

Notes from the Western Regional Air Partnership (WRAP)
Fire Emissions Joint Forum (Forum) meeting
Albuquerque, New Mexico Sept. 17-18, 1998

The meeting followed a morning of presentations on the WRAP conducted by the Initiatives and Technical Oversight committees (IOC/TOC) to the WRAP

Forum Meeting, Thursday September 17, 1:00-5:00 PM

Pete Lahm, Co-Chair, opened meeting. Led introductions of Forum members and 'outer circle' participants. Requested again that ½ page bios be prepared by participants (giving educational and work experience, interest in Forum and what is hoped will be accomplished); submit to Keith Jones, Co-Chair. Pete said Forum is still looking for a 'local government' representative, and that he is working on this.

Pete discussed goals of meeting, including refining rules under which Forum conducts itself, and leading toward workplan development for accomplishment of Forum Charter deliverables.

Keith led discussion on Forum operating rules and Forum/Outer Circle (OC) interactions. Brief discussion of Dr. Quinn's presentation at Reno meeting as example of need to discuss internal interactions. Forum reached consensus that there is much expertise and interest in OC that should not be restricted from participating in general discussions/brainstorming. Forum placed responsibility for effective control of Forum/OC interactions on primary facilitators (Pete and Keith), and agreed that Forum members themselves may act as facilitators. Pete and Keith responsible for focusing discussions back to the Forum and calling for decisions at appropriate times.

Carol Whitman spoke on USDA Agricultural Air Quality Task Force and stated its Charter expired August 23rd. Task Force planned to be re-instituted and Carol passed out applications for nominating members, due to Chief, NRCS, 10/2/98.

Discussion of letter to Task Force sent by Forum Co-Chairs following Reno meeting, intended to clarify from the Forum's perspective the discussion that ensued following Dr. Quinn's presentation, and to encourage a continued working relationship between the Task Force and Forum. Forum decided that it should provide input and direction on future actions, especially when politically sensitive. Co-Chairs will need to work their way through when this is needed and logistics of doing such.

Pete led discussion on consensus-based decision making, including sheet which was given to Forum members ranking levels of consensus from 1 ("I can say an unqualified 'yes' to the decision; I am satisfied that the decision is an expression of the wisdom of the group"), to 6 ("I

feel we have no clear sense of unity in the group; we need to do more work before consensus can be reached”). Forum supported consensus-based decision making, and decided there should be no ranking or quantification of decisions based on sheet, but that it is useful as a guide. Also, silence when coming to closure on a decision will be assumed a ‘yes’ or agreement with decision.

Discussion followed on Forum workplan development and timelines, to provide map for accomplishing deliverables of Forum Charter. Pete suggested goal of having final workplan in place by end of this calendar year, with more discussion on this to follow.

Bob Raisch, TOC liaison to Forum, addressed question on IOC/TOC involvement in workplan development. Bob feels IOC/TOC needs to support a coordination and consistency mechanism between the various forum workplans, but not try to direct work of forums closely. Stressed that workplans be feasible, involve all stakeholders, be based on consensus and financially possible, with budget included.

Discussion then moved into work products developed by interim work group formed at Reno meeting. John Kennedy discussed graphic (Figure 1) describing progression from Clean Air Act amendments of 1990, Grand Canyon Visibility Transport Commission (GCVTC), etc. to Forum and who will be served by Forum work products. Scott Kuehn asked why the focus on the Grand Canyon? Discussion ensued on Colorado Plateau emphasis of GCVTC, and wider benefits of WRAP work to participants, as well as WRAP’s effect on future federal regulations.

Pete presented Figure 3 graphic (there is no Figure 2 at this time), which describes Forum reporting, coordination and other interactions internal and external to WRAP. Rachel Moses stressed need for early coordination with the Tribal Data Development Forum. Pete concurred that mechanisms need to be developed to ensure that all forums communicate effectively to strengthen process. Dave Randall explained Figure 3 interaction lines, in particular the solid dashed line that shows Forum is to review existing state/tribal/federal plans, policies, regulations, etc. and develop implementation tools.

Dave R. then described “Forum Deliverables” table developed by interim work group. Stated this is a draft, subject to ideas and reorganizing by Forum. Explained ordering systems and how attempt was made to provide groupings, possible sequence, etc. to aid Forum in moving toward workplan for accomplishing deliverables. Pete reemphasized that table developed as an aid, but that Forum has to design workplan. Pete also mentioned Forum needs to decide how to draw in assistance of other groups and how to report back out.

