

## *Unions for Jobs & Environmental Progress*

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U.S. Environmental Protection Agency  
1200 Pennsylvania Avenue, NW  
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May 8, 2017

By E-mail to [Regulations.gov](mailto:Regulations.gov)

Re: EPA Request for Comment per Executive Order 13777  
Docket No. EPA-HQ-OA-2017-0190

Ladies and gentlemen:

These comments are submitted on behalf of the labor union members of Unions for Jobs and Environmental Progress (UJEP), identified below. Citations to EPA regulations by Federal Register notice are provided below.

### Background

We appreciate EPA's invitation to comment on rules impacting the domestic energy sector. UJEP member unions represent workers from the electric utility, mining, rail, and construction sectors. We have participated for many years in various EPA rulemaking proceedings, including those related to ozone standards and ozone transport, new source performance standards, the MATS rule, and the Clean Power

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*UJEP is an ad hoc association of labor unions involved in energy production and use, transportation, engineering, and construction. Our members are: International Association of Bridge, Structural, Ornamental and Reinforcing Iron Workers Union; International Brotherhood of Boilermakers, Iron Ship Builders, Blacksmiths, Forgers and Helpers; International Brotherhood of Electrical Workers; International Brotherhood of Teamsters; SMART Transportation Division; Transportation • Communications International Union; United Association of Journeymen and Apprentices of the Plumbing and Pipefitting Industry of the United States and Canada; United Mine Workers of America, and Utility Workers Union of America. For more information about us, visit [www.ujep4jobs.org](http://www.ujep4jobs.org).*

Plan. Our members have engaged the international climate debate through the UN FCCC process, and through involvement with domestic climate legislation.

We know that coal generation is under intense competitive pressure from natural gas, and that the entire baseload fleet - coal and nuclear alike - is challenged. Coal plant capacity factors are declining, jobs are being shed and local economies are being devastated. We are keenly aware of the need to preserve fuel diversity, grid reliability and resilience.

The Clean Air Act has been labor's friend when it balances environmental regulation with creating jobs, such as retrofitting scrubbers and SCRs - or potentially carbon capture, utilization and storage (CCUS) technologies. But it has not been our friend when its implementation does not take into consideration jobs impacts and threatens mine and plant closures. Our members traditionally support U.S. EPA regulations for the installation of pollution controls at new and existing power plants. Several UJEP members are directly involved in the construction, maintenance and operation of electric generation facilities and their associated emission controls, while others are involved in the supply and transportation of coal for electric generation.

#### Perspective on Climate Change and Jobs Issues

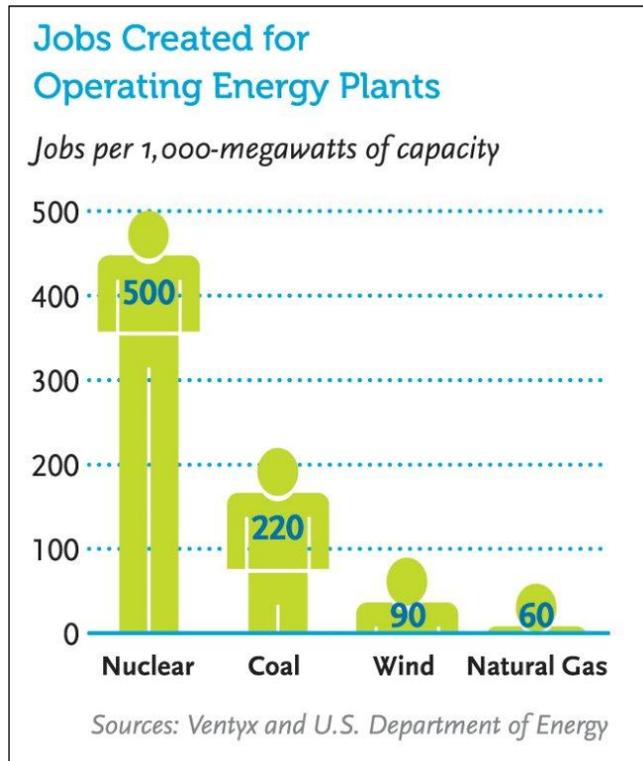
Two of the rulemakings subject to reconsideration - the Clean Power Plan and Carbon Pollution Standards for New and Modified Fossil-Fueled Electric Generating Units - directly involve limitations on utility CO<sub>2</sub> emissions. Many unions have approached the climate change issue with mixed feelings, recognizing that carbon limits ultimately could create jobs, particularly through CCUS applications, but also mindful of the adverse job impacts involved with additional coal plant closures. The previous Administration's Mid-Century Climate Strategy<sup>1</sup> projected decarbonization of the utility and transport sectors by 2050 largely through massive renewables deployment and elimination of most coal utilization. The small amounts of remaining coal and natural gas generation were all equipped with CCS.

UJEP members recognize that renewable energy creates jobs - mostly in construction, but much smaller numbers in operation and maintenance. And much of this is non-union work. The bulk of solar panel manufacturing is in China and other developing nations. Rooftop solar is not a source of high-paying unionized jobs. Simply because a job is in the renewable sector and considered by many "a green job" does not make it a good paying family supporting job. Coal and nuclear are by far the largest employers per megawatt-hour in the generation sector (see Figure 1, below).

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<sup>1</sup> The White House, Mid-Century Climate Strategy for Deep Decarbonization (November 2016).

Figure 1



The reason for this job disparity among generation sources is the complexity and labor intensity of nuclear and coal generating plants, including their operation, maintenance, and fuel supply cycles. Renewables and natural gas are capital intensive, but not labor intensive. The coal and nuclear generation sectors are also the most heavily unionized.

