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July 31, 2014

Pennsylvania Public Utility Commission  
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Harrisburg, PA 17105-3265

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PA PUBLIC UTILITY COMMISSION  
SECRETARY'S BUREAU

RE: Docket L-2014-2404361  
Proposed Net Metering Changes

Dear Commissioners:

The Professional Dairy Managers of Pennsylvania (PDMP) has read with great concern the proposed Rule changes for the Implementation of the Alternative Energy Portfolio Standards. This Order, if adopted will have grave consequences for dairy farms that have, or might consider in the future, installing Anaerobic Digesters (AD) to meet their environmental regulatory compliance.

In Pennsylvania, where most dairy farms are located within the Chesapeake Bay Watershed, dairy producers are heavily regulated by EPA and DEP. In fact, most Anaerobic Digesters operating in PA are located within Chesapeake Bay Watershed.

The push toward anaerobic digesters has been a federal one for farming operations. Dairy producers are being driven and incited to turn to AD technology as their solution to these environmental regulations; to manage water runoff, manure management and ag and animal waste in their dairy operations. Digesters enable dairy producers to meet their regulatory mandates and be good environmental stewards. The digesters, while extraordinarily expensive to build and maintain are a benefit to the community and make it possible for farmers to meet their environmental regulations and mandates by positively addressing:

- Manure management
- Air Quality
- Water Quality
- Odor management

AD are incorporated into Pennsylvania's Chesapeake Bay Watershed Implementation Plan (WIP) as an integral technology for not only farms, but for the Commonwealth in meeting its obligation to reduce nutrient load from runoff, manage nutrients and generate other environmental benefits. AD are actually included in Pennsylvania's WIP as a critical technology

and the United States EPA has accepted AD as part of the Commonwealth Chesapeake Bay compliance plan. (Please see Exhibit A attached to these comments).

***Why On-Farm Anaerobic Digesters (AD) Are Different Than Other Alternative Energy Producers:***

The purpose of on-farm anaerobic digesters (AD) is the need to manage manure. Dairy farmers and animal agricultural producers are being driven to AD because it is an effective technology to manure effluent management and allows the dairy farm to meet its environmental compliance responsibilities. AD are a solution to a problem, not an alternative business for the dairy farm.

Allowing dairy farms to net meter their excess energy provides the essential revenue stream to pay for the heavy financing load and operational costs of the digester, and is the only way a dairy farm with a digester can positively cash flow the expenses of its AD.

Dairy farms are in the milk production business, not the energy business. The dairy farm business model is a multi-generational family farm, not a publicly traded business, or a business with investors and venture capitalists.

Dairy farms are in the food production business, not the energy business. AD are developed, built and operated at great cost to the dairy operation and with considerable debt load to solve its environmental compliance obligations and not to replace the dairy business with a new business of energy production.

***Questions for the PUC on proposed rules' impact on on-farm anaerobic digesters:***

- Are existing Anaerobic Digesters grandfathered from all aspects of proposed PUC Order? There does not appear to be any place in the proposed order where this is explicitly set forth.
- What effect does the pending order have on any dairy farmers currently contemplating or initially exploring the development of Anaerobic Digesters?
- What effect will eventual order have on farms in the process of developing plans, pursuing financing, or being involved in the permitting process for a digester?
- What happens to farms caught "in the middle" of the strong environmental push to adopt the digester technology for manure management and environmental compliance and the looming financial disincentives caused by this proposed order?
- What is the impact on farms in the DEP permitting process for Anaerobic Digesters?
- What will farmers be asked to do with excess methane, flare it off or other alternative?
- Is the intent of the PUC with this order to limit the amount of alternative energy produced and made available to the consumers when the rest of the world is looking for every kw of alternative energy that can be created?
- Why does the PUC seek to limit the free market/income of dairy farm families?
- Is the intent of the order to limit green energy?

Dairy farmers operate within a volatile economic marketplace; volatile and cyclical feed costs and milk prices. Capital costs associated with modernization and herd growth are high, yet essential, for dairy farms to remain economically sustainable. The costs of environmental regulation and compliance are ever increasing and require smart technology, which generally requires a high capital outlay.

