

TECHNICAL MEMORANDUM

PHASE 3/4 TECHNICAL WORKSHOP - 8/10-11/2005

PREPARED FOR: FEJF Co-Chairs; Phase 3/4 Task Team; Tom Moore, WRAP

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PROJECT NO.: 178-8

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On August 10-11, 2005 in Fort Collins, CO, the Phase 3/4 Task Team (Task Team) will host a 1-½ day technical workshop as a critical piece of the project to build the Phase 3 and 4 planning emission inventories for the Fire Emissions Joint Forum (FEJF) and the WRAP. This memorandum presents a Purpose Statement for the workshop, a preliminary agenda for the workshop, and proposes a candidate list for participation at the workshop. While in-person participation at the workshop is preferred, participation through video conferencing will be available.

Purpose Statement.

The 1-½ day technical session will have two primary objectives

1. Baseline Rx Inventory: To review and finalize the table of adjustments to be applied to the 2002 Phase 2 prescribed fire inventory in order to develop the representative prescribed fire inventory for the baseline period (2000 - 2004).
2. Projection Rx Inventory: To establish the table of initial scalars to be applied to the baseline prescribed fire inventory in order to develop the projection prescribed fire inventory for 2018.

Baseline Rx Inventory.

The baseline inventories will be prepared as “nominal” inventories comprised of events that are representative of baseline conditions in terms of size, location, and temporal distribution but not comprised of any actual historic fire activity data.

The WRAP’s Phase II prescribed fire inventory for 2002 (which has been reviewed by state, Tribal, and federal agencies through the Phase II QC process) will serve as the starting place for the prescribed fire baseline inventory. The Phase II 2002 prescribed fire event-based inventory will be summarized (using EXCEL pivot tables) and documented in hardcopy

Baseline Binders. Fire statistics will be derived at a reasonable geographic scale (expected to be Baily Ecoregion Province) and will be broken down by:

- natural and anthropogenic prescribed fire acres burned per agency (e.g., state, Tribe, federal),
 - per jurisdiction (e.g., USDOJ – National Park Service Intermountain Region),
 - per fuel category (e.g., National Fire Danger Rating System [NFDRS] fuel model).

Participants in the workshop (state/Tribal Smoke Management Program managers, federal burners, and subject matter experts) will review the Baseline Binders and consider whether the 2002 prescribed fire data are representative of baseline conditions (2000-04). Criteria to be considered in this review are listed in Table 1.

Table 1 - Criteria to Consider in Establishing Baseline Levels of Prescribed Fire

Weather conditions. *(Were weather conditions for 2002 “typical” for the baseline period?)*

Fuel conditions. *(Were the typical fuel conditions (e.g., moisture content) for prescribed burns in the baseline period different enough from the fuel conditions in 2002 to warrant a change in the assumptions about fuel consumption rates?)*

Temporal allocation. *(Do the prescribed burning seasons for 2002 look different from what we’d expect for the baseline period?)*

Fire location. *(Was the spatial distribution of prescribed burns in 2002 representative for the baseline period or did the wildfire conditions for the West in 2002 push prescribed burning to atypical locations?)*

Fuel loading conditions (i.e., NFDRS fuel model). *(Did 2002 prescribed burns involve lower than normal fuel loadings than typical for the baseline period?)*

Ratio of broadcast burns to pile burns. *(Were prescribed fire management techniques in 2002 significantly different than what occurred during other years in the baseline period?)*

Available agency funding for prescribed burning programs. *(Did high costs for wildfire suppression in 2002 depress the amount of the prescribed fire program funding to levels lower than the average for the baseline period?)*

Existing (or recent changes to) regulatory environment. *(Did smoke management rules come on-line in 2003 that made 2002 an unusually high (or low) prescribed burning year in certain*

jurisdictions?)

Other extenuating factors. (*Participants are encouraged to use their specific expertise to suggest additional criteria.*)

In instances where prescribed fire activities are determined to not be representative of baseline conditions, participants will provide alternative activity rates (as gross acres-burned estimates per fuel category). Metadata for these adjustments will be in the form of brief justifications for the change in activity rate. The adjusted Phase II 2002 burning levels will comprise the “nominal” baseline (2000 – 2004) inventory for prescribed burning.

ERT Application Rules. A critical aspect of the planning inventories will be the identification of the controllable portion of anthropogenic fire emissions from prescribed burning. A portion of the Workshop will be dedicated to deriving estimates of the portion of anthropogenic emissions that are controllable with the application of Emission Reduction Techniques (ERT). Materials recently prepared by the ERT Task Team will be provided to participants, including: a list of available ERTs; estimates of emission control efficiencies for ERTs; and the applicability of each ERT across different vegetation types throughout the WRAP region. Participants will be asked to help derive rules to implement in the database to apply the emission control effects due to implementing ERTs (ERT Application Rules). Similar to how the database rules developed for categorizing (natural or anthropogenic) fires in the Phase II 2002 EI were implemented, the ERT Application Rules will need to rely on information available in the prescribed fire data (e.g., fuel arrangement [broadcast versus pile], NFDRS fuel model code, etc.). After the Workshop, a draft of the ERTs application rules will be posted on the WRAP’s web site for state and tribal smoke managers’ review.

