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**The “Energy Consumers Relief Act of 2013”
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Subcommittee on Energy and Power
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Mr. Chairman and Members of the Subcommittee. Thank you for giving me the opportunity to testify before you today. My name is Scott Segal. I am testifying today as a Partner at Bracewell & Giuliani and the Director of the Electric Reliability Coordinating Council (ERCC). In both capacities, I have worked with some of America’s top power producers to ensure that consumers across the United States have access to reliable, affordable, and environmentally responsible power.

I appreciate the opportunity to testify today about the impacts EPA regulations can have on energy consumers.

EPA Regulatory Challenges to the Power Sector

The U.S. Environmental Protection Agency (EPA) has the tough job of balancing America’s desire for environmental protection with its demand for affordable and reliable power. EPA has issued a number of environmental rules in the past two years that seem inconsistent with this balance, and more are imminent. The power sector is under severe pressure from the myriad of rules and regulations coming from EPA. Because of the close proximity of their implementation and the potential devastating impact they will have, these EPA regulations deserve intensive and cumulative scrutiny. Included on the list, among others, are the:

- Finalized Mercury and Air Toxics Standards (MATS) Rule for new and existing sources;
- Finalized National Ambient Air Quality Standards (NAAQS) for Particulate Matter (PM);
- Proposed Section 316(b) rules regarding plant cooling water intake structures and effluent guidelines;

- Proposed New Source Performance Standards (NSPS) for Greenhouse Gas Emissions from new power plants;
- Pending New Source Performance Standards for Greenhouse Gas Emissions from existing power plants;
- Departure from accepted state implementation procedures, including the regional haze program, start-up/shutdown programs, and enforcement-related initiatives;
- Pending reconsideration to the National Ambient Air Quality Standards (NAAQS) for SO₂, NO₂, and Ozone; and
- Pending Coal Combustion Residuals or By-Products (CCRs) rules.

Taken together, these regulations will impact roughly 780,000 megawatts 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. Currently, 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, they will cost more to build than the cost of 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 a potentially unrealistic timeframe or else shutdown entirely.

Effect of Regulations on Energy Prices

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.

Last year, there were over 1,300 electric generating units powered by coal at some 589 power plants in the United States, with a total generating capacity of some 300,000 megawatts.

Through the year 2025, the most recent estimates show that 348 of these units are likely to close in 38 states representing about 15 percent of the total coal fleet. The reasons for these closures should be obvious by now: the industry faces a combination of low natural gas prices and inflexible regulation. Coal represented about half of U.S. power generation in 2008, and is down to just under 40 percent last year.

As aging coal-fired power plants are forced to shut down due to EPA air pollution regulations and additional plants are temporarily idled to install mandated pollution controls, we need to ensure a reliable stream of electrical power is available to meet the nation's energy needs. As a result of the combination of EPA's regulations, the country could experience regional shortfalls of electricity, and the reliability of our electricity grid could in turn face 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 EPA regulatory actions risks a variety of reliability problems.

To place what's at stake in perspective, one report noted, a Federal Energy Regulatory Commission (FERC) staff analysis says, the EPA rules endanger "about 8% of all U.S. generating capacity. Merely losing 56 gigawatts—a midrange scenario in line with FERC and industry estimates—is the equivalent of wiping out all power generation for Florida and Mississippi. In practice, this will mean blackouts and rolling brownouts, as well as spiking rates for consumers."¹

Coal still has an important role to play in the energy future of the United States and the world. As Tom Fanning, the chief executive officer of the Southern Company, observed, "The United States is the Saudi Arabia of coal. We control 28 percent of the world's coal reserves. . . . Put simply, an American future without coal is outright unsustainable."² This is for good reason: coal still has many natural advantages as a fuel source, such as ease of transportation, reliability as a baseload energy source, and less complicated infrastructure needs than its alternatives.

The most confounding market force for coal-powered generation may well be the sustained low cost of natural gas. While the shale revolution is arguably the most transformative energy event of our time, recent reports have indicated the most obvious projects for switching from coal to gas have already been undertaken. Many gas plants are running at near capacity, meaning that additional demand may have to once again be met by reliable coal generation. Further, the regulatory environment for hydraulic fracturing must remain reasonable; environmentalist

¹ Wall Street Journal, An EPA Moratorium, Aug. 29, 2011.

² Fanning, Tom. Policy Perspectives: American Energy Policy. May 2012.

http://www.southerncompany.com/news/docs/5-17-12_TAF_AmericanEnergyPolicyPaper.pdf

opposition to both coal and gas production is simply irresponsible, particularly added to the opposition to transmission lines, nuclear, hydropower, and even some solar and wind projects.