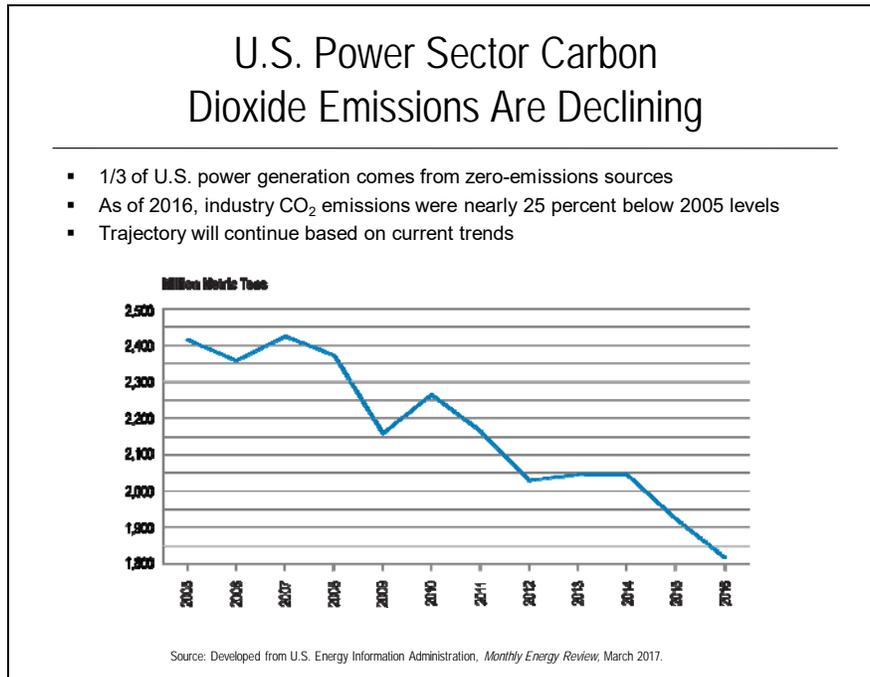
### Replacing the Clean Power Plan (CPP)

With the Clean Power Plan (80 Fed. Reg. 64661, Oct. 23, 2015) subject to reconsideration, many unions would support a replacement rule limiting reductions to inside the fence options. This does not necessarily mean a rule limited to 2-3 percent efficiency improvements as called for by Building Block 1 of the CPP. EPA could employ statistical analyses that could mean a more substantial CO<sub>2</sub> reduction, with any reductions achieved through least-cost emissions trading and other market mechanisms.

The baseline for measuring reductions under a replacement rule would be very important since the utility sector already has achieved about two-thirds of the Power Plan's CO<sub>2</sub> reductions. According to DOE/EIA, U.S. utility emissions of CO<sub>2</sub> declined by

some 25 percent from 2005 to 2016 (see Figure 2, below).

Figure 2



It is critical that the intent of section 111(d) be respected through a replacement rule that provides guidelines for state compliance. EPA ignored statutory factors such as the remaining useful life of the source in the CPP. States should have the flexibility to determine how best to achieve any given set of emission reduction targets that might be developed through such guidelines.

Our preliminary research on the relationship between carbon emissions and heat rate efficiency indicates that heat rate improvements do not correlate 1:1 with reduced carbon emissions. A statistical analysis of CO<sub>2</sub> emissions from coal plants was performed using the DOE/NETL 2007 coal plant data base. The objectives of this exercise were twofold: 1) to determine the relationship between plant efficiency and CO<sub>2</sub> emission rates, and 2) to assess whether plants burning different grades of coal (bituminous, subbituminous, and lignite) have sufficiently different emission rates to consider subcategorization by coal type in any EPA regulations under section 111(d) of the Clean Air Act. The CPP did not consider the differences in CO<sub>2</sub> emission rates among coal types.

We sorted the NETL data base to identify coal-based units likely to remain in operation under the 2012 EPA Mercury and Air Toxics Standards (MATS) rule, using three screening criteria: unit nameplate capacity of 400 MW or greater, current age of 50

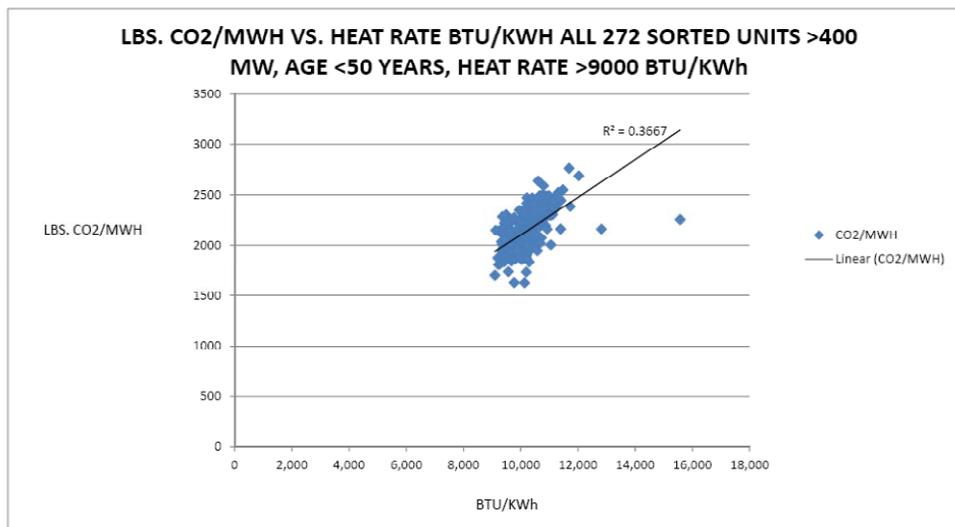
years or less, and heat rate of 9,000 BTU/kWh or higher (typical of conventional PC-based units.)

This sort produced 272 coal-based units, totaling 176,700 MW of capacity, grouped as follows:

- 141 bituminous units, totaling 94,037 MW, with an average emission rate of 2,055 lbs. CO<sub>2</sub>/MWh;
- 110 subbituminous units, totaling 69,500 MW, with an average emission rate of 2,214 lbs. CO<sub>2</sub>/MWh; and
- 21 lignite units, totaling 13,140 MW, with an average emission rate of 2,425 lbs. CO<sub>2</sub>/MWh.

