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Center of Excellence in Environmental Toxicology (CEET)

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Environmental Quality Board,
P.O. Box 8477,
Harrisburg, PA 17105-8477.

Dear Members of the PA Environmental Quality Board:

Thank you for the opportunity to comment on your proposal on Pennsylvania additional Reasonably Attainable Control Technology (RACT) requirements for major sources of NOx and VOC's emissions limits for coal-fired combustion units in the Commonwealth. Because of the nature of our mission at the University of Pennsylvania's Perelman School of Medicine, The Center of Excellence in Environmental Toxicology (CEET) focus in responding to this proposal is clearly on the health implications that this new policy may present to citizens. The PA Asthma Burden Report (2012) prepared by the Pennsylvania Department of Health (PA-DOH) highlighted the increasing health problems associated with asthma prevalence in the State. A key finding of this reports states, "During the 10-year period of 2001-2010, the annual prevalence estimate of lifetime and current asthma among adults in Pennsylvania has significantly increased." The report indicated that asthma occurs approximately in 13.8% of PA citizens. After reviewing the Centers for Disease Control (CDC) Data & Surveillance Report for 2012, the State's Asthma occurrence appears to be well above the CDC's reported national numbers, which were stated to be by Race/Ethnicity at White (8.1%), Black (11.9%) and Hispanic (7.0%) respectively. Clearly Pennsylvania has a documented asthma problem that should be carefully considered when contemplating any proposed air quality policy changes. Our initial technical review of the PA Department of Environmental Protection's (DEP's) proposed changes suggests that ozone formation and transport will likely increase from increased NOx and VOC emissions both locally and regionally from coal-fired electric generating units (EGUs). This increased ozone exposure represents an additional risk to selected populations, including children and the elderly. Research performed at our Center and published in the medical literature demonstrates the significant role of ozone in evoking asthma exacerbations¹. Since the PA DOH report identified an increasing asthma burden, we feel the State's environmental regulatory agency, DEP, must respond appropriately to reduce ozone formation to avoid asthmatic episodes to an already State burdened population. Our CEET investigators do not see these proposed regulatory and policy changes addressing this documented health problem to our citizens. In fact, we believe the proposed changes will add ozone and other criteria air pollutants to some of the most overburdened communities in the Commonwealth.

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Since the 1970 passage of the Clean Air Act (CAA) many air quality improvements have been nationally documented. However, aging coal-fired plants continue to be a health burden to affected populations nationally. These proposed additional RACT requirements do little to encourage the PA energy sector to upgrade or replace these antiquated EGU's, but rather they provide regulatory loopholes to allow their operation to continue within a flawed regulatory scheme. Many of our neighboring Mid- Atlantic states (DE, NJ, and NY) have been much more stringent in establishing NOx emission limits than currently prescribed by the CAA provisions, and PA should follow their lead in implementing all RACT requirements.

Reporting requirements, such as "averaging time of a 30-day rolling average" for all EGU's rather than shorter averaging times of 24-hours or less for intermittent operating units, pose a potential significant health risk at selected sites, and allow for increased rapid ozone exposures to already overburdened populations. Recent studies have shown that short-term increases in Ozone, NOx and PM2.5 are all significantly associated with asthma exacerbation². The failure to apply Maximum Achievable Control Technology (MACT) based limits uniformly, especially to municipal waste combustors, also poses a risk of increased VOC exposure to vulnerable populations that may also fall under the rubric of environmental justice (EJ) communities which are warranted additional protection under the federal Executive Order 12898 (1994) for Minority and Low-Income populations. In addition, the failure of State permitted EGU's to operate air pollution control equipment during the prime periods of ozone formation must be addressed with strong enforcement provisions. This laxity will only contribute to asthmatic episodes that yield poor health outcomes and increased health costs now rising above \$20 B. nationally for all asthma related treatment.

In conclusion, we feel this proposal does little to address and will likely worsen a serious documented health problem in Pennsylvania. RACT as required by the mandates of the CAA is subject to the oversight responsibility of the U.S. Environmental Protection Agency. This proposed rulemaking will incorporate excessive NOx and VOC emission limits for many coal-fired EGU's and would establish inferior technology standards to those implemented in neighboring Mid-Atlantic States. These revisions to the State Implementation Plan (SIP) clearly are cost-effective to the energy sector, shifting the substantial costs of asthma in the Commonwealth to the citizens, healthcare and insurance sectors. This proposed regulation does not provide adequate public health safeguards to our citizens. The conclusion of the PA Asthma Burden report (2012) states, "The findings suggest the need for coordinated efforts at the local and state level, as well as support of preventive measures that can improve asthma health outcomes." DEP's proposed regulation misses the opportunity for a coordinated State response to address asthma and other related air and lung pathologies, and instead provides for a flawed process to be implemented that will adversely affect our most vulnerable populations.

Sincerely,



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References

¹ Kierstein S, Krytska K, Sharma S et al. Ozone inhalation induces exacerbation of eosinophilic airway inflammation and hyperresponsiveness in allergen-sensitized mice. **Allergy** 2008 Apr **63(4): 438-46**

²Wendt J, Symanski E, Stock T et al. Association of short-term increases in ambient air pollution and timing of initial asthma diagnosis among Medicaid-enrolled children in a metropolitan area. **Env Res** 2014 May **(131):50-58**