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May 9, 2014

**VIA E-DOCKET**

Air & Radiation Docket and Information Center  
U.S. Environmental Protection Agency, Mail Code 2822T  
1200 Pennsylvania Ave. NW  
Washington, DC 20460

**Re: EPA-HQ-OAR-2013-0495**

**Standards of Performance for Greenhouse Gas Emissions from New Stationary  
Sources: Electric Utility Generating Units  
79 Fed. Reg. 1430 (Jan. 8, 2014)**

**Dear Sir or Madam:**

The Electric Reliability Coordinating Council (ERCC) is a group of power-generating companies that provide reliable and affordable power to millions of consumers across the US. ERCC members have long supported commonsense interpretation of the Clean Air Act (the Act or CAA) in order to ensure electric reliability, consistency, affordability, safety, innovation, and environmental protection. In furtherance of these goals, ERCC is pleased to submit the following comments on the U.S. Environmental Protection Agency's (EPA or the Agency) proposed Standards of Performance for Greenhouse Gas Emissions for New Stationary Sources: Electric

Utility Generating Units published in the Federal Register on January 8, 2014 (the proposed rule).<sup>1</sup>

## **INTRODUCTION**

On March 15, 2012, President Obama stated: “[w]e need an energy strategy for the future—an all-of-the-above strategy for the 21<sup>st</sup> century that develops every source of American-made energy.” This statement now appears on the White House website.<sup>2</sup> We applaud President Obama’s commitment to an “all-of-the-above” energy strategy and acknowledge his support for using a variety of energy sources to meet the nation’s energy challenges. Indeed, seldom has the importance of a diversity of energy supply been more apparent than in the winter of 2013-2014 which was marked by persistent cold snaps that sent natural gas prices soaring, resulted in shortages of propane used to heat many homes, and exposed the fact that without fuel flexibility our country could face serious electricity reliability problems in the future.

ERCC is concerned that EPA is seeking to use the new source performance standards (NSPS) program to impose an effective ban on new coal-fired power plants in the US. We are also concerned that, absent sufficient clarity, the proposed rule could even discourage technology innovation and energy-efficiency projects at existing facilities. This combination of results would result in severe threats to the reliability of the US electricity supply, higher electricity prices for consumers, and would set back the continuing technology and efficiency gains in the power sector. For this reason, we urge EPA to consider the comments below, along with those submitted by other members of the utility industry, and take appropriate actions to ensure that this rulemaking complies with the imperative laid out by President Obama in Executive Order

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<sup>1</sup> 79 Fed. Reg. 1430 (Jan. 8, 2014).

<sup>2</sup> <http://www.whitehouse.gov/energy>

13563 requiring agency regulations to “protect public health, welfare, safety, and our environment while promoting economic growth, innovation, competitiveness, and job creation.”<sup>3</sup>

## **GENERAL COMMENTS**

### **I. THE REGULATORY CONTEXT OF THE PROPOSED RULE**

As a threshold issue, it is important to consider the proposed rule in the context of other regulations impacting electricity generation. The power sector is under severe pressure already from the myriad of rules and regulations coming from the EPA. In addition to the proposed rule, EPA has already promulgated, or will promulgate soon, numerous new rules on the power sector, including regulations for:

- Mercury and other emissions through the National Emission Standards for Hazardous Air Pollutants (HAP) from Coal- and Oil-Fired Electric Utility Steam Generating Units (the so-called “Mercury and Air Toxics Standards” or MATS);
- Emissions of sulfur dioxide (SO<sub>2</sub>) and nitrogen oxides (NO<sub>x</sub>) from fossil-fueled power plants in the eastern U.S. (the “Cross-State Air Pollution Rule” or CSAPR);
- Ash and other residuals from the combustion of coal either under Subtitle C as a hazardous waste or Subtitle D as a solid waste of the Resource Conservation and Recovery Act (RCRA);
- National Ambient Air Quality Standards (NAAQS) for SO<sub>2</sub>, NO<sub>2</sub>, Ozone, and PM;  
and
- Cooling water intake structure requirements under section 316(b) and new discharge limiting effluent standards under the Clean Water Act.

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<sup>3</sup> E.O. 13653, 76 Fed. Reg. 3821, published Jan. 21, 2011.

Taken together, these regulations will impact roughly 780,000 megawatts (MW) of gas, oil, and coal-fired generation, which is about 75 percent of the current available capacity in the U.S., and makes up nearly 70 percent of the U.S. total electricity generation. Without further deadline extensions, compliance with several of EPA's new rules would all be required within the same compliance period or shortly thereafter. These retrofits are so substantial that, in many cases, adding them will cost more than building the original generating unit. This means that the generating units subject to these rules would either have to undertake the installation of extensive retrofits on an unrealistic timeframe or else shutdown entirely.

