

**GUIDANCE FOR COORDINATING  
SMOKE MANAGEMENT PROGRAMS**

**DRAFT V-03**

**APPROVED BY CONSENSUS:**

**FIRE EMISSIONS JOINT FORUM – T.B.D.**

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## **GUIDING PRINCIPLES**

This Guidance is intended to:

Conduct interstate efforts to prevent / mitigate visibility impairment in Class I areas when emissions cross jurisdictional boundaries. This Guidance also:

- Clarifies the FEJF Enhanced Smoke Management Policy;
- Defines who is eligible to participate;
- Defines types of fire emissions to address;
- Determines the size of fires to address;
- Defines what program elements to share inter-jurisdictionally; and
- Establishes a framework to qualify / quantify fire emissions for purposes of determining reasonable further progress.
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This Guidance is NOT intended to:

- Mandate participation;
- Create or revise smoke management programs or regulations;
- Address National Ambient Air Quality Standards (NAAQS) or nuisance smoke;
- Provide a basis for litigation or otherwise gain access to propriety information;
- Require database entry; or
- Provide examples of effective communication methods.

## ACRONYMS

308	40 CFR 51.308
309	40 CFR 51.309
BACT	Best Available Control Technology
DEQ	Department of Environmental Quality
EPA	United States Environmental Protection Agency
ESM	Enhanced Smoke Management
FEJF	WRAP Fire Emissions Joint Forum
GCVTC	Grand Canyon Visibility Transport Commission
RHR	Regional Haze Rule
SIP	State Implementation Plan
SMP	Smoke Management Program
TIP	Tribal Implementation Plan
WRAP	Western Regional Air Partnership

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## **1.0 INTRODUCTION - Why Are We Doing This?**

The Western Regional Air Partnership (WRAP), as the successor to the Grand Canyon Visibility Transport Commission (GCVTC), is directed to implement the GCVTC recommendations and to develop the technical and policy tools necessary for western states and tribes to comply with the U.S. Environmental Protection Agency's (EPA) regional haze regulations. The WRAP Fire Emissions Joint Forum (FEJF) was established to develop policy and technical tools to address fire emissions. In 2002, the FEJF developed the Enhanced Smoke Management Policy (ESM Policy) that requires developing guidance facilitating regional coordination of Smoke Management Programs (SMPs). Under the Regional Haze Rule (RHR) at 40 CFR 51.309 (309) states are required to submit smoke management plans to the EPA that includes, among other elements, a regional program coordination component. The preamble to the RHR states, "[T]herefore, States will need to develop strategies in coordination with one another, taking into account the effect of emissions from one jurisdiction to air quality in another." 64 FR 35714.

Therefore, in December 2004, FEJF formed the Regional Coordination Task Team to establish this Guidance for Coordinating Smoke Management Programs (Guidance) to assist burners and regulators in fulfilling requirements of RHR during the development of SMPs.

## **2.0 PURPOSE - Why Coordinate?**

Emissions from fire may cross jurisdictional boundaries and obscure visibility for miles from the source. Therefore, burners and regulators should develop strategies to coordinate SMP elements regionally. Coordination is necessary in order to harmonize planning and tracking of fire emissions that are continuous across state and tribal boundaries. Regional coordination also supports burners' and regulators' efforts to track fire emissions.

Regional coordination increases communication between burners and regulators, thus increasing regulatory predictability and minimizing possible regulatory differences across state and tribal boundaries. A state or tribe may elect to adopt this Guidance as State Implementation Plan (SIP) or Tribal Implementation Plan (TIP) measures. SMP elements may also form the basis of regulatory measures developed to demonstrate reasonable further progress for improving visibility impairment.

## **3.0 GENERAL CITATIONS - Why Coordinate?**

RHR applicable to states under 40 CFR 51.308 (308) does not expressly require the same regional program coordination component as those under 309, but the ESM Policy encourages the same inclusion in 308 SIPs.

The ESM Policy Statement “D” identified the development of regional SMPs as a tool for states and tribes to use in support of required SIPs and optional TIPs. Section 308 requires states to address visibility impairment caused by emissions from all sources, including fire activities. The preamble to the RHR emphasizes the role of interstate cooperation: “In developing each reasonable progress goal, the State must consult with those states which may reasonably be anticipated to cause or contribute to visibility impairment in the mandatory Class I Federal Area.” 64 FR 35714.

