

WORKPLAN

Western Regional Air Partnership -
Fire Emissions Joint Forum

Version: February 25, 1999

1.0 INTRODUCTION

The Western Regional Air Partnership (WRAP) was formed to implement the recommendations of the Grand Canyon Visibility Transport Commission (GCVTC report, June 1996). Several forums, including the Fire Emissions Joint Forum (FEJF), were formed to assist the WRAP. The FEJF was formed to address the GCVTC report's recommendations for fire emissions and visibility. Attachment A displays how the Clean Air Act, the GCVTC process, the National Ambient Air Quality Standards (NAAQS), and the Proposed Regional Haze Rule drive the work of the FEJF and the WRAP.

Stakeholders contributing to the Forum process include representatives from federal, state, and tribal air and land management agencies; private landowners, including agricultural interests; industry; environmental advocacy groups; and academia. The FEJF works by consensus in developing and forwarding its recommendations to the full WRAP. Once the WRAP approves the FEJF recommendations, it is expected that each WRAP member state, tribe, and land manager will adopt and incorporate these, as appropriate, into their respective programs. Attachment A also graphically represents how the FEJF interacts with other groups, how it provides recommendations to the WRAP, and how the WRAP disseminates information for land managers and agencies to incorporate into their land and smoke management programs.

The sections of the GCVTC report that address fire and the subsequently developed FEJF Charge can be found in Attachment B and C, respectively. FEJF members and others contributed to the development of the following Workplan using four topic-based sub-groups (smoke management programs, fire emissions and assessment, non-burning alternatives to burning, and public education and outreach). The list of contributors to each sub-group can be found in Attachment D. This Workplan is the first consensus-based work product of the FEJF submitted to the Technical and Initiatives Oversight Committees (TOC/IOC) of the WRAP.

The future FEJF work will focus on western states (AZ, CA, CO, ID, MT, ND, NM, NV, OR, SD, UT, WA, and WY) although information from other states (i.e., SC, FL) or neighbor countries (i.e., Canada and Mexico) may also be used for developing the work products as appropriate. The pollutants addressed will be PM_{2.5}, PM₁₀, elemental carbon, organic carbon, VOC, SO_x, NO_x and CO as determined by the WRAP Emissions Forum. As appropriate, these pollutants will be addressed in terms of their effect on visibility (both plume blight and regional haze), nuisance effects, and the health-based National Ambient Air Quality Standards (NAAQS). The timeline and flowchart for all the elements of this Workplan can be found in Attachment E. The budget and relative priority of tasks can be found in Attachment F.

1.1 Operating Definitions

There are many essential terms that are repeatedly used throughout the workplan. Although this section is not intended to be a complete glossary of all terms, this section is intended to provide readers with several operating definitions at the outset of the workplan. These definitions should

provide different readers the opportunity for a consistent review of the workplan.

1.1.1 Land Managers - When this term appears, it refers inclusively to federal, state, tribal, and private land managers.

1.1.2 Agencies - When this term appears, it refers inclusively to federal, state, tribal, and local agencies.

1.1.3 Agricultural land - Agricultural land includes croplands, rangelands, pasture, and other lands on which crops or livestock are produced (PL 104-127, Section 1240A). Rangeland will be included with wildland for the purposes of the FEJF work.

1.1.4 Wildland - An area where development is generally limited to roads, railroads, power lines, and widely scattered structures. The land is not cultivated (i.e., the soil is disturbed less frequently than once in 10 years), is not fallow, is not in the USDA Conservation Reserve Program. The land may be neglected altogether or managed for such purposes as wood or forage production, wildlife, recreation, wetlands, or protective plant cover (EPA Interim Air Quality Policy on Wildland and Prescribed Fires). This land is not "agricultural land" as operationally defined in Section 1.1.3. Silvicultural land and rangelands (per the FEJF Charge), woodlots, and private timberlands will be included with wildlands for the purposes of the FEJF work.

1.1.5 Agricultural Fire/Burning – Any fire ignited by management actions to meet specific objectives (i.e., managed to achieve resource benefits) on agricultural land.

1.1.6 Wildland Fire - Used in this document to refer to all types of fire (see Section 1.1.7 for definition of "fire"), except agricultural fire.

1.1.7 Smoke Effects - The effects on visibility (both plume blight and regional haze), public nuisance, and the health-based NAAQS due to emissions from fire.

1.1.8 Fire - When this term appears, it refers inclusively to wildfire, prescribed natural fire/wildland fire managed for resource benefits, prescribed fire, and agricultural fire.

1.1.9 Prescribed Fire – Any fire ignited by management actions to meet specific objectives (i.e., managed to achieve resource benefits).

1.1.10 Wildland Fire Managed for Resource Benefits/Prescribed Natural Fire - These terms both have current use in regulations and policies. They are considered to be synonymous and are used interchangeably in this workplan. These terms refer to the management of naturally ignited fires to accomplish specific, pre-stated resource management objectives in predefined geographic areas outlined in the fire management plan.

1.1.11 Wildfire – Any unwanted, non-structural fire.

1.2 Audience

The FEJF's purpose is to fulfill the FEJF Charge and assist the WRAP. In this regard, the principal audience of the FEJF is the WRAP. The FEJF's products (technical- and policy-oriented) will be presented to WRAP as recommendations for the WRAP's approval.

The primary users of the deliverables produced under this workplan will be air regulatory agencies, land managers, and advisers (providers of technical assistance). Work products for the primary users are likely to be technical and comprehensive in nature. These same agencies, land managers, and advisers will be interested in these recommendations for their implications to air quality planning, smoke management programs, and State Implementation Plan (SIP)/Tribal Implementation Plan (TIP) development. Not all sections of this workplan will be of interest to or used by all agencies, all land managers, or advisers.

Secondary users will likely include interested parties such as the general public, local governments, industry, forestry, range, and agriculture, and non-governmental organizations such as health organizations and environmental groups. The basic information will be translated for the secondary users in a form that is easily understood and accessible.

1.3 Participation

Stakeholder involvement in this process will be represented by the FEJF membership who are selected to represent key stakeholder interests. The accomplishment and dissemination of FEJF work products will rely on the FEJF membership. Other stakeholders and interested people are welcome to attend and participate in the FEJF meetings and task teams. It is the responsibility of each FEJF member to:

- communicate with their peers, professional associations, agencies, etc, to solicit their input and obtain necessary information;
- keep their constituencies informed of FEJF progress and work products;
- identify other participants who may be needed to contribute particular expertise or information to the process; and
- assist the FEJF to carry out its charge through active participation and follow up, including identifying how final work products will be used.

Solicitation of additional stakeholder involvement will be facilitated through the FEJF public education/outreach work and the WRAP Communications Committee.

1.4 Review and Quality Control/Quality Assurance Process

Integration of the FEJF work with other WRAP forums and external groups is illustrated in Attachment G. The relationships characterized include: formal reporting (i.e., WRAP

committees, boards, etc., to which the FEJF directly reports); mandated coordination (according to the FEJF Charge); program assessment/tool development (i.e., seek the experiences of agencies and burners that have developed smoke management/prescribed fire programs, and developing smoke management/prescribed fire tools that are passed back to these groups to implement); review and adoption of useful methods (i.e., review the work of outside groups involved in fire emissions issues, and adopt those technical and policy methods that are deemed appropriate to the FEJF). Coordination and collaboration using the relationships identified in Attachment G will enable the FEJF to build consensus, develop good science and policy, and take advantage of the work and experiences of other groups that have been working and continue to work on fire emissions issues.