## **II. THE PROPOSED RULE FORECLOSES COAL-FIRED ELECTRICITY GENERATION AND THREATENS THE RELIABLE SUPPLY OF ELECTRICITY**

The proposed rule has substantial legal shortcomings, and ERCC shares the opinion of other commenters that have raised concerns about the proposed rule's legal deficiencies. Examples of these legal flaws include: EPA's determination that carbon capture and sequestration (CCS) technology has been "adequately demonstrated and its implementation costs are reasonable"<sup>4</sup> and EPA's consideration of and reliance upon technology deployed at projects that received assistance through the U.S. Department of Energy's (DOE) Clean Coal Power Initiative (CCPI) in contravention of the Energy Policy Act of 2005.<sup>5</sup>

With those legal deficiencies noted, however, the focus of ERCC comments is on the feasibility and associated risks of the proposed rule. EPA has proposed standards that would require new coal-fired and certain other fossil power plants to use CCS technology. EPA rather amazingly states that this requirement "will be beneficial to coal-fired electric generation, and

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<sup>4</sup> 79 Fed. Reg. at 1436.

<sup>5</sup> 42 U.S.C. 15962(i).

therefore fuel diversity, over the long term. This is because identifying partial CCS as [best system of emission reduction] eliminates uncertainty as to future control obligations for coal-fired capacity.”<sup>6</sup> Put another way, EPA expects the coal sector will be grateful for this regulation as it reduces the risk of future burdensome regulations from EPA. This statement is remarkable in its presumptuousness and also disguises a stark and undeniable truth—CCS technology is not currently available to satisfy the proposed rule’s requirements, and therefore the proposed rule is a *de facto* prohibition on the construction of new power plants and has misinterpreted the Agency’s obligation to base rules on adequately demonstrated technology. There are no coal-fired or other fossil power plants in the world that have been able, even with substantial government subsidies, to use CCS technology on a commercial scale, and at this time, CCS is neither economically viable nor commercially available. This is a fact that even the White House’s climate change experts have recognized explicitly. Moreover, because of the unusual structure of the NSPS program, even a proposed rule to require CCS would effectively ban the construction of new coal-fired power plants in the US.

#### **A. CCS Technology is Decades Away from Commercial Availability**

EPA’s proposed rule employs a dizzying array of circular reasoning in order to make the claim that CCS has been commercially demonstrated—effectively building an argument that proves the technology is ready to be mandated by saying that the mandate would make it ready. EPA must engage in this tautological regulatory endeavor because the simple fact is that CCS technology has not been commercially demonstrated and is certainly not well-suited to be mandated. For example, EPA notes that “the 2010 Interagency Task Force on CCS report recognized that CCS would not become more widely available without a regulatory framework

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<sup>6</sup> 79 Fed. Reg. at 1481.

that promoted CCS.”<sup>7</sup> EPA’s blind faith in the ability for regulatory power to unilaterally solve all of the current problems facing CCS is further demonstrated by the claim that “because the technology is relatively new, additional utilization is expected to result in improvements in the performance technology and in cost reductions.”<sup>8</sup>

However, there is no substance behind the EPA’s faith in the ability for their regulations to spark substantial technological change. DOE emphasized in a report on the status of CCS that the technology is over twenty years away from being commercially available.<sup>9</sup> The Interagency Task Force on Carbon Capture and Storage concluded that there are multiple barriers to commercial development, including the absence of a legal and regulatory framework, the lack of clarity on potential long-term liabilities, and market failures due to knowledge spillover.<sup>10</sup> Additionally, recent testimony before the House Energy and Commerce Committee has explained that a variety of factors make the EPA’s assumptions about the availability of CCS unrealistic, noting:

The CCS technology that EPA claims can be applied at coal-fired power plants is not technically feasible, has not been demonstrated, is not commercially available, and, even when it becomes available, it will not likely be affordable. The U.S. Department of Energy fossil energy budget for clean coal was reduced from \$680 million in 2009 to \$400 million in 2011 – a 41% decrease in funding. The U.S. Department of Energy budget for carbon capture and storage and power systems is proposed to decrease an additional 25% in 2013. If those problems aren’t enough, CCS also imposes a “parasitic load” on a coal-fired power station, meaning that CCS consumes power equal to or greater than approximately 30 percent of the power plant’s generation capacity.<sup>11</sup>

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<sup>7</sup> 79 Fed. Reg. at 1480.

<sup>8</sup> *Id.*

<sup>9</sup> U.S. Department of Energy, *Report of the Interagency Task Force on Carbon Capture and Storage*, August 2010.

<sup>10</sup> *Id.* at 7-8.

<sup>11</sup> *The American Energy Initiative: A Focus on EPA’s Greenhouse Gas Regulations*, 112<sup>th</sup> Cong. (June 19, 2012) (hereinafter *Hearings*) (testimony of Barbara Walz at 6).

