

**PENNSYLVANIA PUBLIC UTILITY COMMISSION
HARRISBURG, PENNSYLVANIA 17120**

Proposed Policy Statement on
Combined Heat and Power

Public Meeting February 25, 2016
Agenda No. 2530484-CMR
Docket No. ____

**JOINT MOTION OF CHAIRMAN GLADYS M. BROWN AND
COMMISSIONER ROBERT F. POWELSON**

In light of the potential benefits to the public of Combined Heat and Power (CHP), we are interested in considering ways to advance the development of CHP in Pennsylvania. CHP is an efficient means of generating electric power and thermal energy from a single fuel source, providing cost-effective energy services to commercial businesses like hotels, universities and hospitals. CHP systems capture waste heat energy that is typically lost through power generation, using it to provide heating and cooling for manufacturing and business. In addition to improving manufacturing competitiveness and reducing greenhouse gas emissions, CHP benefits businesses by reducing energy costs and enhancing reliability for the user.

We believe there are several areas where electric and natural gas distribution companies (EDCs and NGDCs) may be able to implement policies and practices that reduce barriers to such development. With this Motion, we propose a policy statement that establishes a biennial reporting requirement for the EDCs and NGDCs regarding their efforts to eliminate obstacles to the development of CHP in the Commonwealth.

The purpose of the proposed policy is to:

- Promote CHP investments;
- Encourage EDCs and NGDCs to make CHP an integral part of their energy efficiency and resiliency plans, as well as their marketing and outreach efforts;
- Encourage these companies to design interconnection and standby rates for owners and operators of CHP facilities; and
- Promote the consideration of special natural gas rates for owners and operators of CHP facilities.

By way of background, CHP is a type of distributed energy that takes the form of integrated system located at or near a building or facility that provides at least a portion of the electrical load and uses thermal energy for space heating or cooling, process heating or cooling, refrigeration, or dehumidification.

The Commission held *En Banc* hearings on CHP at Drexel University and the University of Pittsburgh in the spring and fall of 2014, respectively. Witnesses representing a cross section of the community interested in CHP testified at the hearing,

including consultants, electric and natural gas distribution companies, universities, as well as CHP system owners and advocates. These hearings reinforced the Commission's understanding that a coordinated approach to CHP can provide real benefits to the economy, the environment, and the security of residents and businesses within the Commonwealth.

In particular, the testimony of Gearoid Foley, Senior Technical Advisor for DOE's CHP Technical Assistance Partnership, highlighted the potential benefits of CHP for Pennsylvania. Mr. Foley asserted that by sourcing as little as 1% of Pennsylvania's electric consumption from CHP systems, the Commonwealth would reduce the need for more than 1.4 million MWh annually from the grid and reduce 196 MW of peak demand on the grid.¹

Together, the participants at the hearings identified the following benefits of CHP:

- Improved energy efficiency through the increased utilization of thermal energy;
- Reduced energy costs through reductions in peak demand as well as the associated mitigation of price volatility;
- Reduced emissions resulting from less overall energy consumption;
- Improved reliability for a grid that is increasingly challenged by natural and man-made disasters;
- Increased diversification of resources used for generating electricity;
- Increased economic development enhanced by the availability of shale gas; utilizing more of this abundant resource in Pennsylvania to benefit the Commonwealth's economy;
- Increased national security because multiple points of power generation present a better defense to catastrophic failure and attack; and
- Facilitated expansion of natural gas distribution for all customers.

Participants at the two hearings also identified the following barriers to CHP development:

- Difficulty in justifying capital investment, particularly due to the long term payback requirements of CHP;
- Costs of purchasing backup power during planned plant maintenance and unplanned downtime; and
- Interconnection procedures and fees.

Investment in CHP, in the absence of state, federal or other investment subsidies, is largely driven by the cost of electricity. Some states have made aggressive investments in CHP from various financial resources, including customer contributions and federal funds made available to harden the electric system after catastrophes (such as Hurricane

¹ http://www.puc.state.pa.us/NaturalGas/pdf/CHP/PPT-DOE1_EBH100714.pdf

Sandy). The Commonwealth, at this time, does not have a similar mechanism to encourage CHP development. However, the Commission would like to explore whether Pennsylvania should utilize some of the systemic changes and programs that other states have adopted, including the streamlining of interconnection applications and fees, and the adoption of revised standby charges.

While direct financial support (e.g., state grants) may not be available in Pennsylvania, we propose the issuance of a policy statement to help promote implementation of CHP, to encourage companies to share the progress they have made with CHP development, and to help the Commission determine how to best continue the advancement of CHP.

We believe that the Commission should facilitate efforts to make Pennsylvania a leader in CHP deployment to more fully realize the benefits provided by CHP and the enhanced utilization of our indigenous shale gas resources. The American Council for an Energy Efficiency Economy (ACEEE) has developed a methodology to determine if a state encourages the deployment of CHP systems.² Massachusetts and California rank the highest in the ACEEE rankings while Pennsylvania is tied with Oregon and Washington for 7th place.