The review process will largely be through the FEJF, other WRAP forums, and the oversight committees (IOC/TOC, Communications Committee, Public Advisory Committee). This is with the understanding that each FEJF member will implement their stakeholder involvement responsibilities as outlined above. The FEJF will determine when products are ready for public access. The workplan and interim and final products will be made available to internal/external groups on the WRAP website and through other means (described previously) for review. FEJF task teams will follow the WRAP website protocol for posting internal working drafts and draft/final documents on the website, however the FEJF may modify this protocol if it is deemed necessary. Comments received from the review process, including those received from the public at large, will be evaluated and incorporated as appropriate. As indicated earlier, public participation will be aided by the FEJF public education/outreach group and the WRAP Communications Committee. The review process will be consistent with the WRAP Internal Communications Plan.

Any workgroups formed to assist the FEJF in addressing the GCVTC recommendations and FEJF Charge will take the lead on development of work products. The work products will be presented and evaluated by the entire FEJF membership and finalized by consensus. Final work products will be submitted to the WRAP for approval. The FEJF and FEJF workgroups should identify conflicts with statutes, WRAP policies, agency policies, etc., before submitting to the IOC/TOC or WRAP for review.

Quality assurance and control will be achieved through the following review process of all workgroup products (see Attachment H).

1. FEJF workgroup develops draft work products for FEJF review.
2. FEJF solicits non-member review and IOC/TOC liaison review.
3. FEJF workgroup prepares final draft work products for FEJF review.
4. IOC/TOC formal review.

The level of review may vary depending on the work product.

For work products developed outside of the FEJF, the FEJF will establish a quality assurance and

control process for their evaluation and integration (if appropriate) into FEJF's work products. These work products will follow the same procedure of FEJF consensus prior to acceptance and subsequent submittal to the WRAP and external audiences.

This workplan may not currently include a sufficient number of workshops but additional workshops may be added as a means to publicize recommendations and provide an opportunity for parties outside the WRAP to address equity, technical quality, and other issues.

In addition to the Operating Definitions presented in Section 1.1, the FEJF will define, as specifically as practicable, key science and policy terms that will be used in FEJF products. This effort will be to ensure consistency among the various FEJF deliverables and to enable the FEJF to clearly and concisely communicate with the audiences identified in Section 1.2.

2.0 SMOKE MANAGEMENT PROGRAMS WORKPLAN

2.1 Introduction

The FEJF Charge includes elements to address smoke management programs (SMPs) as laid out in the GCVTC report. SMPs are broadly defined as including all types of SMPs (governmental, private, and non-governmental organizations) for all types of fire.

As included in the FEJF Charge, the specific SMP elements include:

1. evaluate the progress of current prescribed fire programs to address smoke effects;
2. evaluate smoke management programs;
3. develop requirements for basic and enhanced SMPs and incorporate EPA's Interim Air Quality Policy on Wildland and Prescribed Fires and EPA/USDA recommendations on agricultural burning into smoke management programs; and
4. develop cooperative funding mechanisms.

The primary purposes of the work products in this section are to provide assistance for developing smoke management programs and to provide guidance for incorporating smoke effects into prescribed fire programs. The work will also assist with cross-boundary regional planning. Some of the SMP work products will need to be directly tied to other FEJF work efforts. In coordination with the FEJF task team that is dealing with emissions tracking, the SMP task team will monitor (through the time period of the FEJF) the progress of land managers in developing and implementing smoke management plans, including training of staff and line personnel and use of emerging technologies.

The SMP portion of the FEJF workplan details how each of the above elements will be

completed. The SMP work will primarily use existing information to formulate policy and program recommendations.

2.1.1 SMP Work Products

The following SMP work products will be completed:

1. Assessment of prescribed fire programs. This work product includes an evaluation of progress to incorporate smoke effects into burn planning.
2. Assessment of smoke management programs. This work product includes an evaluation of existing smoke management programs, and establishment of a clearinghouse for smoke management plans and Memoranda of Understanding.
3. Basic and enhanced smoke management programs. This work product includes development of criteria for basic and enhanced smoke management programs and recommended program elements.
4. Funding mechanisms. This work product involves the development of funding mechanisms for implementing smoke management programs. Current funding mechanisms will be identified in the 'assessment of smoke management programs' work (above). These and additional potential funding mechanisms will be evaluated. A model for cooperative funding agreements will be developed.

2.1.2 Coordination and Timing

Coordination with other FEJF work will be critical to develop the Basic and Enhanced Smoke Management Programs with regard to the development of emission goals and administrative barriers (FEJF Charge task/deliverables #9 and #10). To enhance this critical coordination, a framework for basic and enhanced smoke management programs will be developed early in the FEJF process and distributed to appropriate stakeholders.

All SMP work will be coordinated with the WRAP Communications Committee and tied in to the FEJF's public education and outreach efforts (FEJF Charge task/deliverable # 8).

2.2 Progress of Prescribed Fire Programs and Wildland Fire Managed for Resource Benefits to Incorporate Smoke Effects into Planning and Application

2.2.1 Introduction

Federal, state, tribal, and private burners are expected to incorporate the potential smoke effects due to prescribed fires in their burn planning. Specifically, smoke effects are expected to be included in:

- burn planning and application of burn plans;
- programmatic planning; and
- air quality planning for regional haze.

The FEJF will evaluate whether or not smoke effects are being included in these planning tools.

2.2.2 Background

The level of effort required to assess the progress of federal, state, tribal, local, and private prescribed fire programs to incorporate smoke effects in planning and application will vary from program to program.

Prescribed fire programs range from basic to elaborate. The content of each prescribed fire program depends on the goals and objectives of each burner. As the inclusion of smoke effects in the prescribed fire programs are evaluated and suggestions for improvement of prescribed fire programs are developed, it is be important to recognize that although goals and objectives may vary, it may be difficult and/or inappropriate to rank goals and objectives from best to worst.

2.2.3 Evaluation of Inclusion of Smoke Effects

This assessment will be a combination of reviewing plans (burn plans and programmatic plans) and evaluations of burn applications. In addition, FEJF will conduct additional information surveys of burners (and/or entities that provide advice to burners) that conduct burns that are not carried out under traditional burn/land management plans. This work could be conducted via a FEJF workgroup or through contract.

2.2.3.1 Burn Planning

The evaluation of burn planning occurs at the project level. For burners that prepare burn plans, such as the federal agencies, an evaluation will involve how smoke effects have been included in a sample of burn plans from each agency.

Burn plans will be reviewed using, at a minimum, the following criteria (from the EPA Interim Policy):

- actions to minimize fire emissions;
- evaluate smoke dispersion;
- public notification and exposure reduction procedures; and
- air quality monitoring.

For non-federal entities that are burners, the landowners and/or the entities that provide landowners advice (e.g., state forestry agency, cooperative extension service, tree farm program)

will be surveyed to assess whether smoke effects are included in burn planning.

