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STATE OF DELAWARE
DEPARTMENT OF NATURAL RESOURCES
& ENVIRONMENTAL CONTROL
DIVISION OF AIR QUALITY
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DOVER, DELAWARE 19901

AIR QUALITY PLANNING
SECTION

Telephone: (302) 739 - 9402
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Environmental Quality Board
P.O. Box 8477
Harrisburg, PA 17105-8477
June 30, 2014

Re: April 19, 2014 Proposal to Amend Chapters 121 and 129, Additional Reasonable Available Control Technology (RACT) Requirements for Major Sources of Nitrogen Oxides (NOx) and Volatile Organic Compounds (VOCs)

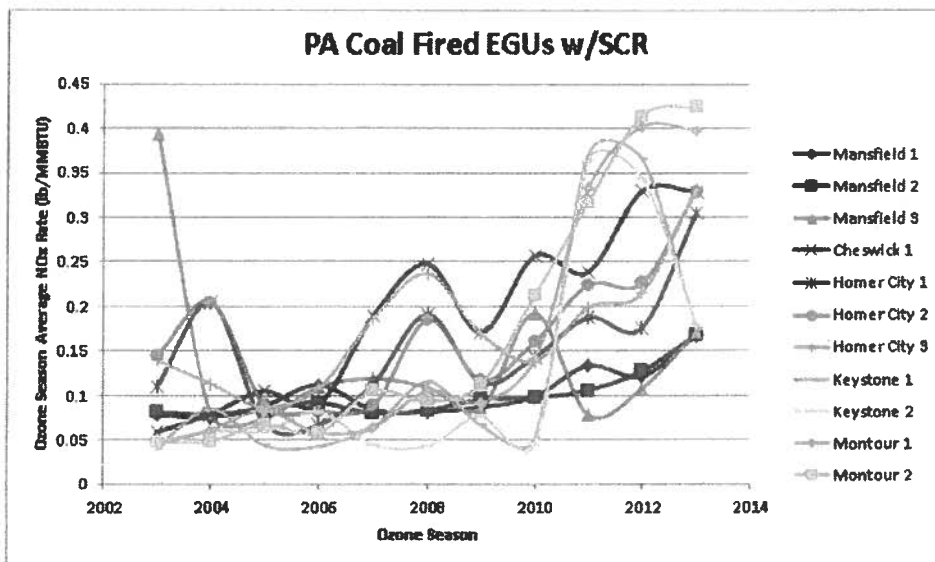
Thank you for the opportunity to comment on your proposal to satisfy the Clean Air Act (CAA) RACT requirements under the national ambient air quality standard (NAAQS) for ozone. All emission sources in Delaware are currently well controlled yet Delaware's air quality does not meet the health based air quality standard for ozone. Your proposal is very important to us because all major modeling efforts conducted to date, to include modeling that the Environmental Protection Agency (EPA) has conducted in connection with their Cross State Air Pollution Rule (CSAPR), has demonstrated that emissions from Pennsylvania significantly contribute to unhealthy air quality in Delaware. Given this, we have examined Pennsylvania's proposed emission limits for nitrogen oxides (NOx) with particular interest.

Delaware has four concerns with Pennsylvania's RACT proposal: 1) installed emission controls are not required to operate at all times, 2) emission limits for certain combustion sources are too high, 3) a 30-day rolling averaging period is not consistent with the ozone NAAQS, and 4) emission limits for municipal waste combustors are not RACT.

- 1) Installed emission controls are not required to operate at all times. Upon review of the EPA's Air Markets Program Data (AMPD) it is clear that a number of Pennsylvania's coal-fired electric generating units (EGUs) are equipped with selective catalytic reduction (SCR) for NOx emissions control. While it is widely recognized that SCR is the most effective technological control to achieve reductions in a coal-fired EGU's NOx emission rate, it is necessary for those controls to be operated in a manner consistent with good pollution control practices in order to actually achieve those NOx rate reductions on an ongoing basis. The EPA's AMPD data for Pennsylvania's SCR equipped coal-fired EGUs for the 2003 through 2013 ozone seasons indicates that a number of those EGUs have not consistently achieved ozone season average NOx emission rates similar to each individual EGU's best demonstrated average NOx emissions rate value during the same 2003 through 2013

Delaware's good nature depends on you !

ozone seasons. For some of these SCR equipped coal-fired EGUs, recent ozone seasons appear to exhibit significant increases in average ozone season NOx emissions rates, as shown in the chart below.



A similar situation was found upon examination of EPA AMPD data for Pennsylvania's SCR equipped coal-fired EGUs for recent periods when the 8-hour ozone NAAQS was exceeded in Delaware. The EPA AMPD data indicated that during those recent 8-hour ozone NAAQS exceedance periods a number of the Pennsylvania SCR equipped coal-fired EGUs were operating at NOx emission rates that were not consistent with those individual EGUs best demonstrated NOx emission rates.

“Reasonably Available Control Technology (RACT)” means the lowest emission limit for NOx that a particular source is capable of meeting by the application of control technology that is reasonably available considering technological and economic feasibility. Not requiring sources to actually operate the control technologies they have already installed defies logic and in our opinion is contrary to the RACT definition. Delaware requests that Pennsylvania revise its proposal to require the operation of existing NOx control equipment whenever the source operates, as such a requirement is technologically and economically feasible (i.e., it is RACT). Note that since Pennsylvania is demonstrating compliance with the CAA RACT requirements now, the fact that emission controls may have been installed in the past to operate only as necessary to comply with an EPA cap and trade program such as the Clean Air Interstate Rule (CAIR) or CSAPR is not relevant -- any

emission controls that are economically and technically feasible now constitute RACT, and such emission controls must be operated at all times.

