Are There Disparate Air Quality Standards and Are They Distorting Electricity Markets?

- **Yes,**
  Disparate Standards Exist

- **No,**
  They Are Not Distorting Electricity Markets
Are There Disparate Air Quality Standards and Are They Distorting Electricity Markets?

- Existing Air Quality Requirements Are Designed to Protect Public Health With An Extra Margin For Safety
- SIPs For NAAQS Based on Maximum Emissions, Worst Case Weather Conditions, Economic and Population Growth in Region
- Utilities Comply With NAAQS Also With Extra Margin For Safety and Contingencies

Are There Disparate Air Quality Standards and Are They Distorting Electricity Markets?

- No Plants Are Grandfathered
- CAAA 1990 Requires 50% SO₂ Reduction (10 million tons/year by 2000); 35-40% NOx Reduction (2.4 - 3.1 million ton/year by 2000)
- Utilities Have Already Over-Complied With Requirements
  - AEP Controlled 5400 MW for NOx 5 Years Early
  - 420,000 Tons NOx Avoided By 2000
- AEP Plants Will On Average Meet NSPS Limits By 2000
- 37% of MW and NE Generation Met NSPS Limits in 1996
American Electric Power
Emissions in 2000 vs. NSPS Limitations

<table>
<thead>
<tr>
<th></th>
<th>NSPS</th>
<th>AEP Emissions in 2000*</th>
</tr>
</thead>
<tbody>
<tr>
<td>SO₂</td>
<td>1.2</td>
<td>0.93</td>
</tr>
<tr>
<td>NOₓ</td>
<td>0.6</td>
<td>0.56</td>
</tr>
</tbody>
</table>

* System average based on Phase II allowance allocation for SO₂ and final Phase II limits for NOₓ.
Are There Disparate Air Quality Standards and Are They Distorting Electricity Markets?

- Don't Mire Industry Restructuring With CAA Fight
- U.S. and States Have Ample Authority to regulate Legitimate Air Quality Issues
- In fact, U.S. EPA is Aggressively Pursuing More Stringent Controls Today
- Congress and State Legislatures Should Not Remove From Environmental Agencies the Burden of Justifying New Controls on the Basis of Sound Science
- Air Quality Concerns Cannot Be Solved Solely with Controls on Utility Coal-fired Power Plants
- States Should Oppose U.S. EPA's Attempt to Preempt Their Right to Allocate Future Emission Reduction Burdens on All Contributing Sources

Are There Disparate Air Quality Standards and Are They Distorting Electricity Markets?

- Life Optimizations and Capacity Factor Increases Will Occur Independent of Deregulation
- New Emission Control Requirements Will Effect Regional Competitors Similarly
- AEP Targets Markets In Northern Ohio, Michigan, Illinois, Pennsylvania, North Carolina, Virginia
- Transmission Capacity Strong North and West, Weak East and South
What About the Level Playing Field?

- Argument Suggests Emission Reductions for Their Own Sake
- No Legal Authority to Equalize Environmental Costs
- Homogenization of Competitors, or Their Costs, Not Permitted by Law
- Emission Controls Should Be Driven By Science
- Preliminary DOE Analysis Finds Minimal NOx Emission Increases with Retail Electric Competition
- Desired Benefits of Competition Will Not Be Realized

What About Emissions Transport?

- OTAG Modeling Results:
  - Local Source NOx and VOC Reductions Benefit Local Areas Most
  - Ozone Reduction Benefits Diminish With Distance
  - 75% Utility NOx Reduction in MW Provides Only 2-6 ppb Benefit in NE on Peak Days (160 ppb)
  - Concentrate Controls on Sources Within 100 Miles of Nonattainment Areas; Domain-Wide Controls Not Justified
  - Some Areas Experience Increases in Ozone with NOx Reductions
  - Nonattainment Areas Remain Even with Extreme Control Strategies
Sources of NOx and VOC 1994

**NOx**

- 45.0%
- 17.3%
- 33.0%

**VOC**

- 36.9%
- 6.0%
- 56.9%

Source U.S. EPA

"Contrary to a public belief too readily accepted without any evidentiary foundation, our problem does not come primarily from distant smokestacks in the Ohio River Valley."

Senator John H. Chafee (R-RI)
Chairman, Senate Environment & Public Works Committee
April 16, 1997 Letter to EPA Administrator Carol Browner
The Great NAAQS Debate

- **What CASAC Said About PM2.5:**

  "The case for PM2.5 standards is not compelling."

  "Our understanding of the health effects of PM is far from complete."

  "Deadlines did not allow adequate time to analyze, integrate, interpret, and debate the available data on this complex issue."

