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**BEFORE THE HOUSE SUBCOMMITTEE ON REGULATORY AFFAIRS, STIMULUS  
OVERSIGHT AND GOVERNMENT SPENDING  
JULY 26, 2011**

Chairman Jordan, Ranking member Kucinich, and members of the subcommittee, thank you for giving me the opportunity to testify today regarding the impacts of the suite of EPA regulations affecting the electric utility sector. AEP is one of the nation's largest electricity generators -- with nearly 38,000 Megawatts (MW) of generating capacity -- and serves more than five million retail consumers in 11 states in the Midwest and South Central regions of our nation. Our job each day is to ensure that our customers have access to reliable power at affordable prices. AEP's generating fleet employs diverse energy sources -- including coal, nuclear, hydroelectric, natural gas, oil, and wind power. Due to the location of our service area and the historic importance of coal to the economies in our states, approximately two-thirds of our generating capacity utilizes coal to generate electricity. A combination of proposed and recently finalized regulations is aimed directly at our nation's fossil fuel-fired generating fleet, and imposes the greatest burdens on states with a high percentage of coal-fueled generation.

We believe that the current regulatory track being pursued by the Environmental Protection Agency (EPA) will have damaging impacts on our nation's electric system, as well as broader negative employment and economic implications. Together, the federal Cross-State Air Pollution Rule (CSAPR) -- formerly known as the Transport Rule, the Utility Maximum Achievable Control Technology Rule (Utility MACT), the Clean Air Visibility Rule, the Coal Combustion Residuals Rule (CCR) as well as the Cooling Water Intake Structures Rule under section 316(b) of The Clean Water Act (316(b) rule) will require very large utility capital investments. CSAPR and the Utility MACT alone, according to EPA's own estimates, will impose massive costs within the next 3-4 years, the vast majority of which will be borne by coal-fired generators and their customers. This follows a decade when generators within these same areas have invested billions of dollars to achieve reductions of over 50 percent in

emissions of both SO<sub>2</sub> and NO<sub>x</sub> and rates have already risen. For many coal-reliant states, the CSAPR will require additional substantial emission reductions starting in January of 2012. In many states, these represent reductions of over 30% below actual emissions in 2010. Further reductions are due to occur in 2014, the same year EPA proposes to make the Utility MACT effective for sources nationwide. There is simply not enough time to get regulatory approvals, design, permit, and construct scrubbers, SCRs or other major pollution control investments to achieve those levels of reductions. As a result, they will force a large number of premature power plant retirements where investments make no economic sense given the remaining useful life of the plants, or, where such investments are the most cost-effective compliance option, plants may have to be idled or significantly curtail production for two or more years in order to complete the necessary controls. These power plant operational outcomes raise significant policy, economic, and energy issues that Congress should carefully examine.

I am here to today to explain our analysis of the impacts of the new EPA regulations including electricity reliability, capital costs and electricity rate increases in AEP states for our customers. I will also describe the results from other studies that estimate related broader economic impacts, such as national and regional job losses, plant retirements and costs. In addition, I will offer some alternatives to lower these large and potentially very adverse impacts on electricity reliability, electricity and other energy prices, employment, and the overall U.S. economy by providing more time to achieve similar environmental outcomes.

### **AEP Has Already Achieved Substantial Emissions Reductions.**

AEP has achieved very substantial SO<sub>2</sub> and NO<sub>x</sub> reductions over the past two decades. Our efforts began with a series of cost-effective measures to cut SO<sub>2</sub> and NO<sub>x</sub> emissions in the 1990's under the Acid Rain program, including installing scrubbers and NO<sub>x</sub> combustion controls, as well as blending lower sulfur coals into the fuel mix at plants that could accommodate such coals. The past decade has seen a continuation of this program to transform our fleet of coal-fired generating units. This transformation included the installation of state-of-the-art control technologies at many of our generating stations in order to meet the steep NO<sub>x</sub> reduction requirements of the NO<sub>x</sub> SIP Call in the early part of the decade. It has continued with a third wave of emissions controls being installed to achieve additional NO<sub>x</sub>

and SO<sub>2</sub> reductions required under the Clean Air Interstate Rule (CAIR), which CSAPR would replace. As a result of these efforts, over the last 20 years, our annual SO<sub>2</sub> emissions have declined by **~1.1 million tons (a 73% reduction)** and our annual NO<sub>x</sub> emissions have been reduced by **~450 thousand tons (an 80% reduction)**.