Perhaps the most glaring contradiction between Administration statements on CCS exists between this proposed rule and the much-touted, recently-released National Climate Assessment (NCA).<sup>12</sup> The NCA has been described by the White House as “the most comprehensive scientific assessment yet of how climate change is impacting every region of the country and key sectors of our economy.”<sup>13</sup> The NCA’s conclusions regarding the commercial readiness of CCS technology is clear and stark. The NCA noted that “it is difficult to forecast success in this regard for technologies such as CCS that are still in early phases of development”<sup>14</sup>, and further explained that :

CCS facilities for electric power plants are currently operating at pilot scale, and a commercial scale demonstration project is under construction. Although the potential opportunities are large, many uncertainties remain, including cost, demonstration at scale, environmental impacts, and what constitutes a safe, long-term geologic repository for sequestering carbon dioxide.<sup>15</sup>

It is important to note that because CCS is not ready for commercial deployment, the proposed will actually slow the development of CCS and other clean coal technologies. As CCS and other new technologies are evolving, creating a CCS mandate will have the effect of forcing out investment and research into developing technologies and practices because these practices and technologies are not contemplated by the EPA rule. The result will be that the continuing evolution of coal-fired generation, a process that has resulted in consistently more efficient generation, will be halted and no new coal generation or CCS demonstrations will be developed because of the technology risk.

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<sup>12</sup> Melillo, Jerry M., Terese (T.C.) Richmond, and Gary W. Yohe, Eds., *2014: Climate Change Impacts in the United States: The Third National Climate Assessment*. U.S. Global Change Research Program (2014) (hereinafter “NCA”).

<sup>13</sup> <http://www.whitehouse.gov/blog/2014/05/06/white-house-office-hours-national-climate-assessment>

<sup>14</sup> NCA at 280 (emphasis added).

<sup>15</sup> NCA at 271.

**B. Unavailability of CCS Technology Makes the Proposed Rule a De Facto Prohibition on New Coal-fired Electricity Generation and Threatens Continuing Technology Improvements in Existing Coal-Fired Power Plants**

The current status of CCS technology is of particular concern to ERCC due to the nature of the NSPS program and the immediate and binding effects of the proposed rule. NSPS become effective on the date they are proposed, regardless of when the underlying rule is actually finalized. As such, any power plant construction that begins after the date of proposal would be bound by these standards. Therefore, because CCS technology is not commercially available at this time, requiring the use of this technology would function as a complete ban on the development of new coal-fired generation. Indeed, EPA even notes that “there are no direct monetized climate benefits in terms of CO<sub>2</sub> emission reductions associated with this rulemaking” primarily because EPA does not expect any new coal-fired power plants to be built.<sup>16</sup>

Furthermore, claims that new coal plants are not precluded by the proposed rule are not consistent with the design or operation of the rule. As David Wright, President of the National Association of Regulatory Utility Commissioners, has explained:

Even the best performing coal units cannot meet the NSPS without CCS. The Proposed NSPS for GHG goes on to state that, “we are not proposing that CCS, including the 30-year averaging compliance option, does or does not qualify as the [best system of emission reduction] adequately demonstrated” but solicits comments on that decision. A commitment to resource diversity would encourage a separate NSPS [best system of emission reduction] for coal-fired plants and natural gas combined cycle units, keeping the categories separate as they have been historically.<sup>17</sup>

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<sup>16</sup> 79 Fed. Reg. at 1496.

<sup>17</sup> *Hearings* (testimony of David A. Wright at 6-7).

Although the pending regulation, according to EPA, is only meant to apply to new and reconstructed coal-fired power plants, the effect that this regulation would have on current fleet owners cannot be ignored. Indeed, EPA has termed the proposed rule “a necessary predicate for regulation of existing sources.”<sup>18</sup> Without the prospect of expanding and building new facilities, fleet owners may face disincentives to invest in innovation and will thereby reduce research and development efforts. The desire to innovate is fueled by the potential to capitalize on and profit from technology investments. As one generation and transmission cooperative recently explained to the House Committee on Science, Space and Technology, “No company will take the risk to invest billions of dollars into a power plant in the hopes that CCS technology will be developed. Additionally, financial lending institutions will not lend money to construct a plant without a viable technology to demonstrate compliance.”<sup>19</sup>

There are real risks associated with using the proposed rule to send a “strong signal” that new coal plants cannot be built. If, through EPA rules, the Administration announces that there is no future for coal-fired generation, it is much less likely that companies will sustain their investments and that current coal-fired plants will be upgraded with new, environmentally beneficial technology. Therefore the proposed rule could have the unintended consequence of reducing improvements in the existing fleet of coal-fired power plants while simultaneously making it infeasible to replace existing coal-fired plants with newer plants because of new NSPS standards.

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<sup>18</sup> 79 Fed. Reg. at 1496.

<sup>19</sup> *EPA’s Impact on Jobs and Energy Affordability: Understanding the Real Costs and Benefits of Environmental Regulations*, 112<sup>th</sup> Cong. (June 6, 2012) (testimony of David Hudgins at 5).

