**UNITED STATES**

**Environmental Protection Agency**

**COMMENTS ON**

**THE U.S. EPA CARBON PAPER**

SUBMITTED ON BEHALF OF

THE PUBLIC UTILITIES COMMISSION OF OHIO

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# INTRODUCTION

The Public Utilities Commission of Ohio (PUCO) appreciates the opportunity pro­vided by the United States Environmental Protection Agency (EPA) to comment on the U.S. EPA paper dated September 23, 2013. The mission of the PUCO is to assure our citizens adequate, safe, and reliable public utility services at a fair price while facilitating an environment that provides competitive choices. We are keenly interested in the ability of market participants to make invest­ment decisions unencumbered by regulatory uncer­tainty. Additionally, the PUCO is con­cerned about the effects on electricity prices caused by the EPA’s potential actions imposed on existing generation resources. Because these upcoming EPA actions may unduly affect regulatory certainty and therefore the long-term adequacy, safety, reliabil­ity, and cost of generating electricity in Ohio, the PUCO offers these comments.

# BACKGROUND

On June 25, 2013, President Obama issued a Presidential Memorandum directing the EPA to work expeditiously to complete carbon pollution standards for the power sector. EPA is relying on the language of Section 111 of the Clean Air Act to issue requirements that address greenhouse gas emissions from existing power plants and modifications of those plants. Section 111 of the Clean Air Act (CAA) establishes mech­anisms for controlling emissions of air pollutants from stationary sources.[[1]](#footnote-1) Under Sec­tion 111(b), the Adminis­trator of the EPA is required to issue New Source Performance Standards (NSPS), which apply to new stationary sources of emissions. Conversely, in Section 111(d), EPA can only establish a procedure for states to submit plans of per­formance standards for existing sources. EPA is to issue proposed carbon pollution standards and guidelines no later than June 1, 2014 and final standards and guidelines by June 1, 2015.

Section 111(b) allows the Adminis­trator of the EPA to issue NSPS, which apply to new stationary sources of emissions. Conversely, Section 111(d) only gives EPA the authority to release ***guideline documents*** to identify a system for emission reduction and grants States the authority to establish performance standards and determine how facilities within each State will meet those standards.[[2]](#footnote-2) As such, U. S. EPA should proceed with extreme caution in their future actions and recognize the con­straints of the Clean Air Act that EPA must adhere to in the development of 111(d) plans under the Clean Air Act. The plain language of Section 111(d) grants the states planning primacy as the lead agencies. U.S. EPA should only provide technical guidance on what types of control measures are technically available and should be careful not overstep its authority.

# QUESTIONS AND ANSWERS

## A. What is state and stakeholder experience with programs that reduce CO2 emissions in the electric power sector?

Ohio has several activities underway that play a significant role in reducing Ohio’s CO2 footprint. We have state policy initiatives that provide significant benefits. In addi­tion, previous EPA rulemakings have resulted in economic decisions further reducing carbon emissions. Nonetheless, CO2 emissions in the state have declined and those reductions should be recognized and “back counted” in any procedures determined by EPA going forward.

First, the Ohio General Assembly established alternative energy standards in 2008. Ohio’s alternative energy portfolio standard requires that 25 percent of the electricity sold by each utility or electric services company within Ohio must be generated from alterna­tive energy sources by 2025. At least 12.5 percent must be generated from renewable energy resources, including wind, hydro, and biomass, with a minimum of 0.5 percent also coming from solar. One half or more of this renewable energy must be generated at facilities located in Ohio. Concurrently, Ohio also created energy efficiency standards, which mandate a 22.5 percent improvement in electric energy efficiency during the same timeframe.

More recently, Ohio expanded the definition of renewables to include waste energy recovery systems. Also under the new law, combined heat and power systems can be counted as energy efficiency resources in addition to an advanced energy resource. These steps were clearly designed to improve efficiencies in power production and gen­eration from existing resources, which reduces the state’s carbon footprint.