In just the past ten years, AEP has invested over \$5 billion in emissions control equipment on our coal units to reduce SO<sub>2</sub> and NO<sub>x</sub> emissions and to comply with the NO<sub>x</sub> SIP Call and CAIR programs. AEP has spent several additional billions of dollars on low sulfur fuel, chemical reagents, and other pollution control O&M costs. Most of these investments and the emission reductions have occurred in the Eastern portion of the AEP system. About 80% of AEP coal-fired capacity is located in AEP's Eastern footprint, which includes coal-fired plants in Virginia, West Virginia, Ohio, Kentucky, and Indiana. Annual SO<sub>2</sub> and NO<sub>x</sub> emissions have been reduced at AEP plants in these states by 64% and 84%, respectively, in the last decade alone. About two-thirds of the AEP Eastern coal-fired fleet is now equipped with the most advanced SO<sub>2</sub> controls – that is, Flue Gas Desulfurization (FGD) which reduces SO<sub>2</sub> emissions by about 95%. Similarly, about three-quarters of the AEP Eastern coal-fired fleet is equipped with the most advanced NO<sub>x</sub> controls, that is, Selective Catalytic Reduction (SCR) which reduces NO<sub>x</sub> emissions by about 90%. Two projects were completed in the last 18 months at our Amos Plant, and we are preparing to submit applications for regulatory approvals to install additional controls in Indiana. All of these efforts have also been consistent with an agreement we signed in 2007 with EPA and other plaintiffs to settle an enforcement action under the New Source Review Provisions of the Clean Air Act. But EPA's new rules impose more obligations, sooner than required under that Consent Decree.

We expect this transformation of our coal fleet to continue in the coming decade. Two of our newer coal plants in our Western states were originally constructed with FGD controls, and we expect to reduce SO<sub>2</sub> and NO<sub>x</sub> emissions further at units that are regulated under the Clean Air Visibility Rule in Arkansas and Oklahoma. CSAPR will impose additional obligations on our units in Texas, Arkansas, Oklahoma and Louisiana as well. EPA has indicated that additional requirements will be imposed to meet more stringent ozone or PM standards that are expected later this year.

**The EPA Rules Threaten Electric Grid Reliability, Create Higher Unemployment, and Result in Much Higher Electricity Rates for States Reliant on Coal Fired Generation.**

Although we are committed to working with EPA in the development of future control requirements under its proposed Utility MACT, CCR and 316(b) rules, the final Clean Air Visibility Rule, and the final Cross-State Air Pollution Rule, we have major concerns with these new EPA rules, including the following:

- **Infeasible Compliance Deadlines.** EPA is simply not providing sufficient time to design, permit, and install major emissions control technologies on large amounts of existing coal-fired capacity that are necessary to comply with EPA's Cross-State Air Pollution Rule (beginning in 2012, with more stringent limits in 2014), the proposed Utility MACT Rule (by the end of 2014 or by end of 2015) and the proposed Federal Visibility Rule in Oklahoma (end of 2014).
- **Multiple Major Regulatory Programs Resulting in Unprecedented Capital Expenditures, Mostly Before 2015.** There would be two to three times as much capital spent in the U.S. to comply with these new EPA rules by 2020, as compared to the amounts that were spent on all utility air pollution controls over the previous 20 years.
- **Abrupt and Significant Power Plant Retirements due to the Combination of the High Costs of Compliance and the Infeasible Deadlines.** Recent studies have suggested that between 50 and 110 GW of coal fired capacity will be forced to prematurely retire due to proposed EPA rules. The un-depreciated balances associated with these retirements will place greater pressures on utility rates and the impractical deadlines will increase the risk of stranded investments.
- **Unanticipated Electric Grid Reliability Problems Particularly during 2014-2016.** This impact is projected to occur due to the large number of premature retirements plus the substantial amount of idled capacity due to insufficient time to design, permit, and install major emissions controls as well as the wide-scale unit outages that are required to "tie-in" these major new emission controls. These greatest capacity

reductions will occur in the PJM region, a very large power pool which covers the Mid Atlantic states (NJ, PA, DE, MD), plus several states just to the west (including WV, OH, IN, MI and parts of IL) as well as in the SERC (i.e. Southeast Reliability Coordinating Council) region, which includes most of the Southeastern U.S., with additional localized reliability issues in these regions and ERCOT and SPP.

