

Evaluating Actions to Improve Air Quality

HEI Research Program on Accountability

Kenneth Demerjian
University at Albany - SUNY
HEI Research Committee

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Concept of Accountability in Environmental Management

- Accountability defines a formal process for determining whether or not a given air quality management action or combination of actions have achieved their intended objectives (i.e. improvements in air quality result in expected improvements in health and welfare outcomes).
- A complete accountability analysis is implemented through a series steps that link actions with outcomes (the accountability chain).



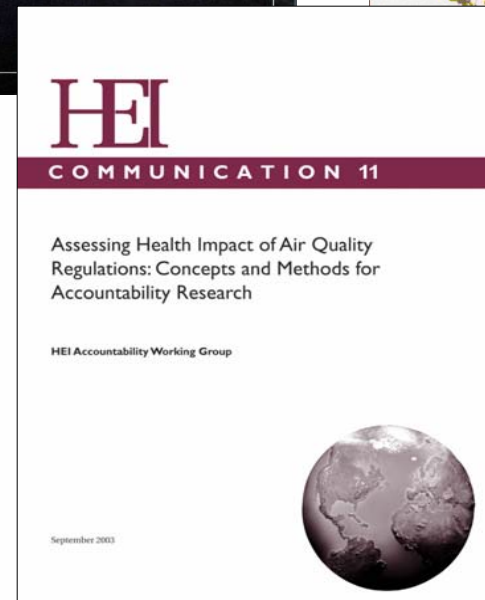
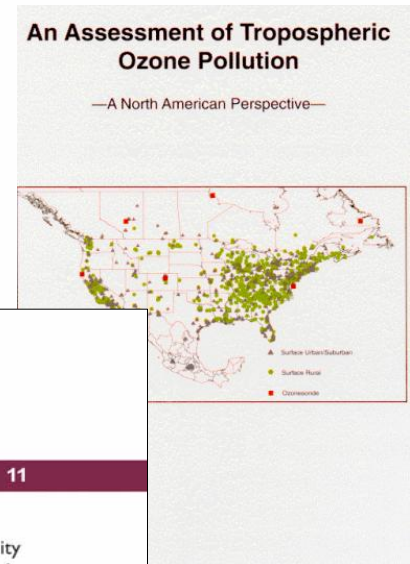
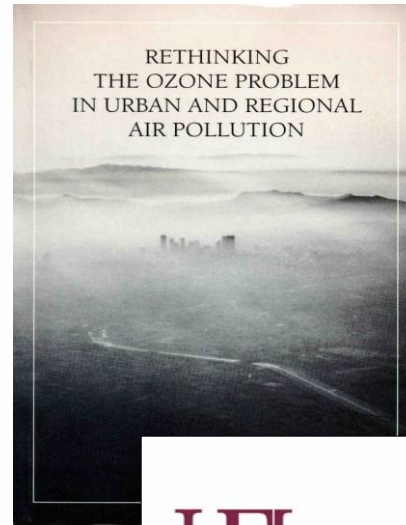
Why is Accountability Important?

- The costs to maintain the quality of our environment is substantial.
- To assure public trust and credibility, the science and policy communities must evaluate and verify the effectiveness of regulatory controls in terms of meeting established standards and achieving anticipated improvements in environmental health and welfare.
- As with any management system, it is reasonable to expect that analytical measures be in place to track progress and verify the success or failure of implemented environmental regulations.



Accountability: Its Conceptual Roots

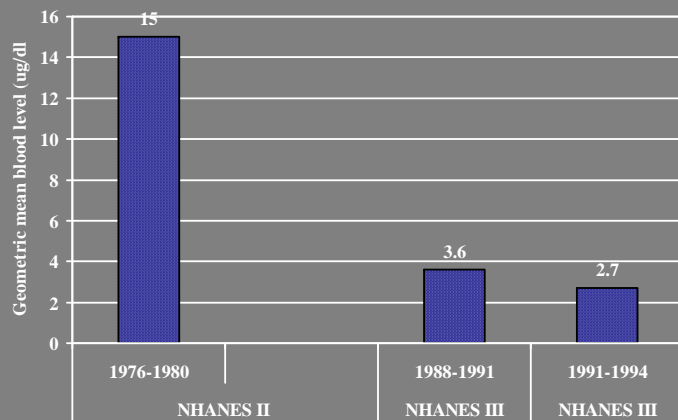
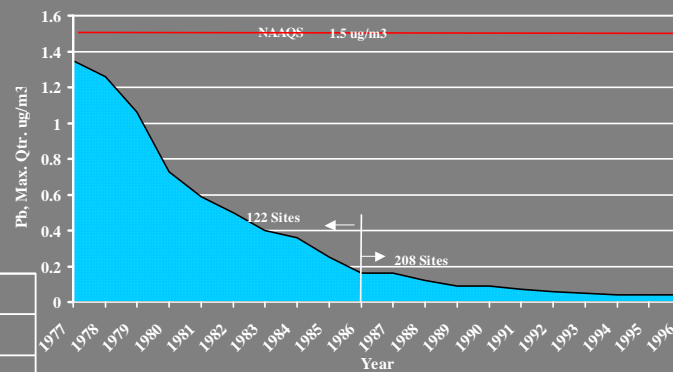
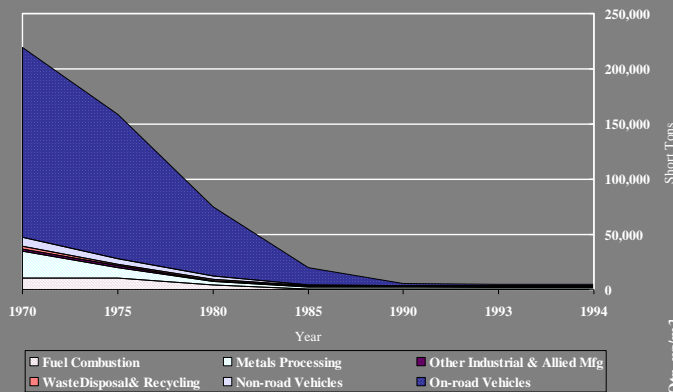
- NRC Rethinking the Ozone Problem in Urban and Regional Air Pollution
- NARSTO Assessment of Tropospheric Ozone Pollution
- HEI Monograph