### **C. Foreclosing the Use of Coal-Fired Generation Threatens Electric Reliability: the Winter of 2013**

Given the regulatory uncertainty related to future EPA regulations on a wide variety of energy sources—and not just coal—keeping all options on the table for energy generation, as the President has suggested multiple times, is essential to maintaining America’s energy supply. In recent years, coal-fired power plants have provided approximately 40 percent of the electricity used by US consumers and businesses each year.<sup>20</sup> The number is lower now due to pending EPA regulations and market conditions associated with the price of natural gas, but even today, notwithstanding the historically low cost of natural gas and newly adopted regulatory obstacles for coal, Administrator McCarthy has noted that “coal will continue to represent a significant source of energy for decades to come.”<sup>21</sup>

Despite EPA’s recognition that the CAA requires the agency to consider “energy requirements” in connection with proposed standards of performance, the consideration in this proposal is wholly inadequate.<sup>22</sup> EPA simply states that:

Even if requiring CCS adds sufficient costs to prevent a new coal-fired plant from constructing in a particular part of the country due to lack of available EOR to defray the costs, or, in fact, from constructing at all, a new NGCC plant can be built to serve the electricity demand that the coal-fired plant would otherwise serve. Thus, the present rulemaking does not prevent basic electricity demand from being met, and thus does not have an adverse effect on the supply of electricity.<sup>23</sup>

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<sup>20</sup> [http://www.eia.gov/energyexplained/index.cfm?page=electricity\\_in\\_the\\_united\\_states](http://www.eia.gov/energyexplained/index.cfm?page=electricity_in_the_united_states)

<sup>21</sup> <http://www.weather.com/news/science/environment/president-obama-climate-plans-20130918>

<sup>22</sup> 79 Fed. Reg at 1463.

<sup>23</sup> 79 Fed. Reg at 1481.

This conclusory “analysis” is highly misleading and neglects to consider the impact of this proposed rule in the broader context of the numerous other EPA regulations already or soon to be placed on the energy sector.

As a result of the combination of EPA’s regulations, including the proposed rule and the upcoming 111(d) rule for existing coal-fired units, the country may experience a shortage of electricity, and the reliability of our electricity grid will face substantial risks. The loss of future coal-fired generation, investment in current coal-fired generation, and closures of existing coal-fired generation capacity that may result from the combination of the proposed rule and other EPA regulatory actions risk a variety of reliability problems. In most cases, coal-fired plants cannot be replaced overnight by natural gas plants, as the time it takes to install pipeline and other infrastructure necessary even to begin conversion of an old plant or construction of a new one is considerable. Additionally, as David Wright testified recently, coal-fired generation is an important aspect of “resource diversity,” and EPA needs to “recognize the needs of States and regions to deploy a diverse portfolio of cost-effective supply-side and demand-side resources based on their own unique circumstances and characteristics.”<sup>24</sup>

ERCC is concerned that the proposed rule establishes a future for electricity generation that is narrowly limited to a small group of technologies, some of which do not even exist commercially at this time, and that EPA’s plan for the future risks disruption in the reliable supply of electricity. Last winter unleashed brutally cold temperatures on citizens around the U.S. – teaching our country some hard lessons about the importance of reliable and affordable electricity, and the need for EPA to be very careful about limiting the flexibility and diversity of our electricity generation options. The cold weather during the winter spiked natural gas prices,

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<sup>24</sup> *Hearings* (testimony of David A. Wright at 5).

caused shortages of propane used to heat many homes, and exposed the fact that without fuel flexibility our country could face serious electricity reliability problems in the future.

The cold weather this winter made it clear that coal-fired generation, much of which is currently scheduled to be retired as a result of EPA rules, is vital to the reliability of our electricity supply. In some areas, coal-fired plants thought to be obsolete were discovered to be essential to reliability<sup>25</sup>, and one of the nation's largest electricity generators reported that 89 percent of the coal-fired generation slated for retirement by 2015 as a result of EPA rules was needed to supply electricity during the cold weather because natural gas and other alternatives were not suitable to address extreme conditions.<sup>26</sup> These events were not isolated, as electricity generators in Texas and the Southeast faced extreme demands and had to take measures to ensure that coal-fired generation was available, even as those plants faced retirement in the coming years.<sup>27</sup>

Our electricity supply cannot rely on alternatives to coal to fill the gap that will be left by retired coal plants and a lack of investment in new coal technologies. In a review of the last winter, the Federal Energy Regulatory Commission (FERC) concluded that “cold temperatures stressed the bulk power system with high loads, increased generator forced outages, and other challenging operating conditions” and noted that “[w]ind turbines were also affected by the cold, with some wind turbine models reaching their minimum operating temperatures.”<sup>28</sup> Daily use of natural gas reached a record high of 90.6 billion feet during this year's winter and prices soared

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<sup>25</sup> <http://www.newsday.com/long-island/pseg-urged-to-close-coal-fired-power-plant-1.6879164>

<sup>26</sup> <http://www.morningstar.com/earnings/earnings-call-transcript.aspx?t=AEP&pindex=3>