2.2.3.2 Application of Burn Plans

Smoke effects due to burns executed under burn plans will be evaluated. At a minimum, the following criteria will be used in the evaluation:

- smoke effects avoided (e.g., favorable dispersion, adequate thermal buoyancy, no intrusions to Class I or other identified sensitive areas, no role in contributing to exceedances of the NAAQS),
- unfavorable smoke effects (e.g., unfavorable dispersion, inadequate thermal buoyancy, intrusions to Class I or other identified sensitive areas, role in contributing to exceedances of the NAAQS);
- compliance with applicable laws and adherence to relevant policies;
- frequency of verified public complaints;
- frequency of agency citations being issued;
- cooperation with downwind jurisdictions, regulatory agencies, and land managers; and
- were all of the smoke elements of the Burn Plan implemented?

Federal land managers use a method (the Wildland Fire Situation Analysis (WFSA)) to assess whether a fire caused by natural ignition should be managed or suppressed. Air quality plays a role in these decisions, although there is no standardized method for assessing smoke effects. The WFSA process employed for past incidents will be evaluated to assess how smoke effects were incorporated with respect to the following minimum criteria:

- consideration of short- and long-term smoke effects;
- consideration of impacts on sensitive areas (including Class I areas); and
- evaluation of whether burn decisions were tied to specific air quality criteria.

2.2.3.3 Programmatic Planning - Land Management and Fire Management Plans

The evaluation of programmatic planning occurs at the program level. For all entities that have broad land management plans and or fire management plans, plans will be evaluated to assess whether smoke effects (including regional haze) have been addressed adequately. This evaluation will include whether smoke effects are adequately addressed by the federal land managers through the WFSA process. A sample of plans developed within the last five years will be evaluated. The policies and guidance which dictate these plans shall also be addressed.

Programmatic planning will be evaluated using, at a minimum, the following criteria:

- consideration of cumulative effects of smoke;
- assessment of potential intrusions to Class I or other identified sensitive areas;
- compliance with applicable laws (e.g., Natural Environmental Policy Act, NEPA; Forested Land Management Planning Act (FLPMA); state and federal Clean Air Acts) and regulations (e.g., SIPs/TIPs), and adherence to relevant policies;

- cooperation with downwind jurisdictions, regulatory agencies, and land managers; and
- development of smoke management standards and guidelines.

2.2.4 Report on Progress and Suggestions for Improvement

The FEJF will prepare a report that presents the findings of the evaluations described in Section 2.2.3. The report will include suggestions for improving the ways that smoke effects are incorporated into the planning mechanisms for prescribed fire programs.

2.2.5 Timeline

Begin review process: March 1999

Complete review process: June 2000

2.3 Assessment of SMPs and Establish Clearinghouse

2.3.1 Review of Existing SMPs

The FEJF will review the results of work that has been done to date to review existing SMPs and MOUs in the western states. This work includes, but is not limited to:

- WESTAR has begun collecting SMP material from the states. This includes operating guides, regulatory information and MOUs.
- BLM (Natural Applied Resource Science Center) funded a preliminary study called, "Survey of Forest Smoke Management Programs in the Western States" by Core Environmental Consulting (CEC). This initial survey (May 1998) was a basic review of thirteen western states' SMPs (AK, AZ, CA, CO, ID, MT, NV, NM, OR, SD, UT, WA, and WY).

The FEJF shall conduct an additional, detailed review of state and local air regulatory SMPs and MOUs. This may be accomplished through a survey mechanism. The review shall include, but not be limited to:

- regulatory authority;
- fire emissions inventory;
- compliance with laws and policies;
- frequency of complaints or citations received;
- cooperation with down wind states/cross state or country and other regulatory agencies;
- intrusions into Class I Areas or other smoke sensitive areas;
- alternatives to burning;
- effects on regional haze;
- smoke effects;
- funding mechanism;

- emission reduction credits; and
- adherence with basic guidelines set by EPA's Interim Air Quality Policy on Wildland and Prescribed Fires.

The purpose of this review of existing SMPs is to help identify the elements of basic and enhanced SMPs.

2.3.2 Action Plan

The expanded review of the existing SMPs could be done within the FEJF. This would be very time consuming and may potentially overload the members of the group. To manage this effort, the review will be divided among FEJF (or FEJF task team) members, with each member reviewing three to four state programs. This approach would require developing a set of review guidelines to promote consistency among the independent reviewers. The FEJF will consolidate the reviews into one report and attempt to eliminate inconsistencies.

The review of existing SMPs could also be contracted out. This approach would be more costly than an internal (FEJF review) and may result in a more consistent review of existing SMPs.

2.3.3 Establish Clearinghouse

Once the review of existing SMPs is completed, the resulting report will be provided to the FEJF for establishment of a clearinghouse for SMPs and MOUs. Establishment of the clearinghouse will be coordinated through the WRAP's Communication Committee and the FEJF Public Education/Outreach workgroup.

2.3.4 Timelines

Begin review process: March 1999
Complete review process: February 2000
Begin clearinghouse process: February 2000
Complete clearinghouse process: June 2000

2.4 Basic and Enhanced Smoke Management Programs

2.4.1 Objectives

Based upon the recommendations of the GCVTC, the FEJF will develop criteria and elements of a basic smoke management program (BSMP), and an enhanced smoke management program (ESMP) for prescribed fires, wildland fires managed for resource benefits/prescribed natural fires, and agricultural fires. The objectives of a basic and enhanced smoke management program are to ensure:

- 1) no health-based NAAQS are exceeded;
- 2) nuisance smoke is mitigated;
- 3) smoke impacts on visibility are minimized in Class I areas and meet the GCVTC recommendations.

The SMP also addresses elements such as an emissions inventory tracking system for fires and a tracking system that confirms that emission reduction practices and non-burning alternatives are used. A BSMP will provide a framework of procedures and recommendations for managing smoke, and an enhanced program will focus on the issues of advanced emissions reduction techniques and the reduction of visibility impact.

To this end, the deliverables will be:

- a recommendation for the WRAP for appropriate elements of a BSMP;
- a recommendation for the WRAP for appropriate elements of an ESMP; and
- criteria for the use of an ESMP including, but not limited to: when and where an enhanced smoke program should be recommended; reduction of visibility impacts; emission reduction strategies; alternative management practices; and an implementation schedule for the ESMP.

2.4.2 Conceptual Framework

A conceptual framework is needed to help guide the development of a BSMP and ESMP. In addition, the framework will guide other FEJF work, specifically the work of the Assessment/Emissions Estimation and Alternatives to Burning workgroups. Tasked workgroups will be formed to develop a working framework for a BSMP and ESMP. The BSMP and ESMP groups will work independently of each other; however, there may be member(s) that will work in both groups. These workgroups will develop the framework for the SMPs, the draft will then be presented to the FEJF for approval. The initial products from these workgroups will only serve as guidance for the FEJF. These documents will then evolve, with input from the FEJF, into the BSMP and ESMP. By keeping these groups small they should be able to draft the conceptual frame of the SMPs in short duration workshops.

2.4.2.1 BSMP

The BSMP framework will establish recommendations for states/tribes to use in the management of smoke from prescribed fires, prescribed natural fires, and agricultural forest. These guidelines will help to mitigate nuisance smoke, prevent public safety hazards, prevent deterioration of air quality, and prevent NAAQS violations. The FEJF's review of existing SMP's (Section 2.3.1) shall include identification of key elements of an SMP that will be incorporated as appropriate elements of a BSMP. At a minimum, a BSMP should follow the guidelines set by EPA's Interim Air Quality Policy on Wildland and Prescribed Fires (Interim Policy) and USDA recommendations on agricultural burning. The BSMP elements developed by the FEJF will reflect this.

