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FOR AMERICAN ELECTRIC POWER

BEFORE THE SENATE ENVIRONMENT AND PUBLIC WORKS COMMITTEE AND SUBCOMMITTEE ON CLEAN AIR AND NUCLEAR SAFETY JOINT HEARING

“S. 2995, THE CLEAN AIR ACT AMENDMENTS OF 2010”

March 3, 2010

Good morning. My name is John McManus. I am the Vice President of Environmental Services for American Electric Power (“AEP”). I would like to thank the Committee and Subcommittee for the opportunity to testify on behalf of AEP on “The Clean Air Act Amendments of 2010.”

American Electric Power 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. AEP’s generating fleet employs diverse energy sources – including coal, nuclear, hydroelectric, natural gas, oil, and wind power. Most importantly for today’s hearing, though, approximately two-thirds of our generating capacity utilizes coal to generate electricity.

AEP’s Current Efforts to Achieve Substantial Emissions Reductions

AEP has achieved very substantial SO₂ and NO_x reductions over the last two decades. Our efforts began with an ambitious effort to cut SO₂ and NO_x emissions in the 1990’s under the Acid Rain program. 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_x reduction requirements of the NO_x 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_x and SO₂ reductions required under the Clean Air Interstate Rule (CAIR). To date, we have invested over \$5 billion in emissions control equipment on our coal units to reduce SO₂ and NO_x emissions and comply with the NO_x SIP Call and CAIR programs.

As a result of these efforts, our SO₂ and NO_x emissions are at their lowest level in decades. In the last 10 years, our annual SO₂ emissions have declined 600,000 tons (57%) and our annual NO_x emissions have declined 365,000 tons (75%). We also know

that we have achieved significant mercury emissions reductions as a result of our SO₂ and NO_x emissions controls, even though the Clean Air Mercury Rule has been vacated. As the first phase of CAIR has taken effect in 2009 and 2010, amid some of the most difficult economic times our country has faced, our customers have shouldered the cost increases associated with these significant investments. The recovery in the Midwest and south central regions has not yet begun, and the prospects for recovery would be impaired by legislation that does not carefully balance the twin goals of environmental and economic progress.

We expect this transformation of our coal fleet to continue in the coming decade, even without new legislation. We currently have requirements to reduce SO₂ and NO_x emissions further at units that are regulated under the Clean Air Visibility Rule. We are also moving forward with emissions reduction projects to meet our obligations under the consent decree that AEP entered into with the Government related to the New Source Review Program. While considerable uncertainty exists over the timing and form of future regulations, we know that EPA is actively pursuing additional programs to reduce emissions, including a revised CAIR program, a new rule to address mercury and other hazardous air pollutants, and the establishment more stringent national ambient air quality standards. Although committed to working with EPA in the development of future control requirements, we have concerns about the timing of compliance associated with multiple and overlapping programs, as well as the stringency and structure of the underlying regulatory requirements. Some of those concerns are:

- The cumulative costs of multiple requirements and their impacts on our customers
- Immediate deadlines that do not take into account the need for economic recovery in our service territories
- The risk of stranded investments if near-term installations do not achieve the reductions required by future standards
- Lack of coordination between programs
- Impacts to grid reliability due to wide-scale unit outages to install emission controls and broad unit retirements within an aggressive compliance time frame
- The significant investments that may be required by non-air environmental programs

With respect to this last point, it is important to note that these Clean Air programs are not the only new environmental regulatory obligations we may face. EPA is currently developing a proposal related to the disposal of coal combustion byproducts that could

establish new requirements on how these materials are handled and significantly increase the cost of disposal. EPA is also revising its rule related to cooling water intakes and has announced its intent to update the steam-electric effluent guidelines. Both programs could result in significant new costs for existing power plants. Taken as a whole, this cost exposure is raising concern about the economic viability of a large number of coal-fired units, as well as potential impacts to grid reliability. And this is without consideration of the impact of legislation or regulation to limit carbon emissions.

