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BROAD U.S.A. INC.



COMBINED HEAT AND POWER ALLIANCE



GENERAC INDUSTRIAL POWER SIEMENS energy



January 14, 2020

Pennsylvania Department of Environmental Protection
Rachel Carson Building
400 Market St
Harrisburg, PA 17105

RE: Comments Regarding the Pennsylvania Proposed Rulemaking: CO₂ Budget Trading Program (#7-559)

The Combined Heat and Power Alliance (CHP Alliance) is a diverse coalition and the leading national voice for the deployment of Combined Heat and Power (CHP). We are a coalition of business, labor, contractor, non-profit organizations, and educational institutions with the common purpose to educate all about CHP, and how CHP can make manufacturers and other businesses more competitive, reduce energy costs, enhance grid and customer reliability, and reduce emissions.

The CHP Alliance seeks to comment on behalf of 2G Energy Inc., AB Energy USA, Alturus, Curtis Power Solutions, Blue Delta Energy, BROAD USA, Capstone Turbine Corporation, CEM Engineering, CHP-Funder, dck Worldwide, DT Energy Consultants, Heat is Power Association, Henry F. Teichmann Inc., Integrated CHP Systems Corporation, Kanin Energy, Kelly Generator & Equipment, Martin Energy Group Services, Midwest Cogeneration Association, Northeast-Western Energy Systems, Sheet Metal & Air Conditioning Contractors' National Association of Pennsylvania, Sheet Metal & Air Conditioning Contractors' National Association of Western Pennsylvania, Sheet Metal Contractors Association of Philadelphia & Vicinity, Sterling Energy Group LLC, and Turbine Inlet Cooling Association regarding changes to the cogeneration set-aside provisions within the current rulemaking language and to urge the Department of Environmental Protection (DEP) to consider prioritizing the Regional Greenhouse Gas Initiative (RGGI) auction proceeds towards CHP investment and deployment in Pennsylvania.

First and foremost, we greatly appreciate the DEP for drafting the proposed RGGI rulemaking and are excited for Pennsylvania's involvement in the regional initiative. It is proven that involvement in RGGI has provided ample environmental and economic benefits to the entire Northeast and Mid-Atlantic region. A report from the Acadia Center¹ points out that over the last ten years participating states cut electricity-sector carbon emissions by 47%, outpacing the rest of the country by 90%. Multiple analyses conducted by the Analysis Group² found that from 2009-2017, RGGI added \$4 billion in net economic benefits to the region and netted nearly 50,000 jobs.

The CHP Alliance supports the CHP language within the current draft RGGI rulemaking. Specifically, we support the proposed set-aside provisions under § 145.342(k) and §145.305 for cogeneration units, which includes CHP systems. We also thank the DEP for realizing CHP is both energy efficient and environmentally beneficial given that CHP concurrently produces electricity and useful thermal energy. However, we recommend the following changes be made to the proposed rulemaking:

¹ Acadia Center. "The Regional Greenhouse Gas Initiative: 10 Years in Review." 2019. https://acadiacenter.org/wp-content/uploads/2019/09/Acadia-Center_RGGI_10-Years-in-Review_2019-09-17.pdf

² Analysis Group. "Latest Study from Analysis Group Confirms that RGGI Program Continues to Boost the Economy and Create Jobs." April 17, 2018. <https://www.analysisgroup.com/news-and-events/news/latest-study-from-analysis-group-confirms-that-rggi-program-continues-to-boost-the-economy-and-create-jobs/>

The DEP should explicitly credit avoided transmission line losses associated with CHP systems. Virginia recently passed the Virginia Clean Economy Act (VCEA)³, which includes language stating that “any associated reduction in transmission line losses” is a part of the total annual energy savings attributable to combined heat and power facilities in the Commonwealth. A major advantage of installing CHP is the fact that it’s a distributed generation resource that produces electricity onsite and avoids the typical loss of efficiency that occurs when conventional electricity supply travels over power lines to the host site.

The DEP should expand the definition for facilities being supplied CHP-produced energy or electricity, or both, from “co-located” to “interconnected” to more accurately define CHP’s abilities, and not hinder the definition of CHP to the physical constraints of co-location.

