Pennsylvania, stimulate local tax bases, help markedly clean our air and water, provide incentives to reclaim piles of coal waste at abandoned mines, spur energy conservation and actually lower electricity prices by creating a greater, more diverse supply of electricity. The task of turning the promise of the bill into reality falls to the Commission and to the Department of Environmental Protection. We urge your careful attention to the details of this implementation with the intent of the General Assembly at the forefront.

While a full discussion of the issues involved in implementation is beyond the scope of these comments, we would like to offer brief comments on key aspects of the bill.

1. Geographic Scope

There are 3 Regional Transmission Organizations (RTOs) serving portions of the Commonwealth. In addition to PJM, the New York Independent System Operator (NYISO) serves a tiny piece of northern Pennsylvania that is served by Orange and Rockland. The Midwest System Operator (MISO) serves the small Penn Power utility service territory that is in western Pennsylvania, bordering Ohio.

The legislative intent is to insure that qualifying generation projects benefit Pennsylvania's economy, Pennsylvania's electricity supply, and Pennsylvania's environment or the PJM regional grid that protects the reliability of electricity service in the Commonwealth. Nobody intends that Act 213 be implemented in a manner that allows distant generation projects that don't deliver electricity to Pennsylvania or that are located outside of PJM to satisfy the mandates of Act 213. Such distant projects that don't deliver energy to Pennsylvania or are located outside of PJM do not protect

reliability of electric service within Pennsylvania or PJM, do not improve air quality in Pennsylvania, and do not deliver economic benefits to Pennsylvania.

Fortunately, the following interpretation of Sections 2 and 4 of the Act is consistent with the language of the Act and the legislative intent:

- Electric Distribution Companies (EDCs) or Electric Generation Suppliers (EGSs) serving retail customers located within the boundaries of PJM must purchase renewable energy or renewable energy credits from qualifying plants located within the PJM service area as it existed on November 30, 2004 when the Act was signed into law or the Commonwealth.
- Electricity suppliers or utilities serving retail customers in the Penn Power service territory may purchase renewable energy or renewable energy credits from plants located in the Commonwealth or MISO.
- Electricity suppliers of utilities serving retail customers in the Orange and Rockland service territory may purchase renewable energy or renewable energy credits from plants located in the Commonwealth or NYISO.

This interpretation is consistent with the wording of the statute by making projects within the 3 RTOs potentially eligible to satisfy Act 213's mandates. The interpretation recognizes that each RTO serving Pennsylvania is different and must be treated separately.

For example, unlike PJM, the MISO does not operate currently a real-time spot market or a day-ahead market. Unlike PJM, the MISO does not have systems in place to track the environmental attributes of various types of generation.

Moreover, the energy prices that may are central to the cost recovery portions of the Act will differ within PJM, MISO, and NYISO.

Each of these RTOs is distinct and separate. Act 213 must be implemented in a manner that recognizes these operational, engineering, and market differences. The foregoing interpretation does so.

The interpretation supported by PennFuture protects the integrity of the Act and insures that most retail electric demand in Pennsylvania would be served by projects located in either PJM or the Commonwealth for the simple reason that most of Pennsylvania is located within PJM. But importantly, MISO projects would have access to the Penn Power market and NYISO projects would have access to the Orange and Rockland market, under this interpretation.

An even more restrictive interpretation could be made that bars projects located in MISO from serving retail customers in the Penn Power service territory. MISO is not a fully operational RTO. For example, it will not operate a spot energy market until March, 2005 at the earliest. The absence of an operational spot energy market makes the cost recovery provisions of the Act (Section 3) essentially difficult or impossible to

implement. MISO also does not have any equivalent of PJM's GATT system to facilitate verification and tracking of transactions to insure that qualified renewable energy is being supplied. The Act requires such verification.

Given the absence of a spot energy market and GATT system within MISO, projects within MISO could be declared to be unable to meet basic requirements of the Act and therefore would not count towards the percentage requirements. If this interpretation is implemented, then electricity suppliers and utilities serving retail customers within the Penn Power service territory would have to purchase renewable energy from plants located within Pennsylvania or possibly PJM, with PJM taking the place of MISO in the Penn Power service territory.

2. Energy Sold Requirement of the Act

For a project to generate a credit that meets the requirement of Sections 2 and 3 of the Act, electricity from that project must be sold to retail customers in the Commonwealth. Section 2 provides that an alternative energy credit is "one megawatt hour of electricity." It is not the attributes by itself associated with a megawatt-hour but is the actual megawatt-hour.