Regression analyses performed on these three plant groups assessed the relationship between heat rate (the independent variable) and CO<sub>2</sub> emissions per MWh of generation (the dependent variable.) The results for the 272 units confirm a moderate positive association ( $R^2=0.3667$ ) between heat rate and CO<sub>2</sub> emissions (see Figure 3, below.)

Figure 3



Emission rate differences among the three coal types measured in average CO<sub>2</sub> emission rates per MWh appear to support subcategorization by coal type. For example, the sampled lignite units have an average CO<sub>2</sub> emission rate 13% above the sample mean. Bituminous coal-based units have an average emission rate 4% below the sample mean. These differences could support the use of subcategorization in a replacement for the Clean Power rule.

## Carbon NSPS Rule

Many unions opposed the 2014 new source rule for limiting CO<sub>2</sub> emissions from new, modified, or reconstructed fossil-fueled generating sources. 79 Fed. Reg. 1429, January 8, 2014. EPA's revised NSPS requires new coal-based electric generating units to employ partial CCS as the "Best System of Emission Reduction." We support the agency's decision to provide separate regulatory treatment for coal and natural gas combined-cycle units, but we do not agree that CCS has been adequately demonstrated at this time. A large-scale increase in DOE and private funding for second- and third-generation carbon capture technologies is essential to reduce CCS costs.

The NSPS rule discriminates against new coal units by allowing natural gas combined-cycle units to be constructed with no carbon controls. Any new advanced coal units equipped with state-of-the-art control technologies for mercury and other air pollutants could not be financed – absent substantial government subsidies – due to the uneconomic burden of CCS controls. The Regulatory Impact Analysis accompanying the rule indicates that partial or full CCS would raise the cost of electricity by 36% to 81% for partial or full CCS, respectively. Even plants with access to enhanced oil recovery markets for CO<sub>2</sub> sales would be penalized by generation costs 17% to 42% higher than EPA's base case.

In sum, the NSPS rule forces all new baseload electric generation to natural gas, abandoning our nation's largest fossil energy resource as part of a balanced energy policy. This would limit inter-fuel competition and effectively removes coal as a competitive cap on natural gas prices.

We agree with utilities and other commentators that CCS is not adequately demonstrated at this time. The Canadian Boundary Dam project, which EPA relied on to establish that CCS is "adequately demonstrated," is a government subsidized retrofit EOR project. NSPS are supposed to apply to all states. Many states do not have geology suitable for saline injection – the basis of the rule. We therefore would support a replacement rule that permits the construction of high-efficiency supercritical or ultra supercritical coal units, since they use less fuel, have lower emissions, and better load range flexibility. Market forces likely would dictate that any new coal plant design would provide for subsequent application of carbon emission control technologies.

## Reconsideration of 2015 Ozone Standard

UJEP members support EPA's reconsideration of the 2015 8-hour ozone standard of 70 ppb (80 Fed. Reg. 65291, October 26, 2015). We engaged this issue with the previous

Administration, taking the position that the 2008 ozone standard of 75 ppb should be retained. In the alternative, we urged that if the Administrator exercised her policy judgment to revise the primary standard, the standard should be set at a level not more stringent than 70 ppb. Our principal concern about any downward revision of the 2008 standard was the potential for increased numbers of nonattainment areas and related adverse impacts on jobs in the construction and energy sectors:

Our position on revision of the primary ozone standard recognizes both the substantial reductions in ambient ozone levels that have resulted from implementation of a variety of state and federal emission control programs over the past several decades, as well as the projected continued air quality improvements that will result from "on-the-books" emission control programs such as the Tier 3 motor vehicle and fuel rules, the Cross-State Air Pollution Rule, the Heavy-Duty Diesel Rule, and other source-focused emission control programs.<sup>2</sup> A revision to the primary ozone standard is not needed to ensure this continued air quality progress. A more stringent standard leading to widespread nonattainment based on current EPA methods for nonattainment area designations would threaten jobs across most energy-related sectors, including electric utility generation, oil and gas extraction and processing, and all other industry sectors dependent on fossil fuels.<sup>3</sup>

We recognize that the primary health standards are to be set by EPA based on public health considerations, without regard to cost and with an adequate margin of safety. The Clean Air Scientific Advisory Committee was unanimous in its judgment that the 75 ppb standard was not adequately protective of public health.<sup>4</sup> Yet EPA's policy analysis of prospective revisions of the 75 ppb standard referenced numerous areas of scientific uncertainty that could support a standard set at a level higher than 70 ppb.

We note that EPA's 2014-15 assessment of current and prior ozone research needs and uncertainties as summarized in the Policy Assessments for the 2015 rulemaking and the 2008 standard revision shows little, if any, change in nearly a dozen major research needs, including more robust data on the potential confounding health effects of other pollutants. Moreover, as summarized in the "95 Cities" mortality research by Bell, *et al.*, the statistical associations observed between ozone exposure and mortality may be confounded by other pollutants:

(T)he estimated effect of ozone, although robust to the adjustment for PM10,

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<sup>2</sup> See, e.g., U.S. EPA, Air Quality Modeling Technical Support Document Tier Motor Vehicle Emission Standards, EPA-454/R-14-002 (February 2014).

<sup>3</sup> UJEP Comments on Proposed Revisions to National Ambient Air Quality Standards for Ozone, 79 Fed.Reg. 79234, December 17, 2014 (March 16, 2015).