Due to the new Clean Air Interstate Rule (CAIR), Mercury and Air Toxic Standards (MATS), Boiler MACT and other rules that the U.S. EPA has proposed and implemented over the past few years combined with low natural gas prices, Ohio coal-fired generation owners have made the business decision to retire nearly 5 GW of coal-fired generation between now and 2015 (See Exhibit 1). More generating units are expected to be slated for retirement beyond that time period. The PJM region is experi­encing the same trend in coal generation retirements, with over 17 GW retired to date in the region.

**Exhibit 1**

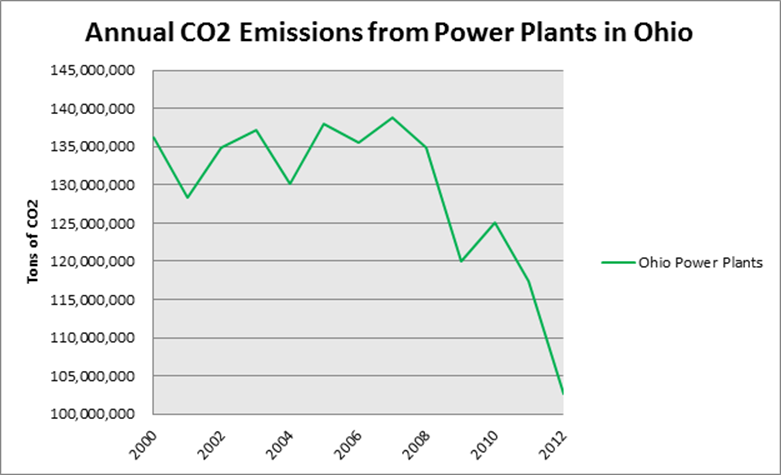
|  |  |  |  |
| --- | --- | --- | --- |
| **PJM-OH Zone Retirements** | **Retired**  **(MW)** | **Pending (MW)** | **Total (MW)** |
| AEP - OH | 584 | 1,484 | 2,068 |
| ATSI | 1,643 | 885 | 2,528 |
| Dayton | 62 | 277 | 339 |
| **TOTAL** | **2,289** | **2,646** | **4,935** |

|  |  |
| --- | --- |
| **ALL OF PJM RETIREMENTS** | |
| **Total Future Retirements (as of November 15, 2013.):** | 12,403.6 MW |
| **Total Retired (as of October 25, 2013):** | 17,723 MW |

Ohio’s energy landscape has changed dramatically over the past five years. In 2010, 65 percent of Ohio’s installed capacity was coal-fired, generating approximately 80 percent of the state’s electricity. The announced and anticipated retirements of gener­ators could result in an almost 20 percent reduction in installed coal capacity in Ohio. This lost coal-fired generation has been replaced by natural gas, efficiency improvements and renewable, ***all*** of which are less CO2 intensive than coal-fired generating units.

These efforts cannot go unnoticed or unrecognized. The reductions in carbon emis­sions are real (See Exhibit 2) and should be accounted for in any plan approved by EPA.

**Exhibit 2**



## B. How should EPA set the performance standard for state plans?

First and foremost, EPA should recognize its limitation set forth under Section 111(d); specifically, EPA should issue only guidelines for state plans. In moving for­ward, EPA should take note of Resolutions adopted by the National Association of Reg­ulatory Utility Commissioners. In particular, the ***Resolution on Increased Flexibility with Regard to the EPA's Regulation of Greenhouse Gas Emissions from Existing Power Plants***,adopted in November 2013, supports a point source-based approach.[[3]](#footnote-3)

Some questions raised by EPA suggest some misunderstandings of reality. Resource options, dispatching, and other considerations that are raised here are market driven and not under the control of the individual generation sources or the states for that matter. For instance, Regional Transmission Operators actually dispatch the system, determining which units will run at what time. Electric Generating Units (EGUs) are dispatched in economic merit order and the availability of capacity is determined 3 years in advance. One key difference between a market-based regulatory construct (like Ohio has) and a vertically integrated regulatory construct is the funding of new EGUs. In the market-based construct, the market pays for new generation by sending price signals that new generation is needed. If the prices are high enough then theoretically new generation will be built. Given that this approach is for 3 years in advance, it is a reaction to circum­stances as they are currently perceived. However, in a vertically integrated regulatory construct, the ratepayers fund the new construction as collected by the distribution com­pany. This approach allows regulatory entities to require proactive measures to mitigate future costs that may occur due to policy decisions.