The 2001 WRAP Fire Categorization Policy (Categorization Policy) also advocates the establishment of regional SMP coordination. Management includes burner observance of applicable regulatory structures. However, many burners face the problem of managing land that is encompassed by, or is adjacent to, jurisdictions with dissimilar regulations (e.g., adjacent state or tribal lands).

The Categorization Policy also notes that coordination of burning activity is critical to avoiding cumulative Federal Class I visibility impacts over broad areas. In order to succeed in the process of mitigating, tracking, and reporting smoke emissions and, ultimately, realizing progress toward the 2064 “natural” conditions goal, burners and regulators should establish a process of communication.

#### **4.0 POLICY CITATIONS - Why Coordinate?**

The following statements from the ESM Policy are relevant to this Guidance and are included herein for purposes of continuity between documents.

- Policy Statement C: “Enhanced smoke management programs are required for states under Section 309 of the [RHR].”
- Policy Statement D: “Enhanced smoke management programs are a viable tool for all other states and tribes in the WRAP region to use in the development of their implementation plan.”
- Policy Statement E: “Enhanced smoke management programs include nine elements that are necessary to meet the requirements of the [RHR] as follows: Element #9. Regional Coordination - Communication and information sharing across state/tribe jurisdictional lines.”
- “Each state has an obligation to account for those emissions it produces that have impacts in its own mandatory Class I areas.

Accountability also extends to states and tribes that have smoke impacts outside their jurisdictions.”

- “Without a central burn authority considering the cumulative smoke impacts, it will be difficult on a daily basis for individual land managers/owners to assess their relative contribution to regional haze. Regional coordination (i.e., Element #9) is central to burn authorization, and will facilitate coordinated decision-making. It is a necessary mechanism to address transport issues and cumulative effects, especially when considering impacts of a source that may be large, or many sources that cumulatively are large, but a long distance from a Class I area (i.e., greater than 100 km).”
- 3.6.9. Element 9: Regional Coordination. “Coordination of burning activity is critical to avoiding cumulative smoke impacts within and across source types in mandatory Class I areas. Coordination may range from a passive mode of information sharing between land managers/owner and/or the public to a more active coordination in which burn decisions are altered based on jurisdictional authority and other activities that are occurring or have recently occurred. Methods for this inter-jurisdictional and regional coordination will need to be developed. The development process should be a collaborative one involving state, tribal, local, and federal agencies, and private parties.”

## **5.0 APPLICABILITY - Who Participates?**

This Guidance is applicable to all burners and air quality regulators. Burners include, but are not limited to, private, agricultural, state, tribal, municipal, or federal land managers. Regulators include state, tribal, or federal agencies with statutory obligations to address fire emissions that cross state or tribal boundaries and affect visibility in Federal Class I areas. Many states and tribes represent WRAP geographic region. Ultimately, the states, tribes themselves shall determine the formal or informal coordination requirements between burners and regulators.

**\*\* LANGUAGE PROVIDED BY TRIBAL REPRESENTATIVES (ANGEL?) ADDRESSING COOPERATION FOR ENHANCED COMMUNICATIONS.**

## **6.0 SMP ELEMENTS - What To Coordinate?**

In order to obtain information regarding the impact of fire emissions on visibility within a regional context, burners and regulators need to share certain data. The

following describes six shared “SMP elements”. These SMP elements are consistent with EPA’s 1998 Interim guidance for certifying basic SMP’s and with the Policy as set forth in Appendix C.2.9 Element 9. Regional Coordination.

Regional coordination of SMP elements includes emissions from reported planned burns occurring anywhere within state or tribal air quality authority. Specifically, these types of fires include agricultural fire, Native American cultural fire, Native American prescribed fire, escaped prescribed fire, wildfire, Wildland Fire Use (WFU), and wildland / rangeland prescribed fire. The Guidance recognizes that not every SMP element may be available in every circumstance, e.g. fuel loading for wildfire.

### **Shared SMP Elements Are Discussed Below:**

- (1) Location. Describe burn location through any means of describing absolute position including, but not limited to, Universal Transverse Mercator Coordinates, latitude and longitude, State Plane Coordinates, or Public Land Survey (townships and ranges).
- (2) Size. Report daily proposed burns, or in the case of WFUs or wildfire, acres blackened to date.
- (3) Burn Type. Describe the type of burn as either prescribed, WFU, or wildfire.
- (4) Elevation. Report elevation of burn unit from mean sea level in feet or meters.
- (5) Fuel Loading (tons/acre). Describe fuel loadings in tons of consumable debris per acre. For wildfire and WFU, describe fuel loading as information allows.