<sup>27</sup> [http://www.news-journal.com/business/local\\_business/luminant-to-restart-east-texas-plants/article\\_c2d3f98f-2662-56e4-9056-144468e6cc8b.html](http://www.news-journal.com/business/local_business/luminant-to-restart-east-texas-plants/article_c2d3f98f-2662-56e4-9056-144468e6cc8b.html) and <http://www.timesfreepress.com/news/2014/feb/05/tva-sticks-with-stable-power-outlookdespite/>

<sup>28</sup> <https://www.ferc.gov/legal/staff-reports/2014/01-16-14-bulk-power.pdf>

to more than \$5 per million Btu, according to the Energy Information Administration.<sup>29</sup> Additionally, as the CEO of a leading energy company explained, during “[o]ur peak demand between 7 and 8 am, which is when the peak is, there was almost no solar available because the sun is not up, so we need to have a system that can address those requirements and be prepared to provide the service our customers expect and the reliability they expect in those periods. That is the beauty of a portfolio.”<sup>30</sup>

EPA needs to carefully consider the consequences of policies that may not allow for a flexible and reliable supply of electricity, because the impacts of reliability problems can be devastating. The downside impacts of reduced electric reliability are substantial and must be taken into account in any responsible analysis of the proposed rule. As ISO New England has stated:

A reliable supply of electricity is a foundation of our prosperity and quality of life. Without it, our world literally grinds to a halt—businesses cannot plan and operate productively, hospitals and schools cannot provide their essential services, and residents cannot depend on the electricity they need simply to live their daily lives. Without reliable electricity, the financial and societal costs would be enormous.<sup>31</sup>

The Institute of Electrical and Electronics Engineers of the U.S. (IEEE-USA) has further observed that even minor occurrences in the electric power grid can sometimes lead to catastrophic ‘cascading’ blackouts, and that the loss of a single generator can result in an imbalance between load and generation. The resulting blackouts cause incalculable economic damage. For example, the direct costs to high-technology manufacturing in the San Francisco Bay Area alone during the California blackouts alone ran as high as one million dollars a minute due to lost production,

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<sup>29</sup> <http://www.energyguardian.net/winter-drives-nat-gas-use-record-levels>

<sup>30</sup> <http://www.newsobserver.com/2014/01/22/3555934/duke-energy-ceo-lynn-good-talks.html>

<sup>31</sup> [http://www.iso-ne.com/nwsiss/grid\\_mkts/elec\\_works/oview\\_brochure.pdf](http://www.iso-ne.com/nwsiss/grid_mkts/elec_works/oview_brochure.pdf) (Accessed June 20, 2012)

and the relatively brief Northeast blackout of 2003 cost business about \$13 billion in lost productivity.<sup>32</sup> These are costs that our economy and communities cannot afford to bear, and EPA needs to carefully consider reliability concerns before moving forward with the proposed rule.

### **III. THE PROPOSED RULE WILL CAUSE HARMFUL FUTURE INCREASES IN ELECTRICITY COSTS**

#### **A. The Proposed Rule Will Limit Fuel Options and Cause Increases in Electricity Costs**

Removing coal from our country's energy mix in the future raises additional concerns due to the volatility that exists in the other energy markets. Losing the option to generate power from coal, which has historically stable costs compared to oil and gas, is a risk we should not be willing to take. As David Wright, who as a regulator is charged with matters related to electricity costs, testified:

[T]he policies being pursued today actually make it harder for our States and regions to develop diverse resource portfolios by eliminating the use of coal, which will force us to overly rely on natural gas...but resource diversity is critically important in the electric sector...Yet no one can predict the future, especially when that future is reliant on a historically volatile commodity like natural gas. It is therefore important that we as a country maintain the ability to invest in a diverse portfolio of resources so that our ratepayers are protected against price increases that one particular fuel may experience.<sup>33</sup>

The fact that the proposed rule will increase electricity costs for residential consumers and businesses in the U.S. is beyond dispute. According to a 2011 report commissioned by the Global CCS Institute, even if the barriers to CCS are overcome and it becomes commercially

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<sup>32</sup> G.F. McClure, *Electric Power Transmission Reliability Not Keeping Pace with Conservation Efforts*, *Today's Engineer* (Feb. 2005) available at: <http://www.todaysengineer.org/2005/Feb/reliability.asp> (accessed June 20, 2012).

<sup>33</sup> *Hearings* (testimony of David A. Wright at 11).

available, the cost of production for a coal-fired power plant is expected to increase by 61 to 76 percent after implementation of CCS technologies.<sup>34</sup> A 2010 DOE study estimates adding CCS technology would increase the cost of electricity from 59.2 tenths of a cent (mills)/kWh to 108.2 mills/kWh.<sup>35</sup> These costs will be passed on to consumers in the form of higher prices. As Tom Wolf from the Illinois Chamber of Commerce has testified, “Relying on fewer instead of more options puts us in danger of paying more for electricity, which affects the economy as a whole.”<sup>36</sup>

## **B. Increases in Electricity Costs Harm the Economy, Public Health, and the Environment**

It should come as no surprise that higher electricity prices are destructive to our economy. Affordable, reliable energy is one of the main drivers of economic growth, and increasing the cost of energy and thereby forcing U.S. industries overseas is something we cannot risk as our country continues down the path of economic recovery.