Section 3 states: "the electric energy sold by an electric distribution company or electric generation supplier to retail electric customers in this Commonwealth shall be comprised of electricity generated from alternative energy sources, and in the percentage amounts as described…" This language prevents credits or tags that reflect just the value of environmental attributes and not delivery of energy/electricity from satisfying the requirements of the Act. Given transmission limitations, given transmission expenses, and given line losses, projects from distant locations, even within PJM, may not be economically competitive with projects located in Pennsylvania or closer to Pennsylvania.

Act 213 explicitly requires that qualifying electricity must be sold to retail customers in Pennsylvania in order to create a credit that satisfies the Act's mandates. The authors of the Act included this language to insure that the Act will help produce electricity that will increase the supply of electricity within Pennsylvania and PJM. More electricity supply for Pennsylvania and PJM means more reliable service. More electricity supply means more stable and possibly lower electric prices than would otherwise be the case. More clean electricity supply in Pennsylvania and PJM means less pollution, less illness caused by pollution, and better environmental quality. The authors of the Act were not interested in encouraging projects with good environmental attributes alone that did not provide increased clean electricity supply to Pennsylvania and PJM.

3. Hydropower

Hydroelectric power generation is our most abundant source of existing renewable energy. The existing hydropower facilities in Pennsylvania were well known to the

authors of the legislation and addressed accordingly. The rule making process should recognize that intent.

The vast majority of Pennsylvania's hydropower resource is found in a series of impoundments on the Susquehanna River. These together comprise 1,022 MW of power capacity (facilities starting at York Haven (22 MW) outside Harrisburg, Safe Harbor (418 MW), Holtwood (108 MW), and proceeding to the Conowingo Dam (474 MW). None of these facilities have ever been certified under the standards established by the Low Impact Hydropower Institute (LIHI) and American Rivers, Inc,. although some may qualify as existing facilities.

There are a number of other small hydroelectric facilities throughout the Commonwealth totaling just over 200 MW.

The Susquehanna River facilities are legacy plants that have been in place for many years. In fact, they are on their second fifty-year FERC licenses. The record of those relicensing proceedings is extensive and points to aquatic habitat changes from riverine environments to lake habitats; with associated changes in water chemistry, biota, fish passage, and more. They have required fish ladders, dissolved oxygen supplementation, and minimum flow augmentation as means to mitigate impacts due to their legacy status.

The Susquehanna impoundments are complemented by an additional 800 MW of pumped storage capacity at Muddy Run, between Holtwood and Conowingo on the Susquehanna. The Seneca pumped storage facility adds an additional 469 MW of capacity.

Act 213 carefully created two categories of Hydropower.

Large scale hydropower facilities, including the pumped storage facilities, are meant to be included in Tier II. This should clearly include the listed facilities on the Susquehanna River.

The Tier I low-impact hydropower projects are intended as incremental developments, as indicated in the plain language of the Act. Section 2 (5): "Low-impact hydropower, consisting of any technology that produces electric power and that harnesses the hydroelectric potential of moving water impoundments, provided such incremental hydroelectric development…"

To meet the incremental requirement of the Act, low-impact hydropower must be new capacity. The new capacity could be an expansion of an existing system that increases the capacity of the existing system. The portion of the total capacity that existed prior to passage of the Act, however, would not be incremental. Instead, if an existing system is now 50 megawatts and it is upgraded to 75 megawatts, the 25 megawatts of incremental capacity would qualify for inclusion in Tier 1.

If an existing facility, including those on the Susquehanna, were to become certified by LIHI, expansions and/or efficiency improvements at that facility that meet the listed measures to assure environmental protection should be allowed to credit the additional power production as a result of the improvements as Tier I.

Improvements that capture more energy without further impact should be encouraged. Considering the vintage of the facilities and the additional resource potential of the River, improvements are a likely outcome of the AEPS.

4. Protecting the Voluntary Market

Several states like New York and Minnesota have acted to prevent electric utilities and electricity suppliers from using purchases voluntarily made by retail customers to count towards meeting Portfolio Standard requirements. They have done so in order to protect the viability of voluntary green pricing and green marketing efforts and to guard against double counting of renewable energy.

Pennsylvania has vibrant green pricing and green marketing that have helped finance five operating wind farms. It would be unfortunate if this Act killed or damaged those markets. The goal should be to have this Act work synergistically with those markets.