- **Very High Electricity Rate Increases Due to High Capital Costs of Compliance and New Replacement Capacity.** These rate increases will hit electricity intensive manufacturing in the Appalachian Region as well as other parts of the Midwest and Southeast particularly hard, leading to industrial plant shutdowns and substantial job losses. It will also be disproportionately borne by consumers in some of the poorest rural counties in these same states where there are many customers who are unemployed or on fixed incomes.
- **According to the NERA Study as well as Testimony of Other Economists, Over 1 Million Net Job Losses in the U.S.** A large portion of these losses will be borne by states and rural counties that are already experiencing much higher electricity rates due to previous environmental investments. Though there will be some temporary gains in employment due to construction of new pollution control and new gas-fired generation, these will be more than offset by (1) direct losses at shuttered coal-fired plants and related supply chain losses in mining and transportation; (2) reduction of industrial activity (and hence jobs) in these same states as higher electricity rates result in industrial plant shutdowns and output cuts; (3) indirect losses occurring as local supporting employment dwindles in the states and localities experiencing these losses; and (4) wide-scale job losses across the U.S. as consumers and business shouldering higher electricity rates cut back on consumption of other goods reducing GDP overall and jobs in a variety of industries.

The remainder of my testimony provides more detail on the costs, reliability and other serious impacts of the new EPA regulations as well as potential remedies for these problems.

**There is Not Enough Time to Comply with EPA's New Rules for Controlling SO<sub>2</sub>, NO<sub>x</sub>, and HAP Emissions from Power Plants.**

EPA's Cross-State Air Pollution Rule and Utility MACT Rule will require installation of a large amount of scrubbers and other capital intensive air emission controls. In particular, under the Cross-State Air Pollution Rule, the SO<sub>2</sub> caps become significantly more stringent in 2014 for more than two-thirds of the States covered under the SO<sub>2</sub> portion of the rule.<sup>1</sup> These States are ones most reliant on coal, and will bear the major portion of the compliance burden for limiting SO<sub>2</sub> emissions. The SO<sub>2</sub> budget limits in Eastern states, specifically states in the Appalachian Region, are equivalent to an average emission rate of approximately 0.20 to 0.30 lbs SO<sub>2</sub> per million Btu. Such very low emission rates can only be achieved at power plants burning Eastern bituminous coals by adding scrubbers. As such, these limits would require most all of AEP's coal-fired power plant units in these states to either install FGD, switch to natural gas or retire early in order to comply.

In addition to the massive SO<sub>2</sub> emission reductions required in 2014, the SO<sub>2</sub> and NO<sub>x</sub> emission reductions slated for 2012 are very significant as well. These new emission requirements will be enforced less than 6 months from now, with little advanced notice, as the final requirements of the Cross-State Air Pollution Rule are significantly more stringent than those of the proposed Transport Rule. As an example, Ohio, Pennsylvania and Virginia are required respectively to make 46%, 30% and 24% reductions in SO<sub>2</sub> emissions versus 2010 levels by next year. Other states outside the Appalachian Region are also hit hard with stringent SO<sub>2</sub> reduction requirements. For example, Texas and Indiana are required to reduce by 2012 SO<sub>2</sub> emissions by 47% and 31% respectively, as compared to actual 2010 levels.

These "new" reduction requirements in just six months (first known with the issuance of the final rule just a few weeks ago) are particularly problematic because utilities are largely unable to make modifications to existing power plants in this time frame to substantially reduce emissions. Also, as most utilities procure most of their coal on a contractual basis well in advance, a major switch to lower sulfur coals is often not a realistic option. As a