Taking all of this into consideration, the transformation that we see in the coming decade could be very different from the last. This past decade saw the installation of emissions controls on many units on the AEP fleet as well as across the country. Those installations preserved the value of capital already invested, created new jobs, and produced significant environmental benefits. This coming decade may see more decisions to retire some units in addition to adding controls on other units. In fact, some companies have already made announcements about plans to retire older, smaller coal-fired units in the face of ever-increasing environmental obligations. The impacts of these retirements go far beyond the closure of the individual plant – they often represent the best-paying jobs in relatively rural regions, and there is little prospect for the replacement of those jobs. They also can have significant impacts on the reliability of the electric grid. The key to our ability to effectively manage this program will be the timing and achievability of the compliance obligations and the flexibility of the control programs. Clean Air Act amendments that achieve environmental objectives with reasonable schedules and compliance flexibility could be extremely helpful to protecting the environment without unduly hurting American workers.

The Clean Air Act Amendments of 2010

Unfortunately, the Clean Air Act Amendments of 2010 as currently proposed do not achieve this result. While the bill would retain the flexibility of regional emissions programs for SO₂ and NO_x, other provisions in the proposal are unrealistic and inflexible, and would increase the cost of compliance unnecessarily. AEP is particularly concerned about the following provisions:

Timing of SO₂ and NO_x requirements – AEP applauds the structure of the SO₂ and NO_x programs in the bill, with the reliance on an allowance-based program that is implemented on a national basis for SO₂ and on a broad, two zone regional basis for NO_x. However, the schedule for implementing the new program's more stringent emission caps is too fast. Under the proposal, the first SO₂ cap applies in 2012 with EPA rules to establish allocations due at the end of 2011. This allows for only one year for implementation. While the use of banked allowances will help with the transition to

the new cap, it is unreasonable to assume that no additional control equipment will have to be installed to meet these more stringent requirements.

One year is not nearly enough time for this. Increasing the stringency of the caps in 2012 creates major logistical challenges for the electric power sector. Companies will not have sufficient time to schedule outages and install emissions controls that are necessary for meeting new reduction requirements. The bill should provide a longer planning horizon before tightening the SO₂ and NO_x emissions caps in 2012. The first caps in 2012 are set at 3.5 million tons for SO₂ and 1.89 million tons for NO_x. To ensure companies have sufficient time to achieve these reduction levels, the bill should delay until 2015 the imposition of the first SO₂ and NO_x emissions caps.

Furthermore, this short time frame for implementation is inconsistent with past multi-pollutant reduction programs. Congress, for example, provided almost a decade to implement in two phases the SO₂ and NO_x reductions mandated under the Acid Rain program. Similarly, EPA established a two-phase program for achieving the reductions obligations under the CAIR program. The Phase I deadlines for CAIR allowed almost five years from promulgation of the final rule until the first compliance year for SO₂ and almost four years for NO_x. The Phase II deadlines allowed another five to six years before the more stringent Phase II reduction requirements went into effect for SO₂ and NO_x respectively.

Stringency of SO₂ and NO_x requirements – The bill significantly tightens the CAIR emissions caps for both SO₂ and NO_x. The tightening of the annual SO₂ emissions cap is accomplished by lowering the Phase II Acid Rain emissions cap from 8.95 million tons of SO₂ to 3.5 million tons in 2012-2014, 2.0 million tons in 2015-2018, and 1.5 million tons in 2020 and each year thereafter. With respect to NO_x, the bill establishes two separate NO_x emissions caps, with one cap applying to 32 states and the District of Columbia in the eastern half of the United States and the other applying to the 16 remaining western states. Although the eastern cap is only slightly more stringent than CAIR, the western cap imposes significant additional NO_x reductions on the electric power sector.

In addition to being an extremely aggressive emissions control program that will impose substantial increased compliance costs on the electric power sector, AEP has concerns with the need for the emissions cap levels proposed for 2015 and beyond under the bill. Specifically, we are aware of no EPA air quality modeling that demonstrates that these reduction levels are necessary to achieve the national ambient air quality standards or other environmental goals established under the Clean Air Act. Justification must be provided before requiring additional reductions below 3.5 million tons for SO₂ and 1.89 million tons for NO_x.