## **7.0 TEMPORAL APPLICABILITY - When To Coordinate?**

- (1) Before Activity. Prior to an activity, burners and regulators should establish a strategy of sharing SMP elements. Ideally, burners enter SMP elements on a mandatory / voluntary basis into a centralized and universally accessible database. Because many states and tribes have overlapping burning seasons, establishing a strategy of sharing should occur and remain constant throughout the year. Sharing information before an activity occurs maximizes the time available for pursuing measures or instituting burn restrictions to mitigate visibility impairment.
- (2) During Activity. During an activity, sharing provides timely information necessary to empower burner and regulator decision-making. Sharing information

during an activity maximizes decision-making regarding visibility protection as the burn proceeds.

(3) After Activity. Following an activity, archiving SMP elements for future retrieval allows burners and regulators to assess past activities and make appropriate corrections for future activity.

## **8.0 SPATIAL APPLICABILITY - Where To Coordinate?**

SMP elements should be shared from reported planned burns located within local, state, or tribal administrative boundaries.

## **9.0 COORDINATION STRATEGIES - How To Coordinate?**

Burners and regulators may share SMP elements through various coordination strategies. The relative level of strategy complexity may be generally categorized as passive, mixed, or active. States and tribes may choose their own coordination strategies. As technology improves, state and tribal SMPs will likely be revised. Following evaluation, the shared SMP elements might also be revised. Thus, states and tribes are assumed to move from Passive level strategies to more Active level strategies over time.

Each level of coordination incorporates strategies from previous levels, i.e., moderate coordination strategies includes strategies from the Passive level, but also includes additional strategies. Active coordination strategies include Moderate level strategies and additional strategies. Each strategy level is discussed below.

### **9.1 PASSIVE COORDINATION STRATEGIES**

Sharing SMP elements depends upon effective communication between burners and regulators. A passive communication effort ranges from establishing a simple phone, fax, or e-mail tree to protocol requiring a combination of prerequisite conditions and associated actions and ongoing communication. Communication strategies might also include regularly scheduled face-to-face meetings complete with developed agendas and action items.

#### Passive Strategy:

- Develop phone, fax, or e-mail contact list and a regular distribution of updates to the same.
- Periodic meetings to discuss coordination efforts.
- Ad hoc telephone calls or e-mail to inter-jurisdictional colleagues.

## 9.2 MIXED COORDINATION STRATEGIES

Beyond establishing communication procedures, burners and regulators use consistent meteorological forecasting for burn authorization across the region. This information may come from either the National Weather Service or government agency services like BlueSkyRAINS. This system will allow burners and regulators to utilize the same information for decision-making, thus reducing inconsistency in burn restrictions. Additionally, SMPs should provide the public and burners consistent educational / regulatory (when applicable) information.

### Moderate Strategy:

- Passive communication strategies.
- Meteorological weather forecasting
- Institute burn restrictions.
- Regulations addressing interstate transport of fire emissions.
- Response to public complaint
- Educational/outreach materials.
- Track information from other sources for wildfire and WFU information.

## 9.3 ACTIVE COORDINATION STRATEGIES

Communicating SMP elements through Internet access is the most active strategy. Internet access to burn activity information allows burners and regulators complete access to information necessary for issuing burn restrictions and/or burn approvals. The need for frequent phone calls and e-mails is reduced and historic information is available for future planning. The capacity to add Geographic Information System layers to graphically illustrate past, present, and future burns is also beneficial to burners, regulators, and the public.

Coordinated SMPs allow greater opportunity to conduct joint tracking of anomalous burns or the pursuit of joint compliance and enforcement actions. SMP members may gather for training and annual administrative evaluations.

### Active Strategy:

- Moderate communication strategies.
- Web-based information sharing with burner data entry.
- Potential joint compliance/enforcement actions.
- Public outreach / education / training.
- Burner & regulator training.
- Evaluation of efficacy of regional coordination strategies.
- Evaluation of joint anomalous smoke events.
- Quantify / Qualify reasonable further progress on visibility goals.

- Others?

## **10.0 MONTANA / IDAHO STATE AIRSHED GROUP EXAMPLE**

The Montana / Idaho State Airshed Group (Group) was formed in 1978 to minimize or prevent the accumulation of smoke from prescribed fire in order to protect state and federal air quality standards. The Group also recognizes the importance of prescribed fire for the removal of logging debris and forest health. The Group works to maintain a proper balance between protecting the need for prescribed fire by the forest products industry and the need to protect public health.