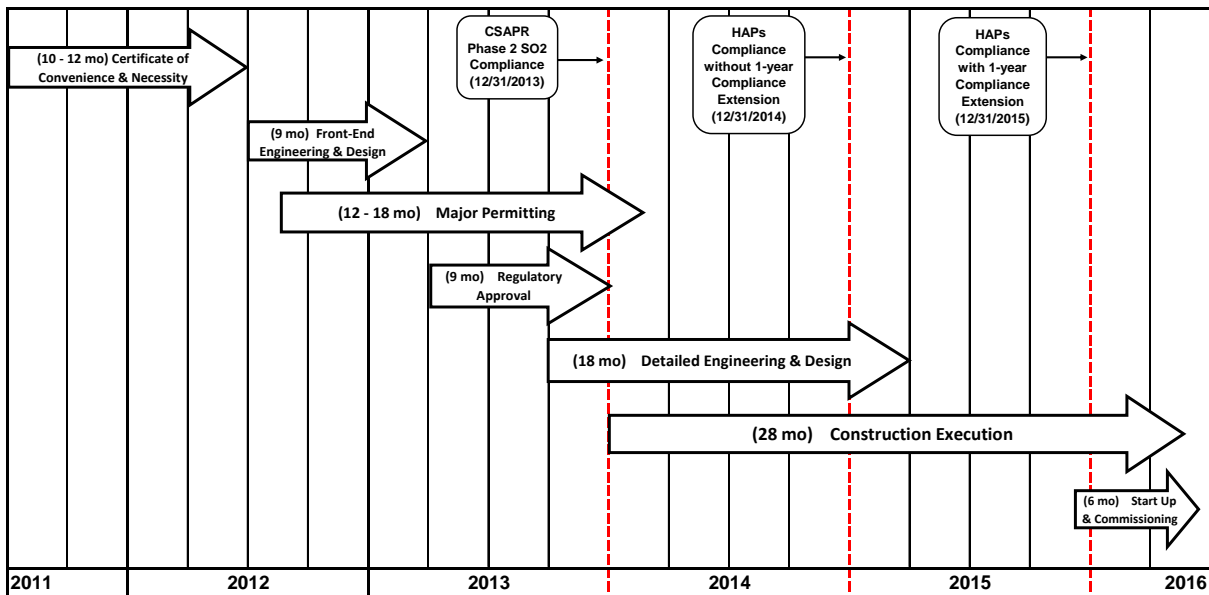
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<sup>1</sup> Specifically, 16 States, out of the 23 States covered under the Cross-State Air Pollution Control Rule program for SO<sub>2</sub>, would be subject to more stringent SO<sub>2</sub> reduction requirements starting in 2014.

result, coal-fired power plants will likely have to be significantly curtailed or retired. Replacement electricity is likely to come in the form of more expensive gas-fired generation. Additionally, the replacement capacity might not be located in areas critical to transmission reliability, or able to provide voltage support or black start capability, creating further hardships and increasing the costs of maintaining the electric grid.

In addition to the Cross-State Air Pollution Rule, the proposed Utility MACT Rule requires compliance on a plant by plant basis with three separate emission limits (1) a very low mercury limit, (2) a PM limit (as a surrogate for non-mercury metals), and (3) a hydrogen chloride limit (as a surrogate for acid gases, or an optional stringent SO<sub>2</sub> limit as a surrogate at certain units). These limits will have to be met by the end of 2014 with a possible one-year extension allowed to the end of 2015. Based on a thorough review of these limits (and when combined with the requirements of CSAPR), we believe AEP will be required to retrofit scrubbers on most of the remaining Eastern fleet, and at a minimum, install a combination of baghouses, carbon injection and DSI (dry sorbent injection) for SO<sub>2</sub> removal at our plants in Texas, Arkansas and Oklahoma. For our Western fleet, some of these same units are affected by EPA's Clean Air Visibility Rule (CAVR), and thus could be required to retrofit scrubbers on the same or a slightly longer schedule.

Compliance with the final Cross-State Air Pollution Rule and proposed Utility MACT Rule, plus the existing Clean Air Visibility Rule, will effectively require AEP to install scrubbers at its unscrubbed units or retire the plants altogether, and to do so for virtually all of these plants by the end of 2014 (or perhaps the end of 2015 if a one year extension is granted). This allows between 2 ½ and 3 ½ years for compliance with at most 4 ½ years in a few cases. This time frame is completely infeasible to get regulatory approvals, design, permit, fabricate, and install a retrofit scrubber as shown in Figure 1 below:



**Figure 1**

Figure 1 shows that the average time needed from project commencement to completion for a retrofit scrubber is five years for a regulated electric utility. (The time frame is similar if a unit is retired and replaced on site with a new combined cycle gas plant). This figure is based on the actual average time period needed during 2003-2010 when AEP added scrubbers at 7,800 MW of capacity or more installations than anyone else in the industry. Given that the EPA rules will require a greater number of retrofit projects and/or plant replacements and other related environmental investments across our industry within the same three to five year window, compliance with the Utility MACT Rule and Cross-State Air Pollution Rule is simply infeasible within this very short compliance period.

