



May 31, 2016

Pennsylvania Public Utility Commission
Attn: Rosemary Chiavetta, Secretary
P.O. Box 3265
Harrisburg, PA 17105-3265

Dear Secretary Chiavetta:

The Pennsylvania Department of Environmental Protection (DEP) appreciates the opportunity to comment on the Pennsylvania Public Utility Commission's (PUC) Proposed Policy Statement on Combined Heat and Power (M-2016-2530484). DEP's comments on the proposed policy statement focus on the support for and promotion of combined heat and power (CHP) deployment opportunities and their positive impact on the environment and critical infrastructure in the Commonwealth. Please find DEP's comments enclosed.

If you have any questions, please feel free to contact Hayley Book, Deputy Policy Director, by e-mail at hbook@pa.gov or by telephone at 717.783.8727.

Sincerely,

A handwritten signature in black ink, appearing to read "Patrick McDonnell". The signature is fluid and cursive, with a long, sweeping tail that extends to the right.

Patrick McDonnell
Acting Secretary

Enclosure

**BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION**

Statements of Policy, Combined Heat and Power
M-2016-2530484

**COMMENTS OF THE
PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION**

The Pennsylvania Department of Environmental Protection (DEP or Department) appreciates the opportunity to comment on the Pennsylvania Public Utility Commission's (PUC) Proposed Policy Statement on Combined Heat and Power (M-2016-2530484). DEP's comments focus on the support for and promotion of combined heat and power (CHP) deployment opportunities and their potential positive impacts on the environment and critical infrastructure in the Commonwealth.

DEP, as part of its mission to protect Pennsylvania's environmental resources and the public health of our citizens, supports CHP as an efficient and clean approach to generating electric power. CHP systems capture the waste heat energy typically lost through power generation and use it for thermal energy such as steam or hot water that can be used for space heating, cooling, domestic hot water and industrial processes. As such, CHP can increase energy efficiency, reduce air pollutant emissions, reduce energy site costs, diversify the energy portfolio, improve reliability of the grid and increase our critical infrastructure resiliency. CHP should be evaluated, when appropriate, after energy conservation and energy efficiency measures are implemented. Any policies or programs created to incent CHP should not disadvantage energy efficiency, emissions-free generation and/or energy storage as these all have an important role.

DEP acknowledges the many benefits of CHP and as such is encouraged by and supportive of the *Commissions' Proposed Policy Statement on CHP*. DEP, in coordination with the Climate Change Advisory Committee, developed a work plan for the 2015 Climate Change Action Plan to incentivize CHP deployments in Pennsylvania which was endorsed unanimously. The Department acknowledges that there are barriers to CHP deployment that transcend Commission jurisdictions and applaud the Commission's willingness to work with other federal, state and local governments and agencies to overcome these. To that end, the Department recommends an Ad-Hoc CHP Stakeholder Group to focus on solutions to overcome CHP barriers and utilize the Electric Distribution Companies' (EDCs) and Natural Gas Distribution Companies' (NGDCs) biennial reports for analyses. Recommended members would include but are not limited to: PUC, CHP owners or operators, the Mid-Atlantic CHP Center, EDCs, NGDCs, DEP, the Department of Community and Economic Development, the Pennsylvania Emergency

Secretary

Management Agency, and vendors to facilitate a cohesive, seamless CHP deployment effort. The American Council for an Energy Efficient Economy (ACEEE) developed a methodology to evaluate states' commitment to CHP deployment using various criteria which could aid in creating a robust deployment plan and making Pennsylvania a leader in CHP deployment. The Minnesota Department of Commerce's Combined Heat and Power Action plan is another tool that the Commission or its workgroup may find useful.

While a large-scale financial mechanism solely dedicated to CHP is not currently in place in Pennsylvania, there are other options to facilitate the deployment of CHP such as encouraging the EDCs and NGDCs to make CHP a part of their energy efficiency efforts and resiliency plans, as well as their marketing and outreach efforts. In addition, DEP encourages the PUC to support EDC and NGDC efforts to design interconnection and standby rates for owners and operators of CHP facilities. Further, the policy statement includes a biennial reporting requirement to gauge EDCs' and NGDCs' progress toward eliminating obstacles to CHP deployment which DEP strongly supports as this will facilitate monitoring of their progress and provide insight into specific issues related to CHP deployment.

