

Statement of the Edison Electric Institute
Hearing on S. 131, Clear Skies Act of 2005
Senate Environment & Public Works Committee

February 2, 2005

The Edison Electric Institute (EEI) appreciates the opportunity to submit this statement for the hearing record. EEI has testified before this committee on several occasions in recent years regarding its commitment to passage of comprehensive multi-emission legislation, and that commitment remains strong.

EEI is the association of U.S. shareholder-owned electric companies, international affiliates and industry associates worldwide. Our U.S. members serve more than 90 percent of the ultimate customers in the shareholder-owned segment of the industry, and nearly 70 percent of all electric utility customers in the nation. They generate almost 70 percent of the electricity generated by U.S. electric companies.

In summary, it is EEI's view that sensible multi-emission legislation along the lines of the Clear Skies Act will ensure significant additional improvements in air quality nationwide. The electric power industry will be required to reduce emissions of sulfur dioxide (SO₂), nitrogen oxides (NO_x) and mercury by 70 percent from 2002 levels, with substantial cuts required by 2010.

Immediately upon passage of legislation, many companies will be spurred on by the emissions trading program that rewards early reductions and the need to meet the strict SO₂ and NO_x emission cuts in Phase 1, which account for three-quarters of Clear Skies' emission reduction requirements, and they will move quickly to design and install emissions control equipment. This is contrary to misleading claims by some stakeholders that Clear Skies' benefits will not accrue until full implementation of Phase 2 in 2018. In fact, legislation will produce *earlier, verifiable* reductions of SO₂ and NO_x than the combination of the Environmental Protection Agency's (EPA) proposed Clean Air Interstate Rule (CAIR) – which will apply to only 29 states and likely take many years

to move beyond litigation and state-specific implementation decisions – and *reasonably* predictable regulations in the future.

Regulation under the Clean Air Act (CAA or Act) is fraught with uncertainty and delay. Power companies are subject to roughly a dozen major air quality programs, often with overlapping or conflicting requirements. In addition, EPA regulations typically are subject to litigation, adding additional uncertainty and delaying air quality improvements. Because of anticipated litigation, and because it will take several years for states and EPA to complete decision-making on implementation, the precise requirements of EPA's CAIR and mercury proposals may not be known for a long time.

In contrast, sensible multi-emission legislation will harmonize CAA provisions, immediately establish mandatory emissions requirements, and break the cycle of perpetual litigation, allowing power companies to start implementing new requirements sooner than under continued piecemeal regulation.

The Progress We Have Made

The electric power industry has reduced its air emissions significantly in recent years, even as demand for electricity has increased. Attached is a chart highlighting SO₂ and NO_x reductions since 1980.

Electric generators have cut SO₂ by 40 percent, with significant reductions over past 10 years due primarily to implementation of the Act's Acid Rain Program (through flue gas desulfurization, or scrubbers, and switching to low-sulfur coal). Reductions will grow to almost 50 percent. The annual cost of the program exceeds one billion dollars.

Electric generators also have reduced NO_x emissions by about 40 percent since 1980, with significant reductions over the past 10 years attributable to installation of low NO_x burners and/or overfire air to meet the Act's Acid Rain Program requirements, and selective catalytic reduction (SCR) in the eastern U.S. for "NO_x SIP Call" and other programs in the Northeast to address ozone. When completed, our industry will have committed approximately \$10 billion to install SCR and will expend hundreds of millions

in annual operation costs. As a result, we will reduce NO_x by 80-90 percent throughout most of the eastern U.S. during the 2005 summer ozone season.

In addition, controls to reduce SO₂, NO_x and particulate matter currently are reducing mercury emissions by about 40 percent.

We have done all of this despite a steady climb in electricity demand, and without sacrificing the reliability and affordability of the electricity that we produce. For example, between 1980-2003 electricity from coal-fueled generation increased 67 percent.

According to EPA, air quality has dramatically improved as a result of these and other industry successes. For example, national average SO₂ ambient concentrations have been cut approximately 54 percent from 1983-2002 (U.S. EPA, Latest Findings on National Air Quality: 2002 Status and Trends Report). Since 1976, the average national ambient NO₂ concentration has fallen 41 percent (Pacific Research Institute's Index of Leading Environmental Indicators, April 2004). While monitoring for fine particles began only recently, average PM_{2.5} levels were reduced 10 percent from 1999 to 2003 (U.S. EPA, The Particle Pollution Report, December 2004). And, a recent EPA report finds that ozone levels in 2003 were at their lowest level nationwide since 1980. (U.S. EPA, The Ozone Report – Measuring Progress Through 2003, April 2004).

