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## **Environmental Quality Board**

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[via <http://www.ahs.dep.pa.gov/eComment/>]

**Subject:** The Environmental Quality Board (Board) proposal to amend Chapters 121 and 129 (relating to general provisions; and standards for sources) to read as set forth in Annex A. This proposed rulemaking would amend Chapter 129 by adopting additional presumptive reasonably available control technology (RACT) requirements and RACT emission limitations for certain major stationary sources of oxides of nitrogen (NO<sub>x</sub>) and volatile organic compound (VOC) emissions in existence on or before August 3, 2018, to address the 2015 8-hour ozone National Ambient Air Quality Standards (NAAQS).

## **Background**

Olympus Power, LLC (Olympus) is a power plant investment and management firm with assets located throughout the United States. Olympus has been the owner and/or asset manager of projects with interests in 47 power plants across the U.S. with over \$3.5 billion in asset value and the responsibility for operating projects with a gross capacity in excess of 5,200 megawatts (MW) of electricity generation. Over time, these assets have included coal refuse reclamation to energy, natural gas-fired, coal-fired, biomass-fired, hydroelectric, solar, and wind-powered electric generating facilities. In Pennsylvania, Olympus has ownership and/or operating interests in the

Keystone and Conemaugh generating stations; the Panther Creek Power, Northampton Generating, and Scrubgrass Generating coal refuse reclamation to energy facilities; and, the York Haven hydroelectric facility.

## **Introduction**

The Environmental Quality Board (Board) is proposing to amend Chapters 121 and 129 (relating to general provisions; and standards for sources) to read as set forth in Annex A. This proposed rulemaking would amend Chapter 129 by adopting additional presumptive reasonably available control technology (RACT) requirements and RACT emission limitations for certain major stationary sources of oxides of nitrogen (NO<sub>x</sub>) and volatile organic compound (VOC) emissions in existence on or before August 3, 2018, to address the 2015 8-hour ozone National Ambient Air Quality Standards (NAAQS).

Olympus recognizes the need to address ozone precursor emissions to achieve and maintain attainment of the 2015 8-hour ozone NAAQS, but Olympus also recognizes that while RACT in the vast majority of Pennsylvania stems from its inclusion in the Ozone Transport Region, RACT is to address intrastate transport of ozone precursors and ozone and not to address interstate transport. RACT controls can certainly be used as part of a “Good Neighbor” state implementation plan (SIP) showing necessary controls have been implemented but RACT cannot be established on the premise that it is designed to address interstate transport.

Importantly, regardless of the opinion of the court about the provisions to allow coal-fired power plants to continue to operate at low load conditions without the

injection of ammonia, Pennsylvania RACT 2 was a successful regulation as the first three years of implementation of RACT 2 resulted in only one monitor in Pennsylvania showing a 2019 design value that exceeded the 2008 8-hour ozone NAAQS and that monitor is located downwind of the urban Philadelphia area – a high density on-road and non-road mobile sources area. In fact, the 2019 design values only showed four (4) monitors exceeding the 2015 8-hour ozone NAAQS, all located in the 5-county Philadelphia area which is greatly affected by both on-road and non-road mobile sources. Please see Attachment 1, “Air Quality, A Perspective” presented by the Pennsylvania Department of Environmental Protection (PADEP) to the Small Business Compliance Advisory Committee on July 22, 2020 that shows the improvements and the 2019 design values for ozone and the dramatic improvements in air quality in general that Pennsylvania has experienced.

Considering that additional coal-fired and coal refuse-fired electric generating units have retired since 2019, additional ozone precursor emissions reductions from the remaining coal or coal refuse-fired electric generating units (EGUs) that are remote to those Philadelphia monitors will not provide for any meaningful additional reductions as defined by lower measured ambient ozone concentrations by the monitors near Philadelphia that are measuring non-attainment with the 2015 8-hour ozone NAAQS using the 2019 ozone design values.

Importantly, the Clean Air Act does not allow regulators to impose additional controls on one source category to address the failure of another source category to adequately control their emissions. Considering that Pennsylvania EGUs have reduced their ozone season nitrogen oxides (NO<sub>x</sub>) emissions by 84.9% (2019 average ozone

season emission rate of 0.050 lbs. NO<sub>2</sub>/MMBtu) between 2002 and 2019 and their annual NO<sub>x</sub> emissions by 84.8% (2019 annual average emissions rate of 0.057 lbs. NO<sub>x</sub>/MMBtu) between 2002 and 2019, see Attachment 2. These data show Pennsylvania EGUs have been extremely successful in limiting the emissions of ozone precursors. Further, according to US Environmental Protection Agency (EPA) Clean Air Markets Division (CAMD) data, Pennsylvania's ozone season EGU NO<sub>x</sub> emissions decreased from 33,339 tons in 2016 to 11,636 tons in 2020, a reduction of 65% in four years. These data clearly demonstrate that the representations made by Maryland and some other member states of the Ozone Transport Commission, as well as the previous EPA NO<sub>x</sub> emissions inventories, are grossly misrepresenting the emissions of ozone precursor emissions from Pennsylvania EGUs and their impacts upon ozone monitoring sites.