The DEP should provide additional flexibility in the form of a limited exemption for cogeneration units that are interconnected and supply power to not only manufacturing facilities, but other sectors beyond industrial that utilize the thermal capabilities and emission benefits of CHP, including: critical infrastructure, healthcare, higher education, and other emerging markets for CHP application in the Commonwealth.

The DEP should adjust the language within the § 145.305 limited exemption for CO₂ budget units with electrical output to the electric grid restricted by permit conditions from “no more than 10% of the annual **gross** generation to the electric grid” to instead say “...the annual **net** generation to the electric grid.” The Commonwealth of Virginia, which joined RGGI in 2020, utilizes the term **net** instead of **gross** as stated in the VCEA.⁴ Many industry CHP facilities have arrangements with their local electricity suppliers to *sell and buy* electricity. For example, local utilities in Pennsylvania and elsewhere may buy electricity from biomass CHP units to help achieve compliance with Renewable Portfolio Standards. In these and other cases of purchases and sales, they should be netted against each other to better characterize the relationship between the CHP facility and the utility and ensure a CHP facility is not penalized for providing efficient, and in many instances, renewable power to the grid.

We ask that the DEP refer to the appendix in this document (pages 6-7) detailing our proposed changes to the language in draft rulemaking, which provides additional clarity on the set of recommendations outlined above.

³ Virginia’s Legislative Information System. “Virginia Clean Economy Act.” 2020 Session. § 56-576. Definitions. Total annual energy savings. <https://lis.virginia.gov/cgi-bin/legp604.exe?201+ful+HB1526ER>

⁴ Virginia’s Legislative Information System. “Virginia Clean Economy Act.” 2020 Session. § 10.1-1308. Regulations. Section E. <https://lis.virginia.gov/cgi-bin/legp604.exe?201+ful+HB1526ER>

Additionally, we support the investment of RGGI auction proceeds in the GHG abatement initiatives, under which CHP systems qualify, and are encouraged by the DEP's model investment scenario with 31% of annual proceeds allocated towards GHG abatement. However, within that allocation, we strongly encourage the DEP to prioritize CHP projects given their economic, environmental, resilience, and reliability benefits.

Our analysis⁵ shows that increasing CHP deployment in Pennsylvania alone could:

- Reduce annual CO₂ emissions by more than 1.1-million tons in 2030,
- Save nearly 6-million megawatt-hours of electricity in 2030, and
- Save businesses \$3.3 billion in cumulative cost savings (2016-2030) from avoided electricity purchases.

Furthermore, CHP is recognized within Governor Wolf's infrastructure plan⁶ as a highly efficient method to improve Pennsylvania businesses' bottom lines. The plan notes that:

“Manufacturing and industrial businesses that convert to natural gas from other energy sources can save 50% or more on their energy costs. As these costs are frequently one of the largest for energy intensive manufacturers and industrial companies, **upgrading from traditional energy sources to high efficiency combined heat and power systems can significantly improve companies' bottom lines, giving Pennsylvania companies an advantage.** When combined with micro-grids, these systems can help manufacturers be resilient and self-sufficient.”

For all of these reasons outlined above, the CHP Alliance urges the DEP to take into account the recommended changes to the language in the CHP set-aside provisions and recommends the DEP prioritize CHP projects when it comes to RGGI auction proceeds, due to the ample economic and environmental benefits associated with CHP technology.

We appreciate the opportunity to provide input in the rulemaking process and encourage the DEP to contact us directly if any questions arise or further clarifications are needed.

⁵ Combined Heat and Power Alliance. “Pennsylvania’s Carbon Dioxide Pollution could be Dramatically Reduced with Industrial Energy Efficiency and Combined Heat and Power.” https://chpalliance.org/wp-content/uploads/2016/10/Final_Pennsylvania-Factsheet_AIE-State-Ranking-Report.pdf

⁶ Governor Tom Wolf. “Restore Pennsylvania: Downstream Manufacturing, Business Development, and Energy Infrastructure.” Page 1. <https://www.governor.pa.gov/wp-content/uploads/2019/06/20190506-Restore-Pennsylvania-Downstream-Manufacturing-Business-Devt-Energy.pdf>

Respectfully,

2G Energy Inc.

