

APPENDIX H

**MEETING MINUTES FOR THE NOVEMBER 8, 2004, EMISSIONS FACTORS PROGRAM
IMPROVEMENTS WORKSHOP**

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DATE: April 13, 2005

TO: Mr. Ron Myers
U.S. EPA/EMAD/EFPAG

FROM: Mr. Sean Mulligan
MACTEC Federal Programs, Inc.

CONTRACT: Contract No. 68-D-01-003, Work Assignment No. 5-01

SUBJECT: Meeting Minutes for the November 8, 2004, Emissions Factors Program Improvements Workshop

WORKSHOP SCHEDULE AND LOCATION

A workshop was held on November 8, 2004, in conference room C111 of the EPA campus in Research Triangle Park, NC. The workshop commenced at 8:30 am and lasted until 4:30 pm.

WORKSHOP PURPOSE

The workshop was held to acquire input from EPA staff on improvements to be made to the emissions factor program over the next 3 to 5 years. Items discussed built on previous meetings. The workshop was organized and led by the Emission Factors and Policy Applications Group (EFPAG) of the Emissions Monitoring and Analysis Division (EMAD) of the Office of Air Quality Planning and Standards (OAQPS).

Attendees

Forty-six people attended the workshop. Attendees included personnel from OAQPS, the Office of Research and Development (ORD), the Toxics Release Program, and environmental consulting firms. A complete list of attendees is included as Attachment 1.

WORKSHOP SUMMARY

The workshop commenced with opening remarks from Mr. Fred Thompson (EFPAG Group Leader), explaining the purpose of the emission factor development program and the collaboration effort underway between EFPAG, other groups and divisions within OAQPS, and ORD. Mr. Peter Westlin followed, introducing the EFPAG members in attendance and explaining the challenges facing EFPAG over the coming years.

The keynote address was given by Mr. Steve Page (Director of OAQPS). A summary of the keynote address is included as Attachment 2. Presentations by Messrs. Tom Driscoll, Ron Myers, and Barrett Parker, all of EFPAG, followed the keynote presentation. Copies of the presentations made by Messrs. Westlin, Driscoll, Myers, and Parker are included as Attachment 3.

Following a break for lunch, the attendees broke into three groups of approximately equal size. A facilitator and recorder were assigned to each group. Each group was assigned one of the following discussion topics:

1. Standardize and streamline the emissions data collection and reporting process for emissions factors
2. Establish procedures for defining data uncertainty in reporting and using emissions factors, for inventory and non-inventory applications
3. Establish an outreach program to improve the understanding and application of emissions factors and other emissions quantification tools

Approximately three hours were devoted to group discussions. Once the breakout sessions concluded, each group presented a summary of the discussion, topics of most concern, and recommendations to the entire group.

Following the presentations, Mr. Tom Driscoll summarized the workshop's objectives, the presentations made during the workshop, and the proposals developed during the breakout session. At the conclusion of Mr. Driscoll's summary, Mr. Peter Tsirigotis (Director of EMAD) made closing remarks and concluded the workshop.

EFPAG personnel distributed comment forms at the conclusion of the workshop. Nineteen comment forms were completed and the comments received are summarized in Attachment 4.

PROPOSALS FROM THE GROUP BREAKOUT SESSIONS

The key points and proposals made by each group are discussed below. Additional points made by the groups and issues discussed during the group breakout sessions are included as Attachment 5.

Topic 1: Standardize and Streamline the Emissions Data Collection and Reporting Process for Emissions Factors

This group's discussion focused on the procedures and mechanisms required to tap into industry-conducted emission testing. Specific topics addressed included the development of the content for standardized test reports, the development of a review process, and the development of a model and interface for electronic emissions data collection and reporting. Three goals were identified by the group: develop standardized formats for data collection and reporting, identify the data that are available from industry, and develop procedures for independent assessment of the emissions factors developed from industry testing. The group believed that the best way to achieve these goals would be to develop a web-based test report format that would ensure consistent information was submitted and would allow for electronic upload and data processing. The group recommended that the test reports be form-driven and customized by industry type. In addition, the group recommended that incentives (both positive and negative) be explored as a means to convince states, one of the primary stakeholders, to implement the new procedures and mechanisms. Finally, the group outlined the steps necessary to develop and implement their recommendations.