Phil Omi asked for more explanation of how table was constructed and what are timelines. Dave R. stated table and rankings/groupings represented 3 to 4 of possibly many more options. In terms of timelines, Pete stated that GCVTC recommendations call for two-year process, or by the end of the year 2000. WRAP milestones embodied in GCVTC recommendations play a factor in setting timelines, as well as federal regulations such as Regional Haze Rule, which affect timelines.

Further Forum discussion on timelines ensued. Point made that our Forum cannot jump ahead of other forums doing related work (particularly those shown on Figure 3). Our Forum's pace is somewhat dictated by the pace of other forums.

Pete suggested that as Forum moves forward on workplan, products/deliverables (draft and final) can be sent individually to IOC/TOC for review, rather than entire product being given to IOC/TOC at end of two year period.

Phil stated that accomplishment of deliverables and work of Forum is very ambitious for a two-year period. General agreement on this from Forum. Keith suggested that two-years be viewed as a goal.

Jolaine Johnson suggested Forum look at State Implementation Plan (SIP) development, and decide who needs what from whom and when. Who are our customers and when do they need products from us? (Notetaker's addition: best identification of customers is found in Figure 1, octagonal boxes in row second from the bottom).

Terry McGuire emphasized not losing sight of policy needs as technical work proceeds, and that there is a need somewhere in workplan for mechanism to do policy checks as we go, rather than at end.

IOC/TOC and WRAP Communications Committee will provide guidance for inter-forum communication/coordination. Posting of forum notes on WGA website is one vehicle. Another likely vehicle is through joint forum meetings.

Forum concluded for day.

Forum Meeting, Friday September 18, 8:30 AM - 3:00 PM

Terry McGuire, California Air Resources Board, made presentation. Described Central Valley/Sierra Nevada smoke issues, and used rice farming as example of agricultural need/desire to burn. Some 500,000 acres of rice under cultivation and farmers wish to burn off rice straw after harvest. Board considers rice burning a nuisance issue, rather than an activity affecting PM10 NAAQS. Described public outcry, both in-state and from Nevada, from smoke created from rice straw burning. State legislature passed law to phase out rice straw burning and today some 200,000 acres are burned. Farmers have tried alternate utilization/disposal methods, such as using straw in adobe brick manufacturing. Have also tried incorporation into soil, which farmers don't like because of operability problems, expense, and insects/disease this promotes.

Terry stated that the Board is not making judgments about the use of fire, but are saying that best management practices must be used. Board recognizes downwind impacts to Washoe County (Nevada), State of Nevada and Colorado Plateau Region. State smoke management program currently is in a state of flux and regulatory basis of program is being reinvented. Said program manages agricultural and forest/range fires in same way.

In terms of assessment and monitoring, Terry said that program today relies on empirical models and visual observations from planes in the air on burn days. Other more sophisticated models and methods have not worked well. Some visibility and particulate matter data is collected, but no overall inventory is kept. Best way to determine total emissions would be from looking at acres treated, for which very accurate records exist.

Jolaine Johnson, Nevada Division of Environmental Protection, made presentation highlighting specific incidents of recent years that have caused serious smoke impacts to Washoe County and other parts of Nevada. Serious health impacts from fires in California, Idaho and Oregon. Stressed the transboundary nature of fire emissions and need for regional coordination.

Regarding April 1998 episode, Jolaine stated that Nevada DEQ tried for a week to get answers on where fires were located that were causing smoke impacts to Nevada. Said the US Forest Service Regional Office and the State of Idaho were uninformed. Stressed again the need for regional coordination.

Jolaine stated that analysis and decisions under the National Environmental Policy Act (NEPA) are not regional enough in scale, and that 'categorical exclusions' under NEPA are used inappropriately. Believes that alternatives to fire were not being analyzed fully and correctly, and that meteorological conditions not fully addressed. Also, impacts from agricultural burning not analyzed well, if at all. Nevada will be demanding that these items be addressed fully in future smoke management planning programs.

Question was asked about Nevada's authority to take legal action against federal land managers (FLMs) for smoke/air quality violations. Jolaine stated she believes FLMs are subject to state laws. Individual FLM who signs NEPA document considered a 'person' rather than an agency, and can be held individually responsible if actions taken are inconsistent with stated NEPA plans.

Jolaine stated that smoke management plans will be required in Nevada State Implementation Plan (SIP). Not required by USEPA. John Kennedy stated EPA also recommends looking for opportunities for interstate coordination in smoke management. Also that EPA prefers states work this out, rather than having EPA be forced to make regulations.