As identified in Attachment 3, Midwest Ozone Group Comments on the OTC 184(c) Recommendations, the only remaining non-attainment monitors in the Ozone Transport Region are located in Connecticut and those monitors are most affected by peaking generation located in the New York metropolitan area. Therefore, the claims of Maryland relative to the need for daily emissions limitations to be adopted as part of the Pennsylvania RACT 3 rule are arbitrary and have no basis in any credible technical analysis. Further, it is not the responsibility of Pennsylvania to adopt more stringent control limitations for the EGUs in Pennsylvania to make up for the inappropriate delay of New York in adopting and implementing the ozone precursor emissions control programs which are necessary for the Connecticut monitors to achieve and maintain attainment of the 2015 8-hour ozone NAAQS.

Olympus appreciates the opportunity to provide the following comments to the proposed amendment to Chapters 121 and 129.

## **Comments**

### **§ 129.112(g)(vi) (A) and (B), Presumptive RACT Requirements for Coal Refuse-Fired Circulating Fluidized Bed Combustion Units.**

The presumptive limitation identified in these sections is a NO<sub>x</sub> emission rate limitation of 0.16 lbs. NO<sub>2</sub>/MMBtu for both bituminous and anthracite coal refuse-fired combustion units. This is an appropriate rate limitation for both fuels if averaged over a 30-operating day rolling average. However, if this presumptive NO<sub>x</sub> emission rate limit is to be implemented over a single operating day period, that emission rate limitation should be expressed as an operating day average pounds of NO<sub>x</sub> per hour (lbs. NO<sub>2</sub>/hr.), calculated using the hourly heat input identified in each respective Title V permit that characterizes the heat input of each coal refuse-fired combustion unit.

For coal refuse-fire combustion units equipped with selective non-catalytic reduction (SNCR) or ammonia injection NO<sub>x</sub> emissions controls, it is not possible to inject ammonia at all times, especially during startup periods. It is apparent from existing permit conditions that the PADEP already recognizes those situations exist and accommodates for them by establishing the limits for those periods in the unit lbs.NO<sub>2</sub>/hr. Implementing the presumptive RACT as lbs. NO<sub>2</sub>/hr. assures acceptable performance by limiting the lbs. NO<sub>x</sub>/hr. during all conditions, including during those

special conditions which include during startup.

The use of the lbs. NO<sub>2</sub>/hr. presumptive rate is protected from the “gaming” of the limit by the condition specified at 129.112(g)(viii) which states, “(viii) A circulating fluidized bed coal-fired combustion unit subject to subparagraph (vi) shall control the NO<sub>x</sub> emissions each operating day by operating the installed air pollution control technology and combustion controls at all times consistent with the technological limitations, manufacturer specifications, good engineering and maintenance practices and good air pollution control practices for controlling emissions.”

The presumptive RACT limit expressed as lbs. NO<sub>2</sub>/hr. is the most appropriate way to ensure that mass emissions reductions are achieved on an operating day basis without unnecessarily and inappropriately burdening the coal refuse-fired combustion units while ensuring the NO<sub>x</sub> mass emissions are controlled to levels that would be no higher, and likely lower, than the mass NO<sub>x</sub> emissions that would occur if the units were to operate at the presumptive 0.16 lbs. NO<sub>2</sub>/MMBtu emissions rates at full load operations for an operating day.

Absent the RACT presumptive limits for coal refuse combustion units firing coal refuse being implemented as a lbs.NO<sub>2</sub>/hr. operating day limit, then alternative limits need to be provided for the special conditions as are provided as part of Best Available Control Technology (BACT) conditions in existing permits. ***Simply stated, 0.16 lbs. NO<sub>2</sub>/MMBtu is not RACT during those special conditions such as startup.***

This is especially important because PJM calls for these units to come into

service at specified times and if that requires startup to begin later in the day, the duration of the startup could result in a non-compliant emission rate limit while emissions on a mass basis are very low. Further, PJM could call for operating levels that are lower than the levels at which ammonia could be injected. *The mass NOx emissions are what drive ozone formation, not the emission rate as lbs. NO2/MMBtu.*