Today, we are poised to make dramatic additional reductions through new rules or multi-emission legislation consistent with the scope and framework of Clear Skies. Sensible multi-emission legislation will ensure significant additional improvements in air quality nationwide by requiring the electric power industry to reduce emissions of SO₂, NO_x and mercury by 70 percent from 2002 levels, with substantial cuts required by the Phase I deadline of 2010. With such additional reductions, we will have cut by almost 90 percent the emissions of SO₂, NO_x and mercury per ton of coal used or kW-hour of electricity generated.

The Current Clean Air Act

Coal-fueled electric generators face CAA emission control requirements that are duplicative, contradictory, costly and complex – which creates enormous uncertainty for future investment. The net result of the current regulatory system is a planning nightmare that makes it virtually impossible for electric generators to clearly understand what requirements will be in place for their plants at any point in the future. In addition, there are long construction cycles and large capital expenditures that prohibit us from accurately assessing which plants should be retrofitted with controls, which plants should be switched to different coals or to natural gas, which plants should be retired, and when any of this should take place. The result is a system that threatens the reliability and affordability of our nation's electric supply.

This regulatory morass also puts more pressure on the natural gas supply and delivery systems that already are yielding gas prices of great concern to the nation's industrial, commercial and residential gas, as well as electric customers.

Ironically, the present system also does not advantage those seeking further emission reductions from coal-fueled power plants. The piecemeal approach inherent in the CAA necessarily involves many sequential scientific and technical decisions by EPA and the States. Often, these decisions are challenged by environmental groups and their allies, but may not necessarily be resolved in their favor. Regardless of the substantive outcome of individual rulemakings, prolonged regulatory development inevitably is followed by litigation involving environmental, industry and other stakeholders, causing decision-making delays of five or more years for each major rule. This regulatory soup eventually may deliver cleaner air, but the accompanying chaos makes the timing of that environmental progress speculative. Unfortunately, the unpredictability of these rulemakings leads to the far more certain consequences of significantly higher electricity prices and further delays in environmental benefits.

Benefits of Multi-Emission Legislation

In contrast to the current piecemeal approach to regulation inherent in the existing Act, a well-designed multi-emission approach is the best roadmap for further reducing power plant emissions. Such legislation would address SO₂, NO_x and mercury, and benefit the environment, states and electric generator customers, employees and shareholders by:

- Providing certainty for the environment through low caps and emissions monitoring.
- Reducing litigation and locking in major emission reductions today, so that control strategies can begin immediately – resulting in cleaner air sooner.
- Substantially reducing the number of ozone and particulate matter non-attainment areas.
- Providing certainty for power companies due to a clear and simplified Clean Air Act, including coordinating reductions so that utilities are able to develop and use innovative multi-pollutant control technology.
- Addressing transported emissions and minimizing interstate conflicts.
- Allowing flexibility through emissions trading.
- Minimizing costs for consumers and cost impacts on shareholders.
- Maintaining coal as a generation fuel and avoiding major new pressures on natural gas supplies.
- Not disrupting reliable power generation.
- Avoiding a patchwork quilt of programs in different states and confusion and competitive issues for regulated sources.
- Providing the time necessary to attract capital for the multi-billion dollar investments needed to meet new requirements.
- Saving jobs at existing coal-fueled power plants and in the mining and rail industries, and creating jobs to construct massive pollution control projects.

Multi-emission legislation that is directionally consistent with the Clear Skies Act has also garnered tremendous support from a diverse group of stakeholders, including the U.S. Conference of Mayors, National Association of Counties, National Conference of Black Mayors, the Alliance for Rural America, several state departments of

environmental protection, the National Association of Manufacturers, the U.S. Chamber of Commerce, and a wide range of individual industries.

Legislation is Superior to Regulation

EPA's CAIR and mercury proposals would reduce SO₂ and NO_x by about 70 percent from 2002 levels for 29 states, and would reduce mercury by 30 percent (through MACT) or 70 percent (through cap-and-trade). The CAIR proposal also would contribute significantly toward attainment of the new air quality standards for 8-hour ozone and PM_{2.5}. EEI estimates that the combination of the two proposed rules would yield the largest industry investment in emission reductions in CAA history, *i.e.*, \$20-\$28 billion (NPV 2004-2020, 1999\$).

