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October 12, 2021

Via eComments

Environmental Quality Board
 Rachel Carson State Office Building
 P.O. Box 8477
 Harrisburg, PA 17105-8477

RE: COMMENTS

Dear Board Members:

Honorable Patrick McDonnell, Chairperson,
 Board Members
 Pennsylvania Environmental Quality Board
 P.O. Box 8477
 Harrisburg, PA 17105-8477

**RE: Comments to Proposed Rule Making
 Additional RACT Requirements for Major Sources of NO_x and VOCs for the
 2015 Ozone NAAQS**

Dear Chairperson McDonnell and Board Members:

Ri-Corp. Development, Inc. dba Gilberton Power Company (“GPC”) appreciates the opportunity to submit comments on the proposed rulemaking on Additional RACT Requirements for Major Sources of NO_x and VOCs for the 2015 Ozone NAAQS. The Appalachian Region Independent Power Producers Association (“ARIPPA”), which is the trade association for the coal refuse to energy industry, has also submitted comments. We fully support the comments of ARIPPA and these comments are submitted in addition to the comments of ARIPPA. Additionally, Olympus Power, LLC., which is another industry member active within the ARIPPA trade association, has also submitted comments. We fully support the comments of Olympus, and these comments are submitted in addition to those comments, as well.

In reviewing the Proposed Rulemaking, we have serious concerns about applying the NO_x standards of 0.16 lb/MMBtu on a daily basis rather than on a 30-day rolling average basis for compliance with the presumptive RACT. The coal refuse to energy industry uses culm, gob or coal refuse as its fuel. This fuel source is unpredictable, with widely varying calorific content, ash content, moisture, and nitrogen, which could result in an average NO_x rate over 0.16 lb/MMBtu

on any given day. However, as demonstrated over the industry's historic operating averages, these plants continually average less than 0.16 lb/MMBtu over a 30-day rolling average period. As a result, we request that each coal refuse to energy facility continue to be permitted to demonstrate presumptive RACT on a 30-day rolling average basis. Otherwise, provisions need to be considered to eliminate the natural fluctuations of daily and instantaneous NO_x values due to various plant conditions such as startups, shutdowns, transient upset conditions, and fuel fluctuations.

Without either maintaining the 30-day rolling averaging period, providing exemptions for particular circumstances, or providing daily exceedance allowances, the majority of the waste coal to energy facilities would be forced to conduct resource intensive case-by-case RACT analyses as they would not be able to comply with the new daily average presumptive limit whereas historically they have been able to demonstrate consistently low NO_x rates, below the presumptive limit, on a 30-day rolling average basis. This result would be contrary to the strong commitment from the Commonwealth in supporting the waste coal to energy industry.

BACKGROUND OF GPC.

GPC is an 88-megawatt (net 80-megawatt) anthracite waste coal-fired cogeneration facility located in Mahanoy Township, Schuylkill County. GPC uses waste coal from existing abandoned waste coal banks to generate energy. Waste coal has already been designated by Pennsylvania as a clean, preferred Tier II alternative energy source.

In addition to using a Tier II alternative energy source, GPC, along with other entities, contribute to the reclamation of Pennsylvania, specifically the anthracite coal region by taking *self-initiated remediation* efforts to reduce acid mine drainage, reduce stormwater runoff from waste coal banks, reduce CO₂ naturally emitting from abandoned existing waste coal banks, filling mine pits with safe beneficial ash from waste coal facilities and then re-vegetating the landscape; thus, creating a carbon sink effect.

If waste coal facilities such as GPC are forced to close or cannot continue to operate, the waste coal banks will **naturally and perpetually cause significant pollution to the air, land, and water of Pennsylvania.**

DISCUSSION ON RACT III.