<sup>4</sup> See, CASAC Review of the EPA's Second Draft Policy Assessment for the Review of the Ozone National Ambient Air Quality Standards (June 26, 2014).

may still reflect the risk from the photochemical pollution mixture more generally. Atmospheric photochemistry produces several hazardous pollutants, in addition to ozone, such as peroxyacyl nitrates. Ozone may act as a surrogate indicator for this highly complex and geographically variable mixture and is likely to be an imperfect measure of potential toxicity. The degree to which ozone functions as a surrogate for other pollutants or the pollutant mixture in general, and thereby misclassifies toxicity, may vary across locations and depend on the mix of sources and meteorologic factors. Although statistically significant relationships were identified for all ozone concentration metrics considered, the analysis did not identify a particular metric as the optimum predictor of mortality.<sup>5</sup>

The Clean Air Scientific Advisory Committee noted the need for multi-pollutant assessments of the health effects of air pollution in its July 1, 2014, letter commenting on the Second Draft Health Risk and Exposure Assessment:

The current approach to review and revision of the primary NAAQS is based on a one-pollutant-at-a-time approach. As the state of science regarding the joint effects of human exposure to multiple pollutants improves, the EPA should consider how review and revision of the NAAQS can be done synergistically for logical, scientifically relevant groupings of criteria pollutants. For example, ozone and nitrogen oxides (NO<sub>x</sub>) are both criteria pollutants and are inter-related via atmospheric chemistry, and human exposure to these pollutants is often in the form of a mixture that includes both, and other pollutants such as particulate matter. The National Research Council and the North American Research Strategy for Tropospheric Ozone have both made detailed recommendations for multipollutant approaches to air quality management, and the EPA has been exploring a multipollutant approach for the secondary standards for SO<sub>x</sub> and NO<sub>x</sub>. CASAC encourages the EPA to explore multipollutant approaches for review of the primary standards, and would be receptive to a request by the agency to review planning or methods documents for such approaches.<sup>6</sup>

While we defer to EPA's scientific judgment about the appropriate level of stringency of any alternative to the 75 ppb ozone standard, the numerous cautions raised in the 2015 ozone standard rulemaking could support a legally-defensible alternative standard within the range of 70 to 75 ppb. We urge the Administrator to conduct a thorough and objective reassessment of the health effects evidence available to the agency in the 2014-15 rulemaking before exercising his judgment regarding possible revision of the 75 ppb standard.

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<sup>5</sup> Bell, M.L., *et al.*, Ozone and Short-term Mortality in 95 US Urban Communities, 1987-2000, 292 *JAMA* 2272, 2277 (2004, footnotes omitted, emphasis added), available at <http://www.ce.jhu.edu/epastar2000/epawebsrc/ellis/2004%20JAMA%20O3%20mortality.pdf>.

<sup>6</sup> CASAC Review of the EPA's Health Risk and Exposure Assessment for Ozone (Second External Review Draft – February, 2014) (July 1, 2014) at 3-4.

### CSAPR Update Rule

The CSAPR Update rule (81 Fed. Reg. 74504, October 26, 2016) is in litigation, with multiple petitions filed for EPA administrative reconsideration. Several states and other petitioners have identified legitimate problems with EPA's modeling and the way that EPA calculated NOx budgets. The rule would achieve a NOx reduction of some 60,000 tons during the ozone season in 21 states. UJEP member unions do not see this rule as a major issue. It requires greater operation of existing SCRs, and could create some jobs in operations and maintenance. The administrative reconsideration option appears to be the most direct way to address issues with state NOx budgets and other deficiencies in the rule.

### Next Transport Rule

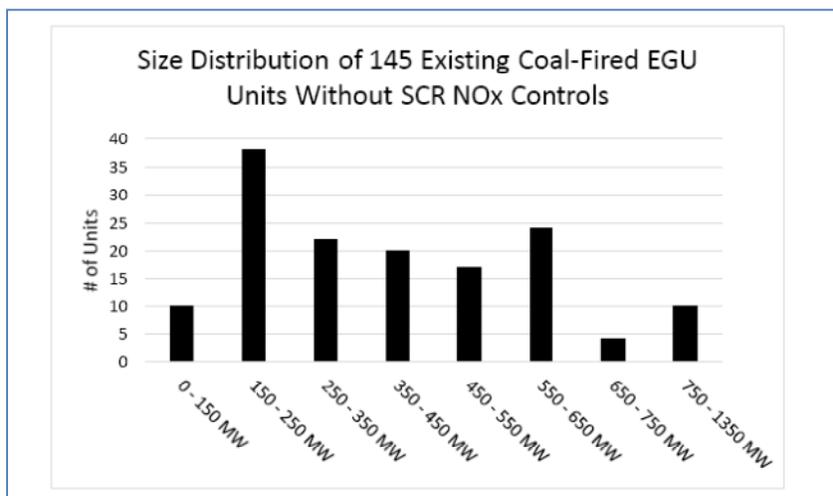
Our major concern on ozone is a possible transport rule for the 70 ppb ozone standard, as suggested by EPA's December 2015 NODA on ozone transport (82 Fed. Reg. 1733, January 6, 2017). This could *de facto* require SCR retrofits on 40 GW or more of coal capacity,<sup>7</sup> effectively a shutdown mandate for these plants and the jobs they represent. We have just suffered the largest job loss in the history of the Clean Air Act due to the MATS rule, and cannot afford further job losses. Most of our members live in rural, under-developed communities where the local power plant, or the local coal mine, are the principal employer and source of high-wage jobs.

EPA's 2014 Regulatory Impact Analysis for the proposed revision of the ozone standards identified 145 EGU units totaling 51 GW as potential candidates for SCR retrofits under a 65 ppb standard (a surrogate for a transport rule for the 70 ppb standard, based on EPA's 2015 NODA findings of significant contribution.) Most of these EGUs are older and smaller (<550 MW) units that would not be economic to retrofit with SCRs under the 70 ppb ozone standard or a new transport rule. Figure 4 below shows the capacity distribution of these units:

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<sup>7</sup> See, U.S. EPA, Regulatory Impact Analysis of the Proposed Revisions to the National Ambient Air Quality Standards for Ground-Level Ozone, (November 2014) at Fig. 10-1.

Figure 4



Source: U.S. EPA Ozone RIA (Nov. 2014).