Topic 2: Establish Procedures for Defining Data Uncertainty in Reporting and Using Emissions Factors, for Inventory and Non-inventory Applications

This group's discussion focused on defining statistical procedures and criteria to apply in developing and reporting emissions factors, and establishing protocols for applying data

uncertainty in non-inventory applications. The group concentrated on two concerns: defining emissions factors as a function of uncertainty, variability, and application; and developing guidelines and alternatives for emissions factor characterization for non-inventory applications. The group recommended that a tool be developed to identify/characterize the uncertainties associated with emissions factors and determine if the uncertainties are acceptable for the factor to be used for a specific application. A generic model or table for use by state/local/tribal agencies to assess uncertainty/variability in emissions calculations was envisioned. The group believed that a beta version of the generic model could be developed in approximately 6 to 12 months. The group also recommended that non-inventory applications be prioritized and that the generic model be applied to the non-inventory applications. In addition, the group recommended that rules/guidelines be developed for collecting data for existing technologies and for using the data, and that guidance for non-inventory applications of emissions factors be developed.

Topic 3: Establish an Outreach Program to Improve the Understanding and Application of Emissions Factors and Other Emissions Quantification Tools

This group's discussion focused on designing the form and structure of information distribution tools and identifying high priority types of guidance or knowledge area needs. The group recommended that a menu or matrix be developed to assist users in determining how and when to use emissions factors rather than another means to quantify emissions. This tool would be a web-based document that would be tailored to different audiences and applications, be presented in bilingual format, and serve as a single point to obtain information regarding emissions factors and their uses. A companion document would be developed in hard copy format to communicate with users that either do not have access to computers or do not feel comfortable using them. The group believed that a beta version of such a tool could be developed over a 2-year period using funding from industry groups and other federal agencies (e.g., DOD).

Distribution

Mr. Ron Myers, EFPAG (electronic copy)
Mr. John Chehaske, MACTEC (electronic copy)

Mr. John Bosch, EFPAG (electronic copy)
827004S608.001 Project File (hard copy)

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**ATTACHMENT 1
ATTENDEES TO THE NOVEMBER 8, 2004
EMISSIONS FACTORS IMPROVEMENT PROGRAM WORKSHOP**

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WORKSHOP ATTENDEES - NOVEMBER 8, 2004

Name	Organization	Breakout Group Number
EPA		
Amanda Aldridge	OAQPS/ESD	3
Keith Barnett	OAQPS/ESD	3
William Barnett	ORD/NRMRL	1
John Bosch	OAQPS/EMAD	--
Conrad Chin	OAQPS/ESD	3
Dennis Crumpler	OAQPS/EMAD	2
Troy Doby	ORD	2
Tom Driscoll	OAQPS/EMAD	3
Robert Fegley	ORD/OSP	2
Dave Ferguson	ORD/NRMRL	1
Paul Groff	ORD/NRMRL	2
Brian Gullett	ORD	1
James Hirtz	OAQPS/ESD	2
Roy Huntley	OAQPS/EMAD	2
Jenna Jambeck	ORD/NRMRL	1
Bill Johnson	ORD	--
Warren Johnson	OAQPS/ESD	3
Chitra Kumar	OAQPS/EMAD	3
Bill Lamason	OAQPS/EMAD	--
Robin Langdon	OAQPS/EMAD	2
Bob Lucas	OAQPS/ESD	2
Elaine Manning	OAQPS/ESD	--
Dave Markwordt	OAQPS/ESD	--
Doug McKinney	ORD/NRMRL	1
Lula Melton	OAQPS/ESD	2
Andy Miller	ORD/NRMRL	2
Ron Myers	OAQPS/EMAD	1

WORKSHOP ATTENDEES - NOVEMBER 8, 2004 (CONT.)