AB Energy USA

Alturus

Blue Delta Energy

BROAD USA

Capstone Turbine Corporation

CEM Engineering

CHP-Funder

Combined Heat and Power Alliance

Curtis Power Solutions

dck Worldwide

DT Energy Consultants

Heat is Power Association

Henry F. Teichmann Inc.

Integrated CHP Systems Corporation

Kanin Energy

Kelly Generator & Equipment

Martin Energy Group Services

Midwest Cogeneration Association

Northeast-Western Energy Systems

Sheet Metal & Air Conditioning Contractors' National Association of Pennsylvania

Sheet Metal & Air Conditioning Contractors' National Association of Western Pennsylvania

Sheet Metal Contractors Association of Philadelphia & Vicinity

Sterling Energy Group LLC

Turbine Inlet Cooling Association

Appendix

Please refer below for the recommended language changes to the EQB Proposed Rulemaking⁷ outlined in the set of comments submitted by the Combined Heat and Power Alliance.

Language additions are shown in **bold red** and language subtractions are shown in **yellow highlighted strikethrough**.

Modifications from the RGGI Model Rule

Third, a set-aside provision under § 145.342(k) for cogeneration units, including combined heat and power systems (CHP) is proposed to be added. The Board is establishing this set-aside because cogeneration units concurrently produce electricity and useful thermal energy, making them energy efficient and environmentally beneficial. Under the cogeneration set-aside, the Department will adjust the compliance obligation of a cogeneration unit by reducing the total CO₂ emissions by an amount equal to the CO₂ that is emitted as a result of providing useful thermal energy or electricity, **including avoided transmission line losses**, or both, supplied directly to a ~~se-~~**located interconnected** facility during the allocation year. The Department will only provide CO₂ allowances in this set-aside equal to the compliance adjustment. The cogeneration unit will be responsible for obtaining the remaining CO₂ allowances needed to satisfy the unit's compliance obligation. Unlike the waste coal set-aside, the Department would not distribute CO₂ allowances directly to the unit, but rather retire CO₂ allowances on behalf of the unit to reduce its compliance obligation. Also, cogeneration units must fill out an application and provide information to the Department to receive a compliance adjustment.

Fourth, under § 145.305 (relating to limited exemption for CO₂ budget units with electrical output to the electric grid restricted by permit conditions), the Board proposes to provide additional flexibility in the form of a limited exemption for cogeneration units that are interconnected and supply power to a **manufacturing** facility. A cogeneration unit that supplies less than 15% of its annual total useful energy to the electric grid, ~~not including energy sent to the interconnected manufacturing facility~~, does not have a compliance obligation under this proposed rulemaking. The owner or operator of the cogeneration unit claiming this limited exemption must have a permit issued by the Department containing a condition restricting the supply to the electric grid. This limited exemption is in addition to the exemption in the RGGI Model Rule for fossil fuel fired EGUs with a capacity of 25 MWe or greater that supply less than 10% of annual **gross net** generation to the electric grid. The Board is including this additional exemption for cogeneration units that primarily send energy to an interconnected **manufacturing** facility because these cogeneration units provide a CO₂ emission reduction benefit. These units provide useful thermal energy, a byproduct of electricity generation, to the manufacturing facility which helps prevent the need for the facility to run additional boilers onsite to generate electricity which in turn avoids additional CO₂ emissions.

⁷ <http://www.pacodeandbulletin.gov/Display/pabull?file=/secure/pabulletin/data/vol50/50-45/1541.html>

E. Summary of Regulatory Requirements

§ 145.305. Limited exemption for CO₂ budget units with electrical output to the electric grid restricted by permit conditions

This section proposes to establish a limited exemption and compliance requirements for a CO₂ budget source that has a permit issued by the Department containing a condition restricting the supply of the CO₂ budget unit's annual electrical output to the electric grid to no more than 10% of the annual **gross net** generation of the unit, or restricting the supply less than or equal to 15% of its annual total useful energy to any entity other than the **manufacturing** facility to which the CO₂ budget source is interconnected.