The goal of the FEJF is to develop elements of a BSMP that is recommended to and approved by the WRAP. States and tribes will then be able to incorporate the BSMP into their SMP's in order to strengthen their programs and to certify to EPA that their SMP complies with the minimum standards established by EPA's Interim Policy.

- burn plans should be recommended for greater than a de minimis fire (to be defined by smoke management task team(s));
- burn plans should include information such as: number of acres to be burned, location and description of the areas to be burned, type of burn personnel responsible for managing the fire, projected smoke transport path, distance from smoke-sensitive areas, and safety and contingency plans addressing smoke intrusions;
- burn accomplishment reports to assess if the management objectives were met, to establish an emissions inventory, and to document cause of or contribution to NAAQS violations;
- set up a central location for tracking and archiving purposes;
- an outline of smoke dispersion evaluation guidelines (e.g., meteorological assessment, airshed holding capacity and night-time drainage pattern of smoke);
- monitoring of smoke effects;
- training/education requirements for personnel;
- evaluation of the SMP to ensure that the SMP stays current and is revised as necessary; and
- public education

2.4.2.2 ESMP

The recommendations developed by the FEJF for an ESMP will provide guidelines for the managing of emissions from fires with the main purpose to reduce visibility impacts in Class I areas. An ESMP will include all aspects of a BSMP, plus recommendations of when and where an ESMP should be implemented. The GCVTC report recommends the development of criteria and requirements for the use of an ESMP. Their recommendations state an ESMP should consider: emissions reduction strategies, alternatives to burning management practices, efficiency, economics, all laws and statutes, land management objectives and the reduction of visibility impacts in context of regional haze and cross boundary transport.

In developing the guidelines for an ESMP, the FEJF should consider, at a minimum, the following issues:

- an emissions tracking system for visibility impairing pollutants;
- accountable annual emission goals;
- alternative management practices and accounting system for non-burning activities;
- emissions reduction strategies;
- visibility impact monitoring;
- modeling to aid in reduction of visibility impacts in Class I areas; and
- local and regional coordination of fire activity.

2.4.3 Process and Methods

The effort in developing a BSMP and ESMP is multi-faceted and will require the following:

- information gathering;
- coordination with other WRAP groups (e.g., Emissions Inventory Workgroup, Emissions Forum, Monitoring and Reporting Forum, Research and Development Forum, Air Quality Modeling Forum);
- contact of outside peers in the fire arena to assist the FEJF;
- identification of contractors that may be useful to the process;
- review of the following information: EPA's visibility goals; GCVTC findings and recommendations; land management objectives (federal, tribal, private, agriculture);
- building consensus by employing the following methods: host workshops and involve all stakeholders; and
- develop recommendations for BSMP and ESMP.

2.4.4 Timelines

Form two task workgroups to draft a BSMP and ESMP framework: March 1999. (This includes coordinating with the Assessment/Emissions Estimation workgroup on emissions tracking system that will be included in a basic SMP, as well as the subgroup that is reviewing SMPs.)

FEJF and peer review of the basic framework: May - September 1999

Draft of BSMP and ESMP: October - February 2000 (Coordinating with Assessment/Emissions workgroup and Alternatives to Burning workgroup)

FEJF and peer review of SMPs: March-July 2000

Second Draft of SMPs: August-September 2000

Final Draft of SMPs: October-December 2000

2.5 Develop Cooperative Smoke Management Funding Mechanisms

2.5.1 Background

The Grand Canyon Visibility Transport Commission (GCVTC report, June 1996) identified the need to develop cooperative smoke management funding mechanisms between burners and regulatory agencies to facilitate the adoption of best and enhanced smoke management programs and integrated assessment costs.

The following steps were identified in the FEJF Charge task/deliverable #3 for accomplishing this recommendation:

Step 1. Identify current funding arrangements and costs;

Step 2. Assess potential funding mechanisms; and

Step 3. Develop model cooperative funding agreements for use among two or more parties, on a jurisdictional or regional scale.

2.5.2 Methods and Timelines

Identifying current funding arrangements and costs (step #1 above) will be accomplished through the FEJF Charge task/deliverable #6 workplan where existing smoke management programs will be evaluated.

Assessing potential funding mechanisms (step #2) and developing a model (step #3) can be accomplished through one or more of the following approaches:

- A workgroup of FEJF members would develop the work products. The work would take approximately six months to a year to complete depending on the availability of FEJF members. There would be no additional costs (except for travel costs for any meetings).
- A workgroup of FEJF members would organize a workshop of key persons involved in existing funding programs. The workgroup would develop the agenda and participants list, participate in the workshop, and finalize the workshop proceedings. The work would take approximately two to three months to complete and cost \$10,000 (15 participants @ \$500 each, \$2,500 for facilitator and any other expenses).
- A workgroup of FEJF members would develop a request for proposals and list of credible individuals or organizations with good research and business experience, and provide contract oversight. The FEJF would make the final contractor selection. The work would take approximately two to three months to complete and cost \$20,000.

At a minimum, the following funding mechanisms would be evaluated:

- EPA 103 and 105 grant and other funding;
- state instituted fees and fines;
- MOUs facilitating stakeholder contributions and in-kind support;
- funding through state and/or federal legislation;
- funding through other organizations (local governments, private, non-profit); and
- funding through the 1997 Interagency Agreement for Fire Management¹.

¹ Agreement that allows funds to be exchanged between the USFS, BIA, NPS, FWS, and BLM for fire activities.

Each funding mechanism would be evaluated to determine if it is equitable, feasible, effective (in terms of costs and achieving desired results), and acceptable. Agency policies would need to be checked for any legal constraints. The model agreement would need to be designed so that it would fit a range of situations, from simple two-party, single-jurisdiction agreements to complex multiple-party, multi-jurisdictional agreements. In some cases funding mechanisms for agricultural and private burning may need to be considered separately from federal and state burning programs. Guidance would be developed for states to use the model to develop their funding mechanisms or program needs.

All three approaches would require a FEJF task team which would be selected by the FEJF. The review process of all work products would follow the process as outlined in Section 1. Of the three approaches, the first would require no additional funding, and the other two would have similar costs with the third possibly being slightly more. The first option may take the longest depending on the availability of the FEJF members. The second and third options would take less time. While the third option may be a more objective and innovative approach, it may be more costly depending on the level of knowledge and experience the contractor has with the subject material and various stakeholder organizations.

3.0 FIRE EMISSIONS/ASSESSMENT WORKPLAN

3.1 Objectives

The following are the objectives of the FEJF that pertain to the fire emissions/assessment tasks:

1. To provide recommendations to the WRAP that will effectively implement the recommendations of the GCVTC that pertain to fire emissions.
2. To produce the following deliverables:
 - report on Estimation Methodologies (Deliverable 5.1);
 - review and identify problems with the GCVTC Fire Emissions Assessment (Deliverable 5.2);
 - identify and report on technical, information, and institutional needs (Deliverable 5.3);
 - prepare a feasibility study of the role of fire emissions tradeoffs in the Emissions Tracking System and the Assessment (GCVTC Recommendation 3.d);
 - update the Fire Emissions Assessment by 1999 (Deliverable 5.4);
 - host a Workshop on the updated Assessment (Deliverable 5.5);
 - report on the Workshop and comments (Deliverable 5.6);
 - develop and implement Emissions Tracking System (ETS) (Deliverable 7.1);
 - develop process for states and tribes to adopt ETS (Deliverable 7.2); and
 - develop Annual Emissions Goals for all fire programs (Deliverable 9.1).
3. To produce reports of FEJF workshops.