Name	Organization	Breakout Group Number
Carlos Nunez	ORD	--
Jamie Pagan	OAQPS/ESD	--
Steve Page	OAQPS	--
Barrett Parker	OAQPS/EMAD	2
Melissa Payne	OAQPS/ITPID	3
Gary Rust	OAQPS/ITPID	2
Dallas Safriet	OAQPS/EMAD	1
Velu Senthil	OEI/TRI	3
Mohamed Serageldin	OAQPS/ESD	1
Steve Shedd	OAQPS/ESD	1
Brian Shrager	OAQPS/ESD	1
Larry Sorrels	OAQPS/AQSSD	3
Joe Touma	OAQPS/EMAD	--
Peter Tsirigotis	OAQPS/EMAD	--
Tony Wayne	OAQPS/ESD	--
Peter Westlin	OAQPS/EMAD	--
Joe Wood	OAQPS/ESD	3
Environmental Consultants		
Sean Mulligan	MACTEC	3
Karen Schaffner	RTI	--
Art Werner	MACTEC	1

ATTACHMENT 2
TALKING POINTS FOR THE KEYNOTE SPEAKER AT THE NOVEMBER 8, 2004,
EMISSIONS FACTORS IMPROVEMENT WORKSHOP, MR. STEVE PAGE

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Emissions Factors Program Improvement Workshop
November 8, 2004
Draft talking points for Steve Page

Logistics

- **Location:** Room C111
- **Purpose:** To engage OAQPS stakeholders in reviewing and developing collaborative strategies to advance the emissions factors program; both in data development and in applications.
- **Speaking Time:** 9:00 - 9:30, 20 min talk, 10 Q&A

Themes

- Limitations of Current EF Program
- Importance of Collaboration
- Future Program Direction

Opening

- Thank for coming.
- You've been invited today to complete the final stage of the **Emission Factors Improvement** process and help shape the future for how we conduct business.
- Over the past year, the **Emission Factors and Policy Applications Group** has set a great example
 - for leading a collaborative process to improve the Emission Factors Program
 - thank you for being willing to jump in and take a new approach
- When I was still fairly new in this job:
 - noticed that we as an organization weren't putting money toward factor development
 - met with Peter to find out more
 - Was this a dead product?
 - Or was it something that needed revamping?
- We learned, through you – and through workshops you held with stakeholders – that these factors are extremely important. We need this program.
- But we also realized there was one big problem: Money.

- Since the 1970s, the need for new factors has increased as industries have grown and changed. But EPA's funding for emission factor development has dwindled.
- In addition, our existing factors need updating.
- We have more than 21,000 emission factors on the books. But our own folks rate 70 percent of those as below average – *or lower*.
- A lot of our factors are outdated– such as the ones for:
 - PM and toxics from welding operations;
 - Ammonia from agricultural and industrial sources;
 - PM 2.5 from a number of sources – including feedlots, combustion and industrial sources; and
 - landfills
- Here's the reality: We need to do this. But we are *never* going to have the money we need to do this properly – if we try to go it alone.
- So we have to figure out how we can work with others to ensure we get better, more up-to-date factors.
- Pleased that this group has jumped right in.
- Already, you have held a series of very successful workshops across the country, engaging state, local and private stakeholders who rely heavily on the emission factors process. You've started collaborating.
- I'm a big believer in collaboration. A collaborative process is essential for developing *effective* solutions to very complex issues.
- Too many times, we as an Agency have developed solutions the other way – using the old, top-down approach
 - We worked on our own
 - We limited stakeholder involvement

- We allowed involved parties to review our results -- but we didn't give them *enough* time for them to understand the results and feel comfortable with them.
- The result of this approach?
 - We wound up with an approach that does not meet the needs of those who rely on it the most.
 - And we created a whole lot of unnecessary tension.