**Capital Costs and Total Costs of Compliance with EPA’s Rules are Unprecedented.**

Because EPA is proposing several major rules all at once as well as scheduling compliance at the same time as other existing rules go into affect such as the Clean Air Visibility Rule, the level of additional capital investment required to meet all these rules is unprecedented:

- EEI, ICF and others have estimated that up to 227 GW of coal-fired capacity (approximately two-thirds of the U.S. coal-fired fleet) would have to comply by EITHER



making major environmental investments OR by prematurely retiring and replacing that capacity with new gas-fired capacity.

- Many of these coal units are smaller and older, with very high per unit costs to retrofit them. Older and smaller units often have poor economies of scale, space and design constraints and thus typically have a much greater retrofit cost and difficulty given that they were not originally designed for back-end pollution controls.
- AEP has estimated that its capital costs for compliance will be \$6 - 8 billion with most of this being spent in just the next 5 years.
- ICF in an analysis conducted for the Edison Electric Institute (EEI) has estimated approximately \$140-247 billion in additional capital costs associated with retrofitting or retiring and replacing coal units with most of this occurring in the next five years. This amount of incremental capital spending related to meeting EPA regulations is unprecedented in the electric utility industry. It is estimated to be about two to three times the environmental capital spent by the industry in the past 20 years.
- A study conducted by National Economic Research Associates (NERA) for the American Coalition for Clean Coal Electricity (ACCCE) estimated a similarly massive amount of incremental capital investment (approximately \$124-168 billion) to comply with the less stringent proposed Clean Air Transport Rule (as compared to the final CSAPR) and proposed Utility MACT Rule. To develop these estimates, NERA used the federal government's major energy and environmental model the National Energy Modeling System (NEMS) model used by the U.S. Energy Information Administration (EIA) and employed the most recent EPA/EIA energy price and pollution control cost assumptions.

**High Costs and Infeasible Deadlines Will Lead to Substantial Coal Plant Retirements and Significantly Compromise Electric Grid Reliability.**

Due to the high costs of compliance and infeasible time deadlines, a large amount of coal unit retirements at AEP and across the industry is expected in 2014-15 time period. In addition, a

large number of units that are complying by retrofitting will have to be taken out of service, mothballed or significantly curtailed during the 2014-16 time period as well.

- About 78 GW of coal units are “older units” (greater than 45 years old in 2015) and 54 GW of these units are “smaller” (i.e. less than 300 MW unit size). Thus, at least 54 GW of coal units are very likely to retire because it will be uneconomic to retrofit these older, smaller units with only a limited useful life (10-15 years at most) over which to amortize these investments.
- AEP estimates that in its own coal fleet ~6 GW of its coal fired capacity (or about 25 percent of its coal capacity) would retire by the 2014-2015 time period under the EPA rules. We recognize that several of our units are also subject to the requirements of our New Source Consent Decree, but only 615 MW is required to comply with those requirements before 2015. Other major coal-fired utilities such as Southern Company and DTE Energy Company have estimated that a similar 20-30 percent of their coal fired capacity would retire in the period before 2015.

AEP also estimates that 1.5 – 5 GW of coal-fired capacity would be temporarily out of service or severely curtailed during 2014-16 as retrofit pollution controls are being completed.

Recent study estimates of U.S. retirements vary, with some being more credible than others. However, only a few studies looked at ALL of the major EPA rules in combination and also considered the potential effect of a CO<sub>2</sub> price (due to either future CO<sub>2</sub> regulations or legislation) on the retrofit/retirement decision at least in a sensitivity analysis. One study that looked at all or most of the major EPA rules and considered the possibility of CO<sub>2</sub> costs impacting the retirements was the ICF study conducted for EEI. Notably, the ICF study estimates between 46 and 101 GW of total coal unit retirements (~14 to 30 percent of total capacity). The upper end of the range includes CO<sub>2</sub> costs in the decision making; the lower end of the range is much more conservative and assumes no CO<sub>2</sub> costs. Other recent studies evaluating the impacts of multiple EPA rules also indicate substantial shutdown of existing coal-fired capacity.