4. To utilize the consensus process.
5. To fulfill the technical and policy needs of other WRAP forums/committees/etc.
6. To coordinate effectively with other groups (federal, state, and tribal agencies; stakeholders, etc.).
7. To meet the schedules and resource estimates included in the Workplan.

3.2 Information Gathering and Review and Workshops. [Data and methodology gathering, review, summarizing/identifying needs, tracking system development, workshops (Deliverables 5.1, 5.2, 5.3, 7.1, 7.2).]

3.2.1 Purpose

To gather and review pertinent information regarding methodologies used to estimate fire emissions. To present information at one (or more) workshops in order to obtain input from participants regarding: identifying problems with existing information/methodologies related to fire emissions assessment; identifying technical information, and institutional needs; identifying objectives and needs of an effective ETS.

3.2.2 Method

3.2.2.1 Information Gathering

- FEJF or FEJF task team to conduct;
- coordinate with other WRAP groups;
- prepare letter to state/tribal/local agencies that includes FEJF Workplan, a reiteration of the required emissions tracking tasks for 1999, and encouragement of agencies to include minor burners and wildfires in tracking systems;
- identify parties in affected region with responsibility to track wildland and agricultural burning;
- survey outside groups for pertinent information; and
- information to be gathered: Assessment and information tools; AP-42 fire emissions estimation methods for fuels combustion; other state forestry and air quality agencies and USFS (or other federal Land Manager) methods; other emissions information from agencies responsible for SMP's; other state air quality regulatory agency methods for agricultural burning emissions (e.g., California Air Resources Board (CARB), OR, and WA); existing tracking systems; Survey information (to gather technical information and institutional needs).

3.2.2.2 Information Review

- FEJF or FEJF task team to conduct (potential use of contractor);
- develop sound understanding of information and available methods;

- develop presentation materials for dual-track Workshops on Assessment and Emissions Tracking System;
- distinguish between technical and political issues during information review; and
- coordinate with Market Trading, Monitoring & Reporting, and Emissions Forums to ensure that the Assessment and Emissions Tracking Systems fulfill the needs of these forums.

3.2.2.3 Review of Laws, Regulations, and Policies

The purpose of this review is to inform the WRAP of the laws, regulations, and policies that require and/or compel land managers to engage in land management, smoke management, and fire planning where assessment of smoke effects should be conducted. Review will include identification and review of the relevant laws, regulations, and policies which would require/compel and managers to utilize assessment tools and to implement an emissions tracking system. Work will be coordinated closely with the Public Education and Outreach task team to inform affected parties of these laws, regulations, and policies.

3.2.2.4 Assist in Establishing a Methodology for Determining Natural Background Visibility Conditions.

If the final Regional Haze Rule establishes that fire emissions are to be included in "natural background" visibility conditions, then the FEJF will review existing information on the topic and assist in establishing a methodology for determining the contribution of fire to "natural background" visibility conditions. This issue of "natural background" visibility conditions may require more analysis of data (e.g., IMPROVE network) and coordination with other groups (e.g., EPA).

3.2.2.5 International Coordinating Committee (ICC) Coordination

Include coordinating with the WRAP ICC to assist in establishing the role of emissions from fires in other countries (e.g., Canada and Mexico) in contributing to smoke effects in the western United States.

3.2.2.6 Fire Emissions Tradeoff Feasibility Study

Prepare a feasibility study on the role of fire emissions tradeoffs (wildfire vs. prescribed fire emissions) in the Emissions Tracking System and the Assessment. Feasibility study is to include, but is not limited to: assessing whether quantifying emissions tradeoffs for various fuel types and activities/treatments in the study area is possible with existing tools; assess whether the benefits of an emissions tradeoff can be realized within the timeframe of implementing the GCVTC recommendations; if feasible, identify how emissions tradeoffs can be accounted for in the Emissions Tracking System and the Assessment. This feasibility study is to be developed in coordination with the FEJF and WGA Alternatives task teams.

3.2.3 Timeline

Information gathering: March – April 1999

Information review: March – May 1999

Develop presentation materials for dual-track workshops: July – August 1999

Review of laws, regulations, and policies: March – May 1999

Fire emissions tradeoff feasibility study: October 1999

3.3 Assessment and Emissions Tracking System. [Fire emissions assessment update and workshops (original work) (Deliverables 5.2, 5.4, 5.5, 5.6).]

3.3.1 Purpose

To update the GCVTC Fire Emissions Project (FEP) (assessment) using new information, improved methodologies, and input gathered during 3.2.2.1 – Information Gathering. The assessment provides emission estimates for future fire activities which can be used for determining future visibility impacts due to these sources. Updated assessment will serve as the basis for additional fire emissions policy options to be developed by the FEJF, recommended to the WRAP, and implemented in the western United States. FEJF activities to produce the Updated Assessment will be coordinated with the Emissions, Air Quality Modeling, and Monitoring & Reporting Forums of the WRAP.

To develop an efficient and effective model of an Emissions Tracking System (ETS) for potential use by individual federal, state, tribal, and local agencies to track fire activities and emissions on a site-specific and temporal basis. Further coordination with the Emissions and Monitoring & Reporting Forums will refine the spatial and temporal characteristics of the ETS. FEJF will also propose a method to employ the ETS as an institutional mechanism for regional tracking of fire activities and emissions. The ETS development will be coordinated with the Western Governors Association Prescribed Fire Group's (Program Coordination Task Group) efforts. The information in the ETS is intended to be built into the basis for the enhanced smoke management plan. The ETS developed by the FEJF is intended to be recommended to the WRAP for approval. If approved, the ETS is to be implemented by appropriate agencies and may include recommended procedures and establish the standards for data collection and data quality assurance/quality control.

3.3.2 Method

3.3.2.1 Assessment and ETS "Straw-Man" Documents

FEJF task teams will develop two "straw-man" documents, one for the Assessment (for both agricultural and wildland burning) and one for the Emissions Tracking System (for both agricultural and wildland burning). Straw-man documents are to provide direction for the development of the updated Assessment and the ETS. The "straw-man" documents will identify potential uses of the Assessment and the ETS and the methods used to develop the Assessment

and the ETS. This process fully recognizes that the Assessment and the ETS are independent but related and sets out to develop the Assessment and ETS separately but simultaneously.

Release the straw-man documents to stakeholders in preparation for dual workshops. The straw-man document for the ETS may serve as a “pre-release” of the ETS format to be used by local, state, and tribal governments as they initiate their efforts to meet 1999 emissions inventorying requirements.

3.3.2.2 Dual Track Workshops

Prepare for dual track workshops. FEJF to make decision to proceed with joint workshops (agricultural and wildland) or separate workshops.

Conduct dual track workshops, one for the Assessment, one for the ETS, to accomplish the following objectives:

- take input from stakeholders in straw-man documents;
- solve problems and fill data-gaps; and
- include assessment of uncertainty and define uncertainty bounds where appropriate.

3.3.2.3 Updated Assessment and ETS

FEJF will come to consensus on the scope of work to complete the Updated Assessment. Use results of workshops, other information, and contractor assistance to develop Draft Updated Assessment and use the results of the workshops to develop the Draft ETS. Financial resources will be required to complete this task.