Additionally, as NARUC Chair David Wright testified last year, 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.”³ I am concerned that EPA rules establish a future for electricity generation that is narrowly prescribed 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.

Removing coal from our country’s energy mix 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 Wright also 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.⁴

These costs will be passed onto 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.”⁵

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.

³ Wright, David. Testimony before the House Energy and Commerce Committee, The American Energy Initiative: A Focus on EPA’s Greenhouse Gas Regulations. On behalf of National Association of Regulatory Utility Commissioners. June 19, 2012.

<http://energycommerce.house.gov/sites/republicans.energycommerce.house.gov/files/Hearings/EP/20120619/HHRG-112-IF03-WState-WrightD-20120619.pdf>

⁴ *Id.*

⁵ Wolf, Tom. Testimony before the House Science, Space, and Technology Committee, EPA’s Impact on Jobs and Energy Affordability: Understanding the Real Costs and Benefits of Environmental Regulations. June 6, 2012.

<http://science.house.gov/sites/republicans.science.house.gov/files/documents/hearings/HHRG-112-%20SY20-WState-TWolf-20120606.pdf>

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.⁶

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, and the relatively brief Northeast blackout of 2003 cost business about \$13 billion in lost productivity.⁷ These are costs that the our economy and communities cannot afford to bear, and EPA needs to carefully consider reliability concerns before moving forward with the proposed rule.

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.

- Economically Disadvantages Communities

Residential consumers – small businesses, hospitals, schools, farms, and industrial operations all depend on reliable and affordable electric power. Higher prices will disproportionately impact vulnerable individuals, including the poor, the elderly, and those on fixed incomes. Those who can least afford it will be the ones forced to give up the largest percentage of their monthly

⁶ ISO New England. http://www.iso-ne.com/nwsiss/grid_mkts/elec_works/oview_brochure.pdf (Accessed April 10, 2012)

⁷ McClure, G.F. Electric Power Transmission Reliability Not Keeping Pace with Conservation Efforts, Today’s Engineer. Feb. 2005. <http://www.todaysengineer.org/2005/Feb/reliability.asp>

budgets. As the group Empower Consumers testified before this committee, “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.”⁸ Further, African-American and Hispanic families 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.⁹ Likewise, elderly households use less per capita on energy but still “spend a higher share of their income on energy-related expenditures.”¹⁰

- *Gasoline Prices*

Working families are also burdened by high gasoline prices, which are themselves complicated by high electricity prices, in addition to the many regulations faced by refiners themselves. Almost half of a refinery’s operating costs (43 percent) is for energy, and few refineries have the capacity to co-generate appreciable amounts of electricity on their own. Put another way, the U.S. Department of Energy recently calculated, some six kilowatt hours of energy is needed to refine each gallon of gasoline.¹¹

Actual outages – even of limited duration – are particularly hard on refining. Based on experience during the California electricity crisis, it became clear that as the risk of outages proceeds, so too does the risk of even more prolonged gasoline shortages. The U.S. Energy Information Administration found that, “Returning to full production can take up to several days. Consequently, the period of reduced production will be longer than the period of the electrical outage.”¹² EIA also noted that up to 27 percent of California refining capacity could be

⁸ Bassett, Darryl. Testimony before the House Energy and Commerce Committee, The American Clean Energy and Security Act of 2009. April 23, 2009.

<http://democrats.energycommerce.house.gov/sites/default/files/documents/Testimony-Bassett-FC-ACES-2009-4-23.pdf>

⁹ Reuters. New Study Confirms Rising Energy Costs Disproportionately Impacting Minority Households. Jul. 25, 2008, <http://www.reuters.com/article/2008/07/25/idUS178012+25-Jul-2008+PRN20080725>

¹⁰ Mulvey, Janemarie. Impact of rising energy costs on older Americans, CRS Report for Congress No. RS22826, Mar. 4, 2008 at 3.

¹¹ How much electricity is used refine a gallon of Gasoline? Letter to Jacob Ward, Program Analyst/PMF Vehicle Technologies Program Office of Energy Efficiency and Renewable Energy U.S. Department of Energy.

<http://gatewayev.org/how-much-electricity-is-used-refine-a-gallon-of-gasoline>

¹² US Department of Energy, Energy Information Administration, Electricity Shortage in California: Issues for Petroleum and Natural Gas Supply. June 12, 2001. <http://www.eia.gov/forecasts/steo/special/pdf/california.pdf>

“expected to be forced to shut down completely” even during rotating power shortages.¹³ Given that the power sector rules can be expected to shorten electricity supply and increase electric rates, it is an absolute certainty that its current implementation schedule will increase the cost of delivering gasoline to already-strapped American consumers.

