



NWCG Business

Charter – Signed July 28, 2009

Establishment of Three Subcommittees

- Technical Smoke Topics Subcommittee
- Smoke Managers Subcommittee
- Smoke Training Subcommittee

The Chairs of these Subcommittees are also members of SmoC. The Technical Smoke Topics Subcommittee will address such topics as: modeling, weather/meteorology, greenhouse gases, black carbon, NO₂, PM_{2.5}, ozone, air toxics, emission factors, emission inventories, being a technical resource for revisions/updates to the 2001 Smoke Management Guide and other smoke related training, identifying research needs, and monitoring (in collaboration with other NWCG Committees). The Smoke Training Subcommittee will take the lead on the “Smoke Assessment of NWCG Courses and Task Books” (“Smoke Assessment”) task, continue working with University of Idaho on the online Smoke Refresher courses and online version of the “Effective Communication for Land Managers in a Changing Air Quality Environment”, update the 2001 Smoke Management Guide, be the lead for RX410, and provide other training information/materials as needed. The Smoke Managers Subcommittee will be the SmoC link to the field level – where smoke management decisions are made daily. They will be vital to understanding the operational aspects of rules and policies, such as the new implementation of the Federal Fire Policy. They will also provide coordination regionally – building understanding of programs, approaches, application of science and technical tools and information.

SmoC Interaction with other NWCG Committees

- NWCG Fire Environment Committee (FENC) – Smoke Monitoring, Fire Reporting, Smoke and Fire Meteorology
- Safety and Health (S&H) Committee - Firefighter and Base Camp Worker Smoke Exposure

SmoC Membership

- Fire and Air Program Representatives from: FS, BIA, BLM, FWS, NPS
- Eastern and Western NASF Representation
- Associate Members: NRCS, National Association of Clean Air Agencies (NACAA)

SmoC Membership Issues

- Vacancies: NASF West, BIA - Air
- Acting: BLM-Fire, FWS-Air & Fire
- Executive Secretary – Vacant and Needed

SmoC Communication

- Public My Fire Community “Air Quality and Fire Issues” neighborhood. This is a forum on smoke management issues, air quality regulations, strategies for managing smoke from wildland fire, approaches to technical smoke questions, latest regulatory news affecting fire management, SmoC Briefing papers, SmoC Activity Updates and fire/smoke environment issues (transport, impacts and measurement). <http://www.myfirecommunity.net/Neighborhood.aspx?ID=279>
- Private MFC site “Smoke Committee – NWCG”. This is a discussion area for SmoC members and is where the weekly conference call notes (internal draft) and action items are posted.
- Weekly 2-hr conference calls. Detailed notes are taken and action items are tracked. The agenda is moderated by the Chair with aid of the Vice-Chair and every call has a “round robin” to facilitate new topics and pass on emerging issues.
- Bi-Monthly Activity Updates. These Activity Updates are summaries of the topics and issues of discussion over the previous two months, and include urls when available and SmoC products.



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They are designed for communicating SmoC activities to those with an interest and are used by SmoC members to communicate both inter-agency and intra-agency basis about SmoC activities.

- National Smoke Management Website (<http://www.nifc.gov/smoke>). National Portal to smoke management information.
- Webinars – Focused presentations from invited speakers and/or SmoC members.
 - 10/2009: The Smoke Emission Model Inter-comparison Project (SEMIP)
 - 1/2010: Integrating Air Quality Tools with WFDSS (“WFDSS AQ Portal”). Over 113 requested logins and over 78 attended (36 FS, 16 State Air Regulatory Agencies)
 - Spring 2010: new capabilities available from AIRNOW
- Briefing Papers and Whitepapers on various issues such as those listed below in “Products and Issues”
- SmoC at Conferences and Meetings. SmoC has an information sheet and poster that can be distributed at various conferences and meetings. Some of the conferences and meetings that SmoC members have attended are:
 - WESTAR Fall Business Meeting (Oct 08)
 - The Tall Timbers Fire Ecology Conference (Jan 09)
 - San Diego Fire Ecology Conference (Dec 08)
 - National Associations of State Foresters Meeting (Jan 08 and Jan 10)
 - Fire Environment Committee (all)
 - IAWF Fire Behavior Conference (Mar 09)
 - NACAA Criteria Pollutants Conference Call (Jan 09)
 - NPS George Wright Society Meeting (Mar 09)
 - 3rd Annual EPA Region 10 Smoke Management Meeting (Apr 09)
 - WESTAR Spring Business Meeting (Apr 09)
 - Agricultural Air Quality Task Force Meeting (May 09)
 - Agricultural Air Quality Task Force Meeting (Sep 09)
 - 4th Annual International Fire Ecology and Management Congress: Fire as a Global Process (Nov 09)

