

WRAP Dust Emissions Joint Forum

Draft Mission Statement – May 6, 2003

The mission of the Dust Emissions Forum is to assess the causes and sources (categories) of dust emissions, evaluate emission inventory methods, and estimate the contribution of dust to visibility impairment in the Class I federal areas located in the region of the Western Regional Air Partnership. For the purposes of this discussion dust will include mechanically and Aeolian suspended bulk solid materials, including organic and inorganic matter. The scope of responsibilities for the joint Forum will include both the technical and the policy issues associated with dust emissions, their contribution to visibility impairment, and the evaluation of potential control strategies. The Forum will identify short-term and longer-term planning needs, to assist states and tribes in achieving reasonable progress toward the national visibility goal, as defined in the federal Regional Haze Rule.

The Forum will be composed of a balanced membership of stakeholders, while at the same time involving experts in dust emissions, visibility impairment, and related disciplines. As necessary, the Forum may choose to convene a team of experts external to the Forum for the purposes of assessing the contribution of the dust emissions category to visibility impairment, reviewing applicable assessment methodologies, identifying possible research topics, and, where appropriate, defining and commissioning special analytic and/or field studies. Initially, the focus of the Forum will be a review of the state-of-the-science, for the purpose of developing recommendations on:

- 1) The nature, composition, and sources of emissions that will be defined as “dust”;
- 2) The types of emissions sources that should be considered “natural”;
- 3) The interpretation of the extent and the usefulness of existing, ambient monitoring techniques for quantifying the contribution of this source category to visibility impairment;
- 4) A research and development agenda identifying projects that would contribute to an improved understanding of the dust emissions source category, and its contribution to visibility impairment.
- 5) The characteristics of appropriate temporally and spatially resolved emissions inventories for windblown and mobile source-related emissions needed for visibility assessments;
- 6) The best emissions inventory methods, including an assessment of appropriate use of and the identification of the best spatial surrogates;
- 7) Methods to estimate the contribution of dust emissions from outside the United States; and
- 8) Appropriate methods to evaluate air quality modeling results that assess the contribution of dust emissions to visibility impairment.

WRAP Dust Emissions Joint Forum Workplans

2003

Dust visibility impairment contribution evaluation activities:

- 9) Estimate the contribution of dust emissions to measured fine and coarse mass (IMPROVE Module D and Stacked Filter Unit analyses).
- 10) Review plans for IMPROVE Module D experiment to add quartz and nylon filters, and additional analyses to get elements, carbonaceous fraction, and ion balance for the coarse fraction at 8-10 sites.
- 11) Develop a methodology for estimating global transport of dust emissions to the WRAP region.
- 12) Complete definition of dust emissions.

Dust emissions inventory activities:

- 1) Improve or develop dust emissions factors (including climate variation) and activity levels for dust emissions (Wind-blown Dust Inventory Improvement project).
- 2) Improve air quality modeling capabilities (Wind-blown Dust Inventory Improvement project).

Classify natural versus manmade non-combustion emissions:

- 1) Draft outline/schedule for the process of developing a classification system for “natural” and “manmade” dust emissions.

Air quality modeling results’ evaluation and closure activities:

- 2) Improve air quality modeling capabilities (a. Wind-blown Dust Inventory Improvement project; and b. Air Quality/Emissions Revisions and Testing project).

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Dust visibility impairment contribution evaluation activities:

- 3) Apply methodology(ies) for estimating global transport of dust emissions to the WRAP region.
- 4) Evaluate dust modeling results, and suggest improvements for air quality modeling capabilities for dust.
- 5) Identify and assess mitigation measures for manmade component of dust emissions.

Dust emissions inventory activities:

- 1) Continue to review and develop emissions factors (including climate variation) and activity levels, in support of the likely need to evaluate mitigation strategies, as needed.
- 2) Develop dust emissions estimates by source category, annually (other time steps as needed), and geographic area.
- 3) Assess mitigation measures for manmade component

Classify natural versus manmade non-combustion emissions:

- 1) Complete the process of developing a classification system for “natural” and “manmade” dust emissions.
- 2) Identify specifications for tracking dust emissions based on the classification system selected for “natural” and “manmade” dust emissions.

Air quality modeling results’ evaluation and closure activities:

- 1) Evaluate air quality modeling results for dust, and suggest improvements for air quality modeling capabilities for dust.
- 2) Report refined estimates of the contribution of manmade source categories and natural dust emissions to visibility impairment.
- 3) Complete emissions reduction assessment of dust control strategies for manmade dust.

Forum Composition – public outreach

The target membership for the Dust Emissions Forum, balancing both stakeholder representation and a range of expertise in dust emissions, visibility impairment, and related fields, is 10 to 12 members. Beyond the Forum members, participation of other interested stakeholders and persons actively involved in the dust emissions, visibility impairment, and/or related fields, is encouraged. The Dust Emissions Forum will actively coordinate its activities and analyses other WRAP Forums, specifically: Ambient Monitoring and Reporting, Emissions, Tribal Data Development, and Air Quality Modeling.

Desired Expertise – Initial list of potential Forum members (italicized names are yet to be contacted or confirmed)

Aerosol Physics – Bill Malm

Wind Erosion – Jack Gillies, Carrie MacDougall, *Doug Westphal, William Sprigg*

Global Transport – Jack Gillies, *Doug Westphal, William Sprigg*

On- and Off-Road Dust Emissions – Jack Gillies, Carrie MacDougall, Vic Etyemezian

Soil Scientist -

Climatologist/Meteorologist – Marc Pitchford, Mark Scruggs

Monitoring/Data Analysis - Marc Pitchford, Bill Malm

Modeling - John Vimont, Vic Etyemezian

Emissions - Jack Gillies, Carrie MacDougall, Lori Campbell

Tribal Data Development -

Land Use Database/GIS – *Hampden Kuhns*

Agricultural Practices – Don Gabrielson

Mining/Mineral Processing Practices – Wayne Leipold, Don Gabrielson

Construction Practices – Robert Loudermilk

Mitigator – Don Gabrielson

Regulator – Carrie MacDougall, Don Gabrielson, Michael Uhl, Jean-Paul Huys

Desired Stakeholders - Initial list of potential Forum members (italicized names are yet to be contacted or confirmed)

Academia – Jack Gillies, Vic Etyemezian, *Hampden Kuhns, William Sprigg*

States – Robert Loudermilk, Trista Glazier, Sally Otterson, Jean-Paul Huys, *Pat Gaffney, Dale Schemp, Arizona DEQ*

Tribes – Toni Richards, Marty Pretends Eagle,

FLMs (Class I area managers) – Mark Scruggs, Bill Malm, John Vimont, *USFS, USFWS*

Other Federal Agencies – Marc Pitchford, Jeff Schmidt, *USDA, USGS, DoD*

Local Agencies/MPOs – Carrie MacDougall, Michael Uhl, Don Gabrielson

Agriculture/Ranching – *NRCS board member, Farm Bureau*

Mining/Mineral Processing – Wayne Leipold, *Mining Associations*

Construction – *Association of General Contractors, Housing Industry*

Recreation Industry/Users - *OHVCC*

Livestock Processing -

Environmentalists – *Sierra Club, Environmental Defense, Friends of the Earth, Center for Biological Diversity, Wilderness Society*

Forest Products -

Tourism -