Pete made comment that Sandra Lopez of WESTAR has requested that states bring current smoke management plans and related information to upcoming WESTAR meeting to compare current systems for state management program.

Colin Hardy, USFS, Missoula Intermountain Fire Sciences Lab (Lab), made presentation on Lab and projects related to work of Forum. Said funding typically comes jointly through Forest Service and US Department of Interior and now via Joint Fire Sciences Program. Lab divided into three research work units: fire effects (prescribed and wildland), fire behavior, and fire chemistry.

Colin discussed model NFSPUFF, which applies meteorological data to smoke predictions. Needs better emissions production model (smoldering not well represented).

Colin discussed Forest Vegetation Simulator (FVS) model, which models forest growth, health and reaction to inputted variables such as natural forest succession, insect impacts, fuel management scenarios, etc. Can model one stand to thousands of stands at a time. Also discussed First Order Fire Effects Model (FOFEM), which calculates PM10, PM2.5 and CO of fire events based on combustion efficiency and emission factors, which vary with fuel moisture, fuel composition, other factors. Said FOFEM5.0 is upcoming (funded by Joint Fire Science Program), and will be used for NEPA document development, risk assessment and fire prescription development. FOFEM is best used for specific site applications rather than at landscape scale.

Colin next discussed Landscape Simulation models (Farsite and BGC, biogeochemical), which use inputs such as elevation, slope, aspect, canopy cover and other layers to simulate real-time, spatially accurate emissions from fires. Modeled and displayed using digital terrain models. Colin stated BGC model takes 34 days to run.

Final model type Colin discussed are Coarse Scale Data Systems. Resolution of models typically down to a square kilometer. Examples of applications of these models include projects on the Interior Columbia River Basin, the Colorado Indexing System, and the WESTAR Emissions Inventory Project.

Colin made general comment that in forestry, there are several alternatives for mechanical and chemical management, but that fire is only tool that also includes thermal management. Stressed use of Best Available Control Measures (BACMs), such as burning at optimum time of year for certain forest type. Lab has contracted to update NWCG smoke management guide, which may also become EPA's new BACM guide (still being negotiated). Also stated that AP42 is being updated and will include emissions from wildfires.

Diane R. suggested that Forum and agencies collaborate with Lab and Colin on management guide development. Colin enthusiastically agreed and asked to be reminded of this later.

Colin discussed recently funded Joint Fire Sciences Program projects.

Colin was asked if toxins and toxic emissions will be included in smoke management guide being developed. Replied 'yes,' in some form.

Comment was made that there is discontinuity among federal/state governments who monitor fire emissions. Typically agriculture and forestry emissions impacts are monitored by separate agencies within government.

Colin stated that 'source apportionment' is still a research need. Bryan Jenkins stated that his department had just published an article on such. Agreement that more work is needed and is a difficult area because of variability between conditions/situations.

Colin provided Internet addresses: www.fs.fed.us/fire...research www.fire.org

Pete led discussion on template development. Template to be used by individual Forum 'short teams' in developing workplan units. Template to consist of general questions/considerations that each work group needs to address in its workplan development. Group reached consensus that the following items will make up the template (parenthesis added by notetaker; see final page for template worksheet):

- identify primary audience (who are interested in or will be affected by work product)
- identify policy alternatives (which are likely to be accepted/effective)
- test technical options (to provide check of workability/usefulness)
- list financial resources needed (to complete workplan unit, noting that this is secondary and should not drive work plan needs)
- list information/data to be gathered (both local and cross-boundary, but with focus on how regional picture is affected)
- describe integration of work (with other WRAP forums and external groups e.g. WESTAR, Fire Sciences Lab, etc.)
- set general timelines (for moving toward work product, with due consideration of other timelines/markers both internal and external to WRAP and its forums)
- check if approach and timing is feasible
- list methods for accomplishing deliverable
- (describe deviations from Forum charter; not as part of template but as guide for interaction with IOC/TOC)
- do quality assurance/quality control check (prior to delivering work products to IOC/TOC)
- describe work within sequence of other Forum deliverables
- list needed stakeholder involvement (and how it will be solicited)
- seek formal peer/external review (within Forum and external to Forum, through groups such as Fire Sciences Lab and WRAP, IOC/TOC and Public Advisory Committee, with focus on policy rather than technical/academic aspects, where applicable)
- describe work group activities versus Forum activities
- (work plan development must have cross-boundary focus, and will consider agriculture as well as forest/range)

Note that there was discussion on identifying non-WRAP benefits and products coming out of work products, but that Forum struck this as template item (work groups may still wish to keep list of such as they come up).

