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Deadline Nears for Combustion Sources Subject to Seasonal NOx Regulations

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Special to the Legal

Over the past several months, there have been a number of developments in environmental law at the federal level, including in the area of air quality regulation. Although considerable attention has been given to certain high-profile federal developments, such as the Environmental Protection Agency's first proposed greenhouse gas reporting rule and proposed climate change legislation, it is important not to overlook changes to regulatory requirements at the state level.

Indeed, one particular requirement in Pennsylvania has meaningful implications for owners and operators of certain combustion sources located in the five-county area of Bucks, Chester, Delaware, Montgomery and Philadelphia counties. Specifically, owners and operators of certain boilers, stationary combustion turbines and stationary internal combustion engines located in the five-county area are required, by Nov. 1, to surrender to the Pennsylvania Department of Environmental Protection, or PADEP, two nitrogen oxides, or NOx, emission allowances for each ton of NOx by which the combined actual emissions of the sources exceed the allowable emissions for the period from May 1 through Sept. 30. Although this requirement is not new, changes in federal law have altered the type of allowances that are available on the emissions trading market for this purpose. Specifically, NOx allowances created under the Clean Air Interstate Rule, or CAIR, must be used for compliance.



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The five-county area has long been classified as being in "nonattainment" for purposes of the National Ambient Air Quality Standards, or NAAQS, for ground-level ozone. Ozone is not emitted directly by pollution sources; rather, it is formed when NOx reacts with volatile organic compounds in the presence of light and heat in the atmosphere. According to the EPA, exposure to ozone can lead to respiratory problems, such as asthma, particularly in children and the elderly. In December 2004, as part of a regional effort by the states in the Ozone Transport Region (including Pennsylvania) to reduce transported ozone, and, in satisfaction of the commonwealth's commitments under the EPA-approved State Implementation Plan, or SIP, for the five-county area to demonstrate attainment with the ozone NAAQS, the PADEP promulgated NOx emission limits for certain boilers, turbines and stationary internal combustion engines located at industrial, utility and commercial facilities in the five-county area. These requirements apply during ozone season — i.e., the period each year from May 1 through

Sept. 30 (collectively known as the Seasonal NOx Requirements).

The Seasonal NOx Requirements, which are set forth at Sections 129.201 through 129.204 of Title 25 of the Pennsylvania Administrative Code, apply to boilers with a nameplate capacity greater than 100 million Btu/hour, stationary combustion turbines with a nameplate rated capacity of greater than 100 million Btu/hour and stationary internal combustion engines rated at greater than 1,000 horsepower, located in the five-county area. The Seasonal NOx Requirements do not apply to naval marine combustion units operated by the U.S. Navy for purposes of testing and operational training; units that combust municipal waste at a facility that is permitted as a resource recovery facility; or large stationary internal combustion engines regulated under Pennsylvania's CAIR program.

Pursuant to the Seasonal NOx Requirements, owners and operators of affected boilers, turbines and internal combustion engines are required to calculate, by Oct. 31 of each year, the difference between the combined actual NOx emissions from any affected sources at a facility during the ozone season and the sources' allowable emissions for that period, using specific formula and emission factors set forth in the regulations. If an owner or operator of an affected source determines that the actual NOx emissions from the source during ozone season exceed the allowable emissions for that period, then the owner or operator is required to surrender to the PADEP, by Nov. 1 of each year, one CAIR NOx allowance and one CAIR NOx Ozone

Season allowance for each ton of NOx by which the actual emissions exceed the allowable emissions. An emission allowance, or emission credit, represents the right to emit a fixed quantity of a particular pollutant. The NOx allowances surrendered must be of current year vintage. The vintage of an allowance defines the first year that the allowance may be used to comply with an applicable regulatory program; accordingly, for the 2009 ozone season, owners and operators must comply by surrendering 2009 allowances. For determining the number of allowances to surrender, any fraction of a ton equal to or greater than 0.50 ton is deemed to equal 1 ton, while any fraction of a ton less than 0.50 ton is deemed to equal zero tons.