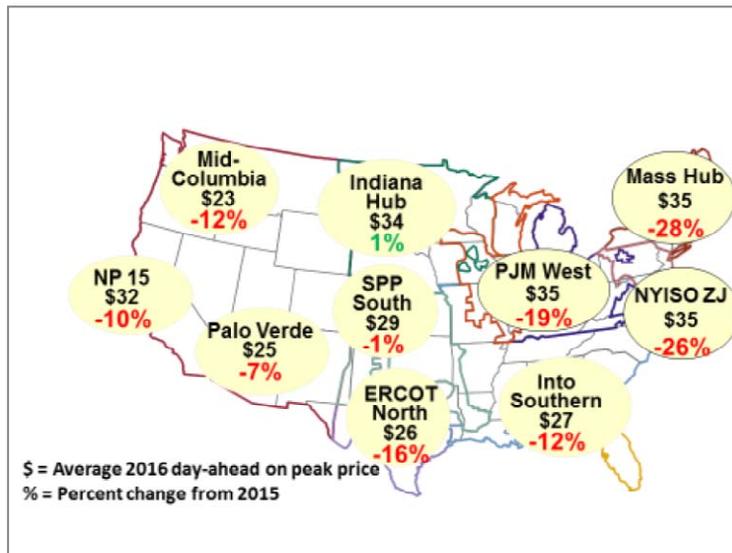
Analysis of the NETL Coal Plant Data Base (2007) for units between 100 MW and 550 MW indicates an average unit capacity of 242 MW and an average age of 49 years as of January 27, 2014.<sup>8</sup> It is highly improbable that units with these size and age characteristics would be considered viable candidates for SCR retrofits five or more years from now, when a new transport rule for the 70 ppb standard could trigger additional NOx reduction requirements from EGUs.

EPA's RIA for the 2015 ozone standard estimates the capital cost of retrofitting an SCR on a 300 MW unit at \$86 million, or \$287 per kW. Assuming a weighted average cost of capital of 7.75%, a capacity factor of 65%, and a ten-year cost recovery period, the capital recovery charge alone for retrofitting a 300 MW unit with SCR technology would be \$7.26 per MWh. Additional operating and maintenance costs would increase this to more than \$8 per MWh. With average on-peak electric prices of \$26 to \$35/MWh in most eastern markets in 2016 (see Fig. 5 below), the additional costs associated with SCR retrofits would render most of the units targeted by EPA as uneconomic. These concerns would apply in both regulated and deregulated jurisdictions.

<sup>8</sup> Calculated from NETL Coal Plant Data Base (2007) on January 27, 2015. The 100 MW lower threshold represents an assumed minimum size for SCR retrofits.

Figure 5

**Day-Ahead On-Peak Electric Prices Reach Near-Record Lows in 2016**



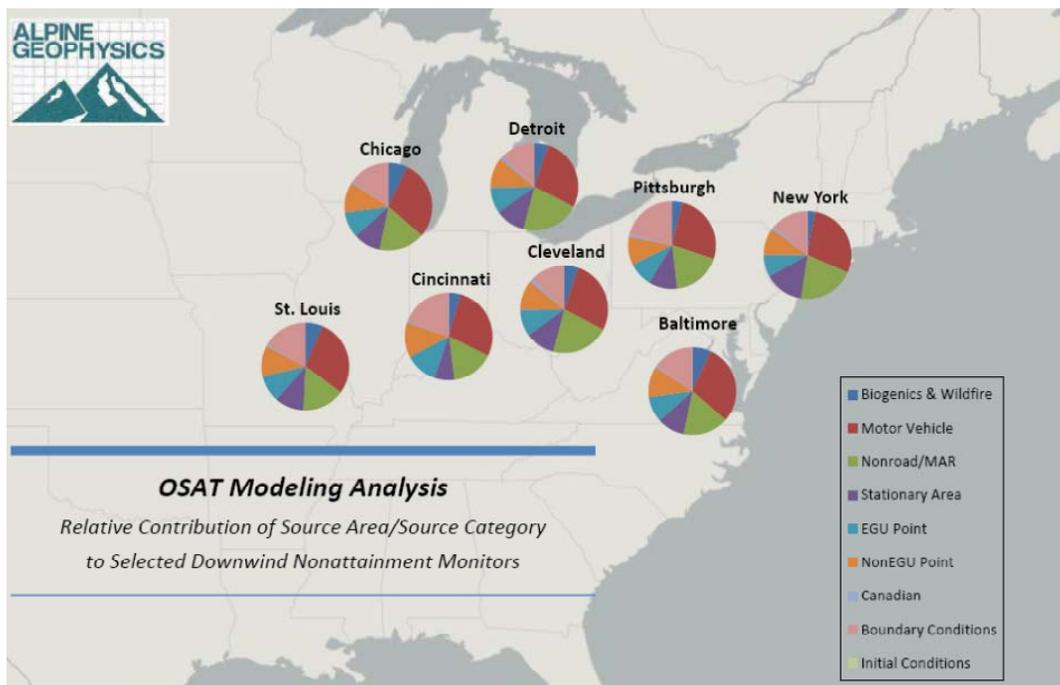
Source: FERC, 2016 State of the Market Report (April 2017).

New Approach to Transport Rules Needed

Nearly 20 years after the 1998 SIP Call, when the electric utility industry retrofitted more than 70 GW of SCRs and reduced more than one million tons of NOx emissions, it is time for EPA to look beyond the EGU focus of transport rules. The CSAPR Update Rule is now the fourth generation of EGU-centric transport rules, and the availability of "highly cost-effective controls" in the EGU sector is rapidly disappearing. In today's competitive environment, SCR retrofits are no longer economic. EPA should consider means to extend any future transport rule emission reduction requirements to the existing mobile and area source sectors, which account for a much larger share of ozone in urban nonattainment areas.

EPA and other source-apportionment modeling shows that EGUs are a diminishing contributor to urban ozone. On-road and non-road mobile sources account for 40% to 60% of ozone in most nonattainment areas, while EGUs contribute 10% or less (see Figure 6, below).

Figure 6



Source: Alpine Geophysics, LLC (2008 source contributions >75 ppb).

Initiatives such as idling regulations and after-market catalyst rules could help to reduce mobile source emissions. A typical after-market catalyst costs less than \$200 and removes about 30% of NO<sub>x</sub>. Catalysts designed to meet original OEM specs remove 90% or more. California requires OEM catalyst replacement, emission control manufacturers support a national rule, and EPA should move in this direction.