Another related concern is that the bill authorizes EPA to further tighten the SO₂ and NO_x emissions caps for calendar year 2021 and beyond. AEP believes that this conferral of authority is very broad and allows EPA to tighten the caps if it believes that additional reductions are necessary “to protect public health or the environment” or “to assist with the attainment or maintenance” of any national ambient air quality standard. The authority to tighten the caps should be eliminated from the bill. If further reductions are necessary from the electric power sector, the Clean Air Act contains multiple mechanisms for requiring these additional reductions within a state on a source-specific basis or across multi-state regions.

Use of more aggressive auctions than currently exist – The bill would establish a much more aggressive allowance auction program than currently exists under the Acid Rain SO₂ allowance auction. Although the language in the bill is not clear, one plausible reading of the auction provision is that, starting in 2018 for SO₂ and in 2014 for NO_x, the number of allowances auctioned increases by 10 percent each year until 100 percent of the SO₂ and NO_x allowances are auctioned in 2027 and 2024 respectively.

This phase-in of SO₂ and NO_x auctions will unnecessarily add to the cost of compliance with no incremental environmental benefit. It should be noted that one of the main reasons for inclusion of an auction in the original Acid Rain program was due to the uncertainty at the time over how an allowance-based compliance program would work and concern about the availability of allowances in such a new market. Congress included a nominal auction program to help “kick start” an allowance market. That need has long since passed as evidenced by the robust market for both SO₂ and NO_x allowances that has existed for years. At this point in time, the only result of a more aggressive auction program will be to increase compliance costs. Given that those costs, which are eventually borne by electricity customers, will be significant just for the installation of controls, there is no justification for raising them artificially with an auction.

In light of these considerations, AEP believes that the SO₂ and NO_x auctions should be eliminated from the program.

Method for Distributing NO_x Allowances – The bill prohibits EPA from distributing free NO_x allowances to affected units “based on baseline heat input fuel adjustment factors” under the annual NO_x cap-and-trade program. The elimination of fuel adjustment factors would penalize coal-fired generation and provide a windfall of NO_x allowances to gas- and oil-fired generation. The bill should direct EPA to use fuel adjustment factors in allocating NO_x allowances, as provided in the current CAIR rule. In the CAIR rulemaking, EPA selected the fuel factor adjustment approach as the most equitable and appropriate manner to distribute NO_x allowances to affected electric

generating units under a cap-and-trade program.¹ It is worth noting that, while the fuel factors issue was one of a number of issues identified by the D.C. Circuit Court of Appeals in its remand of CAIR to EPA, the Court did not construe the statute to legally bar the use of fuel factors in allocating allowances. Rather, the Court only ruled that EPA had not provided in the CAIR rulemaking sufficient justification for its decision to use the factors.

Stringency of mercury control requirements – The bill requires EPA to promulgate by January 1, 2012 source-specific performance standards based on “maximum achievable control technology” (MACT) for reducing mercury from coal-fired electric generating units. The bill requires the MACT performance standards to achieve overall at least a 90 percent reduction in mercury emissions from entire source category. AEP agrees with the bill’s focus on reducing only mercury emissions from coal-fired power plants. However, we have significant concerns about the stringency of the mercury reduction levels that are mandated under the bill.

A 90% reduction level for mercury is too stringent and unachievable in practice for the source category as a whole. As noted above, the installation of emissions control technology on a number of our coal-fired units has resulted in a mercury reduction co-benefit. AEP has measured these reductions, and while the combination of SO₂ and NO_x controls can achieve large reductions in mercury, we have not uniformly achieved 90% reductions. These controls are most effective, and the co-benefits are most significant, on units that burn bituminous coals. However, the chemistry is different at units that burn lower sulfur western coals. AEP has also installed activated carbon injection technology on two of our largest units. These units burn primarily western subbituminous coal. While we have seen significant mercury reductions, we do not have sufficient data yet to determine if a 90% reduction is achievable over an extended operating period. We are very concerned that the proposed 90% reduction requirement is too aggressive based on our understanding of the state of current technology.