Future Direction

- I'm pleased to see us going in a different direction.
- EMAD has re-evaluated its traditional emission factors program ... separating it from the inventory program to encourage improvements in areas not related to national or regional emissions inventories.
- This improvement process will also help us change our role with regards to emission factors – and dispel the belief that EPA is the only organization with the capability and resources to participate in the emission factors development process.
- When I think about the future, I see us *facilitating* the development of emission factors and guaranteeing the integrity of the development process.
- I know you all are working on replacing the subjective components of the process with better-defined and quantifiable measures
- And I hope you'll continue your efforts to encourage industry, trade associations, state, local and tribal agencies, and even groups within EPA to participate in this important process.
- Thank you.

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ATTACHMENT 3
EFPAG PRESENTATIONS FROM THE NOVEMBER 8, 2004,
EMISSIONS FACTORS IMPROVEMENT PROGRAM WORKSHOP

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Emissions Factors Program Improvement Workshop

November 8, 2004

Emissions Factors and Policy Applications Group

Emissions Monitoring and Analysis Division

Office Air Quality Planning and Standards



Emissions Factors Program Improvement Workshop

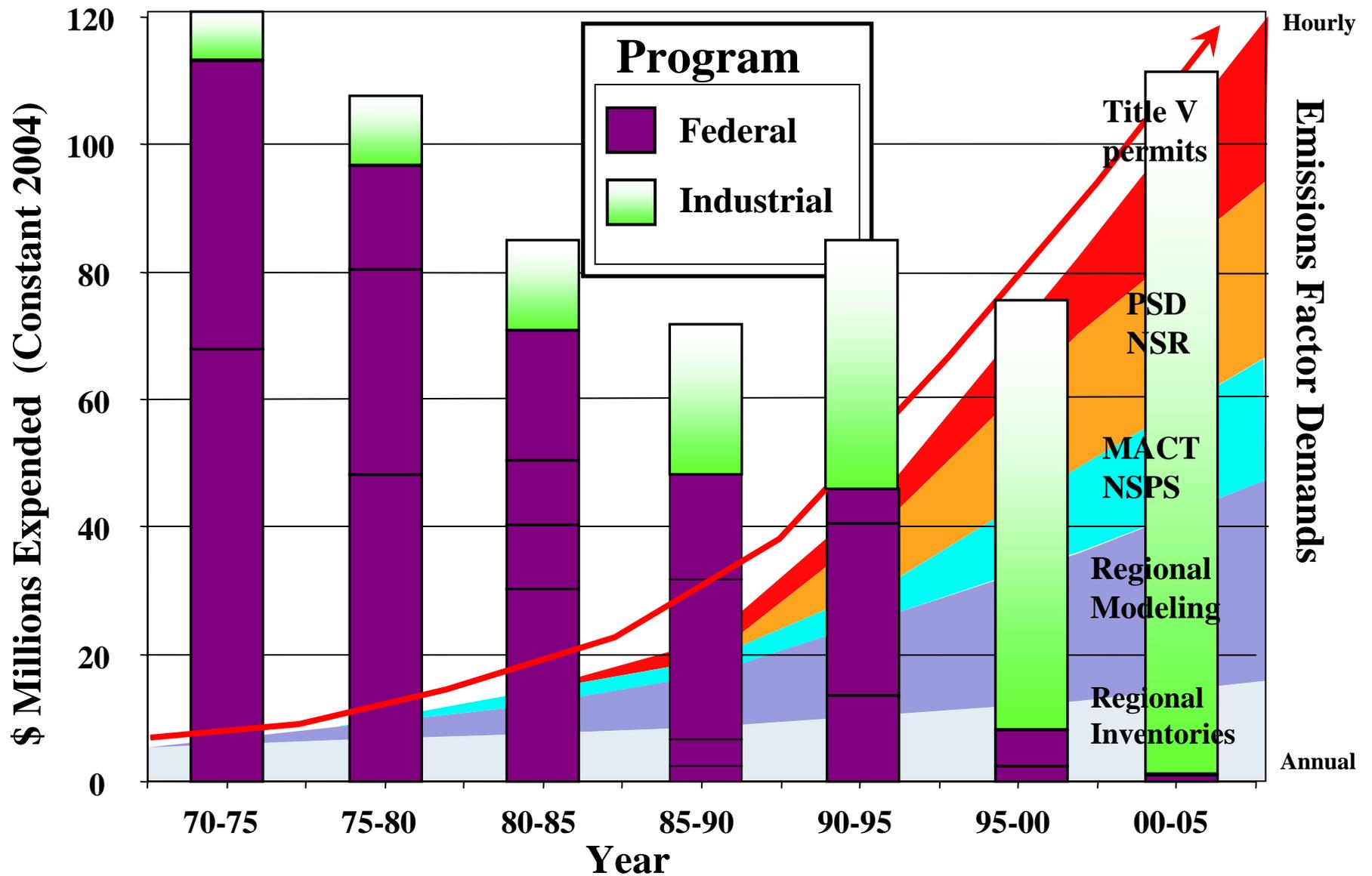
*A Vision for Improving the Availability
and Use of Emissions Factors*