This proposed rulemaking would establish additional RACT requirements for major sources of NO_x and VOCs for the 2015 National Ambient Air Quality Standards (NAAQS) to meet Clean Air Act (CAA) requirements. RACT is defined as the lowest emissions limit a particular source is capable of meeting by the application of control technology that is reasonably available considering technological and economic feasibility. Pennsylvania's RACT regulations under §§ 129.96 -129.100 (additional RACT requirements, or RACT 2) were implemented in April 2016 for the 1997 and 2008 8-hour ozone standards. However, on October 26, 2015, EPA once again lowered the primary and secondary 8-hour ozone standards, resulting in the Pennsylvania Department of Environmental Protection (PADEP) conducting a generic RACT analysis to determine if additional controls would represent RACT for the 2015 8-hour ozone NAAQS.

As a result of this analysis, the PADEP determined the RACT for each source category. Based on the analysis, the Environmental Quality Board (EQB) has determined that additional controls represent RACT for the new, lower NAAQS. While GPC appreciates and acknowledges EQB's recognition of the environmental benefits of the coal refuse and reclamation industry by providing a presumptive NO_x emissions limit for circulating fluidized bed (CFB) boilers firing primarily coal refuse, the proposed reduction in averaging basis from 30-day to single day results in an averaging period insufficiently short to account for short-term fluctuations in NO_x emissions rates. The presumptive limit of 0.16 lb/MMBtu is appropriate, as the facility continuously operates at a 30-day rolling average of 0.15 lb/MMBtu, or less. However, single-day averaging does **not** adequately represent normal operating conditions at the facility, as startups, shutdowns, transient events, and fuel fluctuations can cause relatively short-duration deviations from our normal, historically low NO_x emissions rates, as a low NO_x mass emission while operating with atypically low heat input can cause seemingly high NO_x rates.

These facilities have faced many tightening regulations over their lifetimes and have consistently committed to complying with each and every new limitation. GPC strives to comply with any and all environmental regulations with which it is presented but urges consideration of the fact that single-day averaging would be detrimental to the objective of the EQB's statement that "this proposed rulemaking would fulfill requirements for reevaluation and be less resource intensive than imposing case-by-case [RACT] analysis for affected facilities in the covered categories." As it currently stands, the majority of coal refuse to energy facilities would be forced to undergo a case-by-case RACT determination as they can easily demonstrate compliance with the proposed presumptive NO_x RACT limit, but on a 30-day averaging basis, not on a daily average basis.

RECOGNITION AND COMMITMENT BY THE COMMONWEALTH OF PENNSYLVANIA.

Alternative Energy Portfolio Standards Act.

Pursuant to the Alternative Energy Portfolio Standards (AEPS) Act, 73 P.S. § 1648.1 *et seq.*, **energy derived from waste coal has been determined to be a Tier II Alternative Energy Source.** The Alternative Energy Portfolio Standards Act, being implemented by the Pennsylvania Public Utility Commission, is designed to **foster economic development and encourage reliance on more diverse and environmentally friendly sources of energy.**¹ By designating waste coal as a Tier II alternative energy source, Pennsylvania has already determined that **energy derived from waste coal is an environmentally friendly source of energy.**

Pursuant to Act 114 of 2020, the Commonwealth amended the AEPS Tier II by closing the borders. The impact of this amendment will result in the continued operations of electric producers using Tier II energy sources and it will most likely result in facilities that utilize Tier II energy sources operating at a higher operating capacity (above 80%).

¹ "Alternative Energy and Economic Development in Pennsylvania". Pennsylvania Public Utility Commission.
https://www.puc.state.pa.us/general/consumer_ed/pdf/AEPS_Fact_Sheet.pdf

GPC recognizes and greatly appreciates the Commonwealth's *continued commitment* to the environmental benefits of deriving energy from the Tier II alternative energy source of waste coal.

Coal Refuse Energy and Reclamation Tax Credit.

The Commonwealth of Pennsylvania provides tax credits to eligible facilities; i.e., coal refuse to energy facilities, that generate electricity by using coal refuse for power generation and then use the beneficial ash produced by the facilities to reclaim mining-affected sites.² Currently, tax credits awards are equal to \$4.00 multiplied by the tons of coal refuse used to generate electricity at an eligible facility in the previous calendar year; provided however, no more than 22.2% of the total amount of tax credits shall be awarded to a single facility in any fiscal year.