EPA also should consider revisiting the essentially arbitrary 1% significance threshold for measuring downwind contribution impacts. A higher percentage would shrink the size of transport regions and reduce the burden on distant upwind states. Ozone modeling becomes less accurate at distances greater than about 600 km,<sup>9</sup> reducing confidence in the reasonableness of EPA's estimates of significant contributions. Moving toward more compact transport regions would be more equitable because most of the pollution causing nonattainment in urban areas is generated by nearby mobile and area sources.

<sup>9</sup> See, S.T. Rao, *et al.*, Space and Time Scales in Ambient Ozone Data (1997 Bull. Am. Met. Soc. at 2153).

## MATS Rule

More jobs have been lost as a consequence of implementation of the 2012 Mercury and Air Toxics Standards Rule (77 Fed. Reg. 9304, February 16, 2012) than any other Clean Air Act regulation. The MATS rule was proposed at a time when natural gas prices were falling, contributing to utility decisions to close many coal-based facilities subject to the rule. Most smaller and older coal plants are now retired due to the cost of MATS compliance - about 40 to 45 Gigawatts (GW) according to EIA.<sup>10</sup> EPA estimated total coal plant retirements due to MATS at 4.7 GW.<sup>11</sup> Our original estimates of the MATS rule impacts suggested 56 GW at risk, along with 250,000 direct and indirect jobs.<sup>12</sup> It is safe to say that well over 100,000 direct and indirect jobs have been impacted by plant and mine closures attributable to MATS.

The MATS rule is appropriate to reconsider due to EPA's extensive reliance on cobenefits to justify the minimal mercury-related health benefits directly related to the rule. EPA estimated that the particulate matter and other non-mercury pollutant reductions due to compliance would avoid up to 11,000 premature deaths annually, generating net present value benefits of as much as \$90 billion.<sup>13</sup> Mercury-related health benefits, in comparison, were estimated at just \$500,000 to \$6 million.<sup>14</sup> EPA estimated the cost of compliance with the MATS rule at \$9.6 billion annually.<sup>15</sup>

We do not advocate rescission of the MATS rule. According to EIA, utilities have installed nearly 90 GW of emission controls to comply with the rule. Much of the investment in these controls is included in utility rate bases in regulated jurisdictions. Many of our members are directly employed in the operation and maintenance of these plants and associated emission controls.

We recommend that reconsideration of the MATS rule be limited to two areas: 1) a careful examination of the specific emission limitations for mercury, PM2.5, and SO<sub>2</sub> required by the rule, to assess the technical feasibility of the prescribed emission limitations and the statistical methods that EPA employed to establish these limits

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<sup>10</sup> See, U.S. DOE/EIA, AEO2016 Early Release: Annotated Summary of Two Cases (May 17, 2016) at 27.

<sup>11</sup> U.S. EPA, Regulatory Impact Analysis of the Final Mercury and Air Toxics Standards Rule (December 2011) at 3.17.

<sup>12</sup> See, Comments of Unions for Jobs and the Environment, Proposed National Emission Standards for Hazardous Air Pollutants From Coal and Oil-Fired Electric Utility Steam Generating Units, July 8, 2011.

<sup>13</sup> U.S. EPA, Regulatory Impact Analysis of the Final Mercury and Air Toxics Standards Rule (December 2011) at ES-4.

<sup>14</sup> *Id.*

<sup>15</sup> *Id.*, Table ES-1.

consistent with the statutory requirements of section 112; and 2) reassessment of the rule's costs and benefits without the use of cobenefits of non-mercury pollutants measured at ambient air quality levels below applicable primary National Ambient Air Quality Standards (NAAQS).

Models that EPA relied on in the MATS rule estimated premature mortality benefits associated with exposure to PM<sub>2.5</sub> at ambient concentrations below the annual PM<sub>2.5</sub> standard, extending below background levels.<sup>16</sup> EPA's RIA for the Proposed MATS rule shows that all of the premature mortality cobenefits estimated for PM<sub>2.5</sub> reductions occur in areas meeting the then-current annual standard of 15 ug/m<sup>3</sup>, with the vast majority in areas meeting the current standard of 12 ug/m<sup>3</sup>.<sup>17</sup> The primary air quality standards are intended to be set at levels to protect even sensitive members of the public from any adverse health effects without regard to cost and with an adequate margin of safety. EPA should impose analytical consistency to its NAAQS standard-setting process and its regulatory impact analyses by eliminating any cobenefit reductions measured at ambient air quality levels below applicable NAAQS.

### Reforming New Source Review

Carbon dioxide (CO<sub>2</sub>) and other air emissions can be cost-effectively reduced by improving the generating efficiency of existing coal-fired power plants and making similar types of efficiency improvements at other major stationary sources. However, EPA's New Source Review (NSR) permit program has become a major impediment to the implementation of many efficiency improvement projects at existing stationary sources. Similarly, the NSR program can also be an impediment to major maintenance projects that may be necessary for ensuring the reliability and safety of the existing source. For these reasons, EPA should initiate a rulemaking to reform the NSR rules for determining when a power plant project is a modification that triggers the NSR permit requirements. As discussed below, this rulemaking effort should make changes to the current NSR modification rules to:

- Exempt as "routine maintenance, repair, and replacement" reliability, efficiency, and safety projects routinely performed within the electric power sector; and

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<sup>16</sup> See, Anne Smith, Ph.D, NERA Economic Consulting, Technical Comments on the Regulatory Impact Analysis Supporting EPA's Proposed Rule for Utility MACT and Revised NSPS (76 FR 24976), August 3, 2011; summary available at <https://energycommerce.house.gov/sites/republicans.energycommerce.house.gov/files/Hearings/EP/20120208/HHRG-112-IF03-WState-ASmith-20120208.pdf>.

<sup>17</sup> *Id.*

- Establish a simpler emission increase test for determining when non-routine project results in an emission increase that triggers the NSR permit requirements.