  "There are many unanswered questions and uncertainties associated with establishing causality of the association between PM2.5 and mortality. The agency must immediately implement a targeted research program to address these unanswered questions and uncertainties."

  "There is no adequately articulated scientific basis for making regulatory decisions concerning the particulate matter standard."

The Great NAAQS Debate

- **What EPA Staff Said About the PM2.5 Standard:**

  "Relative to other single pollutants for which NAAQS have been set, establishing appropriate ranges of levels for PM2.5 standards involves unusually large uncertainties."

  "There is an urgent need to expand ongoing research on the mechanisms by which PM, along and in combination with other air pollutants, may cause adverse health effects."

  In requesting a 37% increase in the research budget for PM, EPA’s budget proposal justified the request by stating the need "to reduce the great uncertainty about PM’s health effects."
The Great NAAQS Debate

- **EPRI's Peer-Reviewed Results for PM:**
  - Some Statistical Studies Suggest Association Between PM & Health Effects; Others Do Not
  - Studies Do Not Confirm Validity of Reducing PM Emissions
  - Re-analysis of Data Doesn't Confirm Early Conclusions on Association Between PM & Health
  - Cannot Distinguish Between PM Effects and Those of Other Pollutants or The Weather
  - There is No Scientific Basis for the Proposed PM2.5 Standard, and No Finding That PM2.5 is More Protective of Public Health than PM10

The Great NAAQS Debate

- **What CASAC Said About Proposed Ozone Standard:**

  "There is no 'bright line' which distinguishes any of the proposed standards...as being significantly more protective of public health."

  "The science says there are no significant public health benefits observed by going from the present...standard to any of the standards proposed by EPA."
The Great NAAQS Debate

• What Did Other Federal Agencies Say About the Proposed Standards?

• U.S. Department of Transportation:

"There are substantial uncertainties...about the health effects [of more stringent standards]. The proposed standards will cause social and economic disruption...requiring lifestyle changes by a significant part of the U.S. population. It is incomprehensible that the Administration would commit to a new set of standards and new efforts to meet such standards without much greater understanding of the problem and its solutions."

The Great NAAQS Debate (continued)

• President's Council on Economic Advisors

"Costs are high, and the RIA understates the true cost of stricter [ozone] standards by orders of magnitude...CEA estimates indicate that the cost of full attainment could be up to $60 billion annually."

• The White House Office of Science and Technology Policy

"There are a large number of scientific uncertainties [about particulate pollution]...The data base for actual levels of PM2.5 is also very poor. And current data do not support clear associations of PM effects with either fine particles (PM2.5), inhalable particles (PM10 or PM15), or sulfates so that causality for the observed mortality and morbidity effects cannot be established."
The Great NAAQS Debate (continued)

- **U.S. Small Business Administration**

  "EPA's proposed regulation is certainly one of the most expensive regulations, if not the most expensive regulation faced by small businesses in ten or more years. Our concern is heightened by the large body of evidence suggesting the paucity of health benefits that would result from a revised standard."

- **Many Other Federal Agencies Submitted Comments Critical of Rules**

- **Most States Also Oppose Rules**

The Great NAAQS Debate

- **Cost Implications for AEP**
  - Additional SO2 Controls (10,000 MW)
    - Capital - $2 billion
    - Annualized Total Cost - $570 million (10 mills/kwh)
  - Additional NOx Controls (10,000 MW)
    - Capital - $800 million
    - Annualized Total Cost - $225 million (4 mills/kwh)
The Clean Air Act is Working!

- According to EPA:
  - Major Air Emissions Down 30%
  - While GDP Up 100% Over Last 25 Years
  - SO₂ Emissions Down 37%
  - NOₓ Emissions Down 14%
  - CO Emissions Down 14%
  - Particulate Concentrations Down 22%
  - Lead Concentrations Down 78%

- Additional Reductions Will Occur in Future

Are Renewables the Panacea?

- Resource Data International Study Finds:
  - Renewable Share Projected to Rise to 4% by 2010 with Existing Tax/Regulatory Incentives; Cost $52 Billion (1995$) More Than Alternatives
  - Aggressive Subsidies Could Increase Share to 11% by 2010; Cost $203 Billion (1995$)
  - Renewable Combustion Technologies Most Feasible
  - All Technologies Have Environmental Impacts
  - Will Not Displace Fossil Fuels
Are Renewables the Panacea?

- Charles Rivers Associates Study Finds:
  - 10% Minimum Non-Hydro Renewables Purchase Requirement Will Increase Electricity Prices 12% by 2010
  - Renewable Technology Costs 66% More Than Conventional Generation

Will Environmental Excellence Be Sacrificed With Competition?

- **NO!**
- Environmental Leaders Prosper
- Utilities Committed to Responsible Environmental Stewardship