Provide opportunity for peer review by stakeholders. Develop final Updated Assessment and ETS.

Host a workshop to present all findings of the updated assessment.

Prepare a final report on the work, research, and inventory development conducted by the FEJF to update the assessment. Submit report to the TOC, IOC, Public Advisory Board, and then the WRAP.

Develop a process to provide to agencies to implement the ETS. To consider regulatory mandated tracking activities and other tracking activities that may be necessary to achieve the GCVTC recommendations.

3.3.3 Timeline

Assessment of straw-man document: July 1999

ETS straw-man document: July 1999
Dual-track workshops: August 1999
Draft ETS: October 1999
Draft updated assessment: September 2000
Peer review ETS: October – November 1999
Peer review draft updated assessment: October – November 2000
Final ETS: December 1999
Final updated assessment: December 2000
Final updated assessment workshop: February 2001
Report on final updated assessment: April 2001

3.4 Annual Emissions Goals. [(Deliverable 9.1).]

3.4.1 Purpose

By the year 2000, establish annual emission goals for all fire programs, where appropriate. These goals will be set to minimize emission increases from such programs to the maximum extent feasible. Annual emission goals are intended to be incorporated into enhanced smoke management plans. Annual emission goals will also affect the implementation of non-burning alternatives to fire and emission reduction practices. The goals will be established cooperatively by states, tribes, state and federal land management agencies and their private sector counterparts.

3.4.2 Method

Define term “Annual Emission Goals” for the purpose of fulfilling the GCVTC recommendations. The Emissions task team(s) will develop the definition of "Annual Emission Goals." Development of this definition should include review of, at a minimum, the GCVTC Fire Emissions Project Optimal Smoke Management Program and the current State of Washington Smoke Management Program.

Once the FEJF arrives at the appropriate definition of "Annual Emission Goals," the task team(s) will develop and implement a method to establish the goals. The method shall involve states, tribes, state and federal land management agencies, and the private sector.

Annual Emission Goals, developed through this method, will be passed on to the WRAP as recommended goals. It will be the responsibility of states and tribes to adopt any goals accepted by the WRAP. Goals may be included as elements in Enhanced Smoke Management Plans.

3.4.3 Timeline

Timeline for developing annual emission goals will be developed once the definitions and methodologies for determining annual emission goals are more well known. Commence development of definitions and methodologies in October 1999.

4.0 ALTERNATIVES TO BURNING WORKPLAN

4.1 Objectives

The use of alternatives to burning on wildlands and agricultural lands may result in fewer atmospheric emissions. This workplan is intended to satisfy tasks 9 and 10 under the Fire Emissions Joint Forum Charge involving the development of criteria for the use of non-burning alternatives to fire, identification of barriers to the use of non-burning alternatives, development of accountability mechanisms for use of alternative practices, and development of implementation plans for recommendations under this workplan.

4.2 Workplan Deliverables

The following are the deliverables of the FEJF that pertain to alternatives to burning:

1. Reports on alternative methods of land treatment for both wildlands and agricultural lands. The reports will identify the alternatives themselves as well as methods for characterizing potential emissions reductions.
2. Reports of criteria developed for identifying and selecting “reasonable” alternatives to fire in wildland and agricultural settings. The Wildland Burning report will be a joint effort of FEJF/WGA. The Agricultural Burning report will be produced by FEJF.
3. Reports of identified non-statutory administrative barriers to emission reduction strategies. The Wildland Burning report will be a joint effort of FEJF/WGA. The Agricultural Burning report will be produced by FEJF.
4. Reports of accountability mechanisms developed for ensuring the proper and routine consideration of non-burning alternatives. Wildland Burning report to be a joint effort of FEJF/WGA. Agricultural Burning report to be produced by FEJF.
5. Develop Implementation Plans. Wildland Burning plan to be a joint effort of FEJF/WGA. Agricultural Burning plan to be produced by FEJF.

4.3 Alternatives to Burning Workplan

Some work outlined below is to be performed jointly with the WGA “Alternatives to Fire” project. The study region for WGA is different from that for the WRAP. Deliverables on wildland and prescribed fires are to be prepared jointly by FEJF/WGA, and will encompass the WRAP states. Because the WGA project does not include agricultural burning, deliverables on agricultural burning are to be accomplished by FEJF alone, and will include only the WRAP states.

Charge task 9.b. will not be handled under the Alternatives workplan. Instead, 9.b will be handled by the Enhanced Smoke Management workplan. Other emission reduction measures involving burning included in Charge task 10 will be dealt with by the Assessment and Emissions Evaluation workplan. This work plan adds task 10.c. (Implementation Plans) not incorporated in the FEJF Charge.

4.3.1 Task Specific Activities

The following activities are presented in sequential order according to the numbering tasks as identified in the FEJF Charge.

4.3.1.1 Non-burning Alternatives on Wildlands (Task 9.a)

Identify, by literature review and other survey, non-burning alternatives to fires on wildlands. These may include but are not limited to:

- mechanical treatments such as harvesting; incorporation; fire risk reduction through fuels processing (e.g., mulching, chipping, etc.);
- plant growth suppression;
- multiple management techniques, including intermittent fire;
- characterization of equipment, labor (and jobs development), and infrastructure requirements for alternatives;
- identification of conversion, utilization, or disposal systems and markets for mechanically removed biomass, including power generation/bioenergy and manufactured products;
- fuel breaks;
- landfill; and
- export.

Recommend methods for characterizing potential environmental, health and safety, and ecosystem impacts from use of alternatives. Recommend methods to characterize economic, social, and political impacts from use of alternatives. These may include but are not limited to:

- substitution of biomass for fossil fuel in regional power generation (reduction of both fire and power plant emissions);
- hazard/risk assessment for mechanical operations;
- emissions/impacts inventory for alternatives;
- offset credits and market trading benefits;
- physiological responses of plants to removal of fire;
- impacts on wildlife and their habitat;
- land and water impacts;
- pest and disease impacts;

- nutrient balance and availability;
- impacts on tourism, aesthetics, and community;
- other public acceptance;
- relevant regulations;
- equity;
- protected religious and cultural practices; and
- additional research needs

This task will be performed under joint supervision of the WGA “Alternatives to Fire Project” and the FEJF. WGA will take the lead on subtask management. Actual work under the subtask will be performed by a contractor selected jointly by WGA and FEJF.

4.3.1.2 Non-Burning Alternatives on Agricultural Lands (Task 9.a)

Identify, by literature review and other survey, non-burning alternatives to agricultural fires. Recommend methods for characterizing potential environmental, health and safety, and ecosystem/agronomic impacts from use of alternatives compared with fire. Recommend methods to characterize economic, social, and political impacts from use of alternatives.

This task will be performed by FEJF. Actual work will be performed by a contractor selected by FEJF.

4.3.1.3 Criteria for Non-Burning Alternatives on Wildlands (Task 9.a)

Establish criteria enabling the selection of “reasonable” non-burning alternatives for fires on wildlands (based on recommended methods for characterizing technical, economic, financial, social, and political feasibilities and environmental impacts). Apply criteria to identified alternatives to provide examples of their use and assess potential outcomes.