- *Schools*

Additionally, it is tempting to look at electricity costs as solely affecting large companies and ignore the potential impact to social service organizations like school and hospitals. Primary and secondary schools spend \$12 billion a year on energy.¹⁴ School buildings use an average of 10 kilowatt hours of electricity per square foot annually. With a typical school district paying \$1.25/square foot annually for energy, a mid-size district with 800,000 square feet of space spends over \$1 million dollars annually on energy.¹⁵ The American Association of School administrators reported that 99 percent of school superintendents found direct budget impacts as a result of increased energy costs associated with transportation, heating and air conditioning. Worse yet, Superintendents have found that higher energy costs directly affect teaching positions and the ability of schools to take students off campus for events and competitions.¹⁶

- *Health Care*

EPA’s rules are also 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

¹³ *Id.*

¹⁴ Agron, J., 36th and 37th Annual Maintenance and Operation Cost Study. American School & University. April 2008. <http://asumag.com/Maintenance/2008M&OCostStudy.pdf>

¹⁵ *Id.*

¹⁶ UPI. Energy costs spurring school spending cuts. July 29, 2008. http://www.upi.com/Top_News/2008/07/29/Energy-costs-spurring-school-spending-cuts/UPI-96071217347633/.

budget.¹⁷ 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.¹⁸ The average cost of power per square foot for hospitals is approximately \$2.84.¹⁹ Hospital administrators will have no choice but to pay attention to the 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.²⁰ Comparably, the direct effect of reducing unemployment has been estimated to prevent up to 2,500 premature deaths a year.²¹ 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.²² In 2004, Brenner used his econometric models to estimate the public health results from

¹⁷ U.S. Department of Energy. United States Department of Energy, Energy Information Administration (EIA), Commercial Buildings Energy Consumption Survey (CBECS): Consumption and Expenditures Tables. "Table C3A". 2006

¹⁸ The World Health Organization. Healthy Hospitals, Healthy Planet, Healthy People: Addressing Climate Change in Healthcare Settings. Washington, DC, 2009.

¹⁹ Northwest Energy Efficiency Alliance. Energy in Healthcare [Fact Sheet]. 2010.

²⁰ Morris JK, DG Cook, and AG Shaper. Loss of employment and mortality. *BMJ*;308:1135-9. 1994

²¹ Dorling, D. Unemployment and health: Health benefits vary according to the method of reducing unemployment. *BMJ*, 338, b829. 2009

²² Brenner, Harvey. United States. Cong. House. Joint Economic Committee, Estimating the Social Costs of National Economic Policy: Implications for Mental and Physical Health, and Criminal Aggression, 94th Cong., 2nd sess. H. Rept. 5th ed. Vol. 1., Washington, D.C. 1976

reducing coal-generated electricity. For example, with a substantial reduction in coal-fired power, Brenner found the result would be between 170,000 and 300,000 premature deaths.²³

Placing EPA regulations in a broader public health perspective, it is clear that EPA regulations are 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 issued an Executive Order, mandating that EPA to protect public health and the environment "while promoting economic growth, innovation, competitiveness, and job creation."²⁴ 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.²⁵ 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."²⁶ If cutting GHG emissions is truly a priority for this administration, the first step needs to be focusing on economic recovery now to allow for investment in and development of new energy technologies in the future.

Taken together, the consequences of electricity price increases should lead us to thoroughly examine EPA regulations before cementing an energy policy that will be very costly in terms of both dollars and health.

²³ *Id.*

²⁴ E.O. 13653, 76 Fed. Reg. 3821, published Jan. 21, 2011.

²⁵ Tengs, T.O., et al. Five Hundred Life-Saving Interventions and Their Cost Effectiveness, *Risk Analysis* 15, 3, 369-90. 1995

²⁶ Indiviglio, Daniel. It's Even Harder Being Green During a Recession, *The Atlantic*, Sept. 23, 2011.

EPA's Suspect Benefits Analysis

As required by two Executive Orders issued on the regulatory process, EPA has prepared cost-benefit analysis to support its regulations. Despite the obvious costs outlined above, EPA has still claimed its regulations are net beneficial to society. The reason EPA has drawn such conclusions is because time and again they inaccurately calculate the benefits of their rules.

Looking at the MATS rule in particular, the title of, and rhetoric surrounding, the rule leads the public to believe that the vast majority of benefits claimed by EPA to justify the rule must be the result of reductions in mercury emissions. But EPA's cost-benefit analysis tells a very different story. According to EPA, the benefits to society of the mercury-reduction requirements are in the range of \$500,000 to a maximum of \$6.2 million in benefits. In other words, in a rule that EPA admits will cost about \$10 billion annually, the maximum benefit of reducing emissions of mercury—the emissions of which serve as the primary basis for the rule—is \$6.2 million.