Higher prices will disproportionately impact vulnerable individuals. In a recent study on Public Opinion on Poverty, it was reported that one-quarter of Americans report having problems paying for several basic necessities. In this study, currently 23% have difficulty in paying their utilities—that is, one out of four Americans.<sup>37</sup> Further, African-American and Hispanic families

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<sup>34</sup> *Economic Assessment of Carbon Capture and Storage Technologies: 2011 Update*, (2011) at 49 (available at: <http://cdn.globalccsinstitute.com/sites/default/files/publications/12786/economic-assessment-carbon-capture-and-storage-technologies-2011-update.pdf>) (Accessed June 20, 2012).

<sup>35</sup> U.S. Department of Energy, *Cost and Performance Baseline for Fossil Energy Plants Volume 1: Bituminous Coal and Natural Gas for Electricity*, (November 2010) at 12.

<sup>36</sup> *EPA's Impact on Jobs and Energy Affordability: Understanding the Real Costs and Benefits of Environmental Regulations*, 112<sup>th</sup> Cong. (June 6, 2012) (testimony of Tom Wolf at 3).

<sup>37</sup> *The American Clean Energy and Security Act of 2009*, 111<sup>th</sup> Cong. (April 23, 2009) (testimony of Darryl Bassett at 5).

will spend almost twice the amount of after-tax income on energy compared to the average and when viewed as a percentage of total household income.<sup>38</sup> Likewise, elderly households use less per capita energy but still “spend a higher share of their income on energy-related expenditures.”<sup>39</sup>

Additionally, it is tempting to look at electricity costs as solely affecting large power companies and ignore the potential impact on public health. However, the proposed rule is likely to adversely affect public health in three ways: by increasing the cost of medical care and treatment; by imposing real threats on human health by suppressing economic growth and the improved health it brings; and by focusing on expensive rulemakings with little incremental benefits when those resources, if more sensibly deployed, could save many times more lives.

With respect to treatment costs, it is important to note that U.S. hospitals spend \$8.5 billion annually on energy, often equaling between one and three percent of a hospital's operating budget.<sup>40</sup> Furthermore, EPA estimates, in the U.S., the health sector is the second most energy-intensive commercial sector resulting in more than \$600 million per year in direct health costs and over \$5 billion in indirect costs.<sup>41</sup> The average cost of power per square foot for hospitals is approximately \$2.84.<sup>42</sup> Hospital administrators will have no choice but to pay attention to the

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<sup>38</sup> *New Study Confirms Rising Energy Costs Disproportionately Impacting Minority Households*, Reuters, Jul. 25, 2008, available at <http://www.reuters.com/article/2008/07/25/idUS178012+25-Jul-2008+PRN20080725> (accessed June 22, 2012).

<sup>39</sup> Janemarie Mulvey, *Impact of rising energy costs on older Americans*, CRS Report for Congress No. RS22826 (Mar. 4, 2008), at 3.

<sup>40</sup> United States Department of Energy, (2006) Energy Information Administration (EIA), *Commercial Buildings Energy Consumption Survey (CBECS): Consumption and Expenditures Tables*. “Table C3A”. US Department of Energy.

<sup>41</sup> The World Health Organization. *Healthy Hospitals, Healthy Planet, Healthy People: Addressing Climate Change in Healthcare Settings*. Washington, DC, 29.

<sup>42</sup> Northwest Energy Efficiency Alliance, (2010), *Energy in Healthcare* [Fact Sheet].

cost of energy as surging energy costs will squeeze hospital budgets like never before. Without adequate power supply, built upon a foundation of stable and cost-effective coal-fired generation, the healthcare sector and the American public can expect rapidly increasing costs that consumers can ill-afford.

The economic impacts cited earlier will also directly impact public health. From a commercial perspective, higher electricity prices will be largely borne by companies in energy-intensive manufacturing, where higher prices will make it more difficult to expand operations and increase employment. These productive industries result in millions of direct and indirect jobs. Placing unnecessary economic constraints on the U.S. economy, in a time of recession, is unwise and detrimental to sound public health policy as, based on decades of research, continuously-employed individuals experienced, on average, an additional life expectancy of four to five years.<sup>43</sup> Comparably, the direct effect of reducing unemployment has been estimated to prevent up to 2,500 premature deaths a year.<sup>44</sup> In contrast, additional unemployment may significantly harm public health. A report to Congress' Joint Economic Committee by Dr. Harvey Brenner showed the impacts of unemployment on public health. Brenner found that a one percent increase in the unemployment rate was associated with a two percent increase in premature deaths.<sup>45</sup> In 2004, Brenner used his econometric models to estimate the public health results from reducing coal-generated electricity. For example, with a substantial reduction in

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<sup>43</sup> Morris JK, Cook DG, Shaper AG. (1994), Loss of employment and mortality. *BMJ*;308:1135-9.