Anaerobic digesters are smart environmental technology but expensive to develop, build and operate. Most dairy farmers operating them have leveraged themselves significantly to build them and bring them on line to eventually attain operational efficiency that will enable them to meet environmental compliance and pay for themselves.

It is essential that digesters positively cash flow and that dairy farm digesters yield maximum economic benefit to the dairy operation by selling energy beyond the load of the farm operation to the grid. There is no reason to limit the economic benefit and efficiency to the dairy operation by ordering predetermined caps and limits as currently proposed in the Order.

The caps and limits in the proposed PUC Order will act as a disincentive to dairy farmers who may consider digesters to meet regulatory compliance. In fact, we know of a farm in Lancaster County where a dairy farmer who is considering a digester, and who is engaged in serious financial feasibility planning for the digester has indicated that if the proposed PUC Order with the limitations and caps on net metering becomes law he will not build the digester. It just will not be economically viable for the financial leveraging he will have to do to develop, build and bring a digester on line. Had he known that these caps would be set in place by the time his project is scheduled to begin, he would not have extended himself recently to purchase the land for this expansion of his herd. Like most farmers who have decided to invest in digesters, he was finally hopeful that his future in dairy, and that of his children, would be attainable. Having learned of this rule change, he fears for the farm's long term viability.

The proposed PUC Order, with its caps and limits will definitely discourage, even preclude dairy families from undertaking the daunting economic challenge of planning, developing, building and operating digesters because the economic return of digesters will not be attainable.

We ask that the Commission rectify the deterrents to on-farm energy generation projects in the proposed rule changes with the following suggestions:

- 1) Net-Metering rules for Farm Waste anaerobic digester systems be carved out from Solar, Landfill and Wind regulations
- 2) All Farm Waste anaerobic digester systems meters installed for net-metering purposes be set at the General Service rate.
- 3) Nameplate capacity allowable up to 2.0 MW
- 4) An electric load, independent of the alternative energy system, behind the meter and point of interconnection of the alternative energy system is ***not required***.

We suggest that the PUC follow other state and federal agriculture exemptions for on-farm Anaerobic Digesters such as:

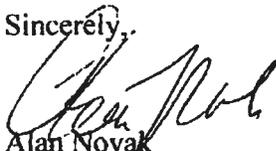
- USDA “production of food and fiber”
- PA Air Pollution Control Act language
- PA Clean and Green Act and program
- New York State Net Metering Rules (which treats each alternative technology differently)

The PUC order’s negative impact on the PA dairy industry’s competitive position with neighboring states is of grave concern to our farm families. PA dairy farmers sell milk into the same markets and New York producers, so there is competition, al be it friendly competition. Because New York has a cap of 1 MW (and there is talk it could go to 2 MW), the economic playing fields will be different if this order is enacted and PA has a different standard and rules for its Anaerobic Digesters, **CREATING A COMPETITIVE DISADVANTAGE FOR PENNSYLVANIA’S DAIRY FARMERS.**

In conclusion, we urge the PUC to recognize that the future strength and economic sustainability of Pennsylvania dairy farming is directly related to dairy operations’ ability to manage animal waste while growing herds and modernizing. A thriving dairy industry is essential to the health of PA’s economy and it is environmentally regulated much differently than energy generation entities. In fact, there are already built in limits to their on-farm generation (Please refer to Exhibit B).

The technology and rational for on-farm AD is significantly different than solar, wind and landfill generators; mitigating environmental impact—manure and waste management and environmental compliance, particularly within the Chesapeake Bay Watershed and the increasing proximity of public to farms. AD’s are a technological response to environmental needs that allow farms to be environmentally and economically sustainable and responsible today and tomorrow and Pennsylvania’s Watershed Implementation Plan (WIP) with the EPA categorizes AD’s as manure technology: “manure to technology projects.” This is a significant distinction from other forms of alternative energy, accentuated by the demands of the EPA with regard to the Chesapeake Bay Watershed.