Proposed Regional Greenhouse Gas Initiative (RGGI) – Waste Coal Set Aside.

In the rulemaking process for the participation of the Commonwealth of Pennsylvania in RGGI, the Commonwealth again showed its commitment to the waste coal to energy industry by including a waste coal set aside (which said set aside was increased with a greater look back period after discussions on the potential impact to certain waste coal to energy facilities after the initial draft of the proposed rulemaking). As noted in the preamble of the final rule, the Commonwealth stated as follows:

"Reducing waste coal piles is a significant environmental issue in this Commonwealth, because waste coal piles cause air and water pollution, as well as safety concerns. Waste coal-fired units burn waste coal to generate electricity thereby reducing the size, number and impacts of these piles otherwise abandoned and allowed to mobile and negatively impact air and water quality in the Commonwealth. In recent years, waste coal-fired units have struggled to compete in the energy market, due in part to low natural gas prices, and several units have shut down or announced anticipated closure dates. Given the environmental benefit provided, the Board determined that it is necessary to assist owners or operators of waste coal-fired units with meeting their compliance obligation under this proposed rulemaking. This legacy environmental issue from this Commonwealth's long history of coal mining further underscores why it is vital to not leave additional environmental issues, like climate change, for future generations to solve."³

Further, the preamble of the final rule reads in pertinent part as follows:

"After reviewing the last 10 years of CO₂ emission data from waste coal-fired units, the Department determined that the CO₂ allowance set aside should be equal to the total of each waste coal-fired unit's highest year of CO₂ emissions from that 10-year period, referred to as "legacy emissions." That total is 12,800,000 tons of CO₂

² <https://dced.pa.gov/programs/coal-refuse-energy-reclamation-tax-credit/>

³ https://files.dep.state.pa.us/Air/AirQuality/AQPortalFiles/RGGI/2021/01_7-559_CO2_Budget_Trading_Final_Preamble.pdf

emissions. Thus, the Department will set aside 12,800,000 CO₂ allowances annually. Each year, the Department will allocate the CO₂ allowances directly to the compliance accounts of the waste coal-fired units equal to the unit's actual emissions”⁴.

GPC greatly appreciates the continued commitment of the Commonwealth of Pennsylvania.

Overall.

GPC recognizes and greatly appreciates the Commonwealth’s *continued commitment to* the environmental benefits of deriving energy from the Tier II alternative energy source of waste coal. It is our intent to continue our environmentally friendly reclamation activities.

OTHER BENEFITS OF WASTE COAL TO ENERGY INDUSTRY.

As set forth above, the Commonwealth of Pennsylvania and this Board is extremely familiar with the Waste Coal to Energy industry and the benefits to the citizens of the Commonwealth of Pennsylvania.

Waste Coal Facilities create a significant environmental benefit to Pennsylvania.

The Federal Surface Mining Control and Reclamation Act of 1977 (“Act”) governs reclamation activities of mining sites after the effective date of the Act. However, the height of production and excavation of coal in Pennsylvania pre-dates the effective date of the Act and therefore, those pre-Act waste coal sites are not governed by the Act. As a result, these pre-Act waste coal sites are naturally having adverse environmental impacts to the land, air and water quality in Pennsylvania. Some have estimated that approximately 180,000 acres of land holds more than 2 billion tons of coal refuse, which said waste coal banks naturally emit CO₂. GPC uses the self-emitting CO₂ waste coal banks and turns it into a reliable source of energy. When viewing the process in a holistic manner, waste coal to energy facilities benefit the economy and environment without increasing net CO₂ emissions.

Further, such pre-Act waste coal banks result in acid mine drainage and stormwater runoff from waste coal banks that are a source of stream pollution.

Waste coal facilities, specifically GPC together with other companies, are self-initiating remediation activities by turning waste coal into reliable energy, filling in mine pits with beneficial ash, reducing acid mine drainage, and re-vegetating the former waste coal bank areas. These large-scale reclamation activities have and will continue to eliminate a major source of acid mine drainage and stormwater runoff while improving the quality of Pennsylvania waterways as long as such reclamation activities are economically feasible. In fact, these large-scale reclamation activities have a carbon sink effect.