<sup>44</sup> Dorling, D. (2009). Unemployment and health: Health benefits vary according to the method of reducing unemployment. *BMJ*, 338, b829.

<sup>45</sup> United States. Cong. House. Joint Economic Committee, (1976), *Estimating the Social Costs of National Economic Policy: Implications for Mental and Physical Health, and Criminal Aggression*, By Harvey Brenner, 94th Cong., 2nd sess. H. Rept. 5th ed. Vol. 1., Washington, D.C.

coal-fired power, Brenner found the result would be between 170,000 and 300,000 premature deaths.<sup>46</sup>

Placing EPA regulations in a broader public health perspective, it is clear that the proposed rule is not among the wisest of societal investments in addressing premature mortality. President Obama himself has recognized the need to keep cost-effectiveness in mind when he ordered EPA to protect public health and the environment “while promoting economic growth, innovation, competitiveness, and job creation.”<sup>47</sup> Failure to allocate resources based on cost-effectiveness quite literally costs lives. Experts at the Harvard School for Public Health have estimated that expensive environmental rules save 100 times fewer lives than when the federal government redeployed those assets to address higher risks.<sup>48</sup> This tremendous differential in health impacts explains why EPA should not be so cavalier in its benefits analysis.

Finally, the healthy economy that reliable and affordable power makes possible is necessary to create the financial basis for future generations of clean technology. In this sense, the healthier societies are also those that sustain wealth. As one widely-read, recent report pointed out, “recessions serving as a rough time for green energy shouldn't surprise us: a poor economy is not a time during which technological advance tends to flourish. Firms are cutting costs, investors are pulling back, and consumers aren't spending. The money just isn't available for an expensive product to succeed.”<sup>49</sup> If cutting GHG emissions is truly a priority, the first step

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<sup>46</sup> *Id.*

<sup>47</sup> E.O. 13653, 76 Fed. Reg. 3821, published Jan. 21, 2011.

<sup>48</sup> Tengs, T.O., et al, (1995) *Five Hundred Life-Saving Interventions and Their Cost Effectiveness*, Risk Analysis 15, 3, 369-90.

<sup>49</sup> Daniel Indiviglio, *It's Even Harder Being Green During a Recession*, The Atlantic, Sept. 23, 2011.

needs to be focusing on economic recovery now to allow for investment in and development of new energy technologies in the future.

It is appropriate and necessary for EPA to take adverse health effects associated with threats to reliability and affordability of power into account as it seeks to finalize the proposed rule. Justice Breyer has previously admonished EPA that in order to “better achieve regulatory goals” regulators should “take account of all of a proposed regulation’s adverse effects.”<sup>50</sup> The former regulatory czar of the Obama Administration, Professor Cass Sunstein, described the obligation this way: “A rational system of regulation looks not at the magnitude of risk alone, but asses the risk in comparison to the costs.”<sup>51</sup> Taken together, the consequences of electricity price increases should lead EPA to reconsider the proposed rule before cementing an energy policy that will be very costly in terms of both dollars and health.

#### **IV. THE PROPOSED RULE DELIVERS ALL COSTS AND NO BENEFITS**

Outside of a stated desire to direct the development of future technologies and send other ‘signals’ to constituencies in the U.S. and abroad, the proposed rule does not even promise that it will deliver any real benefits. EPA projects that the “proposed rule will result in negligible CO2 emission changes, quantified benefits, and costs by 2022.”<sup>52</sup> However, while it is correct that the proposed rule does nothing to address climate change and delivers no measurable public health benefits, those facts do not change the costs of the rule. The signals that the proposed rule send will set back the development of new power projects and could lead to a greater amount of GHG emissions overseas, and risk much in terms of energy reliability and affordability. For example,

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<sup>50</sup> *Whitman v. American Trucking Assns.*, 531 U.S. 457, 490 (2001) (Breyer, J., concurring).

<sup>51</sup> *Interpreting Statutes in the Regulatory State*, 103 Harv. L. Rev. 405, 492 (1989).

<sup>52</sup> 79 Fed. Reg. at 1495.

in one case – the Las Brisas project in Texas – the rule arguably endangers a state-of-the-art electricity generation facility proposed to recycle petroleum coke from neighboring refineries into a relatively clean source of energy. If the EPA rule and the Agency’s general intransigence on permitting continue, it is likely that this petroleum coke will be used in facilities overseas, resulting in even greater carbon emissions due to its transport and less efficient end-users. So, in cases like Las Brisas, the rule is likely to increase what the Agency now calls carbon pollution.