Peter Westlin
**Emissions Factors and Policy
Applications Group (EFPAG)**
EPA/OAR/OAQPS/RTP
November 8, 2004

Purposes for today's workshop

- Review current EF program
 - Link EF program goals with EFPAG mission
 - Describe planned FY04 activities and products
 - Discuss stakeholders' problem areas and proposals
 - Group sessions to develop project-specific proposals to ensure your involvement in EF improvements and other activities
-

What is the State of the EF Development Program?



What is the state of the current EF program?

- **Established >25 years ago to support criteria pollutant inventories and modeling efforts**
 - Historically EPA in-house EF development focus
 - Modest technology improvements (e.g., electronic access)
 - Demand is increasing but fewer \$
 - **EPA support has become fragmented and episodic**
 - Fewer EPA resources for addressing new source categories and pollutants (e.g., HAPs)
 - **Provides no guidance or technical support for non-inventory needs (e.g., permitting)**
 - **Due for change!**
-

What changes in EPA for EF program?

A fresh start in FY03 and continuing:

- Reassign EF responsibility to EFPAG, refocus EMAD group's role
 - Establish a baseline
 - Assess current activities and resources
 - Collect input from EF users and developers
 - Identify critical needs
 - Identify and evaluate potential project areas and partners (why we are talking with you)
-

Who care about the EF program?

Two primary user groups:

- Inventory developers and regulators
 - EPA, OAQPS (EMAD, ESD and AQSSD), ORD, OECA, OAP
 - State, local, and regional planning offices
 - Permitting agencies and permitted sources
 - Federal, State and local permitting and enforcement offices
 - Companies subject to NSR decisions and EF-derived permit fees and limits
-

What are the EFPAG goals for leading change in FY04?

- Facilitate enhancement of current EF development process and strengthen evaluation criteria and analytical procedures to develop EFs of known data quality
 - Champion development of new and enhanced tools for applying emissions factors
 - Advance site-specific emissions quantification procedures for Title V, NSR, SIP applications
-

Presentations

- Keynote – Steve Page
 - EF Development projects – Ron Myers, EFPAG
 - Applications Issues – Barrett Parker, EFPAG
 - Stakeholder Issues and Proposals – Tom Driscoll, EFPAG
 - Workshop sessions – Peter Westlin, EFPAG
 - Wrap-up – Tom Driscoll, EFPAG
-



Discussion?