Pennsylvania is unique relative to the other states in the Ozone Transport Region in that Pennsylvania powered the US for over 100 years with its abundant energy resources, including the mining of coal and the transmission of electricity to many of these same Ozone Transport Region states. The mining and processing of coal, however, has left coal refuse behind as a legacy pollutant. Coal refuse that causes serious environmental damage and health and safety concerns for the residents that live in the coal regions of Pennsylvania. To allow the coal refuse reclamation to energy units to maximize the removal of coal refuse and the remediation and reclamation of mining affected lands, the Department must provide a RACT limit that is achievable every day, year round and will not unnecessarily force any of these units into uneconomic operations and likely early retirement as appears to be the goal of some other regulators that have no concept of coal refuse and the negative effect it has on the health, safety or welfare of those living around, downwind and downstream of coal refuse piles. The PADEP must adopt the lbs. NO2/hr. presumptive RACT to allow the coal refuse-fire plants to continue the environmental and safety and health benefits of this unique environmental

reclamation and remediation industry. Adopting the lbs. NO<sub>2</sub>/hr. presumptive RACT limit would provide environmental justice to the communities where the coal refuse is located and to areas that are being affected downwind and downstream from the coal refuse piles.

Significantly, the coal refuse-fired combustion units are now even more important to the removal of coal refuse and the reclamation of mining affected lands because the authorization of funding for the Abandoned Mine Land (AML) fund officially expired at midnight Thursday, September 30, 2021. This lapse in funding brings a new level of uncertainty to the AML program, which is responsible for cleaning up dangerous highwalls, open mine portals, and polluted streams left by the coal industry all over the country, but especially in Pennsylvania.

Additionally, comment was requested relative to the appropriateness of a different limit for anthracite coal refuse-fired combustion units. Based upon a review of the emissions from the bituminous coal refuse-fired facilities and the anthracite coal refuse-fired facilities it becomes apparent that it would be inappropriate for a different limit to be applied. The nitrogen oxide emissions from a circulating fluidized bed are primarily dependent upon the nitrogen content of the fuel. Observing the annual data for a number of years in Attachment 4, PA Coal Refuse NO<sub>x</sub> by Plant Controls 2011\_2020, it is easily observable that the nitrogen content varies by recovered fuel and that you have various NO<sub>x</sub> emissions that are low or high even on an annual basis for both fuels with or without NO<sub>x</sub> emissions controls. The variability between daily emission rates contained in the EPA CAMD data base also show greater

variability differences between the facilities. To understand why plants like Panther Creek and Northampton, for instance, have lower daily emissions and less variability, one would have to research the original, existing permit limits to understand what connection there might be between the actual emissions and those existing plant specific permit conditions. Based upon the data, there is not an adequate technological basis to implement more stringent presumptive limits for anthracite coal refuse, especially when the fuel nitrogen content will likely change throughout individual coal refuse piles and certainly between coal refuse piles.

**§ 129.113. Facility-wide or system-wide NO<sub>x</sub> emissions averaging plan general requirements.**

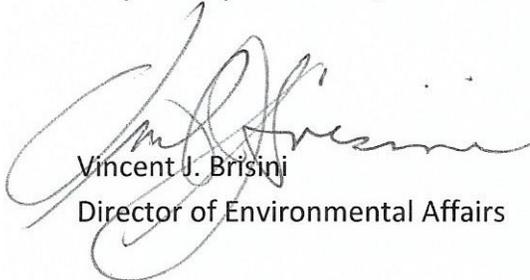
The ability for an owner or operator to file for an averaging plan should not be contingent upon one unit not being able to meet the NO<sub>x</sub> RACT limit. Facility-wide and system-wide averaging plans should be able to be submitted at the discretion of the owner or operator as part of an overall strategy to achieve and maintain the emissions specified by this RACT rule. This provides additional certainty that sources will be able to achieve the overall environmental benefits of NO<sub>x</sub> RACT while simultaneously being able to continue to provide their critical health, safety and environmental benefits while continuing to provide critically important family sustaining jobs in underserved communities. The focus of this rule should be the achievement of these simultaneous goals. Environmental regulations should be established to achieve environmental outcomes as opposed to achieving policy goals, such as forced early retirement. EPA clearly allows averaging as part of RACT

regulations.

System-wide averaging does not need to be limited to units located in the same ozone non-attainment area. Affected units located in different non-attainment areas should be able to average their emissions so long as the unit(s) that is/are over-controlled is/are located in the area with a more stringent ozone non-attainment designation. That is exactly how emission reduction credits (ERCs) are regulated and are able to be used to allow the construction of modified or new emissions sources in actual non-attainment areas and the Ozone Transport Region. Limiting the system-wide averaging to the same ozone non-attainment area imposes a restriction that is unnecessary and could force the early retirement of an affected unit.

If the PADEP or EQB have any questions about these comments or would like to discuss them in more detail, please contact me at [vbrisini@olympuspower.com](mailto:vbrisini@olympuspower.com) or at 814-322-6247.

Respectfully submitted,



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