This task will be performed jointly between FEJF/WGA with WGA taking the lead. As a starting basis, criteria set out under the GCVTC report (page 20) will be used to help define and detail criteria for what constitutes “reasonable” non-burning alternatives. A contractor selected by FEJF and WGA may be used to provide additional background information specific to criteria development not covered under the task in Section 4.3.1.1. FEJF and WGA will jointly agree upon final criteria to be established.

4.3.1.4 Criteria for Non-Burning Alternatives on Agricultural Lands (Task 9.a)

Establish criteria enabling the selection of “reasonable” non-burning alternatives for agricultural fires (based on recommended methods for characterizing technical, economic, financial, social, and political feasibilities and environmental impacts). Apply criteria to identified alternatives to provide examples of their use and assess potential outcomes.

This task will be performed by FEJF. As a starting basis, criteria set out under the GCVTC report (page 20) will be used to help define and detail criteria for what constitutes “reasonable” non-burning alternatives, similar to subtask 3 above. A contractor selected by FEJF (possibly the same as used in the task in Section 4.3.1.3 above) may be used to provide additional background information specific to criteria development not covered under the task in Section 4.3.2.1 above.

4.3.1.5 Non-statutory Administrative Barriers to Alternatives to Fire on Wildlands (Task 10.a)

Identify, by literature review, survey, and agency or private contacts, non-statutory administrative barriers to the use non-burning alternatives for fires on wildlands. Categorize how and to what extent each barrier inhibits the use of non-burning alternatives. Assess and recommend means by which barriers to non-burning alternatives can be removed.

This task will be performed jointly by FEJF and WGA. WGA will take the lead for this task on alternatives to fire on wildlands. WGA and FEJF will conduct the work with assistance from a contractor.

4.3.1.6 Non-statutory Administrative Barriers to Non-Burning Alternatives to Agricultural Fire (Task 10.a)

Identify, by literature review, survey, and agency or private contacts, non-statutory administrative barriers to the use of non-burning alternatives for agricultural fires. Categorize how and to what extent each barrier inhibits the use of non-burning alternatives. Assess and recommend means by which barriers to non-burning alternatives can be removed.

This task will be performed by FEJF with assistance from a contractor.

4.3.1.7 Accountability Mechanisms for Non-Burning Alternatives to Fire on Wildlands (Task 10.b)

Develop mechanisms to provide for accountability of procedures when considering whether or not to utilize a non-burning alternative practice to fires on wildlands.

This task will be accomplished jointly by FEJF and WGA. FEJF will take the lead. As one possibility, the work will assess whether the accountability mechanism can be included as part of the Emissions Tracking Systems to be developed by FEJF.

4.3.1.8 Accountability Mechanisms for Non-Burning Alternatives to Agricultural Fire (Task 10.b)

Develop mechanisms to provide for accountability of procedures when considering whether or not to utilize a non-burning alternative practice to agricultural fire.

This task will be accomplished by FEJF alone. As one possibility, the work will assess whether

the accountability mechanism can be included as part of the Emissions Tracking Systems to be developed by FEJF.

4.3.1.9 Implementation Plan for Non-Burning Alternatives to Fire on Wildlands (Task 10.c)

Develop a plan for use by FEJF and WGA in implementing recommendations concerning non-burning alternatives to fires on wildlands. Describe what to do with products developed under this task, set out responsibilities for implementation, and generate methods for incorporating recommendations into operating procedures for agencies. Suggest methods for disseminating information to private landowners.

This task will be performed jointly by FEJF and WGA. WGA will take the lead for this plan for alternatives to fires on wildlands. FEJF and WGA to agree on joint strategy for implementation.

4.3.1.10 Implementation Plan for Non-Burning Alternatives to Agricultural Fire (Task 10.c)

Develop a plan for use by FEJF and WGA in implementing recommendations concerning non-burning alternatives to agricultural fires. Describe what to do with products developed under this task, set out responsibilities for implementation, and generate methods for incorporating recommendations into operating procedures for agencies. Suggest methods for disseminating information to private landowners.

This task will be performed by FEJF.

4.3.2. Timeline

Report on non-burning alternatives to fire on wildlands: September 1999

Report on non-burning alternatives for fire on agricultural lands: September 1999

Establish criteria for selecting non-burning alternatives to fire on wildlands: September 1999

Establish criteria for selecting non-burning alternatives to fire on agricultural lands: September 1999

Identify non-statutory administrative barriers to non-burning alternatives to fire on wildlands: September 1999

Identify non-statutory administrative barriers to non-burning alternatives to fire on agricultural lands: September 1999

Develop accountability mechanisms for non-burning alternatives to fire on wildlands: December 1999

Develop accountability mechanisms for non-burning alternatives to fire on agricultural lands: December 1999

Implementation plan of non-burning alternatives to fire on wildlands: June 2000

Implementation plan of non-burning alternatives to fire on agricultural lands: June 2000

5.0 PUBLIC EDUCATION AND OUTREACH PROGRAM WORKPLAN

5.1 Introduction

The Grand Canyon Visibility Transport Commission (GCVTC) report and the Fire Emissions Joint Forum (FEJF) charge include elements to develop a public education/outreach program to address the role of fire, smoke effects, and smoke management. The impacts of fires from both wildlands and agricultural land are to be included in this process. The FEJF charge also stipulates that a clearinghouse be established on information related to this issue.

This section will lay out the initial design of a public education/outreach program to support the efforts of the FEJF and the WRAP as a whole. This program is expected to evolve over the next two years in concert with the overall FEJF workplan. Recommendations arising from this process should be supported and implemented, where feasible, by WRAP stakeholders, including land managers and advisers (providers of technical assistance), air quality regulators, tribes, and other interested governmental and private groups.

The goals of the public education and outreach program are:

- to educate and inform the public, WRAP stakeholders, and other interested parties on the issues concerning fire and smoke effects, and also to obtain their input;
- to make information fully accessible to the public and other users through the WRAP website, direct notifications, and other outreach methods;
- to build on existing information and attempt to list all relevant materials;
- to minimize costs in this program;
- to assist the FEJF and its task teams to develop appropriate outreach materials resulting from FEJF work products; and
- to strive for consistency, use of plain language, and quality control of information

5.2 Deliverables of FEJF Charge

The following are the deliverables of the FEJF that pertain to the public education and outreach program:

- Item 8.1 Create a public education program regarding smoke effects; and
- Item 8.2 Establish a clearinghouse of existing and new information

5.3 Development of the Public Education/Outreach Program and Clearinghouse

5.3.1 Coordination and Resources for Outreach

The FEJF public education and outreach program will utilize the WRAP Communications Committee, FEJF, and FEJF stakeholder lists for outreach. A FEJF database will be created for outreach purposes.

5.3.2 Information and Data Gathering

Information and data gathering needs for the public education/outreach program will require a number of steps. These include, but are not limited to the following:

1. Survey FEJF participants and relevant outside groups and gather existing information on public education/outreach programs related to the topics of prescribed burning, smoke management and smoke effects.
2. Conduct an informal needs survey (this is one possible option; and it could be part of the same survey, as above) of FEJF participants and other stakeholders on what new or additional public outreach materials would be helpful for their own particular use. Information on air and land management planning needs and time frames should be requested (see Attachment G). Survey results could then help guide the Forum to focus its efforts on development of public education/outreach information that is useful to its stakeholders.
3. Request FEJF participants and relevant outside groups to provide information for the FEJF clearinghouse. Appropriate types of information would include technical and background literature, studies, or data which support the work of the FEJF, or existing programs the FEJF wishes to draw upon. As much as possible, technical and background information should be included as references in the clearinghouse, and website linkages should be provided to obtain source documents. The PEO team will coordinate information gathering with the other FEJF task teams.
4. Obtain products from FEJF task teams for the public education/outreach program.