New EF Development Directions

An Updated Program
for a New Century

Ron Myers
Emissions Factors & Policy
Applications Group

Emissions Factors Capabilities vs. Program Requirements

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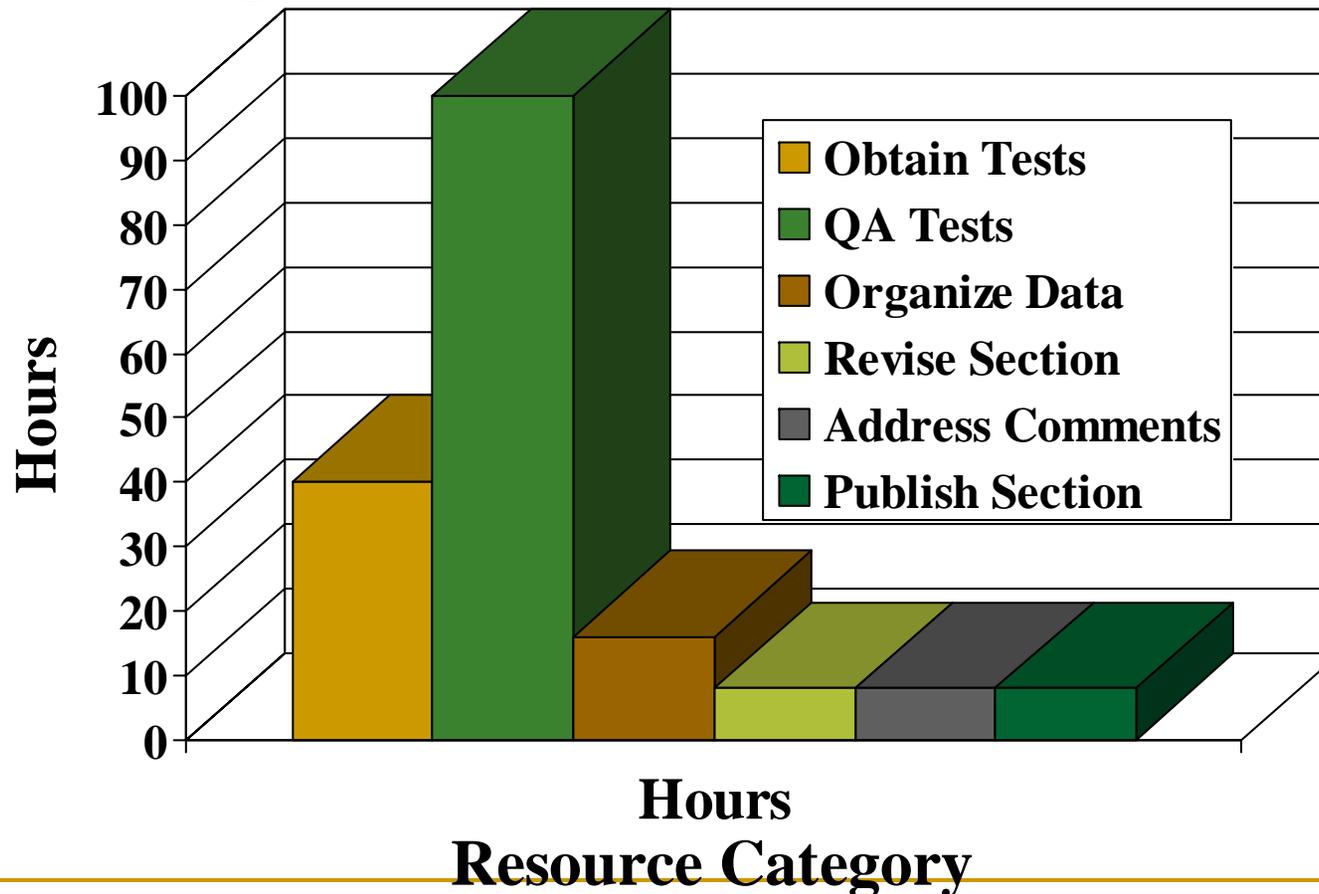


Overview

- 20th Century Development Considerations
 - Opportunities to Improve the Process
 - Active EPA Project Areas
 - Emissions Factors Selection Idea
 - Emissions Factors Use Simulation
-

Where do Current EF Development Resources Go?