Timing of mercury requirements – Affected coal-fired electric generating units must achieve compliance with the MACT performance standards for mercury by no later than January 1, 2015. This deadline provides only 3 years to achieve compliance once EPA promulgates the new mercury MACT standards. AEP believes a 3-year compliance window is too short and poses significant reliability concerns. First, AEP and other utilities will not have sufficient time to schedule outages and install emissions controls

¹ Although an absolute prohibition is not imposed under the seasonal NO_x program, the bill expressly authorizes EPA to eliminate the allocation of NO_x allowances based the fuel adjustment factors currently used by EPA under CAIR. As noted above for the annual NO_x program, the elimination of fuel adjustment factors would penalize coal-fired generation and provide a windfall of NO_x allowances to gas- and oil-fired generation.

that are necessary for meeting new MACT standards. The bill should provide affected electric utilities with a longer planning horizon to develop and implement a compliance strategy for meeting the mercury control requirements, in coordination with the upcoming air regulatory requirements for other air pollutants. There is no question that additional, costly control technology will be needed on many units. This may lead to decisions to shut down units instead of incurring the cost of controls. Looking at this for the country's coal fleet, the combination of taking units out of service to install controls and retiring a significant number of units instead of installing controls presents a potential reliability concern for some regions of the country.

Lack of specific protection against regulation of non-mercury hazardous air pollutants – As the bill is currently written, EPA is not relieved from its current statutory obligation to set MACT standards for other non-mercury hazardous air pollutants (HAPs), including acid gases (such as hydrogen chloride and hydrogen fluoride), non-mercury metallic particles (such as arsenic, beryllium, cadmium), and organic HAPs (such as dioxins and furans). This means that EPA must also adopt MACT standards for these non-mercury HAPs in addition to its obligation to adopt mercury MACT standards. The MACT standards for non-mercury HAPs also would apply on a unit-specific basis and could require the installation of SO₂ scrubbers, baghouses and/or other enhanced particulate controls.

Regulation of non-mercury HAPs is a significant concern. As noted above, AEP agrees with not including other hazardous air pollutants in the bill. This is consistent with the results of the study that EPA conducted under section 112(n)(1)(A) of the Clean Air Act. Notably the EPA study concluded that there was not sufficient public health risk for non-mercury hazardous air pollutants emitted from coal-fired power plants. However, there are no provisions in the bill to prevent EPA from regulating other HAPs. This leaves a huge uncertainty over potential future exposure to what could be very significant compliance costs. For these reasons, the bill should expressly limit EPA's ability to regulate non-mercury HAPs emissions from coal-fired power plants.

No “safe harbor” protection against additional regulation of SO₂ and NO_x under other provisions of the Clean Air Act – The bill provides no “safe harbor” from future federal and state control requirements for SO₂ and NO_x emissions from electric generating units. EPA and states, therefore, could require redundant, overlapping, and inconsistent SO₂ and NO_x reductions under existing Clean Air Act authorities. Imposing such additional control requirements negates the flexibility and regulatory certainty that a multi-pollutant control program is intended to provide. By the time the caps are fully implemented, it is reasonable to assume that almost all existing coal-fired generating units will be either retrofitted with control technology or retired. The contribution of this emission source sector to air quality issues like ozone, PM_{2.5}, visibility, etc. will have

been adequately addressed. The bill should provide some certainty that no further requirements will apply for these pollutants.

Conclusion

In summary, American Electric Power recognizes that there are many environmental drivers for additional emissions reductions from our coal-fired power plants. And AEP is already planning for many of those reductions. However, it is critical that any comprehensive program like the one envisioned in the Clean Air Act Amendments of 2010 be structured in a way to allow for cost-effective implementation on a reasonable schedule so as to minimize the impacts on our customers and on 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 and in fact necessary to fulfill the air quality goals and requirements of the Act. Finally, it is critical that such a program provide some certainty over future compliance obligations as AEP and the rest of the industry continues the transformation of the electric generating fleet in this country. As it is currently written, the bill does not achieve these objectives.

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