

***Technical Challenges of Applying  
Accountability-Based Air Quality  
Management Within a Multi-Pollutant  
Framework:  
A Proposed NARSTO Assessment***

Authors' Meeting

January 9-10, 2007

Research Triangle Park, NC

# **NRC Recommendations for an Enhanced AQM System**

- Strive to identify the most significant exposures, risks, and uncertainties
- Strive to take an integrated multipollutant approach to address the most significant exposures and risks
- Strive to take an airshed-based approach
- Strive to take a performance-oriented approach

# NARSTO Multipollutant (MP) Assessment – The Charge

- *Provide a state-of-science evaluation that gives a critical summary of the opportunities, limitations and information gaps over a projected five-year horizon, giving insight into the development of multi-pollutant air quality management strategies. The evaluation will account for relevant atmospheric science knowledge, and the knowledge base for measuring improvement in human health and welfare and ecosystem health using a multi-media framework and incorporating knowledge of climate-air quality linkages. Similarities and differences in approach encompassing the North American nations are to be considered in developing summarizing the relevant knowledge accessible to decision-makers.*

## **NARSTO MP Assessment: Principal Goal Original**

- Identify the air quality information needed by exposure, health and ecosystem scientists to relate adverse effects to the multi-pollutant causal agents and to determine, if necessary, whether or not the tools are available to estimate emission reduction targets and forecasted air quality improvements needed to protect human health and welfare.

## **NARSTO MP Assessment: Principal Goal Proposed Revision**

- Identify and assess the air quality information needed by exposure, health and ecosystem scientists to relate adverse effects to the multipollutant causal agents and to identify the tools available to estimate emission reduction targets and related air quality improvements to protect human health and welfare.

# **NARSTO MP Assessment: The Approach**

*Preparation of review papers to address and focus on five principal tasks:*

- **Task 1. Establishment of a conceptual risk-based framework for multi-pollutant air quality management, which incorporates evidence based tracking of progress toward air quality management goals (accountability).**
- **Task 2. Identification of Health Related Air Accountability and Multi-pollutant Assessment Needs.**
- **Task 3. Identification of Ecosystem Related Air Accountability and Multi-pollutant Assessment Needs.**
- **Task 4. Identification of Multi-Pollutant Air Quality Integration and Accountability Assessment Data Requirements, Tools, and Procedures**
- **Task 5. Preparation of the Assessment Synthesis Report.**

# NARSTO MP Assessment: Draft Outline

1. Introduction
2. Decision framework for air quality management
3. Prospects for Introducing Accountability and Multi-Pollutant Management Practices into the Current Regulatory Structure
4. Case Studies of multi-pollutant issues and interactions
5. Conventional atmospheric science—current directions, practice and prospective changes
6. Measuring progress in mitigating specific air quality related health outcomes
7. Measuring progress in reducing ecological effects
8. Building a comprehensive accountability system
9. Effects of climate change relevant to air pollution exposure
10. Current constraints on multipollutant management approaches
11. Conclusions and Recommendations

# **NARSTO MP Assessment: Next Steps**

1. Commitment of Lead Authors
2. Revised Final Outline for Overall Assessment
3. Development of Draft Outlines by Subject area
4. Confirmation of Required Workshops – Schedules and Preparations
5. Overall Schedule for Assessment Report



# NARSTO MP Assessment: Author Commitments

<b>Subject Areas</b>	<b>Lead Authors</b>
Outline, Introduction, Framework Chapter 0	Brook, Demerjian, Hidy, Scheffe
Health Sciences	Mauderly, Wyzga, Ross
Ecosystems & Terrestrial Systems	Burns, Clair, Padgett
Risk Analysis	Hubbell & Frey
Emissions	Miller
Integrated Modeling Systems	Dennis, Seigneur
Measurements & Experimental Design	Scheffe, Brook, Demerjian, et al.
Climate Interactions	Pennell, Jacob
Assessment Synthesis Report	Brook, Demerjian, Hidy, Scheffe

# NARSTO MP Assessment: Proposed Schedule\*

<b>Activity</b>	<b>Dates</b>
Mini-Workshop	October 4-5, 2006
Authors Workshop	January 8-9, 2007
Health Effects Workshop	March 2007
Ecosystems Workshop	April 2007
Risk Assessment Workshop*	May 2007
Authors Submission of Detailed Outlines	June 2007
Authors Preparation of Draft Reports	June – October, 2007
Co-chairs Synthesis Meeting	November, 2007
Preparation of 1 <sup>st</sup> Draft Synthesis Report	November, 2007 – February, 2008
Final Synthesis Report for Internal Review	March – June, 2008
External Review of Synthesis Report	July – August, 2008
Final Report Completion	September- November, 2008

***\*Schedule to be revisited at the end of Authors' Workshop***

# Suggested Schedule Changes

## NARSTO Multipollutant Assessment

<b>Activity</b>	<b>Dates</b>
Mini-Workshop	October 4-5, 2006
Authors Workshop	January 8-9, 2007
Health Effects Workshop	March 28-29, 2007 (possibility HEI April 15-17 Meeting or earlier in March)
Ecosystems Workshop	April 12, 2007 (+ NADP Meeting Apr.10-11) Burlington, VT
Integrated Assessment Workshop	May 15-16, 2007 Toronto
Authors Submission of Detailed Outlines	June 2007
Authors Preparation of Draft Reports	June – October, 2007
Co-chairs Synthesis Meeting	November, 2007
Preparation of 1 <sup>st</sup> Draft Synthesis Report	November, 2007 – February, 2008
Final Synthesis Report for Internal Review	March – June, 2008
External Review of Synthesis Report	July – August, 2008
Final Report Completion	September- November, 2008