It is the responsibility of the PUCO to carry out the policy of the state of Ohio to ensure the diversity of electricity resources. The benefits of energy diversity to security, affordability, and reliability are well documented. However, the EPA considerations may cre­ate an unnecessary challenge to electric resource diversity. The EPA paper and the questions raised appear to rely heavily on the development of natural gas. The paper and question are founded on EPA’s prediction that Natural Gas Combined Cycle units are likely to be the predominant fossil fuel-fired technology for new generation in the future. Current market forces seem to indicate that construction of new coal-fired electric gener­ation is unlikely. Natural gas prices are at a ten year low,[[4]](#footnote-4) coal prices are steadily increas­ing, and there is slow growth in the demand for electricity.[[5]](#footnote-5) However, the market is ever changing and natural gas prices have historically been volatile. For example,

Energy market projections are subject to much uncertainty. Many of the events that shape energy markets are random and cannot be anticipated, including severe weather, political dis­ruptions, strikes, and technological breakthroughs. In addi­tion, future developments in technologies, demographics, and resources cannot be foreseen with certainty.[[6]](#footnote-6)

The PUCO urges the EPA to use caution when proposing guidelines based upon a fore­cast focused only upon the outlook for natural gas.

The “dash to gas” scenario causes concern to economic regulators because the more dependent a system is on one specific fuel type, the more risk and volatility there exists for ratepayers. The U.S. EPA guidelines must allow states and regions to maintain diverse portfolios that incorporate resources unique and abundant to a specific geographical area. All fuels, including coal, should be accommodated in the regional resource mix.

In addition to cost and volatility concerns, there are anxieties regarding the increased use of natural gas in electricity production due to the lack of coordination and communication across the gas and electric industries. Public utility commissioners across the nation are interested in grid and pipeline reliability – and ensuring these two indus­tries are working and communicating together to avoid reliability concerns. The Federal Energy Regulatory Commission is currently taking steps to address this issue. EPA should recognize that fact in moving forward. More specifically, one significant concern with the switch to gas is pipeline constraints. Fuel is delivered in real time to natural gas generators and – unlike coal plants that can store months of fuel on site – if a pipeline operator cannot deliver, the generator cannot run. Furthermore, many fuel contracts for electric generators are interruptible, or non-firm. This is driven by cost and economic considerations by the generator due to the expected “run time” being relatively limited to times of need (or peak times). This results in the electric generator being the first to be interrupted when gas supplies or pipeline capacities are constrained. This will often be coincidental with the greatest time of need for electric generation. For obvious reasons, these scenarios concern economic regulators, for whom reliability is a paramount concern. The implications for our economy and national security are real. There must be a balance between these global issues and domestic energy policy.

Any future where certain resource options are completely eliminated, and the few resource options remaining experience high volatility in underlying costs, should be avoided. The PUCO is gravely concerned that a prescriptive approach will have the effect of restricting a diverse generation market. This would ignore the application of the best system of emissions reductions at existing plants and further increase consumer costs. Preserving diversity of generation options within the market is an important con­sideration the Administrator should accommodate.

To reiterate prior statements, EPA should recognize measures already taken by states in emission reductions. The EPA should give fair and thoughtful consideration in selecting the starting point or base line for the calculation of necessary reductions. Many states (and ratepayers) have spent millions of dollars already in emission reduction achievements that should be credited. To recognize and credit actions taken will prevent regulatory stranded cost issues that may arise.

EPA has raised a question with regard to rate-based versus mass-based regulation. Expecting older power plants to perform as efficiently as newer plants will harm reliabil­ity. This is especially true if a short-term rate-base standard has to be met which would influence dispatch. Conditions like temperature and humidity can influence combustion efficiency. If short-term limits are designed during optimal environmental conditions, then EGUs may have trouble meeting short-term limits in non-optimal conditions when they are typically needed most. Most EGUs in these circumstances will choose to not provide energy and be in compliance with short-term limits. Unpredictable outages occurring due to “environmental compliance” will place electricity service for a multi­tude of citizens in jeopardy, violating our state mandate. Further, if reliability is in jeopardy, the RTO market will respond with extreme upward price pressure.