- 2) Emission limits for certain combustion sources are too high. EPA's RACT guidance has indicated that emissions rates and levels of control achieved in practice by similar sources are RACT for that source category. Other nearby states in the OTC including Delaware, New Jersey and New York have in place significantly more stringent emissions limits than Pennsylvania is proposing for EGUs. Delaware adopted in 2006 a requirement that any coal or residual oil fired EGU emit NO_x at a rate no greater than 0.125 lb/MMBTU, demonstrated on a rolling 24-hour average basis. The Pennsylvania proposal allows emission rates for similar units to be as high as 0.45 lb/MMBTU on a 30-day rolling average. The highest level that Delaware adopted as RACT twenty years ago was for stoker fired coal units at 0.40 lb/MMBTU on a rolling 24-hour average basis.

Delaware requests that Pennsylvania adopt more stringent limits, consistent with today's technology and in line with those limits that are in effect in Delaware, New Jersey and New York. Additionally, we recommend that Pennsylvania evaluate coal fired units that have not yet installed advanced NO_x post combustion controls under RACT, and require installation of cost effective retrofits.

- 3) A 30-day rolling averaging period is not consistent with the ozone NAAQS. The proposal includes a 30-day rolling averaging time for demonstration of compliance with emission control measures. EPA guidance as far back as 1984 has established that the basic objective of State Implementation Plan (SIP) measures like RACT is the attainment and maintenance of the NAAQS, and that averaging times may not be used to undermine this basic purpose. Given that the current ozone NAAQS is based on an 8-hour average, RACT compliance should be demonstrated, whenever technologically feasible, on no longer than a 24-hour rolling average basis. Delaware requests Pennsylvania to revise its proposal accordingly.
- 4) Emission limits for municipal waste combustors are not RACT. Pennsylvania proposes only that municipal waste combustor operators meet emissions limits established in federal emissions guidelines. While the hazardous air pollutant emissions limits in the federal guidelines are Maximum Achievable Control Technology-based, and thus may satisfy RACT for VOCs, the NO_x limits are not MACT-based and are not RACT. Several systems are available to control NO_x emissions from municipal waste combustors including SNCR and Covanta's Low NO_x (LNTM) technology, which allow an operator to achieve NO_x emissions well below the limits in the federal guidelines. New Jersey and Connecticut have adopted NO_x emissions limits lower than the federal guidelines. Delaware requests Pennsylvania to revise its proposal accordingly.

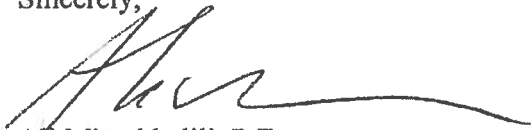
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Thank you for your attention to these concerns, and please contact me if you would like to discuss them or if I can assist you in any way.

Sincerely,

A handwritten signature in black ink, appearing to read 'Afi Mirzakhali', with a long horizontal flourish extending to the right.

Afi Mirzakhali, P.E.

Director

Enclosure

cc: Joyce E. Epps, PA DEP
Diana Esher, EPA Region 3

Enclosure 1. One Page Summary of Delaware Comments on Proposed Amendments to RACT Emission Limitations. [44 Pa.B. 2392, April 19, 2014]

- Your proposal is very important to Delaware because emissions from Pennsylvania have been demonstrated to significantly contribute to unhealthy air quality in Delaware.
- Installed emission controls in Pennsylvania are not required to operate at all times. Not requiring sources to actually operate the control technologies they have already installed defies logic and in our opinion is contrary to the RACT definition. Delaware requests that Pennsylvania revise its proposal to require the operation of existing NOx control equipment whenever the source operates, as such a requirement is technologically and economically feasible (i.e., it is RACT). Note the fact that emission controls may have been installed in the past to operate only as necessary to comply with and EPA cap and trade programs is not relevant -- any emission controls that are economically and technically feasible now constitute RACT, and such emission controls must be operated at all times.
- Emission limits for certain combustion sources are too high. EPA's RACT guidance has indicated that emissions rates and levels of control achieved in practice by similar sources are RACT for that source category. Delaware adopted in 2006 a requirement that any coal or residual oil fired EGU emit NOx at a rate no greater than 0.125 lb/MMBTU, demonstrated on a rolling 24-hour average basis. The Pennsylvania proposal allows emission rates for similar units to be as high as 0.45 lb/MMBTU on a 30-day rolling average. The highest level that Delaware adopted as RACT twenty years ago was for stoker fired coal units at 0.40 lb/MMBTU on a rolling 24-hour average basis. Delaware requests that Pennsylvania adopt more stringent limits, consistent with today's technology. Additionally, we recommend that Pennsylvania evaluate coal fired units that have not yet installed advanced NOx post combustion controls under RACT, and require installation of cost effective retrofits.
- A 30-day rolling averaging period is not consistent with the ozone NAAQS. EPA guidance as far back as 1984 has established that the basic objective of State Implementation Plan (SIP) measures like RACT is the attainment and maintenance of the NAAQS, and that averaging times may not be used to undermine this basic purpose. Given that the current ozone NAAQS is based on an 8-hour average, RACT compliance should be demonstrated, whenever technologically feasible, on no longer than a 24-hour rolling average basis. Delaware requests Pennsylvania to revise its proposal accordingly.
- Emission limits for municipal waste combustors are not RACT. Pennsylvania proposes only that municipal waste combustor operators meet emissions limits established in federal emissions guidelines. Several systems are available to control NOx emissions from municipal waste combustors well below the limits in the federal guidelines. New Jersey and Connecticut have adopted NOx emissions limits lower than the federal guidelines. Delaware requests Pennsylvania to revise its proposal accordingly.

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