One approach would be to bar any voluntary purchases from counting towards satisfying the requirements of the Act. A second, and less preferable, option would be NOT to allow at least the portion of a voluntary purchase that exceeds the percentage requirement in effect to count toward the mandated portfolio requirement.

5. Cost Recovery

Under no circumstances should an EDC or EGS be allowed to recover costs for renewable energy that is supplied to a customer who voluntarily purchases renewable energy in excess of the Act's requirements and pays for that purchase.

In order to safeguard the interests of electricity customers and ensure that market-driven compliance decisions are made, the Commission should require cost-effectiveness of EDC/EGS choices of Tier II resources.

6. Force Majeure

The Commission should specify the public procedures and processes by which Force Majeure can be invoked in relation to Act 213. The Commission should also define affirmative obligations of EDCs/EGSs to help the alternative electricity market develop.

7. Energy Efficiency and Demand Side Management

Act 213 seeks to reduce energy consumption from conventional generation sources through the inclusion of energy efficiency and DSM in the portfolio standard. In order for this to be most effectively implemented, market-based financial incentives must be created.

a. Energy Efficiency

The energy efficiency program should define eligible customer Sectors, energy efficiency technologies, service providers, and special conditions, such as a definition of peak period and requirements that energy efficiency technologies must not pollute. Eligible measures must reduce demand from an established baseline and be verifiable and auditable. The Commission may wish to specify per se applications, such as heating, lighting, air conditioning, major appliances, computers that meet a certain standard and that are deployed.

There are many existing energy efficiency programs operating in other states. All operate with incentives from public, customer, or utility sources. Pennsylvania must create a market based system. The essential feature of this system must provide an incentive to a customer so that they install energy efficient technologies and/or capital requiring management systems either where they were not economic or earlier than planned. The market based system will direct the EDC/EGS to the least cost credits.

b. Load Reduction

The program should define the parameters of high/low demand periods and require verification, e.g. require real-time meters. Eligibility criteria will be key to preventing abuse. Per se quantification is again recommended where possible for measurement and verification

c. Energy Load Shifting

The program should require a certain amount (e.g. 200 kw load shift) and represent new, incremental load shifting after the effective date of the Act. It should define eligible technologies; qualifying shifts should be required to occur during seasonal and time of day peak specified by PJM and be measured directly through time of use metering. Further, they should require capital investment; i.e. simple shifts should be ineligible for trading. The program should protect against environmental degradation; i.e. not allow a shift from EDC to stand-by dirty diesel generation. No double counting should be allowed for load shifted to equipment already receiving credit towards Act 213 compliance, such as solar photovoltaics.

d. Industrial By-Product Energy Reuse

The program should require conventional meters, prohibit environmental degradation, i.e. treatment of exhaust gases, and have a minimum size of 500 kw.

8. Net metering

The program should require that net metering shall be at a customer generator site for residential, commercial, industrial, institutional, and government customers, and be limited to Tier I resources. For residential customers, the nameplate capacity should not exceed 50 kw; other customers may have up to 1000 kw, except if they are willing to make their systems available to operate in parallel with the EDC during grid emergencies as defined by PJM, or where a critical infrastructure micro gird is in place. In such cases, the capacity could be up to 2000 kw. Farm Systems, i.e. facilities that generate electric energy from the anaerobic digestion of agricultural products, byproducts, or wastes; and uses the power produced to offset power purchase and/or sell power to the grid, should have a nameplate capacity up to and including 300 kw.

A net metering system should credit the customer-generator at the full retail rate for each kwh of electricity produced by a Tier I or Tier II Alternative Energy system installed on the customer-generator side of the meter, up to the total amount of electricity used by that customer during an annualized period. The EDC should be allowed to charge the customer a minimum monthly fixed fee to recover its "wires" cost, but not be allowed to charge the customer any additional standby, capacity, interconnection, stranded cost, or other fee or charge. The customer-generator should own the AE Credits produced by the system and may sell them in accordance with the provisions of the Administrator and the PJM GATS.

9. Distributed Generation Systems

Conventional diesel generation must NOT qualify under Act 213. DG systems should be fueled by Tier I resources.

Conclusion

The skill with which Act 213 is implemented will determine whether the potential benefits of energy diversification will indeed be realized for Pennsylvania. PennFuture is committed to assisting the Pennsylvania Public Utility Commission and the Department of Environmental Protection toward that end. Thank you again for the opportunity to provide these comments.