EPA's Cross-State Air Pollution Rule

An Environmental Perspective

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Overview

- EPA's CSAPR is a long-awaited and major step forward to reducing environmental and human health toll from US power plant air pollution
- Power plant SO_2 and NOx emissions will still be too high post-rule, and need to be substantially reduced further through future EPA rulemakings
- Positive aspects of CSAPR clearly outweigh rule's shortcomings

Overview (continued)

- Pros—
  - Rule will produce large emission reductions, resulting in substantial human health and environmental benefits
  - EPA methodology generally sound (with some exceptions), great improvement over CAIR
  - Rule creatively responds to DC Circuit decision in *NC v. EPA*
  - Encouraged by EPA's commitment to future rulemakings that will:

    (1) address remaining significant contribution issues for 1997 ozone NAAQS; and

    (2) address additional reductions needed to meet future revised NAAQS requirements

Overview (continued)

- Cons—
  - All significant contribution not eliminated
  - Coverage limited to power plants—should include, *e.g.*, industrial boilers
  - Some concerns re EPA methodology
  - Failure to apply CSAPR to 2008 ozone NAAQS
  - Substantially greater power plant emission reductions are practical and cost-effective (will need additional rulemakings)

Positive Aspects of CSAPR—Health, Environmental and Attainment Benefits

- Large reductions of power plant emissions, especially SO_2
  - 63% SO_2 reduction from EPA 2014 base case
  - 12% NOx reduction from EPA 2014 base case
- Resulting in huge public health and environmental benefits—including (in 2014)
  - Avoiding 13,000 to 34,000 premature deaths, 100s of thousands of cases of respiratory symptoms and aggravated asthma and almost 2 million missed work and school days
  - Reduced damage to sensitive ecosystems (*e.g.*, acid rain) and improved visibility in national parks
  - Monetizable annual benefits of rule estimated at $110-250 billion (at 7% discount rate); many more important benefits not subject to $ valuation
  - Substantial assistance to states in achieving attainment of 1997 ozone NAAQS and 1997 & 2006 $PM_{2.5}$ NAAQS
- One of most cost-effective EPA rules ever—e.g., incremental annual cost of compliance less than $1 billion, and even when CAIR sunk costs considered, less than $2.5 billion—
  - Net benefits = ~$107-247 billion (7% dr); benefit/cost ratio= ~44:1 to 100:1
- Compliance schedule is appropriately expeditious—
  - Near-term 2012 “Phase 1” limits are appropriate—necessary to preserve reductions made to comply with CAIR
  - Phase 2 reductions in 2014 will help states meet attainment deadlines

Positive Aspects of CSAPR—Improved Methodology

- Significant achievement to craft a meaningful power plant transport rule under CAA section 110 (a)(2)(D), while keeping within the restrictions of DC Circuit opinion in *NC v. EPA*
- CSAPR does better job than previous transport rules of targeting emission reductions where they are needed—EPA employed state-by-state approach, with limits on emission trading
  - reduces likelihood of local pollution "hot spots"
  - more directly aids downwind attainment efforts
- More rational and transparent approach to "significant contribution" determination—more in keeping with overriding purpose of section 110 (a)(2)(D) to fairly allocate responsibility for clean air between local and upwind sources of air pollution
  - cost and air quality factors both considered (improvement over arbitrary "highly cost effective" approach of CAIR)
  - "interference with maintenance" considered independently of "contribution to nonattainment"
- Improved methodology should permit more expedited development of future transport rules as needed to address requirements of future NAAQS revisions—both revised ozone and $PM_{2.5}$ NAAQS expected soon

Power Plant Pollution—Additional Reductions Needed

- CSAPR does not capture all cost-effective emission reductions from US power plants
  - EPA's annual 2014 regional emission caps in CSAPR—2.24 MT SO_2, and 1.16 MT NOx
  - CATF analysis (submitted to EPA in 2010 with written comments on proposed rule) demonstrated that lower regional 2014 emission caps (of 1.75 MT SO_2 and 0.90 MT NOx) are cost-effective and produce substantial incremental benefits, including at least 3000-8000 additonal annual premature deaths avoided, at an increase in costs of only 2-3%
- Probably not all needed power sector reductions can be captured in a section 110(a)(2)(D) transport rule
  - nevertheless, CSAPR could have achieved greater reductions

CSAPR—Some General Concerns

- CSAPR did not eliminate all significant contribution from upwind states—
  - Houston and Baton Rouge will continue to have ozone nonattainment and maintenance problems, with potential significant contribution from 10 upwind states (AL, AR, GA, IL, IN, KY, LA, MS, TN and TX)
    - Problem here appears to be excessively low cost threshold ($500/ton NOx) applied to "significant contribution" analysis, combined with failure to regulate sources other than power plants such as large industrial boilers (already subject to 1998 NOx SIP Call)
  - Significant contribution to downwind ozone attainment and maintenance problems from 6 additional states (IA, KN, MI, OK, WI, MO) identified by EPA, with ozone season NOx reductions proposed in supplemental rulemaking
    - EPA must finalize supplemental proposal—required by uniform application of CSAPR methodology
- CSAPR ozone season NOx analysis based on outdated 1997 NAAQS, rather than more recent and stringent 2008 NAAQS
  - Prompt EPA transport rulemaking needed following finalization of reconsidered ozone NAAQS

CSAPR Methodology—Some Concerns

- Although EPA's effort to set out a methodology that can be more easily applied in future transport rulemakings is commendable, CATF has some concerns regarding several aspects of that methodology, *i.e.,*
  - Use of 1% minimum contribution screen for linking upwind states with downwind nonattainment and maintenance areas—not clear why any minimum needed (e.g., *Michigan v. EPA*—re NOx SIP Call)
  - Use of "variability limit"—potential to relax emission caps and compromise intended elimination of upwind significant contribution—will EPA's "assurance provisions" be adequate to prevent state budget exceedences?
  - Use of separate cost thresholds to measure significant contribution—leading to establishment of different SO_2 reduction requirements for "Group 1" and "Group 2" states in CSAPR—potential regulatory distortion of competitive playing field in power sector
  - Use of unreasonably low cost thresholds for determining significant contribution—especially in view of overwhelming benefit/cost ratio of additional reductions
    - this has effect of giving preference to keeping industry costs as low as possible, rather than reducing human health impacts of industry emissions as much as possible

Conclusion

- CSAPR represents a solid and historic step to substantially reduce damage to human health and the environment from power plant air pollution
- Harmful emissions in the power sector will remain high, and additional reductions are needed—
  - via both future transport rules in response to revised NAAQS, and non-transport rules such as new source performance standards under CAA section 111and air toxics standards under section 112.