Smoke and Related Training

- Online Refresher Course: The online refresher course is designed for line officers and fire program managers who are seeking an overview of air quality impacts and their affect on wildland fire management. Course is in final revisions. An on-line Smokepedia (Glossary of Air and Smoke terms) was developed as well with this.
- Workshop – “Effective Communication for Smoke Management in a Changing Air Quality Environment” (http://www.cnr.uidaho.edu/wildlandfire/regional_workshop.htm).
 - DESCRIPTION: The modules include such topics as basics of smoke management, air quality basics, communication and negotiation tools and concepts, and approaches to smoke management – from a collection of basic smoke management practices to enhanced smoke management programs.
 - CLASSROOM: Two 3-day Workshops were conducted September 2008 at Great Smokey Mountains National Park, and February 2009 in Omaha, Nebraska. 35-50 people in attendance. Attendees earned approximately 16 Society of American Foresters (SAF) continuing education credits.
 - ONLINE: The online version of the Workshop is being conducted 12/2009 – 01/2010, with people attending from NM, AZ, CO and Utah. Approximately 13 Society of American Foresters (SAF) continuing education credits are available. A third interactive day will occur 1/25 that will be comprised of a Roundtable discussion and a smoke management



based role-playing case study.

- Smoke Training Assessment – Funding made available and a CESU contract put in place to begin the assessment of Task Book smoke content and NWCG course smoke content to identify redundancies and gaps. Innovative methods of training delivery will also be investigated.

Products and Issues

National Ambient Air Quality Standards (Ozone – O₃, Particulate Matter - PM, Oxides of Nitrogen - NO_x)

- PM 2.5 Nonattainment Area (NAA) Designations. SmoC developed a briefing paper summarizing the impact of these designations to agency fire programs. Approximately 8 million acres of federal wildlands are contained in these NAAs.
<http://www.epa.gov/pmdesignations/2006standards/regs.htm#3>
- PM2.5 Air Quality Index- under review by EPA after Administration change.
- Ozone NAA Designations: SmoC in collaboration with FS Air Program had developed a briefing paper regarding the ozone nonattainment area designations for the new 8 hr standard (0.075 ppm). This ozone level was withdrawn by the new Administration and likely the new proposed level will be lower.
- Ozone Standard Reconsideration – Primary and Secondary Ozone Levels,
<http://www.epa.gov/groundlevelozone>
- NO_x Standard – Briefing paper in development.
http://www.epa.gov/ttn/naqs/standards/nox/s_nox_cr_fr.html
- NAAQS Monitoring System – With the revisions to many of these Rules there are associated changes that will be made to the national NAAQS monitoring system, with the likelihood that many new monitors will be established in rural areas and smaller communities.

Regional Haze Rule: Tracking progress of State Implementation Plan (SIP) submittals - many States are late in meeting submittal deadlines.

Greenhouse Gases and Climate

- Greenhouse Gas (GHG) Reporting Rule,
<http://www.myfirecommunity.net/NeighborhoodPosts.aspx?ID=279&Topic=2977&Category=1>,
<http://www.epa.gov/EPA-AIR/2009/April/Day-10/>,
<http://www.epa.gov/climatechange/emissions/ghgrulemaking.html>
- GHG Endangerment Rule
- Black Carbon – **Whitepaper available**
 - Black carbon has a two-fold warming affect on the atmosphere. It absorbs visible light and emits heat radiation to the surrounding air. This is different than other greenhouse gases (GHGs) which absorb infrared radiation from the earth's surface and then emit that heat to the surrounding atmosphere. Secondly, black carbon can deposit on snow-covered areas, reducing reflectivity and leading to increased melting. This is especially important in the Spring where biomass burning has been identified as a key cause of the Arctic warming and glacier melt. Combined, these effects yield estimates that black carbon is second only to carbon dioxide (CO₂) in its global warming potential. Black carbon is also short-lived in the atmosphere (scale of several weeks) unlike other greenhouse gasses with atmospheric lifetimes of decades.
 - Given these characteristics, regulating Black Carbon has been identified in Senate hearings as a short-term solution to regional climate changes issues, such as enhanced warming in the Arctic.
 - The American Clean Energy and Security Act (HR2452) passed the House 6/26/2009 and includes directing EPA to investigate the role of black carbon in climate change and identifying emission control strategies –forest and agricultural burning are specifically mentioned as sources of black carbon.



