

MEMORANDUM

TO: Dan Olson, Air Quality Administrator
FROM: Lee Gribovicz, WRAP TOC Co-Chair
SUBJECT: WRAP Dust Emission Joint Forum: Windblown Dust Project Results
DATE: August 24, 2004

On August 24, 2004, I participated in WRAP DEJF conference call, set up primarily to discuss the status of the results of the "Windblown Dust Emission Inventory" project for the Forum.

Participants included:

Mike Edwards	Marc Pitchford	Catalina Lehner	Ralph Morris
Duane Ono	Bruce Friedl	Neil Butt	Gerry Mansell
Lee Gribovicz	Barbara Trost	Don Arkell	Chat Cowherd
Tom Moore	Gail Cooke	Mohammed Omary	Richard Countess
Lee Alter			

The Agenda for the call was as follows:

- (1) 20 minutes – Quick updates on projects, work plans, and future meetings (an update presentation of the DRI work is (or will soon be) posted on the website)
- (2) 20 minutes -- Discussion of MRI/UC-Davis proposal to characterize the fine fraction of dust emissions (a proposal, budget, and protocol for collecting dust samples will be provided to you this week)
- (3) 30+ minutes -- Discussion of wind-blown dust emissions inventory (material will be provided to you this week)

Call Details

★ General Project Updates ★

❖ DEJF Workplan ❖

On the August 13th call, we talked about the DEJF Workplan as revised in Reno. It was noted that the Forum will work within the current budget to implement the Dust Template Pilot Project funding for which was slashed at the August WRAP Planning Team Meeting. Since that call Lee Alter sent out an August 13th spreadsheet with a budget table showing proposed funding for all 2004 & 2005 DEJF project (Appendix I).

❖ Definition of Dust ❖

Lee Alter noted that people are now getting more comfortable with the concept of natural and anthropogenic dust sources, but they are questioning more the practical ramifications of the definitions, and whether we can actually implement the definitions in inventory & control programs. On the last call, questions were raised such as

- What is the "natural range"?
- Where are the disturbed areas?
- What are the emissions?

..... and it was determined that it would be prudent to spend some of the budgeted funds for this project to define these characteristics more quantitatively. Lee Alter is drafting a Scope of Work for contractor support (about \$10K) to make this type of analysis. This will allow the Forum to focus concentration on those sources of dust that are actually significant.

❖ Dust Handbook ❖

Chat Cowherd gave an update on preparing the chapters for the handbook, and he noted that he is now following a new format desired by the Project Subcommittee, where they separate those chapters dealing with mechanically generated dust from those addressing windblown dust. He is working with AP-42 and alternate calculation methodologies for each source category, along with control options and cost effectiveness analysis in each chapter. He noted that MRI is also making progress on the Excel spreadsheets that demonstrate the calculation methodologies that will be posted on the web. He noted that he is "on target" to deliver the chapters by the contract September 10th deadline.

Because the Project Subcommittee wanted this Handbook to be more comprehensive, Richard Countess noted that he has been gathering information on various components such as harvesting, cattle feedlots, Owen's Lake and etc. He will be working to incorporate these complementary pieces of information into the handbook. And he explained that there is a preliminary web design for the handbook now posted, with placeholders for content at:

<http://wrapair.scyaweb.org>

He noted that there is a difference of opinion on how to present the information between his web expert, Bill Patton and the WRAP representatives. He informed the participants that he, Mr. Patton, Brad Bissey, Lee Alter and Cyra Cain have a call scheduled to talk about these issues on August 25th at 11:30 AM.

❖ Causes of Dust ❖

Vic Etyemezian lead a call on the afternoon of August 13th to discuss the methodology of how to relate wind speeds at local met monitors to the IMPROVE samples, in order to determine whether dust is local or more regionally generated. The Causes of Dust project link on the DEJF page of the WRAP website has a PowerPoint presentation on what was discussed (Appendix II).

❖ Next Meeting ❖

The WRAP Board Meeting is now being planned for November 10th, and as Communications & the Tribal Caucus are usually busy "piggy backing" on to that session, it was determined that the DEJF would shoot for a meeting the following week of November 15th. We want it coordinated with the Attribution of Haze Workgroup meeting, as there is a significant overlap of issues between the groups. The AoH WG is looking at Las Vegas as a meeting site out of convenience for DRI presenting Causes of Haze work products. The AoH meeting will probably start Monday afternoon and run through Wednesday morning. Then the Dust meeting would run Wednesday afternoon through Thursday. Final scheduling will be worked out.

❖ PM_{2.5} Fine Fraction Analysis ❖

The consultants interested in bidding on this project were asked to leave the call for the discussion of the path the DEJF will follow. Chat Cowherd did leave the call at this point.

Duane Ono then explained that because of changing WRAP policy, the Dust Fine Fraction Project will no longer be a sole-source contract. We are going to issue a RFP (not to exceed \$120K). A general SOW was sent out August 20th, and Duane asked for comments back by the end of this week (Appendix III)

There was discussion that the SOW should include a requirement to produce a Quality Assurance Project Plan (QAPP) as the first deliverable under the project. And it was concluded that a minimum of five different soils will be analyzed. The review subcommittee will be selecting the soils to be tested, and we want to have something representative of the big source categories within the region. It was suggested that we should request the bidders to provide recommendations on where these samples should come from as part of their proposals.

★ Windblown Dust Results ★

Gerry Mansell went over a PowerPoint presentation on the Phase II Windblown Dust Project (Appendix IV). He described the history of the Phase I Project using the "MacDougall Method" with wind tunnel emission factors for threshold wind velocities of dust generation. There were a number of concerns with the results from this analysis, and the DEJF elected to further refine the inventory methodology under Phase II.

As described in the PowerPoint presentation, there were four Model Sensitivity Simulations undertaken. Results showed that the emissions fell overall when wind duration was limited to 10 hours per day. Also the proportion of emissions from Ag land fell significantly, while the proportion from grasslands and shrublands emissions increased. When disturbance was considered (10% of grasslands, shrublands and bare rock/clay/sand) emissions were generally higher than Scenarios A & B with no disturbance. But the same phenomena occurred regarding lower overall emissions and changing proportions of Ag, grasslands and shrublands with limited winds events.

The full data spreadsheets and scenario descriptions are on the RMC's website at:

http://pah.cert.ucr.edu/aqm/308/wb_dust2002/wb_dust_ii.shtml

Duane asked where we were regarding putting the windblown emissions into the model and completing model evaluations against the monitored results. Gerry noted that they haven't started that work yet, but it is the next step.

Gerry indicated that Environ is going to recommend that run "D" produces the most representative results, and they plan to move forward on the model performance evaluation under this scenario. They intend to complete the first run by the end of August, with an "Annual" run planned by the end of the year. It was noted that we'll have updated 2002 MM5 data for both the 36 km and 12 km grids by that time.

★ Next Call ★

The next DEJF call will be held September 28th at the regularly scheduled time of 11:00 AM Mountain Time.

APPENDIX I

Dust Emission Joint Forum August 24, 2004 Conference Call

August 13, 2004 Budget Table for 2004-05 DEJF Workplan

APPENDIX II

Dust Emission Joint Forum August 24, 2004 Conference Call

August 13, 2004 PowerPoint Presentation: Causes of Dust

APPENDIX III

Dust Emission Joint Forum August 24, 2004 Conference Call

August 20th Draft Scope of Work: PM_{2.5} Fine Fraction Dust Analysis

APPENDIX IV

Dust Emission Joint Forum August 24, 2004 Conference Call

Gerry Mansell PowerPoint Presentation: Phase II Windblown Dust EI Project