Pete led short discussion on how to move to a final workplan. Option 1 to have a 'short team' (as was used in developing graphics/tables between Reno and Albuquerque meetings) develop entire workplan. Option 2 to set up several short teams to develop sections of plan to be compiled into one Forum workplan. Option 2 chosen by Forum. Outer circle invited to participate in teams. Short teams interim in nature but could transition to work groups.

Individuals volunteered for short teams by deliverable grouping based on chart developed after Reno meeting (combined into four general deliverables for now), as follows (with interim leader at top in italics and boldface):

Smoke Management Plans/Planning (tasks 3, 4, 6.1, 6.2, 6.3, 6.4, 6.5 from chart)

Diane Riley (see attached attendance sheet for phone, fax, etc.)

Gary Cornell

John Kennedy

Mark Wagoner

Frances Bernards

Mark Fitch

Scott Kuehn

Ken Kerr

Connor Byestewa

Terry McGuire

Jim Nellessen

Gary Neuroth

Assessment/Emissions Estimating and Tracking (tasks 5.1, 5.2, 5.3, 5.4, 5.5, 5.6, 7.1, 7.2, 9.1)

Dave Randall

Pete Lahm

Bryan Jenkins

Carol Whitman

Mark Fitch

Bob Habeck

Alternatives/Emissions Reduction Strategies (tasks 9.2, 9.3, 10.1)

Bryan Jenkins

Gary Rothwell

Dick Hayslip

Art DuFault

Francis SiJohn

Rick Brown

Public Education/Outreach (tasks 8.1, 8.2)

John Kennedy

Thora Padilla

Keith Jones

Phil Omi

Connor Byestewa

Chas Erickson

Dave Randall

Pete led short discussion of tools needed for Forum to accomplish its goals. Will need to consider charges of other forums (use Figure 3 as guide). Pete will maintain library of materials and will post index on website. Dave R. offered to use Air Sciences website on interim basis for this purpose. John Leary or John Kennedy may assist with coordinating conference calls.

Forum agreed that interim group leaders will set up conference calls, and that first call will take place within three (3) weeks of Albuquerque meeting (by Oct. 9). First draft of workplan unit from each group will be due November 20 and will be submitted to Pete, who will combine into one Forum workplan and distribute.

Keith committed to timely compilation of meeting notes and distribution to Forum and outer circle members.

Forum discussed whether to meet in-person prior to finalizing Forum workplan, or to do by faxes and conference calls. Agreed on additional meeting Dec. 8-9 (Tues.-Wed.), with Salt Lake City as first location choice, Portland as second choice. Will request facilitator for meeting through WRAP Communications Committee.

Dave R. brought up Rachel Moses' suggestion that forum Co-Chairs interface regularly. Keith stated he would initiate with sending meeting notes to applicable forum Co-Chairs, in particular, those shown in Figure 3.

Pete said he will review guidance on how forum meetings are to be conducted, to ensure we're following closely enough.

Meeting concluded at 3:00 PM, as scheduled.

TEMPLATE FOR WORKPLAN DEVELOPMENT 'SHORT TEAM' USE

FIRE EMISSIONS JOINT FORUM

- 1 - Identify primary audience (who is interested? who will be affected by work product?)
- 2 - List information/data to be gathered (both local and cross-boundary, but with focus on how regional picture is affected)
- 3 - List methods for accomplishing deliverable
- 4 - List needed stakeholder involvement (and how it will be solicited)
- 5 - Describe work group activities versus Forum activities
- 6 - Describe work within sequence of other Forum deliverables
- 7 - Describe integration of work (with other WRAP forums and external groups)
- 8 - Identify policy alternatives (which are likely to be accepted/effective)
- 9 - Test technical options (to provide check of workability/usefulness)
- 10 - Set general timelines (for moving toward work product, with due consideration of other timelines/markers both internal and external to WRAP and its forums)
- 11 - List financial resources needed (to complete workplan unit, noting that this is secondary and should not drive work plan needs)
- 12 - Check if approach and timing is feasible
- 13 - Seek formal peer/external review (within Forum and external to Forum, through groups such as Fire Sciences Lab and WRAP, IOC/TOC and Public Advisory Committee, with focus on policy rather than technical/academic aspects, where applicable)
- 14 - Do quality assurance/quality control check (prior to delivering work products to IOC/TOC)
 - (describe deviations from Forum charter; not as part of template but as guide for interaction with IOC/TOC)
 - (note: work plan development must have cross-boundary focus, will be an inclusive process, and will fully consider agriculture as well as forest/range)