Further, by failing to hold the line on the price of electricity, the rule creates an incentive for energy-intensive manufacturing industries to seek locations overseas. At the very time the U.S. appears bent on a coordinated regulatory strategy to marginalize coal and other fossil fuels, our strongest trading partners in both Asia and Europe intend to continue to pursue coal-fired capacity as an important element of their energy strategies. Coal is responsible for over 60 percent of electricity generation worldwide.<sup>53</sup> Notwithstanding the focus on renewable energy in certain parts of the world, coal is also the fastest-growing global energy source in absolute terms, and is responsible for meeting nearly half of new electricity demand.<sup>54</sup> A recent survey shows coal-fired power plants capacity will grow by 35 per cent in the next 10 years overseas.<sup>55</sup> World coal-fired power plant capacity will grow from 1,759,000 MW in 2010 to 2,384,000 MW in 2020, some 80,000 MW will be replaced, and there will be 705,000 MW of new coal-fired boilers built.<sup>56</sup>

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<sup>53</sup> Int’l Energy Agency, *Key World Energy Statistics*, 2011, at 25.

<sup>54</sup> *Key World Energy Statistics* at 15.

<sup>55</sup> *Coal-fired power plants capacity to grow by 35 per cent in next 10 year*, Power Engineer (online), available at: [http://www.engineerlive.com/Power-Engineer/Focus\\_on\\_Coal/Coal-fired\\_power\\_plants\\_capacity\\_to\\_grow\\_by\\_35\\_per\\_cent\\_in\\_next\\_10\\_years/21600/](http://www.engineerlive.com/Power-Engineer/Focus_on_Coal/Coal-fired_power_plants_capacity_to_grow_by_35_per_cent_in_next_10_years/21600/) (accessed June 20, 2012).

<sup>56</sup> *Id.*

By contrast, increasing energy costs in the United States motivates closure of manufacturing assets and their transfer overseas. As a recent report from the Maguire Energy Institute at the Southern Methodist University put it:

Numerous studies find that regulatory burdens of this sort imposed on energy prices and energy supply cause plant closures and maximize the potential that manufacturing jobs will move overseas. For each manufacturing job lost, many other dependent jobs will also exit the economy. One in eight private sector jobs rely upon our manufacturing base.<sup>57</sup>

Beyond economic impact, such “leakage” has a direct effect on whether climate policy actually produces benefits. The International Energy Agency has observed that such leakage can result in “the increase in emissions outside a region as a direct result of the policy to cap emission in this region. Carbon leakage means that the domestic climate mitigation policy is less effective and more costly in containing emission levels, a legitimate concern for policy-makers.”<sup>58</sup>

Much is at risk. It is beyond dispute that climate change is a global issue and cannot be solved without the combined and coordinated efforts of all major economies. It simply makes no sense for the U.S. to act unilaterally by banning new coal-fired plants when our major international competitors, including China and India, are building new coal-fired plants to fuel their industrial growth.

While US emissions since 2000 have remained stable or declined each year, those of China and India have increased by 170 percent and 90 percent respectively.<sup>59</sup> Unilateral climate initiatives do not force other nations to follow our example. Far from it, such unilateral efforts

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<sup>57</sup> Bernard L. Weinstein, *Proposed EPA Power-Sector Air Rules: Weakening Economic Recovery and Putting America’s Most Competitive Manufacturing Industries at Risk* (September 2011) (available at: [http://pressdocs.cox.smu.edu/maguire/SMU\\_Utility\\_MACT\\_Report.pdf](http://pressdocs.cox.smu.edu/maguire/SMU_Utility_MACT_Report.pdf)) at 2.

<sup>58</sup> J. Reinaud, *IEA: Climate Policy and Carbon Leakage*, Oct. 2008 (available at: [www.iea.org/papers/2008/Aluminium\\_EU\\_ETS.pdf](http://www.iea.org/papers/2008/Aluminium_EU_ETS.pdf)) (accessed June 20, 2012).

<sup>59</sup> U.S. DOE and Oak Ridge National Laboratory, Carbon Dioxide Information Analysis Center, <http://cdiac.ornl.gov/mission.html>, accessed May 8, 2014.

merely create competitive opportunities for less efficient economies to seize more market share. Many U.S. industrial and manufacturing plants compete in a global market and are highly sensitive to the cost of power. Many of these plants are located in areas that rely on coal to provide reliable and affordable electricity. Although the proposed rule only regulates new plants, the cost of operating new plants will often set the clearing price for electricity, especially once the U.S. economy begins to strengthen and demand increases. It will also become more difficult to raise the capital necessary to fund continuing research and development related to coal-fired plants. Therefore, even though the EPA is correct that the rule delivers no real GHG benefits, it does impose significant costs.

## **CONCLUSION**

The ERCC is pleased to offer these comments. We do not dispute the obligation of EPA to develop and implement sensible, effective regulations. Indeed, we have many times offered to work closely with the Agency on effectively discharging that obligation.

However, the proposed rule is an example of regulation at its worst in that it attempts to direct market forces with only the vague hope of being able to deliver real benefits. Unfortunately, the costs of the proposed rule are very real in terms of limiting future electricity generation options, with consequent potential threats to electric reliability, affordability, and all of the economic and health harms that are associated with those results.

Sincerely,

A handwritten signature in black ink, appearing to read "Scott Segal". The signature is written in a cursive style with a large initial "S" and a distinct "Segal" ending.

Scott H. Segal, Director

Electric Reliability Coordinating Council