Within the environmental reality of Pennsylvania, digesters should be essential to a modern, environmentally compliant and responsible dairy operation. The farming and AD business model is much different than energy generating companies and its structure is significantly different. Dairy farms generating energy on the farm are, first and foremost food production enterprises; there is no intent to become an energy company but instead to manage waste while keeping the dairy business profitable enough to sustain a family and future generations. They should not be treated as if they were a large energy enterprise by the PUC.

Sincerely,  
  
 Alan Novak  
 Executive Director

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cropping using legume-based covers to reduce inorganic N fertilizer applications; adaptive nitrogen management by better timing of N applications according to in-season testing; High-Boy Covercrop Seeder innovative technology; and the Conewago Creek Showcase Watershed. Activities in the Showcase Watershed include Agricultural Research Service (ARS) Dry Manure subsurfer unit for manure injection that is scheduled to be in Conewago this fall; completion of farmer surveys by conservation district staff to identify needs; detailed Soil Survey to map small hydrologic areas not viewable in current soil survey; collaboration with USGS on monitoring by sharing data to inform gage site selection; local visioning team efforts and successful integration of local partners and recruitment of community involvement; and the development of Conservation Decision Support tool by Zedex.

### New Technology

A core element of the plan for reaching the Commonwealth's nutrient reduction goals involves the implementation of new technologies and supporting these efforts through the sale of environmental credits and energy products. For example, new technologies have the ability to enable agricultural producers to better manage nutrients, reduce nutrient loading from runoff, and generate other environmental benefits. Recently, DEP has been promoting the establishment of manure to energy projects such as enhanced regional digesters that digest manure, produce electricity and substantially reduce nutrients. An enhanced digester includes the ability to reduce nitrogen and phosphorus in the digester's output streams and create usable by-products, which can provide environmental benefits.

DEP has been working with the Department of Agriculture and a number of companies looking to install various technologies such as co-generation on dairy, poultry and hog operations. Many of these technologies can produce electricity and marketable soil amendments; reduce methane emissions; and generate renewable energy, nutrient reduction and carbon credits which can then be sold. Projects of this nature can support three priorities in the Chesapeake Bay region: maintaining a vibrant farming economy; restoring and protecting the water quality of Pennsylvania streams and the Chesapeake Bay; and providing crucial economic development benefits to rural businesses and communities. Manure-to-energy projects are just the first of many promising technologies that advance broad based environmental benefits.

To access the potential reductions for these projects, DEP worked with EPA to have an interim BMP established. This was necessary to allow for recognition in the WIP of the nutrient reductions associated with manure processing technology efforts. This could be accomplished with a new placeholder BMP, or utilization of an existing BMP from the Watershed Model. However, it was not possible to design a "one-size-fits-all" BMP, because each technology is different. At the same time, the technologies do share a common element: they reduce the amount of nutrients available for application in the watershed.

In simplistic terms, an approach was approved to allow jurisdictions to review each technology and calculate the amount of reduced nutrients, employing critical requirements such as reducing by the amount of replacement nutrients. Because the net amount of nutrients no longer applied in the watershed has the same effect as transporting those nutrients out of the watershed, each jurisdiction would calculate a "tons of manure equivalency" that would then be reported to the

Chesapeake Bay Model as the Manure Transport BMP. The advantage of this approach is that an existing Chesapeake Bay Model BMP could be employed.

While implementing manure-to-energy and other new technologies is a key element of Pennsylvania's WIP, DEP and EPA have come to recognize the nutrient reduction capability of these technologies is not adequately reflected in Chesapeake Bay watershed model results. It has cooperatively been agreed to that over the next twelve months, DEP will work with EPA to create a BMP efficiency that will better account for the potential reductions. DEP also agrees to verify the reductions with EPA over the two-year milestone periods to assure the anticipated reductions are occurring. If it is found that the technology projects are not providing the anticipated reductions, DEP agrees to work with EPA to assess where additional nonpoint source reductions may be generated.

Regardless of the many benefits these advanced technologies can produce, there is one limiting factor for all: financing. Depending on the project, some estimates indicate that up to approximately \$50 million in construction costs could be needed for a single facility, with operational expenses being paid mostly by the revenue generated from the sale of multiple environmental credits and other activities such as biosolids collection.