Finding: The State Implementation Plan (SIP) process for developing and implementing ozone reduction strategies lacks adequate verification programs to track progress in reducing emissions of VOCs and NO_x to verify regulatory compliance and the effectiveness of mandated emission controls.

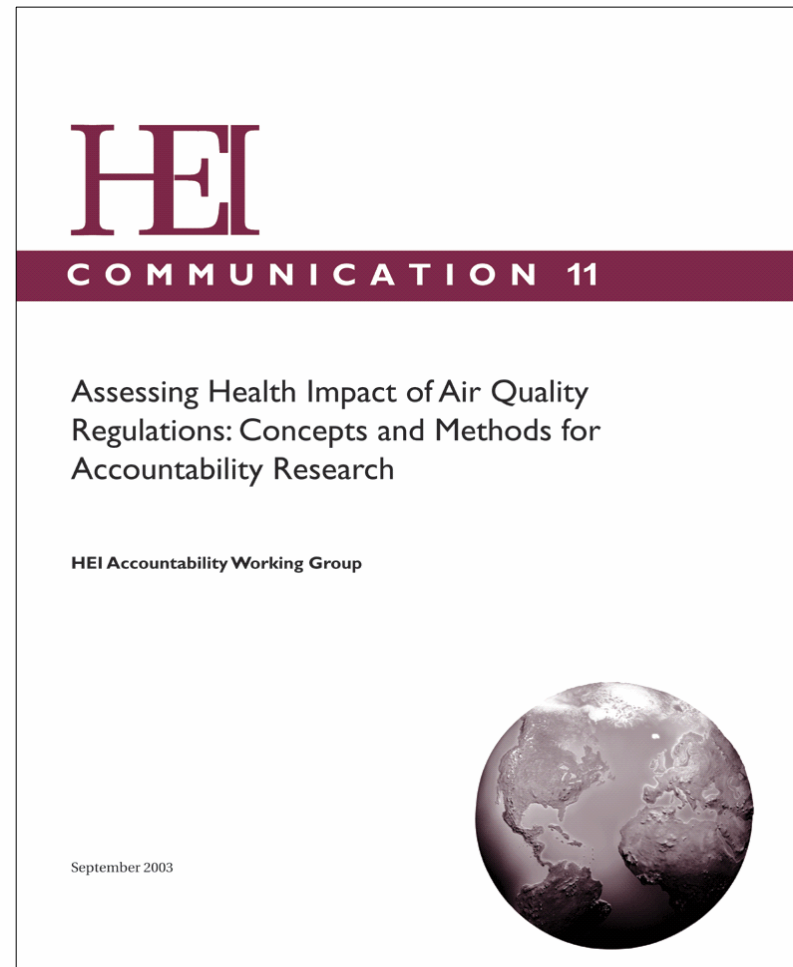


Accountability: Its Conceptual Roots



HEI Communication 11: Concepts and methods for accountability research

- Multi-authored monograph published September 2003
- Assessment of the task
- Conceptual framework for future research
- Research directions



Regulatory
action

Focusing the challenge on health: *The Chain of Accountability*

Compliance,
effectiveness

Emissions

Atmospheric transport,
chemical transformation,
and deposition

Ambient
air quality

Human time-activity in relation
to indoor and outdoor air quality;
Uptake, deposition, clearance, retention

Exposure/
dose

Susceptibility factors;
mechanisms of damage
and repair, health outcomes

Human
health



Today's Session

- California Programs to Improve Air Quality and Health
- Evaluating Efforts to Reduce Traffic and High-Emitting Vehicles in London: approaches and Challenges
- Impact of Improved Air Quality During the 1996 Atlanta Olympic Games on Multiple Cardiovascular and Respiratory Outcomes
- Fine Particulate Air Pollution and Life Expectancy in the United States
- Lessons Learned and Looking to the Future

Discuss international, national and statewide interventions to improve air quality and local measures to reduce traffic