Rate-based limits are typically short-term limits (of a day or less) and any short-term limits can be problematic, as described above. However, these could be made longer term (*i.e*. a 30-day rolling average). While this might present administrative bur­dens, lengthening the term could alleviate reliability concerns. PUCO only supports lim­itations (mass or rate based) that account for worst case environmental conditions when the limits are set.

## C. What requirements should state plans meet, and what flexibility should be provided to states in developing their plans?

EPA must recognize that 111(d) allows it to set guidelines only; the states must determine the best course of action. States have the discretion of implementation, as long as they meet their obligations; implementation is not enforceable by the federal EPA.

Environmental Protection Agency Administrator Gina McCarthy was recently quoted as stating that her agency would give states great flexibility in meeting new requirements for carbon emissions from power plants indicating the agency would be "really flexible on the implementation of these standards" with states (see The Hill) [[7]](#footnote-7) and was quoted as follows:

It is not the intent of the federal government to take over their duties, but if they don’t perform as the Clean Air Act requires them to, we will be forced to do that.[[8]](#footnote-8)

Flexibility is paramount with all the states and is essential for a number of reasons. EPA must recognize there are different resource portfolios, market structures, rate recovery mechanisms, transmission infrastructure needs, and renewable and energy efficiency requirements, among others. Measures that are too prescriptive will affect reliability, due to dispatch and market structure disparities that exist.

PUCO is not the only entity concerned about the reliability implications associated with recent EPA rulemakings. The National Association of Utility Regulatory Commis­sioners (NARUC) adopted a Resolution at the 2011 Summer Meetings regarding the state concerns with environmental regulations.[[9]](#footnote-9) In that 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. New EGUs will need to be built after the market sends the correct price signals. This process may take time as well. Furthermore, if carbon capture and sequestration is a chosen path to compliance the timeline for a retrofit for multimillion dollar projects may take more than five 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.

While this requirement may not lead to all of the same concerns that other EPA rulemakings have caused (such as the limited pool of skilled labor force and resources), adding this requirement, without the needed flexibility by the individual states, could lead to serious reliability implications. Reliability and congestion problems could occur due to additional retirements in Ohio’s generation fleet on a locational basis. Ohio has already been impacted adversely by plant retirements in the ATSI transmission area. Congestion (a lack of price optimal transmission/generation solutions) caused in large effect by MATs related plant retirements caused the electricity market prices to be ele­vated to $1800/MWh this past summer. States need flexibility to make sure adequate infrastructure is in place before additional retirements occur.

We believe that industrial scale carbon capture and storage (CCS) technology has not been adequately demonstrated by a utility-grade coal-fired generating unit. Since CCS is the only system of emissions reduction that a coal-fired or pet-coke fired gener­ating unit can be added after combustion to reduce greenhouse gas emissions, it would seem that the Administrator could be considering it as an option. PUCO does not believe that would be prudent at this point.  When determining that a technology has been ade­quately demonstrated, the Administra­tor must take into account the costs of the technol­ogy along with the viability *(i.e.*, that an existing plant has an adequate geographic foot­print to add the necessary capture equipment). It has not yet been demonstrated that CCS technology can reduce emissions in an economically feasible manner on new plants. Retrofit costs and space issues make placing CCS on existing generators technically infeasible in many cases and even less economically feasible in all cases. Any guidelines should provide a commercially viable compli­ance option for units using a fuel other than natural gas.

## D. What can EPA do to facilitate state plan development and imple­mentation?

As discussed, *supra,* states need flexibility and EPA should not be prescriptive. States alone can be entrusted to determine the best approach. If states choose to work cooperatively in a coordinated effort, they should have the flexibility to do so voluntarily. If a multi-state or regional approach were determined by a state to in fact be an appropri­ate course of action, it may require additional implementation time and that should be respected without EPA interference. In any event, each state should be left to determine its own approach and course of action.