- In an analysis of the proposed Transport Rule (which is less stringent than the final CSAPR) and the proposed Utility MACT Rule, the NERA study conducted for ACCCE estimates 53 GW of total coal plant retirements by 2016. This represents ~15% of U.S. coal capacity to be eliminated in only a five-year period.
- Credit Suisse has estimated between 35-100 GW of retirements, with a likely average of about 60 GW under EPA proposed Utility MACT and Transport rules.

By contrast, EPA has not evaluated the combined impacts of ALL of the new environmental regulations. The failure to evaluate the cumulative regulatory impacts of the new rules is one important reason why EPA has continually underestimated the amount of retirements in the U.S. in its various regulatory impact analyses (e.g., in the Regulatory Impact Analyses for the proposed Utility MACT Rule, there is 15 GW of total retirements estimated by 2020). Another important reason is the faulty financial assumptions employed in the economic modeling analyses (e.g., EPA assumes 30 years of financial amortization of investment instead of a more likely remaining life of 10-15 years for older units).

Given the high likelihood of a very large number of retirements as well as the reduced generation from other coal units during the 2014-16 period, there is a greatly increased risk that electric grid reliability could be seriously compromised in various regions of the United States. The most serious issues are expected in two of the largest reliability regions in the U.S. One is the ReliabilityFirst Corporation (RFC) region, which includes all or portions of the Appalachian Region states of PA, WV, OH, KY, WV and VA. The other is the Southeastern Reliability Corporation (SERC) region, which includes TN, AL, MS, GA and FL. Based on the ICF estimates about 17-41 GW is expected to be retired in SERC region (or 17-41% of coal fired capacity in the region) and about 16-29 GW in RFC region, (or 14-25% of coal capacity in that region). Additionally, many plants will be temporarily idled in these regions due to inability to install the necessary emission controls within the short compliance timelines of the EPA rules (e.g., 2014-2016). It will not be feasible to replace all of this generating capability and/or the grid support functions currently supplied by that generation in the near term and hence there is a greatly increased risk that reliability may be compromised.

The exact effects on electric grid reliability are difficult to determine but SERC, PJM and North American Electric Reliability Corporation (NERC) with input from their member utilities are looking at this issue in light of the proposed EPA rules that were issued this spring. Updated studies are expected this fall. One important question is: Whether there will be enough capacity in the 2014-16 timeframe to meet peak demand with an adequate planning reserve margin (needed to ensure regional grid reliability in the event of significant unexpected outages and greater than expected peak demands)? Another question is: How quickly can new capacity be built to fill the void due to the retirements?

Not only is there concern about reliability in these two large NERC regions or power pools, but recent letters or statements from both the Southwestern Power Pool (SPP), which covers all or parts of Arkansas, Kansas, Louisiana, Missouri, Mississippi, Nebraska, New Mexico, Oklahoma and Texas) and the Electric Reliability Council of Texas (ERCOT) highlight additional concerns. In just the last week, the President and CEO of ERCOT noted in a written statement that “This is one of those cases where we believe it is our role to voice our concern that Texas could face a shortage of generation necessary to keep the lights on in Texas within a few years, if the EPA’s Cross-State Rule is implemented as written.”<sup>2</sup> In addition, the President and CEO of SPP, Nicholas Brown noted in a letter (along with an accompanying report) that “SPP is concerned that the timeframe for compliance with the proposed rules, should they be approved, may be more aggressive than what can be achieved by industry. Should this be the case it may adversely impact grid reliability due to the sudden retirements and outages at units.”<sup>3</sup>

NERC, SERC and RFC must also consider the local grid stability and reliability issues, which are far more complicated. These reliability issues relate to the adequacy of the ancillary services that are necessary for load following, reactive power and voltage support, black start and system restoration to name a few. Many of these services are provided locally by AEP subcritical coal units into the RFC region. Many of these same units would retire by the end of 2014 under the EPA rules. They must be replaced with specific types of resources on site, or very nearby, in order to ensure that local grid reliability is not compromised (though in some cases these services may be replaced by further local transmission investment over

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<sup>2</sup> Electric Reliability Council of Texas (ERCOT) [Statement Regarding EPA Cross-State Air Pollution Rule](#)

<sup>3</sup> Southwest Power Pool (SPP) letter to EPA, July 19 2011

the longer term). Many other retiring coal units at other utilities are providing similar services in their localities. This problem is complicated, requires careful planning, detailed electrical transmission system modeling and long lead times to replace capacity and equipment.