In ranking the States, ACEEE analyzed the following criteria employed to encourage the development of CHP:

- The presence and design of interconnection standards;
- The extent to which CHP is identified and encouraged as an energy resource, based on four subcategories:
 - Eligibility of CHP within an energy efficiency resource standard or other, similar regulatory requirement;
 - The presence of utility- or program administrator-run CHP programs designed to acquire CHP energy resources;
 - The presence of state-approved production goals or program budgets for acquiring a defined amount of kWh savings from CHP; and
 - Access to production incentives, feed-in tariffs, standard offer programs, or other revenue streams linked to kWh production points.
- Deployment incentives, including rebates, grants, and financing; or a net metering standard that applies to CHP; and
- Additional supportive policies, including certain streamlined air permits, technical assistance, goals for CHP in critical facilities, resiliency efforts, and policies that encourage the use of renewable or opportunity fuels in conjunction with CHP.

² The 2015 State Energy Efficiency Scorecard, October 2015, Report U1509. <http://database.aceee.org/state-scorecard-rank>

ACEEE has noted that CHP is considered an eligible resource under the state's alternative energy portfolio standard and CHP deployment is encouraged through additional policies and technical assistance efforts. In fact, five new CHP systems were installed in Pennsylvania in 2014.

The ACEEE study confirmed that Pennsylvania can improve in the areas of interconnection standards, the presence of a program designed to acquire CHP energy resources, and state approved production goals for acquiring a defined amount of savings from CHP. This has helped guide our tentative conclusions.

CHP has figured prominently as part of Pennsylvania's Act 129 energy efficiency and conservation programs. In the Implementation Order for Phase III of the Act 129 Energy Efficiency and Conservation Program, CHP was specifically highlighted as a comprehensive measure that was to be considered by the EDCs.³ Further, a number of utilities have an existing incentive program for CHP.⁴ However, Pennsylvania has only begun to realize the myriad of benefits that CHP can offer.

A GDS Associates, Inc. report on the market potential of distributed generation that could be applicable towards the compliance targets of Phase III of Act 129, indicates that other than steam turbines, CHP does not have a Total Resource Cost (TRC) value above one. However, if the maximum measure life under the TRC were to be expanded from 15 years to 25 years, the TRC value would be above one for additional CHP technologies, such as, but not limited to, reciprocating engines, gas turbines and micro-turbines. This would further result in a much higher cost effective market potential, as measured in potential installed MW capacity.⁵

A more comprehensive effort to support the further deployment of CHP systems may help fulfill these responsibilities. We also recognize that some of the benefits of CHP, such as economic development and reduced air emissions, transcend its jurisdiction and responsibility. Further, we acknowledge that technology and energy development are constantly changing and advancing. Thus, we believe the Commission should also stand ready to work with other federal, state and local governments and agencies to develop an approach focusing on all of the aforesaid benefits of CHP.

For these reasons, we propose to require utilities to submit biennial reports on their efforts to support the development of CHP. EDCs and NGDCs will report on their efforts to promote CHP with a particular focus on critical operations for food supply, hospitals, nursing homes, water and wastewater facilities, and government services; energy efficiency; and reduced costs to consumers. Furthermore, the reports will provide information on any tariff provisions that support the development of CHP. Finally, utilities will provide information in the reports on interconnection processes and fees, as

³ *Energy, Efficiency and Conservation Program*, Implementation Order at Docket No. M2014-2424864, entered August 20, 2015, at page 61.

⁴ For Phase II of Act 129 PECO was the only EDC to include a CHP specific program. Each of the remaining EDC's included CHP in their custom incentive programs.

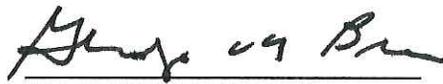
⁵ <http://www.puc.pa.gov/pcdocs/1355000.pdf>.

well as distribution charges that recognize costs but provide flexibility for owners and operators of CHP facilities.

The Commission has a responsibility to promote energy efficiency, the reliability and security of the electric and natural gas distribution systems, and control the costs that consumers pay for electric and natural gas service.⁶ The proposed reporting requirement is consistent with the Commission's authority under Sections 501, 504, 505 and 506 of the Public Utility Code. See 66 Pa. C.S. §§ 501, 504, 505, 506 and Act 129 of 2008, as amended, 73 P.S. §§ 1648.1-1648.8 and 66 Pa. C.S. § 2814

THEREFORE, WE MOVE THAT:

1. The Law Bureau prepare a tentative order consistent with this Motion.
2. The tentative order, including Appendix A to this Motion, shall be published in the *Pennsylvania Bulletin*.
3. Comments shall be due within forty-five (45) days following publication in the *Pennsylvania Bulletin*, with reply comments due twenty-five (25) days after comments are due.
4. The Law Bureau, with assistance from the Bureau of Technical Utility Services, shall review the comments and reply comments, and all the information provided therein, and shall present a final order to the Commission for consideration.