In addition to surrendering the NOx allowances themselves, the owner or operator must also provide to the PADEP the serial number of each NOx allowance and the calculations used to determine the quantity of NOx allowances required to be surrendered. The Seasonal NOx Requirements also include provisions that allow owners and operators to subtract an amount of emissions from the combined actual NOx emissions from the affected sources at a facility when calculating the difference between actual and allowable emissions during ozone season, if the owner or operator also operates a zero-emission renewable energy power source located in the five-county area. Importantly, if an owner or operator fails to surrender the required number of allowances by Nov. 1, the owner or operator must surrender, by Dec. 31 of that year, three NOx allowances for each NOx allowance that was required to be surrendered by Nov. 1.

Although owners and operators of affected sources have had to evaluate ozone season NOx emissions and surrender NOx allowances, as appropriate, to the PADEP since the 2005 ozone season, the 2009 ozone season is the first period for which owners and operators are required to surrender two CAIR NOx allowances for each ton of NOx by which the actual ozone season emissions exceed the allowable emissions for that period.

Prior to this year, owners and operators of affected sources were permitted to submit a single NOx allowance for each ton of NOx emitted in excess of the allowable emissions. Importantly, the current requirement to submit two CAIR NOx allowances for each ton of NOx emitted in excess of the allowable emissions applies regardless of whether the affected source is itself subject to CAIR.

This important regulatory change stems from the transition, between 2008 and 2009, from the NOx Budget Program to CAIR. The EPA began administering the NOx Budget Trading Program, a market-based cap and trade system, in 2003 to reduce ozone season NOx emissions from power plants and other large combustion sources in the eastern United States. In May 2005, the EPA promulgated CAIR, which requires 28 states, including Pennsylvania, to submit revised SIPs that include control measures to reduce emissions of NOx or sulfur dioxide, or SO₂, from certain electric generating units of 25 MW or greater, or EGUs. The purpose of CAIR is to curb NOx and SO₂ emissions that contribute significantly to nonattainment of the NAAQS for fine particulate matter, or PM_{2.5}, and eight-hour ozone in downwind areas. CAIR is composed of three distinct cap and trade programs, governing annual NOx emissions, ozone season NOx emissions and annual SO₂ emissions, respectively. To comply with CAIR, owners and operators of affected EGUs are required to surrender NOx and SO₂ allowances to account for actual emissions of these pollutants.

The CAIR annual and ozone season NOx programs took effect beginning in 2009. As of this time, CAIR replaced the NOx Budget Program, and any pre-existing NOx Budget Program allowances were effectively transitioned to CAIR NOx allowances. Consistent with this federal regulatory shift, Pennsylvania amended its regulations governing ozone season NOx emissions to require owners and operators of affected sources to submit CAIR NOx allowances, rather than NOx Budget Program allowances, to comply with the Seasonal

NOx Requirements, irrespective of whether the affected sources are EGUs subject to CAIR.

In the wake of this regulatory change at the state level, owners and operators required to surrender NOx allowances to PADEP under the Seasonal NOx Requirements will need to purchase CAIR NOx (annual) allowances and CAIR NOx Ozone Season allowances on the allowance market. Affected companies and other interested parties often retain brokerage firms that specialize in buying and selling emission allowances to purchase necessary allowances on their behalf. Currently, 2009 CAIR NOx allowances are trading on the market for about \$500 to \$600 per ton, or higher, depending on the number of allowances being purchased. 2009 CAIR NOx Ozone Season allowances are currently trading at about \$135 to \$250 per ton, or higher, again, depending on the number of allowances being purchased. Generally speaking, the per allowance market price may increase with the purchase of relatively small numbers of allowances (e.g., less than 20), and, of course, market prices are always subject to variability over time. Market prices for 2010 and later vintage allowances are currently lower than those for 2009 vintage allowances. •