**Unfortunately, the EPA rules do not provide adequate time to complete all of these tasks to ensure grid reliability.**

**Very High Electricity Rate Increases Will Result Due to High Capital Costs of Compliance and New Replacement Capacity.**

The new EPA rules, imposing stringent control requirements within the same short time-period, will result in an unprecedented amount of capital being deployed by the coal-fired electric sector on both environmental retrofits and replacement capacity. Recent studies have estimated that between \$124-247 billion in additional capital costs will be incurred by the coal-fired electric sector, as a response to the new EPA rules.<sup>4</sup> Furthermore, these costs will likely occur over a very short (five-year) time period. This amount of deployed capital is more than two times the total capital invested in environmental capital over the past 20 years and will have significant impacts:

- According to the NERA analysis, these large capital costs along with significantly higher fuel and operating costs for electric utilities will increase the nationwide average retail electricity rate by 11.5% by 2016<sup>5</sup>. These rate increases will be much more pronounced (12% - 24%) for 24 states which rely most heavily on coal-fired electricity. (e.g. the Midwestern and Southern states).
- Much of the U.S. industrial and manufacturing base will be hit the hardest by the new EPA rules. Rural population centers, which already account for some of the highest national unemployment rates, will also face increasing economic distress due to much higher electricity rates.
- Natural gas prices could also see a spike due to the new EPA rules and the increasing reliance on gas fired generation units. Natural gas price increases could increase

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<sup>4</sup> ACCE, NERA report "Economic Impacts of Proposed Transport Rule and Utility MACT Rule (June 2011).and EEI, ICF report "Potential Impacts of Environmental Regulation on the U.S. Generation Fleet (January 2011)

<sup>5</sup> NERA (2011)

further if optimistic projections of shale gas prove to be overstated or policy measures are taken which reduce supply.

### **Over One Million Net Job-Year Losses in the U.S.**

The collection of new EPA rules on the electric power sector will have a significant negative impact on American workers. EPA has been quoted that “hundreds of thousands of jobs” will be “created over the next five years” due to the new environmental rules for the electric power sector.<sup>6</sup> However, EPA fails to quantify the lost jobs due to the premature shutdown of existing power plants, higher electricity prices, and other adverse impacts of the new environmental rules. In addition, EPA overlooks the fact that the added jobs attributed to the installation of pollution control equipment will be short-term construction jobs to comply with new rules, not long-term permanent jobs. When these other factors are considered in order to develop a broader economic picture, the economic reality of EPA’s new rules is much different. **This is a critical conclusion of the NERA study, which projects 1.44 million NET job-years losses would occur between 2013 and 2020.**<sup>7</sup> States within the Appalachian Region face large, across-the-board net job-year losses, as shown in Figure 2. This negative employment impact of EPA’s proposed rules is caused by several factors:

- Significant increases in electricity and natural gas prices will cause significant reductions in the amount of goods produced in many industries because of the higher costs to provide those goods and services. A decrease in production or output will result in job losses in affected industries.
- As electricity prices increase for the industrial, natural resources and manufacturing sectors, the prices for their products will increase. These price increases will likely be passed through to consumers in the form of more expensive goods and services, reducing real purchasing power. In addition, the industrial and manufacturing sectors, already facing significant international competition, will be at a further disadvantage and face reductions in both exports and domestic output. These

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<sup>6</sup> “EPA’s power plant rules would spur job creation – report” (*Greenwire, 02/08/2011*)

<sup>7</sup> NERA (2011). A loss of one job-year is equivalent to a loss of one job for a period of one year. Job-years are commonly used by economists, CBO, OMB and others in reporting employment statistics.

factors will all contribute to further job losses as industry and manufacturing are forced to lay-off workers.