GLADYS M. BROWN
CHAIRMAN



ROBERT F. POWELSON
COMMISSIONER

⁶ 66 Pa. C.S. §§ 1301 (just and reasonable rates), 1501 (safe, reliable and adequate service), 2205 (safety and reliability of natural gas distribution systems), 2804 (safety and reliability of electric distribution systems) and 2806.1 (energy efficiency and conservation).

Appendix A

TITLE 52. PUBLIC UTILITIES Subpart C. FIXED UTILITY SERVICES CHAPTER 69. GENERAL ORDERS, POLICY STATEMENTS AND GUIDELINES ON FIXED UTILITIES POLICY STATEMENT ON COMBINED HEAT AND POWER

1. Statement of Scope and Purpose.

- (a) Combined Heat and Power (CHP) is broadly described as a form of distributed energy that is an integrated system located at or near a building or facility that provides at least a portion of the electrical load and uses thermal energy for space heating or cooling, process heating or cooling, refrigeration, or dehumidification.
- (b) CHP is subject to the jurisdiction of the Commission in several important ways, including, but not limited to, service reliability, energy efficiency and consumer rates. CHP systems can be an integral part of the defense to natural disasters and man-made attacks on the electric distribution system. CHP can be an important component in addressing environmental concerns and offers significant potential for economic development. In conjunction with natural gas from our shale gas resources, CHP also offers potential for lower costs for consumers.
- (c) Under Act 129, Electric Distribution Companies (EDCs) have provided incentive programs for CHP. Likewise, some EDCs have specific tariffs relating to interconnection fees as well as charges for the use of distribution services.

2. Biennial Reports

All jurisdictional EDCs and natural gas distribution companies (NGDCs) shall file biennially, on _____ commencing in 20__ [four months after issuance of the final policy statement], a report that documents their strategies, programs and other initiatives in support of CHP systems. The report shall include:

- a) Identification and description of all CHP systems interconnected with the EDC or NGDC,⁷ including:
 - i. The location, the nameplate capacity (MW) and basic operation of each system.
 - ii. Projected cost savings for CHP customers, if known.
 - iii. Any system reliability benefits. Discussion shall include specific benefits to critical customers, including but not limited to federal, state, and local government facilities, educational institutions, hospitals, nursing homes, and retail and wholesale suppliers of food, wastewater facilities, and water distributors.
 - iv. Any transmission or distribution related savings or avoided costs as the result of a CHP facility. NGDCs shall also report on any revenue impacts.

⁷ All CHP systems are to be included in the initial report. Thereafter, the companies need only identify new CHP systems interconnected (or disconnected) during the prior twenty four month period.

- b) A description of all future CHP projects that are scheduled to come on line or are under discussion.
- c) The report shall also include a discussion of challenges that occurred during the time period covered by the report and any recommendations that might improve upon or hasten the deployment of CHP systems.
- d) Additional EDC Reporting
 - Each EDC shall also report:
 - i. On its communications strategy relevant to CHP systems.
 - ii. Its interconnection terms and conditions, including but not limited to:
 - (a) CHP specific interconnection fees;
 - (b) Streamlined procedures, including well-defined application processing timelines and simple decision trees which are based on the characteristics of the project and for which interconnection procedures apply;
 - (c) Standardized technical requirements;
 - (d) Standardized, simplified application forms and contracts;
 - (e) A simplified, defined process to address disputes; and
 - (f) The ability for larger CHP systems and those not captured under net metering regulations to meet interconnection standards.
 - iii. Actual interconnection fees collected from each CHP facility.
 - iv. Actual electric generation delivered to all customers with CHP by EDC, on an hourly basis for the preceding twenty four month period.
 - v. Provide the information in (a)(iv) above in chart form.
 - vi. Any standby rates applicable to CHP systems offered by tariff, including backup service, scheduled maintenance service, and supplemental services. The discussion shall address the circumstances under which the rates apply and the level of each rate element.
 - vii. As to each tariffed rate identified in the previous section, discuss:
 - a) The methodology used to design each customer, demand, and energy rate element;
 - b) Whether the rates reflect cost differentials for daily and seasonal fluctuations in usage; and
 - c) Whether the rates encourage the scheduling of maintenance at non-peak times.
- e) Additional NGDC Reporting
 - i. Each NGDC shall report on how it encourages industrial, commercial, and institutional CHP projects.

- ii. Each NGDC shall also report on any separate rate classes it has for customer accounts with CHP systems.

3. Staff Report

The Commission's Bureau of Technical Utility Services shall provide a biennial report to the Commission summarizing and analyzing the EDC and NGDC reports, as well as making any recommendations regarding the development of CHP in Pennsylvania.

4. Sunset

This policy statement shall automatically terminate on _____, 20__ [8 years and one day after first report is filed] unless extended by Commission Order.