⁴ *Id.*

The environmental benefits of waste coal facilities include but are not limited to the following:

- A. Reduction in exposed waste coal acreage reduces CO₂ air emissions from pre-Act waste coal banks.
- B. Reduction in exposed waste coal acreage reduces dust emissions from pre-Act waste coal banks.
- C. Reduction in exposed waste coal acreage reduces solar heat absorption from pre-Act waste coal banks.
- D. Reduction in exposed waste coal acreage reduces contaminated stormwater runoff from pre-Act waste coal banks.
- E. Reduction in exposed waste coal acreage reduces contamination from acid mine drainage from pre-Act waste coal banks.
- F. After removal of waste coal, the acreage is revegetated which further reduces storm water runoff and provides CO₂ absorption as well as evapotranspiration.
- G. The resultant ash from these so called “rock burners” is more than 2/3 rock and minerals and is beneficially used to fill abandon mine pits.

GPC, together with other entities, have found a way to use the ash byproduct that is created by GPC's operations. This ash is beneficially used to fill abandon mine pits which provides several environmental benefits:

- a. By filling these dangerous pits, major safety improvements are provided that will never be accomplished by the Bureau of Abandoned Mine Reclamation (“BAMR”) as was originally intended by the Act.
 - b. The filling of existing mine pits with ash significantly reduces up gradient stormwater from flowing into these existing mine pits; thus, the volume and pollutant load of contaminated acid mine water discharge is reduced from entering downstream waterways. This has the overall effect of enhancing and improving the water quality in Pennsylvania.
 - c. After the pits are filled and the area is covered with vegetation, the revegetated area further reduces stormwater runoff and provides CO₂ absorption as well as evapotranspiration.
- H. The remediation of waste coal banks enhances the aesthetical appearance of the landscape.

In addition to enhancing the aesthetical appearance of the landscape, both the areas of waste coal removal and the areas of ash placement are safe, healthy, and green. We strongly support and greatly appreciated the Commonwealth's commitment to our industry by providing the waste coal set-aside. Otherwise, these waste coal facilities will close down resulting in the Commonwealth and taxpayers having the financial burden of reclamation of these pre-Act abandoned waste coal sites.

Economic Benefits.

Waste coal facilities in Pennsylvania directly create jobs for over one thousand (1,000) individuals in Pennsylvania, in addition to the innumerable indirect jobs and industries that service the waste coal to energy facilities.

Specifically, GPC employs on average forty-five (45) individuals. The average wage for GPC employees is greater than the median household income in Schuylkill County, Pennsylvania. However, this does not tell the entire story. GPC utilizes the services of other companies to employ individuals at the waste coal banks in order to transport the waste coal to GPC, provide maintenance work, and other services incidental and necessary for the waste coal facility to operate. These waste coal haulers, maintenance workers, transporters, and other indirectly employed workers are both non-union and union workers. Additionally, GPC hires outside contractors for the various projects on and off-site.

Schuylkill County has seen an economic and employment decline in many of its communities. Unfortunately, when you drive through many communities, the physical scars left behind in pre-Act waste coal banks and the blighted condition of many properties due to the decline of the coal industry are visible and apparent. Many municipalities are experiencing major challenges due to vacant properties, abandonment, and decay resulting from the decline of the coal industry. However, in addition to providing reliable energy from a Tier II alternative energy source, the waste coal to electricity industry has become an important cog in supporting these already distressed communities and serves as a bright spot for economic and employment opportunity in an otherwise blighted and economically distressed area.

Without a modification to the proposed RACT rule for NO_x emissions, these waste coal to energy facilities may be forced to close resulting in the loss of well-paying jobs in already distressed communities together with significant negative consequences to the environment and communities.

COMMENTS.

