August 4, 2011

Docket EPA-HQ-OAR-2008-0321

Air and Radiation Docket and

Electric Utilities Docket

Attn: Docket ID No. EPA-HQ-RCRA-2009-0640

U.S. Environmental Protection Agency

Mailcode: 5305T

1200 Pennsylvania Avenue, NW

Washington, DC 20460

Re: Docket EPA-HQ-OAR-2008-0321

Public Utilities Commission of Ohio's Comments on National Emission Standards for Hazardous Air Pollutants From Coal-and Oil-Fired Electric Utility Steam Generating Units and Standards of Performance for Fossil-Fuel-Fired Electric Utility, Industrial-Commercial-Institutional, and Small Industrial-Commercial-Institutional Steam Generating Units.

To Whom it May Concern:

The Public Utilities Commission of Ohio is submitting the attached comments on the United States Environmental Protection Agency's proposed toxic rule to regulate Utility Emissions (the Utility MACT and NSPS proposals).

We greatly appreciate the opportunity to comment on the proposed rule.

Please feel free to contact me with any questions regarding this correspondence.

Respectfully submitted,

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**Commission of Ohio**

TWM/klk

Attachment

**United States**

**Environmental Protection Agency**

**Docket ID No. EPA-HQ-OAR-2008-0321**

**COMMENTS  
SUBMITTED ON BEHALF OF  
THE PUBLIC UTILITIES COMMISSION OF OHIO**

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**United States**

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# I. INTRODUCTION

A brief and recent history of Hazardous Air Pollutant (HAP) related rules with regard to Electric Generating Units (EGU) as understood by the Public Utilities Commission of Ohio (PUCO) is as follows:

* In December 2000, the United States Environmental Protection Agency (EPA) concluded that EGUs should have HAP emissions regulated under section 112 of the Clean Air Act (CAA).
* On March 15, 2005, EPA issued the [Clean Air Mercury Rule](http://www.epa.gov/camr/rule.html#20050315) (CAMR) to permanently cap and reduce mercury emissions from coal-fired power plants for the first time ever. Additionally, on this date EPA delisted EGUs from regulation under section 112 of the CAA.
* On February 8, 2008, the D.C. Circuit vacated EPA's rule removing power plants from the Clean Air Act list of sources of hazardous air pollutants. At the same time, the Court vacated the Clean Air Mercury Rule.
* On February 6, 2009, the Department of Justice, on behalf of EPA, asked the U. S. Supreme Court to dismiss EPA’s request (petition for certiorari) that the Court review the D.C. Circuit Court’s vacation of the Clean Air Mercury Rule.
* On February 23, 2009, the U. S. Supreme Court declined the Utility Air Regulatory Group’s request to review the D. C. Circuit Court of Appeals decision.
* On May 3, 2011, the EPA issued the proposed rule “National Emission Standards for Hazardous Air Pollutants from Coal- and Oil-fired Electric Utility Steam Generating Units and Standards of Performance for Fuel-Fired Electric Utility, Industrial-Commercial-Institutional, and Small Industrial Commercial-Institutional Steam Generating Units.”

The May 3, 2011 action above is the topic of this set of comments submitted by PUCO.

**II. DISCUSSION**

The PUCO appreciates the opportunity provided by EPA to comment on the proposed rule on the regulation of Hazardous Air Pollutants. The mission of the PUCO, as well as that of other state commissions around the country, is to assure our citizens adequate, safe, and reliable public utility services at a fair price.

Recognizing that the EPA is charged with protecting health and the environment, we focus our comments on reliability, cost-effectiveness, and regulatory flexibility in the spirit of developing a rule that meets the public interest goals served by both of our agencies. Further, we fully support the comments filed by the Ohio Environmental Protection Agency in this docket.

The PUCO presents its comments in an effort to improve upon the proposed rule. We understand and respect that EPA is charged foremost with protecting the environment and human health. However, we believe electric reliability, costs to ratepayers, and the need for regulatory flexibility should be thoroughly and seriously considered when deciding the appropriate regulatory approach.