The cost of any premature retirements could have a direct impact on rates, remov­ing some lower cost 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 is a concern for the citizens of Ohio.

An objective in the presidential report calls for a 17 percent economy-wide reduc­tion in CO2 emissions from 2005 levels by the year 2020. The Ohio PUCO Staff esti­mated the impact of “The President’s Climate Action Plan” on the cost of electricity pro­duction in Ohio. The finding of the study indicated Ohio would need to switch roughly 35.5 million MWh from being generated by coal to being generated by natural gas in the year 2020. If in the year 2020, our alternative energy and energy efficiency mandates are materialized, Ohio would need to switch only 12.5 million MWh from being generated by coal to being generated by natural gas. The remaining 23 million MWh would either be generated by zero carbon generation, biomass, or would be conserved due to the implementation of Energy Efficiency programs. Ohio is currently considering a legisla­tive initiative that could result in fewer reductions, requiring more fuel switching. Whether the impact of alternative energy and energy efficiency mandates in 2020 were included or not in the model, the net impact on a customer’s generation bill in Ohio are significant, even without the inclusion of the necessary capital costs investment that would be required to fulfill the necessary “switch” to natural gas.

An additional question raised is whether EPA should develop model rules. PUCO would not be in support of model rules, as it would be perceived as prescriptive and limit the flexibility of the states. As mentioned above in PUCO’s comments with regard to our past experiences with congestion in electricity market in Ohio, the states need as much flexibility as possible to confront congestion that will surely occur with additional plant retirements. A model rule, while it adds uniformity, can not possibly provide enough specific options to allow for the congestion challenges to be mitigated.

# CONCLUSION

The Public Utilities Commission of Ohio appreciates the opportunity provided by the EPA to comment on its carbon paper. We cannot stress enough the need to provide sufficient flexibility and latitude to the states for their implementation plans. There is no one size fits all that can reasonably accommodate everyone. EPA must recognize there are different resource portfolios, market structures, rate recovery mechanisms, transmis­sion infrastructure needs, and renewable and energy efficiency requirements, among others. EPA should not be expected to take all this into consideration and reasonably accommodate everyone. That should clearly be entrusted with the states, on a state by state basis.

Respectfully submitted,

/s/ Thomas W. McNamee

**Thomas W. McNamee**

180 East Broad Street, 6th Floor

Columbus, OH 43215-3793

614.466.4397 (telephone)

614.644.8764 (fax)

[thomas.mcnamee@puc.state.oh.us](mailto:thomas.mcnamee@puc.state.oh.us)

**Counsel for The Public Utilities Commission**

**of Ohio**

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1. 42 U.S.C. § 7411 (2012). [↑](#footnote-ref-1)
2. See 40 C.F.R. 60.22(b); 42 U.S.C. 7411(d). [↑](#footnote-ref-2)
3. http://www.naruc.org/Resolutions/13-1120-1116am-vz-Resolution-Packet-HRS-edits-afterbd-mtg.pdf [↑](#footnote-ref-3)
4. *See* Annual Energy Outlook 2012 Early Release Overview, U.S. Energy Information Administration 5 (Jun. 2012). [↑](#footnote-ref-4)
5. *Id.* [↑](#footnote-ref-5)
6. *See* The Annual Energy Outlook 2007, U.S. Energy Information Administration ii (Feb. 2007). [↑](#footnote-ref-6)
7. http://thehill.com/blogs/e2-wire/e2-wire/191743-epa-to-be-flexible-with-states-on-carbon-standards [↑](#footnote-ref-7)
8. http://www.theblaze.com/stories/2013/12/02/epa-chief-defends-anti-carbon-listening-tour-that-skipped-top-coal-producing-states/ [↑](#footnote-ref-8)
9. http://www.naruc.org/Resolutions/Resolution%20on%20Increased%20Flexibility %20for%20the%20Implementation%20of%20EPA%20Rulemakings.pdf [↑](#footnote-ref-9)