Projection Rx Inventory

The baseline prescribed fire inventory will serve as the starting place for the prescribed fire projection inventories. The first step to develop the technical justifications to adjust the baseline burning levels in order to create the projected inventories will take place at this Workshop.

Participants will be provided with a Draft White Paper prepared by Air Sciences that presents the burning level projection topic, provides the appropriate context for developing projections, lists criteria for developing scalars (e.g., forest ecology, land management objectives, wildfire return intervals, climate trends, urban/forest interface consideration, emissions tradeoffs, administrative constraints), and provides the details of the process to develop projection scalars.

Participants will be asked to help develop the initial “Strawman” set of projection scalars. The scalars will be developed at an appropriate spatial resolution (expected to be Baily Ecoregion Provinces for prescribed burning) with the ability to address a limited number of specific (and significant) administrative areas. The desired product for portion of the Workshop is a table of scalars (high, medium, and low scenarios) to be applied to baseline burning levels for prescribed fire for multiple fuel types (e.g., all NFDRS fuel models or NFDRS models collapsed to “grass,” “brush,” and “timber”) for each ecoregion province (or similar subregion). The high medium and low scenarios will be based upon an analysis of the potential range of future prescribed burning emissions. Information that could factor into the development of the projection scalars includes the relationship of climate (expressed as monthly precipitation maps) and historic fire incidence data. The effect of regulatory programs, regional scenarios of the application of ERT’s, and the Annual Emissions Goal policy (i.e., the optimal application of ERT’s) will be incorporated into the projection inventories.

Preliminary Agenda.

Table 2 (two pages, attached) presents a preliminary agenda for the workshop.

Candidate List of Participants.

The initial candidate list of participants for the Workshop is presented in Table 3.

Table 3 – Candidate List of Participants

Name	Affiliation
Neva Sotolongo	California Air Resources Board
Bob Habeck	Montana Department of Environmental Quality
Mike Ziolk	Oregon Department of Forestry
Darrel Johnston	Washington Department of Forestry
Coleen Campbell	Colorado Air Pollution Control Division
Chet Sergent	Nevada Bureau of Air Quality
Greg Zschaechner	Utah Division of Air Quality
Darla Potter	Wyoming Department of Environmental Quality

Thomas Dzomba	USDA – Forest Service, Northern Region
Jim Russel	USDA – Forest Service, Pacific Northwest Region
Lisa Bye	USDOl – Bureau of Land Management (New Mexico)
Peter Lahm	USDA – Forest Service, Washington Office
Mark Fitch	USDA – Forest Service, Tonto National Forest (Arizona)
Paul Schlobohm	USDOl – Bureau of Land Management, National Interagency Fire Center
Aaron Worstell	USDOl – National Park Service
Angel McCormack/ Andrea Boyer	Nez Perce Tribe
Don McKenzie	USDA – FS, Pacific Northwest Research Station, Fire and Environmental Research Applications Team
Joan Hardesty	Alaska Department of Environmental Conservation
Tom Moore	Western Regional Air Partnership

--Table 2--
 WRAP PHASE 3/4 FIRE EMISSION INVENTORY
 TECHNICAL WORKSHOP #1
 Fort Collins, CO
 August 10-11, 2005

Day	Begin	End	Begin	End		
Day 1	800	815	Overview of Phase 3/4 Project Introductions & Confirm Web Conferencing Discussion of Workshop Organization		800	815
	815	845	Present the context for the meeting: use of planning inventories (modeling and Regional Haze SIPs); how planning inventories fit into WRAP fire policies; desired outcome of the meeting.		815	845
	Baseline Prescribed (Rx) Fire Inventory					
	845	945	Distribute Baseline Binders and overview presentation. Binder development, orientation and review.		845	945
	945	1000	----- Break -----		945	1000
	1000	1100	Refine criteria to consider for revising Rx fire numbers in Baseline Binder.		1000	1100
	1100	1200	Proposed adjustments and technical justifications.		1100	1200
	1200	1300	----- Lunch -----		1200	1300
	Option - Breakout or Plenary					
	1300	1430	Group 1 - Adjustments & Justifications	Group 2 - Adjustments & Justifications	1300	1430
	Could break out based on geographic locations; agency/jurisdiction; other?					
	1430	1445	----- Break -----		1430	1445
	1445	1515	Prepare summary table/list of Baseline Rx Fire Adjustments & Justifications		1445	1515
	Emission Reduction Technique (ERT) Application Rules					
	1515	1645	Present ERT Task Team materials; prepare draft database rules to apply the effect of implementing ERTs.		1515	1645
	1645	1700	Daily wrap up and prepare for Day 2		1645	1700

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Day	Begin	End		Begin	End
Day 2			Projection Rx Fire Inventories		
	800	815	Introductions & confirm web conferencing.	800	815
	815	845	Overview of Projection Rx Fire Inventories. Planned process to build inventories. Expected structure of inventories.	815	845
	845	915	Distribution and overview of Draft White Paper on projection Rx fire inventories.	845	915
	915	945	Review and revise *blank* template table for projection scalars.	915	945
	945	1000	----- Break -----	945	1000
	1000	1200	Populate template table with projection scalars.	1000	1200
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