MULTIPOLLUTANT AIR QUALITY MANAGEMENT CHALLENGE

NARSTO WORKSHOP

October 4-5, 2006

Assessment Proposal– Where We Are.

- Recognition of interest in "one-atmosphere" approaches, and multi-pollutant management"
  - Stimulated by '04 NRC Report on Air Quality Management Practice
- Preliminary proposal developed for Executive Steering Committee and presented to certain forums.
- Proposal refined in summer '06 resulting in questions and debate about the meaning and possible implementation of multi-pollutant management concepts, given current regulation and practice.
  - Where does science inform the conceptual process?

Assessment Proposal– Where We Are

- To address or evaluate the the role of science and the state of relevant knowledge—
  - **Need to know more about regulatory or possible legislative framework in Canada, Mexico and the U.S.**
  - **U.S. Fundamentally governed by the CAA and general impression the Act is fundamentally sound.**
  - **Canada is discussing multi-pollutant issues that could frame their future AQM approaches.**
  - **Mexico has focused on the traditional stepwise single pollutant approach, but is aware of Canadian and U.S. thinking.**

Assessment— Where We Are

Multi-Pollutant Management Concept

Embodies

--Multi-pollutant air quality modeling and measurement interpretation

--Evolution to air quality management planning for polluted areas

--A means of tracking progress to human health and environmental protection (Sometimes called "accountability".

--Some form of risk management paradigm, which presumably would involve targets for relative risk (priorities) and risk reduction (?)

Assessment - Where We Are

- In the U. S. Framework
  - Multi-pollutant management concept has focused on criteria pollutants, but
  - Should it include HAPs (already appears to address Hg) and
  - Address climate forcing from radiatively active gas and particle emissions?
  - {Are there examples of a multi-pollutant approach as an experience base??}

Multi-Pollutant Management-Definitions

- An integrated approach to protecting human and ecosystem health…
- "Accountability"—Continuum of activities from emissions to ambient conditions to exposure to effects…
- Risk based Management Practice—A Strategy that embodies priorities driving AQ improvement by hazard and hazard reduction…

Assessment Where We Are

- Proposed Scope
  - Summarize and assess today's science resources to address multi-pollutant options for air quality improvement and consequent health and ecosystem improvement…

Assessment —Where We Arre

- Proposed Charge to NARSTO Team
  - **Provide a state of science evaluation of the challenges of implementing a risk-based, multi-pollutant management strategy that embodies an accountability process**
  - **Assess the science progress needed to inform decision makers about addressing the multi-pollutant management concept**
  - **Determine the extent of inter-relationships with high volume pollutants (criteria poll.), HAPs and climate forcing.**

Assessment— Where We Are

- Proposed Outline for an Assessment
  - Introduction
  - Rationale for Multi-Pollutant Approach
  - Atmospheric Processes & Scaling
  - (Planning, Strategy and Model-Weight of Evidence)
  - (Scoping Risk Analysis)
  - Measuring Progress in Atmospheric Conditions and Exposure
  - Progress in Health Improvement
  - Progress in ecosystem protection
  - Projecting a technical basis for multi-pollutant management
  - Learning from historical examples

Assessment— Where Should We Go

- What counsel did the '04 NRC report give to the U.S. Government, and where does science fit into the management paradigm?
- What are the national terms and conditions for multi-pollutant approach (What will the approach look like from the "decision-maker")
- What assumptions can be made to develop or design a science response?
- What assumptions can be made about development of an end-to-end accountability framework— especially the availability of tools from health and ecological science to evaluate risk reduction?
- Should NARSTO limit the scope, or include HAPs and climate?
- What revisions in proposed approach are needed, and what would an "improved" assessment outline look like?