According to EPA, the rule is justified based on cost-benefit analysis because it will provide benefits of up to \$90 billion every year. Yet virtually all of the benefits come from reducing another pollutant known as fine particulate matter, or PM2.5, in areas of the country that already meet existing PM standards.

Regulation of particulate matter is primarily accomplished through National Ambient Air Quality Standards (NAAQS), which are required to be set at levels that provide adequate protection for the public health or welfare. Yet, in issuing the MATS rule, EPA claimed that tens of thousands of people living in areas of the country that already meet national standards are killed every year because of exposure to PM2.5. More than 90 percent of the benefits that EPA claims under MATS come from areas where PM2.5 concentrations are below 12 ug.

Regulating PM2.5 is much more flexible and cost-effective under the NAAQS program than the MATS rule, and while EPA is mandated to find the most cost-effective solution for each of its regulatory priorities, it certainly did not do so in this instance.

In addition to failing to demonstrate the least burdensome alternative, EPA inaccurately attributes to new rules benefits already claimed in favor of previous rules, effectively double counting the benefits of existing programs. EPA has already controlled emissions of PM2.5

through NAAQS and set a level of PM2.5 that it has found to be sufficient to public health and welfare with an adequate margin of safety. Areas of the country that have already attained this level of PM2.5 (i.e., that are in "attainment") are presumably therefore already safe from any health risks; other areas that have not yet reached this level (i.e. are in "non-attainment") are already required to implement market-wide reductions in PM2.5 to get into attainment.

In explaining how it developed the baseline for its benefits analysis, EPA's regulatory impact analysis states that "EPA did not consider actions states may take in the future to implement the existing ozone and PM2.5 NAAQS standards[.]" Of course, as it did for the MATS rule, EPA's proposed NAAQS for PM2.5 contained an estimated analysis of the benefits of PM2.5 reductions. By not including these benefits in the baseline of the MATS cost-benefit analysis, EPA is essentially claiming these same benefits a second time to justify another regulation. Put a different way, the only way EPA can possibly claim more benefits from reductions in PM2.5 is to go beyond the controls it has already put in place under the PM2.5 NAAQS. Doing so, however, is completely contrary to Congress' intent to regulate PM2.5 under a different section of the Clean Air Act and contrary to EPA's own claims that the PM2.5 NAAQS is sufficient to protect public health and welfare.

Susan Dudley, Director of the George Washington University Regulatory Studies Center, testified before the Senate that "In principle, a benefit-cost analysis should be 'complete.' It should include all the significant consequences of a policy decision: direct and indirect, intended and unintended, beneficial and harmful."²⁷ However, when EPA conducts cost-benefit analysis, it fails to meet this standard. When looking at benefits, EPA considers any good thing that could happen as a result of its rule, no matter how many degrees removed from the direct effects. In contrast, when looking at costs, EPA *only* considers direct compliance costs, but dismisses risks associated with electric reliability and energy prices, and how that affects poor and minority families or U.S. business competitiveness. In effect, EPA is inflating the benefits of its rules while ignoring the costs.

²⁷ Dudley, Susan. Committee on Environment and Public Works Subcommittee on Clean Air and Nuclear Safety United States Senate April 17, 2012
http://www.epw.senate.gov/public/index.cfm?FuseAction=Files.View&FileStore_id=b269df79-8ef3-4897-8483-c5f33fb3ec62

So what can be done for our economy to meet its economic and social needs while also protecting the environment and appropriately addressing climate change risks? President Obama has stated that the “clean energy transformation of our economy” will necessitate “everything from wind, solar, and geothermal power to safe nuclear energy and cleaner coal.” In order to keep coal in the picture, the following strategy makes sense:

First, focus on new coal technologies. The government and the environmental community should welcome the development of integrated gasification combined cycle technology projects incorporating beneficial uses for captured carbon.

Second, allow for efficiency improvements. Too often the EPA approach to enforcement with its inflexible concept of New Source Review has created a disincentive for the improvement of power plant efficiency that reduces the carbon footprint of each megawatt of electricity generated.

Third, and more to the point of this hearing, regulate in smarter ways. For large energy-related rules — those with greater than \$1 billion in total economic impact — regulators should have to determine adverse economic effects, including energy endpoints such as electricity and motorfuel price impacts, and address them before the implementation of the rule. Regulators should engage in a robust interagency process that brings together the best and the brightest of public and private input based on quality data and realistic benefit and cost assumptions. Adoption of the Energy Consumers Relief Act is a step in the right direction.

I thank the committee for holding this hearing today and inviting me to testify. Ensuring the cost of EPA regulations on consumers is adequately accounted for is a very important issue. I am happy to answer any questions you may have.