The Deterrent Effect of NSR Permit Program. The stringency of the NSR permit requirements has the effect of deterring owners and operators of existing sources from implementing energy efficiency improvements or other major projects that might trigger the very onerous requirements under the NSR permit program. If, for example, a project undertaken at an existing plant is deemed to be a “modification” that triggers NSR review, the plant must install the most advanced pollution control technologies that are currently available and impose the most stringent emission rate limits that can be feasibly achieved.<sup>18</sup> In particular, the NSR technology requirement will have the effect of requiring coal-fired power plants to install a scrubber to control their SO<sub>2</sub> emissions and selective catalytic reduction systems to control their NO<sub>x</sub> emissions.

The NSR program also establishes several major requirements to protect air quality. One key PSD permit requirement is the performance of extensive air quality modeling to demonstrate that the increased emissions from the modified sources will not cause or contribute to violation of a NAAQS, nor significantly degrade air quality in attainment areas.<sup>19</sup> If modeling indicates that any of these adverse air quality impacts could result from the new or modified source, then some type of mitigation will be necessary to ensure the protection of air quality. This mitigation could involve the permit authority requiring the source to achieve more stringent emission controls or obtain offsetting emission reductions from other sources in the same air shed (emissions offsets).

In the case of modified sources located in areas not meeting an ambient air quality standard (nonattainment areas), key nonattainment-NSR requirements include requirements for the source to obtain emissions offsets on at least a one-to-one basis and a demonstration that there will be reasonable further progress toward achievement of the NAAQS for any nonattainment air pollutant.

Finally, the NSR permit program contains extensive public notice and comment procedures. These requirements require the permitting authority to provide an

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<sup>18</sup> Specifically, sources must install pollution control technologies meeting “best available control technology” (BACT) for those air pollutants meeting air quality standards and therefore subject to PSD permit review. Similarly, for those air pollutants subject to nonattainment-NSR review, sources must install control technologies that achieve emissions reductions to the greatest extent possible, referred to as “the lowest achievable emissions rate” (LAER).

<sup>19</sup> Another air quality requirement is the performance of modeling that demonstrates that the source’s increased emissions will not adversely impact visibility or other “air quality related values” in a national park.

opportunity for public comment on the draft NSR permit, hold public hearings on that draft permit, and provide a detailed response to each comment received during the public comment period. These public notice and comment procedures can take multiple years to complete in the case of controversial projects, such as the construction of new coal-fired power plants or other major energy infrastructure projects.

NSR Applicability Rules. The federal regulations establish a two-part test for determining whether there is a modification of an existing major source that triggers the NSR permitting requirements. First, there must be a physical change or change in the method of operation that is not categorically exempted by regulation from the NSR permitting program. Notable examples of such categorical NSR exemptions include “routine maintenance, repair and replacement” projects and an increase in hours of operation or rate of production. Second, the non-exempted physical or operational change must result in a “significant net emissions increase” above baseline actual emissions levels for any particular regulated air pollutant.

Uncertainty on What is a Modification. Despite years of litigation and multiple regulatory reform initiatives, considerable uncertainty still remains as to whether physical or operational changes at existing major stationary sources would be a “modification” that are subject to the onerous NSR permitting requirements discussed above. EPA, for example, has taken the position that many types of energy efficiency improvements that could be undertaken at existing power plants may be non-routine and could cause emission increases that triggers NSR. Furthermore, courts have been unable to resolve this uncertainty and provide clear guidance on what a non-routine change is and how to determine whether the non-routine change might cause a significant net emissions increase.

This uncertainty has adverse competitive and economic repercussions for U.S. industry and American workers by creating a strong disincentive to undertake projects that can improve the efficiency and productivity of our existing plants. In the case of coal-fired power plants, the disincentive to undertake such projects results from the significant regulatory consequences of triggering NSR review. As noted above, these consequences include lengthy permitting delays, potential enforcement actions, and incurring large capital retrofit costs for SO<sub>2</sub> scrubbers and NO<sub>x</sub> SCR systems. Furthermore, it has significant adverse environmental repercussions because this uncertainty creates a strong disincentive to undertake efficiency projects that can cost-effectively reduce CO<sub>2</sub> and other air emissions from the existing fleet of plants. For example, the overhaul of the steam turbine at an existing coal-fired power plant can increase power plant efficiency by as much as three percent. An efficiency increase of three percent could reduce CO<sub>2</sub> emissions from a 500-MW coal-fired unit by as much as

100,000 tons per year.<sup>20</sup>

Proposed Solution to NSR Problem. EPA has the authority under its existing statutory authority to make several technical changes to the current NSR modification rules to fix these problems. First, EPA should revise its NSR regulations to make it clear that reliability, efficiency, and safety improvement projects performed routinely *within the electric power sector* — as opposed to projects performed routinely at the *specific power plant* that is considering the project — are deemed to be “routine” and, therefore, do not subject the existing power plant to NSR. Second, EPA’s revised rules should change the emissions increase test that applies to non-routine projects so that the test is based on maximum hourly emissions, the same test EPA uses in its New Source Performance Standards (NSPS) regulations. In particular, the NSPS maximum hourly emissions test compares (1) the maximum hourly emissions achievable at the power plant unit in the five years prior to the project with (2) the maximum hourly emissions achievable after the project.<sup>21</sup> In this way, a non-routine change would not be determined to cause an emissions increase unless maximum achievable hourly emissions increase due to the change.

### Regional Haze

The December 2016 regional haze rule (82 Fed. Reg. 3078, January 10, 2017) is an administrative over-reach and should be pulled back and reconsidered, as called for by the March 28 Executive Order. Regional haze has always been a state-driven program, and the 2016 rule seeks to extend too much federal control into the state process, and into future SIP periods. We see numerous potential problems with the 2016 haze rule:

- EPA has revised the sequence of when states are to develop reasonable progress goals and long term strategies during the regional haze planning process. Importantly, the new sequence now requires that states first establish a long-term strategy for remedying visibility impairment in affected Class I areas. The development of a long-term strategy must involve the adoption of federally enforceable emission reduction measures, where the state sets the reduction levels based on the application of four factors – costs of compliance, the time necessary for compliance, the energy and non-air quality environmental impacts

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<sup>20</sup> These types of major efficiency improvement projects at existing coal-fired power plants would greatly reduce CO<sub>2</sub> emissions because less coal would be used to produce each kilowatt-hour of electricity. In addition to efficiency upgrades of existing steam turbine components, other types of efficiency improvement projects currently available for coal-fired power plants include the installation of more efficient auxiliary equipment drive motors and replacement of degraded boiler components.