DEP has called for an annual investment fund, financed by the federal government and Bay states, to be developed to support manure-to-energy technologies, septic system de-nitrification technologies, and other innovative technologies throughout the watershed, including at least one per year in Pennsylvania. The suggested amount for this Technology Fund \$100 million with 50 percent to be provided by the Bay jurisdictions and 50 percent to be provided by the federal government. A fund of this magnitude could install potentially 4 to 8 projects each year with each project having the potential to remove at least 1 million pounds of nitrogen from the Chesapeake Bay. Pennsylvania believes that the federal government, Bay jurisdictions, and other key stakeholders must play a constructive role in advancing new technologies and tools.

DEP held a meeting on October 27, 2010 to gauge interest in the development of the Technology Fund. As an outcome of that meeting, key follow-up items, as well as suggestions and issues to be addressed were identified related to establishment of the Technology Fund. Since that meeting DEP has been and will continue to work with stakeholders to discuss the items raised at the meeting.

Pennsylvania anticipates that specific elements of the Technology Fund could be outlined, drafted and potentially established during the two-year 2011-2012 legislative session. Detailed discussions will continue in early 2011.

As the Technology Fund is developed and established, DEP will continue to support the development of new technologies through the promotion and expansion of the Nutrient Trading Program. Pennsylvania's existing Nutrient Trading program has already proved a viable option for municipal treatment plants and communities that must reduce their nitrogen and phosphorous discharges. DEP continues to work with Pennsylvania stakeholders to enhance the Nutrient Trading program, as detailed in other sections of this plan.

# Phase II WIP

Delegation agreements with conservation districts have allowed Pennsylvania DEP to implement the Chapter 102 erosion and sedimentation control regulations and the State Conservation Commission to implement the nutrient management program. Pennsylvania's WIP includes specific language to expand conservation districts role in manure management through the nutrient management delegation agreements. Pennsylvania is currently engaged in revisions to the nutrient management delegation to achieve this. Pennsylvania is working with the State Conservation Commissions nutrient management workgroup, comprised of several conservation districts, DEP and SCC staff, to revise the delegation agreement. This new delegation agreement will be completed by July 2012, when the existing delegation agreement expires. DEP anticipates that Pennsylvania's conservation districts will enter into this delegation agreement.

Grant agreements are another mechanism through which Pennsylvania supports conservation districts. Grant funds from Pennsylvania's Growing Greener program have been utilized by conservation districts to address a wide variety of environmental projects, including agricultural best management practices. DEP expects that conservation districts will continue to engage in the grant opportunities to install agricultural best management practices.

As noted above, Pennsylvania's conservation districts are unique organizations governed by their individual county conservation districts boards. DEP does not expect all conservation districts to engage at the same level, given the disparate levels of staffing and differing level of Board expectations. However, DEP does expect that conservation districts will continue to engage in the appropriate contracted programs, delegation agreements and grant opportunities that are included in the WIP.

At the March 14, 2012 WIP Management Team meeting, EPA staff stated that DEP's compliance initiative was a good plan and recognized that the Phase 2 WIP should not have to include a Plan B in the event that Conservation Districts do not fully engage. EPA did ask for additional detail on potential DEP action. DEP's CBRAP activity through December 2011 demonstrates DEP's commitment to meet its agricultural compliance commitments. DEP's target for agriculture compliance activities was 50, but 104 were actually completed. This demonstrates that DEP is prepared to perform additional compliance activities should it become necessary. DEP's commitment to develop a Model Agriculture Compliance Policy and its exceedance of DEP agricultural compliance CBRAP targets provide sufficient assurance to enable EPA to remove its "enhanced oversight" over the agriculture sector.

## **Manure Technology**

A core element of Pennsylvania's Phase I WIP is the implementation of technology projects, such as manure-to-energy facilities. Significant progress has been made in this area since the development of the Phase I WIP. For example:

- ElectroCell Technologies Inc. has generated nitrogen credits that were registered for use in meeting NPDES permit limit requirements;
- Under a Water Quality Management Experimental Permit, Bion Technologies has constructed and operated a biological process for treating manure in Lancaster County; and

- EnergyWorks BioPower has initiated construction of the Gettysburg Energy and Nutrient Recovery Facility in Adams County.