<b>Job Losses Due to EPA's Propose Transport and MACT Rule (Select Appalachian Region States)</b>	
	<b>Net Job Losses 2013 -2020 (Job-Years)</b>
<b>NORTH CAROLINA</b>	<b>47,000</b>
<b>OHIO</b>	<b>53,500</b>
<b>PENNSYLVANIA</b>	<b>59,000</b>
<b>VIRGINIA</b>	<b>50,000</b>
<b>WEST VIRGINIA</b>	<b>38,500</b>
<b>U.S. TOTAL</b>	<b>1.4 Million</b>

Source: ACCCE/NERA Study (June 2011)

**Figure 2**

**EPA May Impose Additional Requirements on an Accelerated Basis.**

EPA has noted in the Cross-State Air Pollution Rule that it plans to use the rule as a template in future rulemakings to achieve revised fine particle and ozone standards. The ozone standard is being developed outside the normal process for revising the ambient standards and will greatly accelerate the imposition of new controls requirements if it is made more stringent. Moreover, the limited time frame between the release of the final CSAPR and the release of these new standards makes the investment planning process for the currently proposed and recently finalized rules inefficient and uncertain. The risk of stranded or unnecessary costs associated with marginal pollution controls or temporary reliability fixes increases dramatically. Such unpredictability also increases the probability that coal power plant units will be prematurely retired in order to avoid these investment and rate recovery risks. EPA should not revise the ozone standard outside the ordinary process for review of the ambient standards, and should coordinate its efforts to provide needed certainty for business.

## **There is A Better Way.**

The combination of EPA's new rules for power plants will result in a series of relatively inflexible and stringent air pollution and other environmental regulations with infeasible timelines and unnecessarily high compliance costs. As already noted, in addition to high costs borne by our electricity customers, these new rules could also result in many premature plant retirements and over 1 million net jobs lost in the U.S.

We believe that a more holistic approach to energy and environmental policy is needed. AEP has been working closely with several labor unions to develop a new approach, including the International Brotherhood of Electrical Workers (IBEW); the United Mine Workers of America (UMWA); and the International Brotherhood of Boilermakers, Iron Ship Builders, Blacksmiths, Forgers, and Helpers. A comprehensive analysis of the economic impacts of the proposed regulations as well as the feasibility and timing of their implementation is needed. While we continue to support sound policy aimed at improving air quality and public health, numerous economic studies and modeling analyses have demonstrated that the implementation of these major EPA requirements occurring in the same narrow time period will have major adverse economic repercussions. More time for phasing in the new control requirements is required to smooth the impacts associated with power plant closures and electricity rate increases, as well as to allow for the construction and installation of major environmental retrofit controls. Longer time frames would also enable better planning, ensure electricity grid reliability and avoid many premature plant shutdowns or excessively high costs for pollution controls due to supply constraints.

Given the multi-dimensional nature of major environmental policy initiatives, and the immediacy of the compliance deadlines, we believe that Congress must intervene and assure that a sensible multi-pollutant environmental program is developed on a rational schedule and that this schedule is coordinated with the other new EPA rules. We believe that a legislative approach can continue to promote the air quality and public health goals set forth in EPA's regulatory initiatives while ensuring that adequate emphasis is focused on the employment, economic and reliability impacts of the program.



## **Conclusion**

In summary, American Electric Power recognizes that there are many regulatory drivers for additional emissions reductions and other environmental requirements from our coal-fired power plants and is actively planning to meet these new regulatory requirements. However, it is critical that any of the new EPA rules be structured in a way to allow for cost-effective implementation on a reasonable schedule so as to minimize the impacts on our residential customers, local businesses, and the reliability of the electricity grid. It is also critical that the emissions reduction levels of the program be set at levels that are technically feasible to achieve over the given time frame and are in fact necessary to fulfill the air quality goals and requirements of the Act. Moreover, it is important that such a program provide some measure of certainty over future compliance obligations, as AEP and other electric utilities continue the transformation of the electric generating fleet in this country. In their current form, the new EPA rules do not achieve these objectives.

Finally, AEP urges the Congress to consider adopting a multi-pollutant control program coordinated with the other new EPA rules that can achieve the anticipated emissions reductions from the electric power sector over the next decade in a manner that is consistent with all of these objectives. AEP believes that a coordinated approach will protect the environment, American workers (including labor unions and their members), local economies across the nation, and the American people.

AEP would like to thank the Committee for the opportunity to present the views of AEP on this important issue.

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Prior to joining American Electric Power, Ms. Henry was in private practice in Columbus, Ohio at the law firm of Porter, Wright, Morris and Arthur. She was partner in the Energy, Environmental and Government Affairs practice, where she provided a wide range of services to clients on environmental and energy matters.

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