Among EEI's recommendations to EPA are that the new regulations should integrate and streamline existing programs to the maximum extent possible, provide flexibility through unlimited emissions trading, and provide adequate time for implementation. Regarding mercury specifically, sufficient time is needed to implement any program because mercury control technologies are not yet "commercially available." While there continues to be impressive research progress, there also exists minimal operational experience and limited vendor guarantees.

However, there are many reasons why sensible multi-emission legislation would be superior to EPA's proposed regulations, and for a wide range of stakeholders. Compared to the conventional regulatory process, legislation would:

- Yield faster and greater air quality benefits.
- Require the largest single capital investment in air pollution controls in the nation's history.
- Reduce the uncertainty, delays and costs of litigation.
- Provide greater flexibility and cost-effectiveness due to trading, which also would attract other industry participants.
- Provide business planning certainty for power companies since targets and time frames would be locked in and clearly defined.

- Provide consistency and predictability for states that share responsibility for implementing the CAA, and help reduce interstate conflicts.
- Promote continued use of the nation's abundant and low-cost coal resources and alleviate pressure on the U.S. natural gas supply.

Clear Skies

The Clear Skies Act will require the most ambitious emission reductions ever from power plants. As noted above, it will deliver additional dramatic reductions of power plant emissions in the most cost-effective manner and provide greater business certainty. The emission reductions will be predictable and verifiable due to continuous emissions monitoring and large penalties for non-compliance.

Clear Skies will preserve air quality protections. While it will replace some individual Clean Air Act programs with specific, aggressive caps on emissions of SO₂, NO_x and mercury, it will leave the Act's other key provisions in place. For example, legislation will maintain the National Ambient Air Quality Standards for SO₂, ozone, particulate matter and other substances. These health-based standards comprise the cornerstone of CAA provisions that protect and improve local air quality. In fact, multi-emission legislation will bring the vast majority of non-attainment areas into compliance with new air quality standards. It also will preserve stringent, technology-based standards for new sources of electric generation; retain special requirements for sources located near national parks and wilderness areas; and maintain the rights of state and local governments to adopt more stringent controls on power plants within their borders.

While Clear Skies precludes affected sources from regulating mercury using maximum available control technology standards (instead instituting tight emission caps for the entire industry), it preserves EPA's authority to regulate hazardous air pollutants. Clear Skies allows mercury trading, which will protect human health while also saving electricity customers billions of dollars. For the following reasons, it also will not produce mercury "hot spots":

- Power generation sources now make up about 10 percent of total man-made and natural sources in an area comprising the U.S. and bordering parts of Mexico and Canada. In fact, a 50 percent emission reduction would yield much less than a five-percent reduction in deposition since a significant portion of U.S. deposition is released by foreign, particularly Asian, sources.
- Basic economics dictate that the largest sources will be controlled first.
- A significant percentage of power plant mercury emissions are elemental mercury, which tends not to deposit nearby and may remain in the atmosphere for months or years before it is deposited to the Earth.
- Notwithstanding predictions to the contrary, no “hot spots” occurred due to SO₂ trading under the Acid Rain Program – the *only* relevant precedent.
- Modeling by the Energy Information Administration and Brookhaven National Laboratory predict no mercury “hot spots” due to emissions trading.

A deliberate approach to meeting emission reduction goals is essential for continued reliable electric generation and cost-effectiveness. Retrofits of additional SCR systems for NO_x, scrubbers for SO₂, and activated carbon and fabric filters for mercury will be needed on over 100 GW of power plants, which is the equivalent of 250 medium sized generation units. Each such installation will require capital expenditures of \$60 million to more than \$200 million.

A deliberate approach also will provide sufficient time to go beyond mercury “co-benefit” reductions due to installation of SO₂ and NO_x controls. Reliable, cost-effective control technologies designed specifically for capturing mercury have not yet been fully developed or tested. It is critical that these technologies are “commercially available” and guaranteed by their vendors.

Clear Skies represents one of the largest construction projects this nation will see, bigger even than the now famous “Big Dig” (\$15 billion over 14 years). Equipment installations must be spread over time to ensure reliability and stable prices that will not occur if too many large units are off-line for retrofits at once. A smooth timeline also will provide a steady construction program over the next 15 years. As we found with the

NO_x SIP Call rule, if controls are pushed within too narrow a time window, aside from increased pressure to switch to natural gas there will be labor and materials shortages and bottlenecks, which will greatly (and unnecessarily) increase costs.