These examples help demonstrate that progress is being made in efforts to deploy technology that can reduce nutrients reaching the Chesapeake Bay.

### **Advancing Technologies**

Continuing to advance technology in Pennsylvania and across the Chesapeake Bay watershed will require a multi-pronged approach. Various efforts will be undertaken as part of the Phase 2 WIP to continue to allow progress to be made and help implement additional projects:

### **Financing**

While new technologies provide opportunities to better manage nutrients, reduce nutrient loading from runoff, and provide additional environmental benefits, financing the projects can be a challenge. Pennsylvania will continue to pursue any and all funding opportunities to advance technology in Pennsylvania and across the Chesapeake Bay watershed. As part of the Phase 2 WIP, Pennsylvania plans to pursue the following opportunities to help enhance the general capacity for funding:

- Working with the Chesapeake Bay Commission and other sponsors of the 2011 Manure to Energy Summit. A report with policy options can be accessed at : <http://www.chesbay.us/Publications/manure-to-energy%20report.pdf> ;
- Partnering with PennVEST to pursue funding opportunities. For example, in January 2012, PennVEST announced that it had provided \$620,885 to help construct a boiler for chicken manure at a farm in Lancaster County;
- Monitoring the Farm to Energy Initiative, whose project partners include the Lancaster County Conservation District. This project was funded by a USDA Conservation Innovation Grant, the National Fish and Wildlife Foundation and EPA, with match funding from the Chesapeake Bay Funders Network and participating farms. The project has five goals, one of which is to expand financing options for manure to energy technology development in the region.

### **Quantifying Nutrient Reductions**

Pennsylvania has been a leader in working to quantify the reductions associated with new technologies. As part of implementing the Phase 2 WIP, Pennsylvania will be working with other states to share its experiences with quantifying these important projects. Included will be two activities:

- Working with the Chesapeake Bay Program's Trading and Offsets Workgroup to develop a protocol for the review of "non-traditional" credit generating approaches. Discussions on how to approach this have begun within the workgroup.

- Pennsylvania is developing draft definitions for Manure Technology BMPs for treatment systems that are currently being developed and implemented at Pennsylvania farms. These BMPs are being developed with assistance from the Chesapeake Bay Program (CBP) and will be vetted through CBP panels and workgroups as a first step in reviewing possible options for recognizing load reductions in the Watershed Model. The technologies include both "wet" and "dry" manure treatment technologies which are typically proprietary and funded through public and private partnership opportunities. Nutrient reductions associated with these systems likely will need to be credited individually due to the variability of each system design and based on data obtained through the Nutrient Trading Program.

## Farm Waste Regulations

State permitting and nutrient management plans, which are required for manure heavy animal agriculture, limit how much waste may be treated and therefore how much power will be produced. Therefore, farms cannot produce an unlimited amount of power from waste.

The amount of waste on farms is regulated and there is a limit to the amount of manure and food waste that can be treated. Right now the ratio of manure: food waste is roughly 1:1 (actually 50%-49% manure-food waste)

Example: if a farm is currently treating 1000 gals per day of manure they cannot treat more than 980 gallons of food waste.

- **DEP - Water Quality Permit**, when a digester is being constructed in conjunction with a lagoon, bringing the total amount of manure storage to over 2.5 million gallons this permit is required. DEP wants to have jurisdiction over the digester components as well as the lagoon. If the farm already has over 2.5 million gallons storage lagoon, this permit is amended to begin receiving food wastes. If the farm is in a High Quality or Exceptional Value watershed, this threshold is reduced to anything over 1.0m gallons of storage.
- **DEP -Food Waste Permit** – this agency governs all municipal food wastes delivered to farms. Residual food waste, food waste that never made it to the point of public consumption, is not required to be permitted under this permit. The purpose of this General Permit (WMGM042) is to provide coverage to farms with digesters wishing to receive municipal food waste – any food waste that had made it to the point of public consumption. Included is waste vegetables, fruit, packaged goods and restaurant waste, including FOG. Brewery waste, whey, juice processing waste, and poultry DAF are examples of commonly seen residual wastes that are to be covered by the farm's NMP.