<sup>21</sup> See 40 C.F.R. §60.14(a), (b), and (h).

of compliance, and the remaining useful life of any potentially affected source of visibility impairment.

- The establishment of reasonable progress goals occurs only after the state adopts its long-term strategy. This change in sequence removes the ability of states to set emissions control requirements based on a determination regarding the appropriate emission reduction levels that may be necessary to meet the reasonable progress goals for the state. Rather, states are now required under the rule first to determine the reduction levels that are determined to be “reasonable” for a particular planning period based on the application of the four factors noted above. Once those reduction levels are determined the state must adopt federally enforceable control measures and incorporate them in its long-term strategy even if those reductions are not necessary for meeting the overall visibility improvement goals for the regional haze program, which EPA refers to as the “uniform rate of progress” (URP).
- In other words, the new regional haze rule fundamentally alters the relationship between reasonable progress goals (as informed by URP) and the long-term strategy obligations of all states. Under the new approach, a state may develop its reasonable progress goal only after the state first determines the emissions control measures to be included in their long-term strategies. This means that each state must necessarily base their reasonable progress goals on the projected visibility improvements that are expected to result from the selected emission control measures – even if those improvements far exceed the visibility improvements necessary to stay on track for meeting the URP visibility improvement benchmarks for a particular planning period.
- Furthermore, this new approach is inconsistent with prior EPA protocols for state implementation of the regional haze planning requirements. In particular, these prior EPA protocols allowed for a state to develop first the reasonable progress goal for each particular Class I area and then evaluate and decide upon the appropriate control measures that should be included in the long-term strategies in order to achieve that reasonable progress goal for the Class I area.
- The final rule takes the position that meeting the URP milestones for a particular planning period is not a “safe harbor” for imposing further reductions during that planning period. As a result, a state may not reject control measures that are deemed to be reasonable under the four factors even if those reductions result in establishing reasonable progress goals that exceed the URP for the state. Such an approach is a major departure from prior EPA protocols for setting the reasonable progress goals and provides no opportunity to reduce the stringency

of the emissions control measures if the projected visibility conditions for the end of the implementation period will be below the URP glide path based on the imposition of all those additional emission control measures. In short, consistency with the URP no longer creates a safe harbor for a state's reasonable progress goals and associated long-term strategy, such that the state may no longer choose not to undertake any additional control measures where its reasonable progress goal for a given Class I area is at or below the URP.

- EPA's new requirement for states to develop "robust" demonstrations is vague and could allow EPA to second guess state determinations. The final rule provides that if the RPG for a Class I area is above the URP line, the state containing the Class I area must demonstrate, based on the four reasonable progress factors, that there are no additional emission reduction measures for anthropogenic sources or groups of sources in the state that may be reasonably anticipated to contribute to visibility impairment that would be reasonable to include in the long-term strategy, and that such a demonstration is required to be "robust." The use of this ambiguous terminology opens the door for EPA disapproving a state decision to adopt a rate of progress that is less accelerated than the URP because the state has failed to meet the "robust" demonstration criterion. This is what occurred in the case of the federal implementation plan that EPA imposed on Texas and Oklahoma, where EPA sought to impose its own policy choices as to what measures would be reasonable and impose its emission control measures based on a determination that Texas and Oklahoma had failed to satisfy EPA's conception of "robustness" or reasonableness. Following the decision of the 5th Circuit granting petitioners' motion to stay the rule, EPA voluntarily sought a remand of the Texas haze rule.
- There are problems with how the final rule treats emissions impacts from wildfires and anthropogenic sources. The final rule requires that states consider basic smoke management practices and smoke management programs when developing their long-term strategies. EPA also is providing for an adjustment to the URP for the 20 percent most impaired days to the impacts of wildland fire. Such an adjustment is not available for fires of any type on lands other than wildland or to burning on wildland that is for commercial purposes rather than ecosystem health and public safety.
- To address impacts of international sources of emissions, EPA finalized a provision that allows for an adjustment to the URP by adding an estimate for international anthropogenic impacts to 2064 natural visibility conditions. However, the final rule could establish significant regulatory hurdles for making an adjustment to the URP for each particular state. This adjustment is only

permitted if EPA determines that a state has estimated the international impacts from anthropogenic sources outside the U.S. using "scientifically valid data and methods." This adjustment approval will be part of EPA's review of the full SIP submission for an implementation period.

For these reasons, UJEP supports reconsideration of the December 2016 regional haze rule, with a view toward improving federal-state implementation of regional haze goals, giving states greater flexibility in their administration of haze programs.

#### Social Cost of Carbon

Executive Order 13777 nullified the social cost of carbon approaches developed by the previous administration, and reinstated the 2003 guidelines on cost-benefit analyses. This should serve to reduce the artificial inflation of carbon reduction benefits by confining the analysis to domestic impacts, and using more realistic discount rates.

#### Conclusion

UJEP intends to submit comments, individually or collectively, on the various rules that EPA will have under review pursuant to Executive Order 13777. We look forward to working with the agency as it moves forward to redefine a number of the regulations issued over the past few years. We see the need to preserve fuel diversity and to protect reliability and existing jobs, while creating opportunities for new, well-paying jobs in the electric generation, mining, and rail transport sectors.

We will appreciate EPA's consideration of our views, and would welcome the opportunity to meet with EPA to discuss these comments in greater detail.

Sincerely,

A handwritten signature in cursive script that reads "James Hunter".

Jim Hunter  
President, UJEP  
(202) 309-1709

cc: Honorable Scott Pruitt  
Honorable Rick Perry