## A. Reliability Issues

Coal fuels about 85% of the net electric generation in Ohio.[[1]](#footnote-1) The Edison Electric Institute Yearbook (2008 data) shows that the state of Ohio is sixth in electric generation. Implementation of the rule as proposed will have a negative impact on the production of electricity from coal, forcing early decommissioning of coal-fired generating plants in Ohio. PUCO analysis has predicted that over 150 units within the PJM Interconnection (PJM)[[2]](#footnote-2) could be decommissioned by 2015 given the aggregate of recently proposed and finalized environmental regulations (see Attachment B). Based upon a study by Charles Rivers and Associates, roughly 24 gigawatts (GW) of generation will be retired in PJM.[[3]](#footnote-3) Of the 24 GW, PUCO expects nearly seven GW to be retired within Ohio. Supporting this analysis is the fact that AEP recently stated that it will shut down nearly six GW of capacity due to environmental regulations. Much of this capacity serves Ohioans and/or is located within Ohio. Some of the expected retirements in Ohio will have localized impacts, resulting in reliability concerns in the state and region. As many as four EGUs could be shutdown within a 50 square mile area. If reliability becomes a problem from retirements, then older, smaller, and/or less efficient plants that should retire could become “must run”[[4]](#footnote-4) EGUs to address reliability. This could magnify cost implications.

This pending MACT rule, in combination with other EPA rules recently proposed and finalized, could drive the need for significant new infrastructure investment that will eventually be reflected in electric rates. If the MACT rules are implemented as currently proposed, there will be a significant effect on reliability resulting from difficulties in regional transmission organization planning and reliability standards compliance.

The Federal Energy Regulatory Commission (FERC) echoes our concern regarding reliability challenges arising from EPA regulations. At a FERC hearing on September 16, 2010, Chairman Wellinghoff called for an inter-agency taskforce to examine EPA requirements that could affect reliability and the need to keep older generating plants operating.[[5]](#footnote-5) Additionally, Commissioner Moeller expressed the need to understand the implications of shutting down some of the older power plants as the method of complying with EPA regulations. Commissioner Moeller further noted that the challenges of removing generation from the grid and ensuring reliable electricity supplies are largely determined by the location of power plants and stressed the importance of understanding the complicated issue, and noted the pressing need to enter into any remedial situation “with our eyes wide open.”[[6]](#footnote-6)

We believe that implementation of MACT as proposed by EPA, will result in an elevated level of uncertainty regarding reliability. As the rule is proposed, it is unclear how many EGUs will need to construct new facilities to meet the rule's stringent requirements. In Ohio, as well as other states that will be affected by the rule, there are many power plants for which decommissioning, rather than installing additional control equipment, will be a more cost-effective option. When evaluating whether to invest in new installations or decommission, utilities will need to take both unit and site-specific considerations into account. There will likely be significant variation in decision making regarding which practice to employ from utility to utility, causing reliability issues in the future.[[7]](#footnote-7) PUCO is concerned that the proposed rule will lead to an inadequate planning reserve margin. The number of units that will be affected by the proposed rule, combined with the implementation timeframe and the obvious need for capacity replacement leads the PUCO to believe that MACT implementation should be delayed as to avoid a problematic electricity deliverability scenario.

PUCO is not the only entity concerned about the reliability implications associated with recent EPA rulemakings including the MACT. The National Association of Utility Regulatory Commissioners (NARUC) adopted a Resolution at the 2011 Summer Meetings regarding the state concerns with environmental regulations (See Attachment A). In its Resolution, NARUC recognized that some generators that will be impacted by the new EPA rulemakings are located in transmission or generation supply constrained areas and will need time to allow for transmission or new generation studies to determine reliability issue resolutions. Furthermore, the timeline for a retrofit for multimillion dollar projects may take five-plus years, due to utility regulatory commission approval, front end engineering, environmental permitting, detailed engineering, construction and start-up. Also raised by NARUC is the concern that all the necessary compliance projects would be in competition for the same skilled labor force and resources.