Simple Ten Test, One Pollutant Section



Data Usage Considerations

- **Paper, Paper, Everywhere**

- EF Development

- Information in multiple locations
 - Information underutilized
 - Process subjectively focuses on bias issues
 - Process duplicates State Assessments
 - Information manually transcribed
-

Data Usage Considerations (cont)

■ Paper, Paper, Everywhere

□ State Test Assessments

- Information manually transcribed multiple times
 - Some assessments are very rigorous
 - No clear assessment standard(s)
 - Process subjectively focuses on bias and precision issues
 - Some bias acceptable
 - Focus on compliance
-

Opportunities to Improve System

- Expand/Revise Format of Source Tests
 - Standardize Assessment Processes
 - Employ People with Most Knowledge
 - Employ Standard Electronic Data Rules
-

Industry/State Resource Efforts *

■ Industry Source Testing

- Compliance Source Testing
- Estimated 3,800 Tests per year
- Estimated Cost of \$45 million

■ State Resources

- Quality Assurance Oversight
 - Field Observations
 - Process Observations
 - Test Report Evaluation
- Over 300 Full Time Equivalent People

*Extrapolated from STAPPA/ALAPCO
Survey of by Dave Cline, Indiana DEM

EPA Active Project Efforts

- **Source Test Assessment Processes**
 - **Data Delivery & Assessment Automation**
 - **Emissions Factors Quality Indicators**
 - **Non Inventory Applications Support**
-

EPA Active Project Efforts (cont)

- **Source Test Assessment Processes**
 - **Standardize processes**
 - Model after existing Federal/State processes
 - Adapt processes for new quantitative method
 - **Incorporate Field Observations**
 - Not presently used in EF work
 - Provide valuable information
 - Information not in test reports
-

EPA Active Project Efforts (cont)

- **Source Test Assessment Processes (cont)**
 - **Incorporate Process Variables**
 - Most variables not used now
 - Some variables not used or recorded are critical
 - **Generate Quantitative Quality Indicator**
 - Estimate of Bias
 - Estimate of Precision
-

EPA Active Project Efforts (cont)

■ **Explore Data Automation Capacities**

- Reduce Data Transcription Time & Errors
- Allow for Open Sharing of Data
- Reduce Filing Space
- Reduce Response Times

■ **Explore Several Options**

- Software used by companies & States
 - Word Processing
 - Spreadsheets
 - Data Base Programs
 - Prepare software for data extraction
-

EPA Active Project Efforts (cont)

- **Assess Emissions Factor Quality**

- Include or Adjust for Estimated Bias
 - Propagated from source tests
 - Created from skewed supporting data
 - Include Precision Estimate
 - Include Estimated Source Variation
 - Reduce Users Misinterpretation
 - Encourage Uncertainty Propagation
 - Emission inventory applications
 - Non inventory applications
-

EPA Active Project Efforts (cont)

- **Illustration of Sampling Induced Bias**
 - Caused by Skewed Supporting Data
 - Can not be less than “0”
 - Upper bound levels not limited
 - Skewness exacerbates bias
 - Low sample size exacerbates bias and imprecision
-

EPA Active Project Efforts (cont)

Illustration of Sampling Bias (cont)

Factor Rating	# Supporting Data	Estimated %Bias
E	1	59
D	3	22
C	5	15
B	10	8
A	20	4

EPA Active Project Efforts (cont)

- **Non Inventory Applications Support**
 - Arithmetic average does not meet all program requirements
 - Does not provide adequate protection of Public Health
 - Does not address within source and between source variations
 - Does not provide adequate entry screening for regulatory programs (e.g. NSR, PSD, Title V applicability)
-

EPA Active Project Efforts (cont)

■ Identified non inventory EF Applications

- Excess Emissions Penalties
- Emission Reductions
- Trading and Banking
- Regulatory Applicability
- Many Others
- Title V Permits
- PSD/NSR Assessments
- Applicable Limits
- Compliance Demonstration

■ Develop Options to Modify or Validate Uses

Available Products

- Clearwater & DC Workshop Minutes
 - Draft Source Test Assessment Options Paper
 - Draft Factor Quality Assessment Options Paper
 - Draft Electronic Automation Options Paper
 - Draft Non Inventory Applications Options Paper
-

