

Issue Group 1: Problem Definition

AQM Subcommittee Meeting

Arlington, VA April 4, 2006

Key Focal Issues

- Problem definition and priority setting
 - How do we identify problems?
 - How do we set priorities?
- Proactive problem solving
 - How quickly do we shift resources and effort to key problems?
- Continuous progress and accountability
 - Information collection and assessment– are we tracking whether goals are being achieved?
- Built-in feedback mechanisms
 - How do we adjust our priorities in the face of new evidence or new problems?
 - How do we evaluate our programs to determine if they achieved what we thought they would?

Framework for Recommendations

- Realities:
 - Science is always improving our understanding of air pollution and its impacts on public health
 - We cannot expect perfect understanding of the effects of air pollution on health and synergistic effects
 - Localized risks can be very different from national risks and can vary from area to area
- In order to improve the system's ability to focus on the most important priorities, it needs 1) continuously improving data, 2) a good system for setting initial priorities and flexibility to shift where to address new priorities, and 3) a good system of accountability to verify that progress on the right issues is occurring.

Recommendation 1: Improve accuracy, robustness, and availability of environmental and health data to enable more complete characterization of air quality, emissions, and environmental and health outcomes and to facilitate the assessment and characterization of relative risks.

1.1 Improve information on health endpoints and relative risk of exposure to single and multiple pollutants, at both the population and individual level.

1.1.1 EPA should focus on improving methodologies to address uncertainty (e.g., uncertainties in extrapolating high to low dose exposures, or from animal studies to human impacts).

1.1.2 EPA and other Agencies should redesign research and grant programs to encourage the more timely targeting of key issues and more flexibility to shift resources in the face of new problems or priorities.

1.1.3 EPA should work with CDC and other agencies and stakeholders to improve indicators that can be used to assess the impact of changes in air quality on public health and the health of ecosystems. These agencies should encourage research in areas that will help develop indicators and that conducts assessments.

(Scenario 1)

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1.2 Improve air quality data: continually improve air quality monitoring network to collect data on pollutants of concern, in areas of concern.

1.2.1 EPA should continue efforts to review and revise the national monitoring system, and change requirements to allow states to shift resources as appropriate. (Scenario 1)

1.2.2 EPA should establish a category of monitoring devices (or practices) that can be used for research, informational, policy-setting, and public information purposes but will not be used to set nonattainment boundaries or bring other regulatory programs into play and work with states, locals, tribes and other stakeholders (Scenario 2 or 3)

1.2.3 EPA, in partnership with other Federal agencies, should develop a more integrated observation strategy that addresses gaps in rural and elevated observations critical to supporting ecosystem, regional and intercontinental transport assessments. This strategy should include the integration of emerging environmental data sets from satellites, air quality forecasting and chemical data assimilation (i.e., integration of models and observations). EPA should continue to invest in the overarching Global Earth Observation System of Systems (GEOSS) to support multiple air quality assessments. (Scenario 1)

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1.3 Fill gaps in emissions inventories and air quality modeling.

1.3.1 EPA should target resources towards the improvement, demonstration and development of CEMS technology to make it more cost-effective and more accurate, especially for emission sources for which CEMS technology is not effectively utilized. EPA should encourage CEMS technology for the pollutant of interest (not a surrogate) as the default compliance monitoring technology using incentives for future rules. (Scenario 2)

1.3.2 EPA should Develop adequate emissions infrastructure and information so emissions estimates can be shared across stakeholders (S/L/T and industry) (Scenario 1)

1.3.3 State should be required to provide multipollutant (including HAPs) and speciated information to the National Emission Inventory. (Scenario 1 or 2)

1.3.4 Emphasize the use of air quality models in retrospective and current time applications as well as prospective applications. (Scenario 1)

1.3.5 Develop interfaces between air quality and watershed models to better link air program rules with deposition related impacts on ecosystems. (Scenario 1)

1.3.6 Use current air quality models to quantify co-benefits across multiple pollutant categories, recognizing the limitations (due to scarcity) of ambient data to address interactions of HAPs with PM and ozone. (Scenario 1)

1.3.7 Integrate models and ambient data to provide more robust, spatially, temporally and compositionally enhanced air quality surfaces for accountability, regulatory, ecosystem and health assessments. (Scenario 1)

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1.4 Improve coordination and communication between EPA and external partners, including health agencies, academic institutions, and the medical community.

1.4.1 States, EPA and CDC should periodically hold a joint environmental health summit on a regular schedule to evaluate current priorities and identify new issues. (Scenario 1)

1.4.2 State environmental agencies should work actively to increase coordination with state health agencies. (Scenario 1)

1.4.3 State health agencies should be involved in developing State AQMPs. (Scenario 2)

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1.5 Improve the collection of control and cost data to facilitate analysis of both projected and actual implementation costs for major regulations.

1.5.1 EPA should launch a major initiative to assess actual costs associated with implementation of air pollution control efforts. Prospective modeling to estimate costs in advance of new rules should be matched with retrospective analysis of actual implementation costs, so that results and impacts can be assessed more accurately. (Scenario 1)

1.5.2 EPA should work to develop an improved methodology for assessing the healthcare costs associated with air pollution. (Scenario 1)

1.5.3 EPA and the States should invest jointly in a complete, up-to-date system to catalog pollution control technologies available and the associated costs. (Scenario 1)

Recommendation 2: Improve the priority setting process by creating mechanisms to systematically realign resources and regulatory focus toward areas of greatest health and environmental risk.

- 2.1** EPA should use State's comprehensive, multipollutant AQMPs, which are tailored to the air quality situation each particular state and the state's public health needs, in developing national regulatory priorities. (Scenario 1 or 2)
- 2.2** EPA and CDC, working with S/L/T, should produce an Air Quality Health Trends report that links changes in ambient air quality to health data on a 5-year cycle, using the best available information and recognizing the limitations of those data. (Scenario 1)
- 2.3** EPA should seek new incentives and hammers to encourage the realignment of regulatory priorities and implementation efforts to deal with highest priority problems, both within the agency and among States. (Scenario 3)
- 2.4** EPA and States should focus on multipollutant approaches and initiatives, both in data collection and in priority setting, to encourage collaboration and identification of least-cost solutions. This approach will encourage the explicit consideration of necessary tradeoffs, enabling risk-risk decisions to be made more transparently. (Scenario 1)

Recommendation 3: Improve accountability by systematically monitoring progress and evaluating results, working to ensure that data collection is meaningful and that feedback loops exist to ensure that actual environmental results inform the future allocation of resources and the establishment of priorities.

- 3.1** Adjust the NAAQS Review Process to be more timely and efficient, in part by asking CASAC or a CASAC-like group to review the standards on a more frequent (two year, e.g.) basis, with opportunities for public input, and to recommend review of those standards for which there is sufficient new information. (Scenario 2)
- 3.2** EPA, in close consultation with States, should develop an air accountability framework providing an overarching structure for program review and future priority setting. The accountability framework should emphasize the source-air quality-exposure-effects continuum to allow for a more technically sound assessment approach linked directly to program implementation and improvement. (Scenario 1)
 - 3.2.1** EPA and the S/L/T should evaluate the progress that is being made under various regulatory control programs, by assessing compliance rates, actual reductions achieved, and in practice cost-benefit analysis. EPA and States should collect information from sources regarding actual compliance technologies chosen and actual costs, which can be compared against modeled forecasts. Initial accountability efforts should focus on CAIR, CAMR and mobile source rules. (Scenario 1)