Impact as Proposed:

Most CFB boilers firing primarily coal refuse cannot reasonably achieve a presumptive RACT emissions limit of 0.16 lb/MMBtu NO_x using a daily average as is currently proposed. However, the facilities have historically demonstrated continuous emissions below that threshold when evaluated at a 30-day averaging basis, as is consistent with the plants' historic permit operating requirements. If the 30-day averaging period cannot be maintained, the rule as proposed

would in effect require a case-by-case RACT analysis on our facility, as well as most others in the industry.

The presumptive NO_x RACT emissions limit for CFB boilers primarily firing anthracite waste should be the same rate as those primarily firing bituminous waste. After evaluating our historic emissions profiles, and juxtaposing them against bituminous waste coal CFB plants, the data is nearly indistinguishable. There is not sufficient justification to establish separate presumptive RACT emissions limits. If anthracite plants were to receive a different, lower presumptive RACT limitation, they would almost certainly be forced to conduct a resource intensive case-by-case RACT analysis.

Potential Alternatives:

Alternative 1: Maintain the averaging period at 30-day rolling averages.

An averaging period of shorter duration is insufficient to account for the short-duration changes in NO_x emissions rates experienced during transient periods of startup, low load, or upset condition recovery. Startups, and especially extended startups for turbine testing, refractory cures, etc. can sometimes take many hours to complete, sometimes even spanning multiple calendar days. Single-day averaging is insufficient to account for these multiple hours-long events, and unfairly skew emissions data to higher values, all while the facility is consistently and continuously compliant on a 30-day basis. In sum, a longer averaging period is entirely necessary and appropriate to account for variations in daily NO_x rates to avoid skewing our ability to comply due to abnormal and infrequent conditions.

Alternative 2: Certain events should be exempt from presumptive NO_x RACT requirements.

If a 30-day averaging basis cannot be maintained, for similar reasons as to those addressed in the prior paragraphs of this document, boiler startup, shutdown, and periods of low load operations should be exempted from the presumptive NO_x RACT requirement for CFB boilers firing primarily coal refuse. Our Continuous Emissions Monitoring System (CEMS) data suggests that the most common cause of daily average NO_x emissions rates exceeding the proposed presumptive RACT limit of 0.16 lb/MMBtu was transitory periods of low load operations or the ramp up/down for startup or shutdown. Even with relatively low NO_x mass emissions, during periods of lower than normal heat input, the rate increases simply because the denominator in the rate (heat input) has decreased. CFB design maintains inherently low NO_x rates when operated at or near full load; however, in instances when not operating at full load, NO_x rates can be higher than expected, with very little operator action possible.

Alternative 3: Permit allowable number of daily averages within a calendar reporting quarter that are permitted to exceed the presumptive RACT limit.

If a 30-day averaging basis cannot be maintained and exemptions cannot be made for periods of abnormal operating conditions, then consideration should be given for an allowable number of daily averages within a calendar reporting quarter that are permitted to exceed the presumptive RACT limit, while still maintaining presumptive compliance. For example, if all but

5 daily averages in a calendar quarter are lower than the presumptive RACT limitation, then compliance with RACT III should be maintained.

CONCLUSION.

GPC, together with other facilities in the waste coal to energy industry, have greatly appreciated the Commonwealth's commitment to the industry. As set forth above, GPC has historically been below the presumptive RACT limits over a 30-day average. Unfortunately, and despite historically being below the RACT limits on a 30-day average, there are certain plant conditions such as startups, shutdowns, transient upset conditions, and fuel fluctuations that result in a facility being unable to meet the presumptive RACT emissions limits on a daily basis. Despite these short-term conditions, GPC has historically demonstrated that it is under the presumptive RACT emissions limits on a 30-day average. If Pennsylvania implements the presumptive RACT emission limits on a daily average instead of a 30-day average or another alternative set forth above, the Commonwealth would be placing undue burden/burdensome additional requirements on the already struggling waste coal to energy industry, despite the commitment of the Commonwealth to promote and preserve our industry.

As a stakeholder, we would welcome the opportunity to be actively involved. Thank you again for the opportunity to comment on the proposed rulemaking.

Respectfully submitted,

GILBERTON POWER COMPANY

Alexander Brush

Alexander Brush, General Manager