## B. Cost-Effectiveness in Relation to Proposed Rule

The proposed rule will assuredly impact wholesale and retail power costs, putting upward pressure on customer (ratepayer) bills. Hasty regulation under MACT will cause early retirement or aggressive, accelerated, and costly plant installations, imposing the necessity of quickly developing new facilities due to the aggressive timeline for implementation in the rule. Further, due to timing issues and attempts to avoid rate shock, there may be requests for deferrals further exacerbating cost concerns and negatively impacting future generations of ratepayers.

The proposed rule, in concert with other anticipated rules, may accelerate the retirement of coal-fired electric generating plants. The cost of premature retirements could have a direct impact on rates, removing some lower­cost locally available power from the market, resulting in a higher-priced marginal unit energy source, and driving the need for additional generating capacity. The current and foreseeable economic environment indicates that Ohio's ratepayers will be hard-pressed to absorb rate shock due to the implementation schedule advanced in the proposed rule. EPA has estimated some costs/benefits associated with the proposed rule. For instance, EPA explains in its Regulatory Impact Analysis (RIA) added costs of regulation at electricity plants. In addition to the concerns outlined above, we are concerned that the cost side of the equation does not take into consideration the non­availability of electric power based on premature plant closures and the potential impacts from such situations on human health and well being.

PUCO understands that the benefits are health based; however, the cost/benefit analysis is a financial comparison. Therefore PUCO is compelled to comment on the cost/benefit analysis. Most of the projected benefits are derived from the estimation of particulate matter less than 2.5 microns (PM-2.5) benefits. Whereas PM 2.5 is being used as a surrogate for the regulation of some HAP (not that PUCO supports the regulation of non-mercury HAP in this proposed rule), it does not appear to provide a good basis for a Utility MACT rule benefits projection. First and foremost, the benefits of this rule appear to overlap with benefits derived from the PM-2.5 National Ambient Air Quality Standards (for both State Implementation Plan related rules and Prevention of Significant Deterioration) and the Cross-State Air Pollution Rule (CSAPR). Additionally, the air pollution control equipment used in this rule to comply with the HAP standards are also used to comply with other recent rules such as CSAPR. The benefits assumed should not be duplicative with the benefits of other EPA regulations. Additionally, the implication of the benefits being expressed as PM-2.5 is that the other rules cover the same focus and level of control with potentially more flexibility. Therefore, if the only benefits are duplicative benefits from PM-2.5 control, then this rule may be unnecessary. Another reason PM-2.5 may not be the best surrogate for a benefit test is that PM-2.5 characterizes a broad number of compounds that may not be HAP but still result in health-related ailments (e.g., SO2 and NOx). Unless the PM-2.5 benefits are specific to the HAPs predicted to be reduced by this rule, the resultant benefit prediction is potentially biased high.

Potentially higher costs related to coal prices should also be considered. Low-sulfur Powder River Basin (PRB) coal is used by the AEP-operated Cardinal Plant in Ohio. In 2010 this coal was the cheapest that the Cardinal Plant received at a price of $29.50 per ton (other coals were $35 or higher).[[8]](#footnote-8) Due to the chemical composition of the various coal blends, mercury is harder to remove from PRB than coals with high ash and chlorine; so much harder in fact that AEP may have to install Activated Carbon Injection (ACI) in order to comply with the mercury standard in the MACT, exacerbating price escalations. The flexibility loss of not using low-sulfur PRB to comply with EPA-related sulfur provisions will mean that AEP and the other owners of the Cardinal Plant will need to take other measures to reduce sulfur such as increased “scrubbing” using flue gas desulfurization. The fact that compliance with one rule will affect the costs of another rule should be considered. Additional costs from other affected rules may include leachate and/or landfilling considerations, since the flyash may become more mercury- laden.