The *Commission's Proposed Policy Statement on CHP* also notes that current investment in CHP is largely driven by the cost of electricity. While large-scale financing mechanisms dedicated solely for CHP do not currently exist, the Act 129 EDC Energy Efficiency and Conservation Programs do provide some incentives for CHP. EDCs must use the Total Resource Cost (TRC) Test, which is the required methodology, to determine cost-effectiveness of a program. As the statute is currently written, the TRC Test only allows for a maximum 15-year life for equipment. Therefore, using this 15-year maximum measure life, steam turbines are the only CHP technology that currently qualifies for the Act 129 EDC program, leaving other CHP technologies excluded. Research and experts agree that CHP systems can have a 25-year maximum measure life. If the Total Resource Cost Test calculation could use a 25-year maximum measure life, other CHP technologies such as reciprocating engines, gas turbines, and micro-turbines could possibly qualify for the Act 129 programs. DEP recommends that changing the TRC maximum measure life to 25 years is an option the stakeholder group could explore further.

CHP systems often require a large capital investment with a long-term payback, a cost barrier which is not unique to Pennsylvania. The U.S. Department of Energy and other states have been focusing on this challenge by designing "off-the-shelf" pre-packaged systems, which are expected to increase the adoption rate of smaller CHP systems. The stakeholder group should additionally evaluate these programs to determine if they are applicable for CHP deployment in the Commonwealth. See the resources we have included below for further information. Finally, in regards to safety and security, interconnection procedures should be designed to address safety and security when the grid goes down. Additionally, the interconnection procedures should also include the cost impacts if a natural gas pipeline does not exist to the facility. An assessment of the impacts to the surrounding community should be included to ensure fair cost recovery allocation among the rate payers.

In conclusion, DEP applauds the Commission for taking steps to further CHP deployment as a clean technology that provides environmental, economic and public health benefits. DEP

supports the EDCs and NGDCs promoting CHP systems and acknowledges the usefulness of the interim reporting as a means of implementation feedback. DEP recommends an Ad-Hoc CHP Stakeholder group as a cohesive approach to sustainable CHP markets and critical infrastructure resiliency, and looks forward to being an active member. Lastly, DEP strongly believes that utility customers are best served if energy conservation and energy efficiency opportunities are addressed before the deployment of any CHP systems as reducing overall demand for electricity and heat can reduce the size or quantity of CHP units needed. Thus, CHP deployment should be considered as one of many interdependent energy systems from a holistic, distributed generation approach. DEP thanks the Commission for the opportunity to comment and looks forward to working together to further CHP deployment in the Commonwealth.

Listed below are technical resources that are available to facilitate Ad-Hoc CHP Stakeholder Group decision making:

- The U.S. Department of Energy's (DOE) Better Buildings' Combined Heat and Power for Resiliency Accelerator Partnership supports and expands the consideration of CHP solutions particularly for critical infrastructure resiliency.
<http://betterbuildingsolutioncenter.energy.gov/accelerators/combined-heat-and-power-resiliency>
- CHP Technical Assistance Partnerships – One of the seven partnerships, the Mid-Atlantic Partnership is housed in Pennsylvania. They provide market opportunity analyses, education and outreach and technical assistance.
<http://energy.gov/eere/amo/chp-technical-assistance-partnerships-chp-taps>
- The U.S. DOE's Low-Cost Packaged Combined Heat and Power Project – This project is leveraging core technologies developed under the U.S. Department of Energy's Advanced Reciprocating Engine Systems (ARES) program to lower costs while increasing efficiency. The project will result in one of the highest-efficiency systems for a CHP project less than 1 MW in size. The packaged system is expected to increase the adoption rate of smaller CHP systems through simplified installation and reduced total cost of ownership.
<http://energy.gov/eere/amo/low-cost-packaged-combined-heat-and-power-system>
- NYSERDA's Pre-Packaged CHP Incentive Program – this program is an example of the U.S. DOE's low-cost packaged CHP Project above. This program is based upon the customer purchasing a product (packaged CHP) rather than purchasing individual components. NYSERDA's program includes a catalog of pre-qualified systems to ensure reputable vendors and reputable components, ensures components are properly size-matched, bumper to bumper coverage and turn-key solutions with adequate local sales and support. *www.nyserderda.ny.gov/chp*
- EPA Combined Heat and Power Partnership – Through the CHP Partnership, EPA's CHP team works with CHP stakeholders to reduce air pollution and water usage associated with electric power generation by increasing the use of CHP. EPA's goal is to remove policy barriers and to facilitate the development of new projects in the United States.