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- Bill HR2996 requires the EPA to complete a report on BC by April 2011, which will include an identification of approaches to reduce black carbon and an inventory of BC emissions.
- The White House in a press release 12/17/2009 announced U.S. involvement in an international effort to reduce black carbon emissions affecting the Arctic.
- Wildland fire can be a significant source of black carbon. Globally, open burning accounts for 42% of Black Carbon emissions, while in the US, 14% of Black Carbon emissions are from wildfire and 3% are from Federal prescribed burning activities.
- SmoC developed research needs for addressing black carbon and fire. Some members have been working with FS researchers and the Joint Fire Sciences Program (JFPS) to get a project funded that will help answer questions about US fire contributions to black carbon in the Arctic, to help inform such reports as the EPA 4/2011 report.
- Executive Order on Federal Leadership in Environmental, Energy, and Economic Performance. <http://www.federaltimes.com/index.php?S=4310309>, <http://www.federaltimes.com/content/2009fedleadereorel.pdf>. SmoC is tracking the implications of this EO on prescribed fire and wildland fire management (whether the agency target GHG reductions would be required for fire operations). NWCG Board briefing conducted. A key concept of the EO is that 2008 is a baseline emission inventory year. **Briefing paper available.**

Fire Policies

- Exceptional Event Rule Issues: A WESTAR workgroup (with SmoC members) developed recommendations on ways to improve the implementation of the EER and submitted these recommendations to EPA. www.westar.org/EERpage.htm
- 2009 Federal Wildland Fire Policy Implementation Strategy: Webinar held for SmoC Spring of 2009 which identified key air quality concerns such as the two fires concept and challenge of old air quality rules.

Emission Inventories

- 2002 National Air Toxics Assessment – **Briefing paper available.** <http://www.epa.gov/nata2002/>
- 2008 National Emissions Inventory for Fire (<http://www.epa.gov/ttn/chief/net/neip/index.html>). SmoC is working with the regulatory agencies to develop an understanding of the total inventory process and submit suggestions on how to best estimate wildland fire's emission contribution. **Two briefing papers** have been written and multiple conference calls between SmoC and EPA have taken place. A **survey** has been drafted that can be submitted through NACAA to assess how States plan to submit fire emissions information to the NEI. SmoC helped identify research assistance which could improve the proposed EPA process substantially if funded.
- SE RPO 2007 Fire Emission Inventory Effort – Several SmoC members are involved in or are tracking this effort
- 1990-2007 Greenhouse Gas Emission Inventory – **Briefing paper available.** <http://epa.gov/climatechange/emissions/usinventoryreport.html>

Other Products

- FCAMMS National Smoke Dispersion Forecast Development/Review (<http://cefa.dri.edu/FCAMMS>). The products are mixing height, ventilation rate, transport winds, Haines index, and PM2.5 from fires. The forecasts are available 3-days into the future at 3-hr timesteps, and 7-day forecasts are available at 6-hr timesteps. The raw data are also being made available to the Predictive Services at the Geographic Area Coordination Centers (GACCs) for regionally customized products. The goal is to provide land managers and air quality regulators with nationally consistent information to help schedule prescribed burning activities and some wildfire operations for periods of optimal dispersion
- Smoke monitoring issues
 - Voltree Power (www.voltreepower.com), provides a new device for long-term meteorological monitoring that can happen in a gridded way with a RAWS unit. Nodes are fixed to a RAWS site and then deployed in a gridded pattern up to a mile away to create a fine network of meteorological monitoring devices. Such networks can give fine-



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scale meteorological information such as nighttime drainage patterns. Initially designed for meteorological monitors, the hope is that other types of monitors, such as PM and CO, could also be deployed with this technology.

- Develop a method to get all cached monitors in the NFES equipment catalog.
- HFPAS – SmoC recommendations developed on how to include for air quality in prioritization.
- NWCG Tech Project reviews (comments provided on all projects and documents provided).
 - Review of NWCG Wildfire Complex document: This document was reviewed and comments provided to the NWCG. The issue discussed was “splits & mergers” – Wildfire complexes that split into multiple teams then are reassembled when fires get small, and the smoke management and reporting implications.