PUCO staff has conducted an analysis regarding all EPA rule actions in the past two years and the wholesale market impacts of those rules (Attachment B). The rules will contribute to 24 GW of retirements in the PJM Regional Transmission Organization’s area in year 2015 per the Charles Rivers and Associates study. As a comparison, AEP has predicted retiring between 15-28% of its capacity in PJM. The 24 GW of retirements is expected to cause a 36% increase in wholesale market costs (in other words*,* AEP Zone prices will go from ~$35/MW to ~$47/MW). EPRI has predicted as high as a 50% increase in wholesale market rates. EPRI arrived at these predictions using the PRISM model and the prediction also includes impacts on the natural gas market. As EPA noted, the cost of all goods using electricity for their production will increase as well.[[9]](#footnote-9)

PUCO would like to thoroughly review the macroeconomic benefits analysis portion of the proposed rule’s cost benefit analysis; however, there is insufficient data available to do this. Neither the model used nor its inputs[[10]](#footnote-10) have been provided to the public for evaluation. For this reason, we request that the multi-markets impact analysis be made available to the public.

PUCO believes that all interested parties should have as accurate a portrayal of costs to benefits as possible in order to both comment on this rule and prepare for the impact associated with a final rule that resembles the proposal.

## C. Workability/Flexibility of Proposed Rule

Another extremely important consideration is the series of rules EPA has already proposed and/or implemented, as well as those it is scheduled to propose and finalize during the same timeframe when the MACT Rule will likely take effect. EPA issued its final “Tailoring Rule” for greenhouse gas emissions in May 2010. Beginning in January 2011, the rule will tailor permitting programs to limit the number of facilities that are required to obtain New Source Review and Title V operating permits based on their greenhouse gas emissions. The threshold will cover power plants, refineries, and other large industrial plants.

EPA also issued its proposed Transport Rule in July 2010, which will impact many utilities, and ultimately, ratepayers, via necessary plant modifications for rule compliance. The final rule is to be issued in 2012. Further, in June of 2010, EPA issued a proposed rule to regulate coal ash for the first time.

The North American Electric Reliability Corporation (NERC) recently issued a special report entitled “*2010 Special Reliability Scenario Assessment: Resource Adequacy Impacts On Potential U.S. Environmental Regulations.*”The report evaluates the implications of the multiple regulations under consideration by EPA. The conclusions set forth in the report, as delineated herein, are significant:

Overall, impacts on planning reserve margins and the need for more resources is a function of the compliance timeline associated with the potential EPA regulations. The combined EPA regulation scenario affects a large amount of units, affecting some regions more significantly than others. Based on the assessment's assumptions, the greatest risk to planning reserve margins occurs by 2015 in the combined EPA regulation scenario. The majority of the impacts will be seen within the next five years, requiring additional resources in a short timeframe. This situation is compounded by the large number of electric generation units that are likely to retrofit with environmental controls, as well as the convergence of overlapping replacement/retrofit generation capacity projects and heavy U.S. infrastructure projects in other sectors. Potential constraints of skilled construction labor, material shortages, financing, and escalation of compliance costs coupled with coordination of overlapping outages resulting in congestion expenses could present challenges in meeting the compressed time schedule.[[11]](#footnote-11)

These are just a few of the EPA proposed regulations and issues that will impact utilities and ratepayers. In light of the upcoming changes due to new regulations, as well as changes in historical regulations, it has become difficult for companies to plan for compliance and achieving compliance has become virtually impossible with the latest-issued regulation before the next comes along, entirely changing expectations and compliance strategies, and creating stranded investments.

Finding the right pollution control to comply with the new rule also confounds the Electric Generating Utilities’ ability to comply with the proposed rule. There are no manufacturers of a single piece of control equipment (other than Activated Carbon Injection) that will grant a guarantee to meet the mercury limitation described in the proposed rule. This means facilities will either need to use Activated Carbon Injection or attempt to find the pollution control mix without assurance that they will be able to comply.