The Group is self-regulating. In Montana, the members are classified as major open burners based on a calculation of annual emissions. Members voluntarily abide by the provisions of the Smoke Management Plan Operations Guide. The ability to coordinate prescribed fire activities allows more opportunities to burn. Group membership reduces risk of violating state and federal air quality standards and may also reduce the number of public complaints concerning smoke.

Idaho does not regulate open burning. Montana implements a permit program for major outdoor burning activity. The Montana Department of Environmental Quality (DEQ) recognizes Group membership as being the best available control technology (BACT) for regulating smoke from prescribed fire. DEQ annually issues air quality open burning permits to Group members allowing them to burn under the rules and regulations of the Montana Clean Air Act and DEQ air quality rules and the Smoke Management Plan Operations Guide.

The state of Montana is divided into ten airsheds and Idaho is divided into seventeen airsheds. Each airshed coordinator analyzes atmospheric conditions for burn day restrictions during the fall open burning season (September through November). This airshed management approach offers more protection and allows Group members more flexibility to burn at various locations and/or elevations than if they operated independently. The meteorological information service is only available to Group members.

Group members submit their proposed Fall burn lists by September 1st of each year. Group members are required to enter burn unit descriptions into the RAZU database by 11 am the day before any planned burning. Members may access prescribed fire weather forecasts on DEQ's 1-800 hotline by 4 pm for the next day's planned burns. Annual fees are based upon the previous year's number of completed acres. The Group recognizes nonattainment areas and closely monitors 'impact' zones to ensure member burning does not violate state or federal air quality regulations.

The Group meets at least once per year to discuss and review the performance of the previous year's burning. This meeting also provides members with the opportunity to make recommendations for the upcoming burn season and to fully participate in the function and operation of the Group.

Minor burners also contribute emissions to airsheds, but are not required to obtain a permit or pay fees. Minor burners are not eligible for Group membership. Montana requires minor open burners to observe other BACT, including utilizing the smoke management hotline and obtaining permission to burn from their local forestry office.

The URL below is the gateway to the Group web-site:

[http://www.fs.fed.us/r1/fire/nrcc/Smoke\\_web\\_pages/razu\\_guide.htm](http://www.fs.fed.us/r1/fire/nrcc/Smoke_web_pages/razu_guide.htm)

## **11.0 NEW MEXICO STATE OPEN BURNING PROGRAM EXAMPLE**

New Mexico (NM) operates a smoke management program which requires all burners (state, federal, private, municipal) to register burn projects greater than 10 acres or 1,000 cubic feet of piled material burned per day. Burners register and receive an identification number. Burners report the approximate season(s) they intend to burn, fuel type, fuel loading, public notification, etc. From the registration, maps of the planned burns are generated for each season for long-range planning purposes. One day before the actual ignition (10:00 a.m. the previous business day) the burner notifies the state of intent to burn. The state generates a daily map of planned burns and posts the map on the smoke management webpage.

Prior to ignition, burners use the ventilation index to determine if the weather is conducive to good smoke dispersion. The state provides a telephone recording of the daily ventilation forecast. The state also provides smoke education for burners and participates in the RX-410 (Federal smoke management class) and develops brochures for smoke management and open burning.

The state accesses the Southwest Fire website to view planned burns for the state of Arizona (AZ) and other national fire activity. Telephone calls / e-mails are occasionally exchanged between the states of AZ, NM, Colorado, and the county of Bernalillo. Tribes sometimes provide burn information. For wildfires and WFUs, the states of NM and AZ work with federal land managers to access wildfire reports (209 Forms) and implement a supplement to the 209 Form (Block 44) to obtain information to generate daily smoke estimates.

The Southwest Coordinating Group implements Zone Smoke Plans. Zone Plans facilitate communication between federal and state agencies to discuss future planned burning and coordinate resources. Currently, NM does not assess fees to burners to implement NM's smoke management program. The state meets annually to evaluate the efficacy of the smoke management program.

### **New Mexico's Smoke Management Website:**

[http://www.nmenv.state.nm.us/aqb/SMP/smp\\_index.html](http://www.nmenv.state.nm.us/aqb/SMP/smp_index.html)

**New Mexico's Open Burning Website:**

[\(www.nmenv.state.nm.us/aqb/projects/openburn/openburning\\_index.html\)](http://www.nmenv.state.nm.us/aqb/projects/openburn/openburning_index.html)

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