5.3.3 Outreach for Role of Fire in Air Quality

The two deliverables for this program (charge items 8.1 and 8.2) will each need different methods to be accomplished. In order to create a public education program regarding the role of fire in air quality (Charge Item 8.1) the following eight initial steps should occur:

1. The FEJF should elect or appoint a long-term task team to develop this program. This team should have members who have expertise in the public education/outreach area or are able to obtain this expertise through other WRAP or outside resources. Once this team is formed it should develop a general story line and statements on FEJF's mission and goals in plain language for the website and for other early outreach activities. If appropriate, the team can begin developing a FEJF brochure or other materials for outreach. The task team should consider other, complementary uses for the website that may include general information on smoke management, fire emissions, etc.
2. Organize the survey and initial data/information results gathered in tasks listed in Section 5.3.2 for: 1) assessing existing public education/outreach programs on fire and smoke effects in the West in order to identify strengths and gaps (both in content and geographic) and key themes of

these programs which may be relevant to FEJF goals; and, 2) stakeholders' needs for educational/outreach information and materials.

3. Following the assessment of existing PEO programs, the group should decide whether to promote certain programs as model programs to emulate or to key out elements and themes in order to construct model programs, or both. Because of the GCVTC and WRAP directives concerning air quality, the FEJF should focus on or promote a program(s) for education/outreach that emphasizes smoke effects from fire and smoke management.

4. Identify the target user groups and audiences for this program and compile a list. Authors of FEJF task team products should specify key audiences and users of their products. Summaries or abstracts of technical products should be developed for public outreach. The PEO team should ensure that FEJF product language is appropriate to the target audience.

5. Organize the technical and background information collected in tasks listed in Sections 5.3.2 and 2.3 for the FEJF clearinghouse. Begin populating the clearinghouse on the website with this information. Also develop non-website access to this information. Non-website information should include, at a minimum, a reference list of documents/resources and a phone contact list. Hardcopies of this information will be provided upon request.

6. Once the initial phases of information gathering and assessment are completed, the PEO task team will work with other FEJF task teams to fashion their work product information into a cohesive outline for the FEJF story line. The PEO team can then finally develop its recommendations to the FEJF for an overall public education/outreach program.

7. Obtain public input at appropriate stages of program development through directed outreach to target groups, the WRAP website, and public workshops sponsored by the WRAP and/or FEJF. Any other, more formal mechanisms to obtain public input should be done in accordance with WRAP protocols. Any outreach workshops conducted by the FEJF should provide workshop informational materials, a report on workshop proceedings, and travel assistance for participants normally covered under WRAP travel assistance policies, as appropriate.

8. Develop educational and/or informational materials, brochures, etc, to communicate the WRAP FEJF story line to the public.

5.3.4 Creating a Clearinghouse

To create a clearinghouse (Charge Item 8.2) for existing and new information on fire and air quality, the FEJF proposes to build this clearinghouse on the WRAP website. Because of the potential large amount of topical information available to put in the clearinghouse, the website should include mainly references to background source documents, linkages to other websites to obtain these documents, and FEJF work products. FEJF will need the assistance of the WRAP Communications Committee for help in establishing the clearinghouse on the WRAP website,

developing guidelines for the appropriate management of information on the site, and developing target audience and outreach lists.

In addition to the WRAP website/clearinghouse and directed mailings to target groups, the FEJF can utilize other outreach methods to communicate to a broader audience. For example, the FEJF can tap into existing outreach programs (e.g., the USDA Forest Service, USDA Natural Resources Conservation Service, state programs, local governments, elected officials, professional societies, and others) to get word out about the WRAP/FEJF process. FEJF members can be active representatives and give presentations to any number of groups interested in this topic. Finally, the FEJF can provide information to the broadcast and print media on FEJF's work and message. All of these methods can occur throughout the FEJF process.

For internal (WRAP) communications, the FEJF will utilize the Communication Committee's Internal Communications Protocol. This protocol will allow FEJF participants to use an internal database to post and review internal drafts of documents for review and comment before work products are made available to the public.

5.3.5 Duties of the PEO Task Team

The PEO task team will fulfill a unique function for the FEJF by developing education and outreach materials and providing communications assistance to the Forum. Its main purpose will be to help the FEJF/WRAP craft an effective education/outreach program. The PEO task team will coordinate with and assist other FEJF task teams on developing public outreach materials from their work products. The sequence of PEO work will depend in part on the progress and completion of products by the other task teams (see Section 5.3.7 on timelines).

5.3.6 PEO Coordination with Other Groups

The PEO task team will interact primarily with the Communications Committee and IOC/TOC within the WRAP. Outside of the WRAP, the PEO task team will seek to coordinate its information gathering and program development work with the following outside groups (refer also to Attachment G and its narrative for more information):

National Wildfire Coordinating Group	Joint Fire Science Program
WGA Prescribed Fire Program	USDA Air Quality Task Force
Air Quality Express Team	WESTAR
EPA Wildland Fire/Air Quality Policy Group	Land Managers and Advisers
Forestry Agencies	Private Land Owner Associations
Air Quality Agencies	Western States Fire Managers

At this point in time, these groups are all in various stages of addressing the issue of fire and air quality and several of them are developing informational materials. The process outlined in this chapter of the FEJF workplan should help bring some consistency to these efforts in the west; PEO activities will also hopefully result in the development of useful educational materials to be

available for those agencies and groups who may need them.

5.3.7 Timelines

Suggested timelines for accomplishing the public education and outreach activities/deliverables are as follows:

Finalize workplan and form long-term PEO task team: December 1998 – March 1999

Feedback from IOC/TOC and Communications Committee on PEO workplan and steps to establish clearinghouse/website: March 1999

Identify information/data gathering needs: February – March 1999

Information/data gathering: Beginning of March 1999

Coordinate clearinghouse development on WRAP website with Communications Committee: March - October 1999

Organize information for clearinghouse/assess existing PEO programs: October 1999

Identify priorities and categories of info for clearinghouse: October 1999

Populate clearinghouse with reference/background data: December 1999

Develop matrix of existing PEO programs (key themes, etc): October 1999

Establish priorities for developing program recommendations: October 1999

Develop PEO program recommendations for FEJF: December 1999

FEJF review, comments, and revision: April 2000

PEO program recommendations to IOC/TOC, Communications Committee: June 2000

Revisions and draft final of PEO recommendations: July 2000

PEO program recommendations posted for external comment: July 2000

Draft final program for formal peer/external review: October 2000

Final PEO program to WRAP and customers/users/stakeholders: December 2000

5.3.8 Resource Requirements

Financial resources needed to accomplish PEO tasks will largely be drawn from in-kind services provided by FEJF participants and contractual assistance. The PEO task team hopes to obtain the support necessary to create the clearinghouse on the WRAP website through the Communications Committee. Required resources for managing the clearinghouse over the long-term are unknown at this time. Example options to explore might include long term contractor assistance paid for with stakeholder contributions or finding a volunteer state or federal agency to house the site. Contractual support will be needed to accomplish several of the tasks of the PEO workplan. See the attached budget estimates for more details (Attachment F).