We firmly believe that delaying the implementation of the MACT rule would relieve some of the burden falling on utilities, ratepayers, and regulatory institutions that are struggling to stay abreast of and comply with the latest regulations. A delay will allow for technology to develop and coal replacements to be purchased in cases where coal is no longer economical.

PUCO believes that the mercury limit “math error” determined by EPA should be corrected in the final rule. The error affects the compliance status of the Zimmer Plant according to Information Collection Request data. The energy provided by Zimmer becoming more expensive or forced to retire could harm capacity prices in markets serving Ohio.

The proposed rule would also introduce limitations on integrated gasification combined cycle (IGCC) processes. The technology differences between coal-fired boilers and IGCC plants are profound. EPA itself lists the emissions from each in different sections of AP-42. Boilers are listed as external combustion and combined cycle turbines are listed as internal combustion. The combustion efficiencies and costs of each process are not the same. A power provider cannot burn gasified coal in the same EGU as coal is being combusted nor can a combined cycle turbine combusting natural gas or gasified coal burn solid fuels or coal. The technologies are distinctively different. PUCO proposes removing IGCC from the rule altogether and regulating IGCC fuel quality in a completely separate rulemaking.

# III. CONCLUSION

In conclusion, PUCO urges EPA to delay or allow flexibility in the implementation of the MACT Rule; otherwise, the implementation could result in decreased reliability in the electric grid and higher costs for utilities and ratepayers. Any implementation should correct

erroneous mercury limit calculations and remove IGCC from regulation. PUCO also urges EPA to calculate benefits and costs associated with each HAP independently to gain appreciation of the value of the rule.

Respectfully submitted,

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**Commission of Ohio**

1. Velocity Suite, a PUCO subscription database maintained by Ventyx, 2009. [↑](#footnote-ref-1)
2. PJM is a regional transmission organization (RTO) that coordinates the movement of wholesale electricity in all or parts of Delaware, Illinois, Indiana, Kentucky, Maryland, Michigan, New Jersey, North Carolina, Ohio, Pennsylvania, Tennessee, Virginia, West Virginia and the District of Columbia. [↑](#footnote-ref-2)
3. “Summary of MRN-NEEM Results for EIPC BAU Sensitivity 3: Alternative EPA Regulations”, Charles Rivers & Associates, April 20, 2011. [↑](#footnote-ref-3)
4. PJM’s “Must Run” provision is required as part of the PJM Operating Agreement in Schedule 1, Section 6. Reliability “Must Run” Units are compensated under a contract between the owner of the unit and PJM and are approved by FERC. The compensation is generally at cost-plus (higher than the Location Marginal Pricing). [↑](#footnote-ref-4)
5. "FERC Chairman Seeks Review of EPA Rules Affecting Electricity Reliability," [www.energywashington.com,](http://www.energywashington.com/) September 16, 2010. [↑](#footnote-ref-5)
6. "FERC's Moeller Warns Plant Location Key in Weighing EPA Regulations," [www.energywashington.com,](http://www.energywashington.com/) September 24, 2010. [↑](#footnote-ref-6)
7. Additionally, PJM requires utilities to provide a 90-day notice of their intention to retire certain generating units. Historically, utilities have provided more than 90 days notice, but this may be difficult under the proposed rule as utilities will have to make compliance decisions in a short timeframe. Such shortened notice periods could cause analysis and evaluation difficulty, potentially undermining reliability throughout the region. [↑](#footnote-ref-7)
8. Velocity Suite [↑](#footnote-ref-8)
9. The price estimates above do not represent a case where localized reliability concerns caused inefficient EGUs to contribute to market costs (the “must run” scenario mentioned earlier). Price estimates also do not consider increasing natural gas prices due to coal fuel replacement or additional air emissions control equipment due to the rule. [↑](#footnote-ref-9)
10. We are referring to both the CGE model and its inputs [↑](#footnote-ref-10)
11. *2010 Special Reliability Scenario Assessment: Resource Adequacy Impacts of Potential U.S. Environmental Regulations*, Executive Summary at IV. [↑](#footnote-ref-11)