EEl supports the phased approach in Clear Skies. In passing the Clean Air Act Amendments of 1990, Congress afforded the industry a decade to comply with 50 percent reductions of SO₂ and NO_x emissions. At the time, Congress understood that defined emission targets set over a reasonable time frame would result in real environmental improvements. Fast forwarding to the present, 70 percent emission reductions for three different pollutants will be more costly, resource intensive and time consuming. Providing two phases of reductions is consistent with the precedent established in 1990.

Other Multi-Emission Proposals

EEl does not support other existing multi-emission legislative proposals. For example, the Clean Air Planning Act would require earlier emission reductions for SO₂, NO_x and mercury than Clear Skies, and includes significant carbon dioxide (CO₂) emission reduction requirements. The issue of timing is crucial and these deadlines would be very difficult to meet without sacrificing cost-effectiveness and reliability of electric generation. The bill also would undermine emissions trading by imposing unit-by-unit limits in 2020 for SO₂ and NO_x for plants on which construction commenced before August 17, 1971, and establishing unit-by-unit limitations for mercury. The Clean Air Planning Act is modeled to cost \$15-30 billion more (\$1999, NPV 2004-2020) than Clear Skies. Finally, the Clean Air Planning Act could reduce electric generator coal use by about 25 percent and increase natural gas use about 25 percent (in year 2020) while Clear Skies would impact fuel use minimally.

A second legislative proposal, the Clean Power Act, would cause even greater economic hardship for the industry and the nation. All of the bill's requirements – including very stringent CO₂ limitations – would be placed on top of the existing Clean Air Act, thereby exacerbating the complexity of the Act. More importantly, the bill would dramatically impact electricity prices, natural gas prices and coal consumption. Finally,

the “Outdated Power Plants” provision almost immediately would cancel out the bill’s cap-and-trade program.

Coal and Natural Gas

Low-cost, reliable electricity results, in part, from our ability to utilize a variety of readily available energy resources – coal, nuclear energy, natural gas, hydropower, and new renewable energy resources, such as wind, biomass and solar. Fuel diversity is key to affordable and reliable electricity. A diverse fuel mix helps protect consumers and national security from contingencies such as fuel shortages or disruptions, price fluctuations and changes in regulatory practices. A diverse fuel mix takes advantage of regional differences in fuel availability that have evolved over many decades.

While coal fuels slightly more than 50 percent of the generation produced in the U.S., it fuels upwards of 80 percent of the electrical generation in many specific states. These coal-fueled plants help to keep the price of electricity down for consumers and businesses, an extremely important issue in states whose economies are already financially strapped.

Due in part to the complexity and uncertainty of existing clean air regulation, over 90 percent of new power plants built over the past decade have relied on natural gas to produce electricity. Limits on U.S. natural gas supply have contributed to high natural gas prices. As a result, the U.S. industrial sector, which relies heavily on natural gas, has seen an erosion of U.S.-based manufacturing jobs. The regulatory certainty provided by multi-emission legislation will promote continued use of the nation’s abundant and low-cost coal resources and alleviate pressure on the natural gas supply.

Conclusion

Sensible multi-emission legislation can reduce power plant emissions and improve air quality faster, with greater environmental certainty, and more cost-effectively than continued regulation under current law. EEI supports the Committee’s efforts to craft

multi-emission legislation that meets environmental goals and provides states and industry with a workable roadmap.

With the economy in the early stages of recovery at the national and state levels, federal clean air policy must not force increases in the use of natural gas for electric generation. Environmental goals can and must be met, but fuel switching and consumer price increases must be kept to a minimum. That is why EEI supports multi-emission legislation along the lines of Clear Skies. It delivers clean air with certainty, while protecting workers, consumers and industry. A sensible multi-emission bill addressing SO₂, NO_x and mercury benefits the environment, states, and electric generators and their customers.

The time to act is now. EEI respectfully requests members of this Committee to take advantage of this unique opportunity to create a new chapter of air quality progress for the American people. EEI pledges its full support, and looks forward to continuing to work with the Committee, the Administration and other stakeholders to help make multi-emission legislation a reality.