Target Dates for Products

- Decision on Options for Further Development
 - January 2005
 - Draft Source Test Assessment Procedures
 - April 2005
 - Draft EF Development Procedure
 - May 2005
 - Draft Electronic Data Automation Tools
 - June 2005
 - Draft Alternatives for Non Inventory Applications
 - August 2005
-

Open Discussion

Non-Inventory Issues and Partnerships

An overview of our activities

Revamping the Emissions Factors Program Workshop

Emissions Factors

- Designed to develop area-wide emissions inventories
 - AP 42 originally published in 1972
 - Now has over 200 major source categories
 - Includes criteria and toxic air pollutant factors
 - Represent averages, not site specific values
 - Are estimates!
-

Emissions Factors

- Despite AP 42 guidance, used for
 - Program applicability determinations
 - Emissions standards and limits
 - Site-specific permit limits
 - Compliance determinations
-

Other Non-Inventory Uses Include

- NSR / PSD modeling
 - Some NSPS and MACT rules
 - Certain acid rain sources
 - NSR plantwide applicability limits
 - Title V permit fee calculations
-

EFPAG to clarify non-inventory use

- Create options paper for quantifying emissions at individual sites
 - Rely on current rankings
 - Develop maximum and minimum values
 - Generate statistics for maximum and minimum values
-

Example for gas-fired small boiler with low NOx burners

Pollutant	Emissions Factor (lb / mmbtu)	# of Tests	RSD, %	SD	Option 1 Rating	Option 2 3 times EF	Option 3 95% CI
CO	84	49	124	104	B	252	288
NOx	50	5	54	27	D	150	103

EFPAG to clarify non-inventory use

- Partner with stakeholders to create enhanced emissions factors tools
 - Conduct workshops to promote tools
 - Develop guidance or rules for non-inventory use
-

Partnerships

- Crushed stone processing
 - Hot-mix asphalt
 - Turbines and gas-fired combustion
 - TANKS
 - Army ammunition, PM 2.5, multi-metals
 - Remote optical sensing
 - Printing and publishing
-

Monitoring Knowledge Base (MKB) Website

- Objective
 - Provide access to wide range of available monitoring from central site
 - Audience
 - Technical staff
 - EPA, state, local, tribal agencies
 - Industry and consultants
-

MKB Design Approach

- Follow Agency format and IT guidelines
 - Layer access to information (basic to detailed)
 - Provide links to existing information
 - Minimizes development of new materials
 - Access information via
 - Control technology or
 - Industry
-

MKB Website Focus

- Monitoring Basics
 - Primer
 - FAQs with responses
 - Regulatory requirements
 - Monitoring Techniques for differing control types
 - Monitoring Requirements and Techniques by industry type
-

Initial MKB Control Devices for VOC and PM

- Fabric Filters
 - Wet scrubbers
 - Catalytic oxidizers
 - Condensers
 - Adsorbers
 - Electrostatic precipitators
 - Thermal oxidizers
 - Carbon absorbers
-

MKB VOC and PM Industries

■ Initial

- ❑ Printing and publishing
- ❑ Surface coating

■ Others

- ❑ Pharmaceutical
 - ❑ Batch chemical
 - ❑ Auto manufacturing
 - ❑ Fiberglass resin
 - ❑ Computer chip design
-

MKB Successes

- Provide organized access to
 - Basic monitoring concepts
 - Monitoring approaches for control devices
 - Monitoring examples (CAM and title V)
 - Provide access to State / local / tribal permit websites
-

MKB Challenges

- Designing to accommodate broad range of knowledge
 - Providing specific example monitoring requirements of permits
 - Providing links to permits by industry type, emissions source, or control type
-

MKB Next Steps

- Complete Agency review
 - Beta test
-

Emissions Factors Program Stakeholder Issues

Tom Driscoll

Emissions Factors and Policy Applications Group

Emissions Monitoring and Analysis Division

Office of Air Quality Planning and Standards

Emissions Factors Program Improvement Workshop

November 8, 2004

Presentation topics

- Review scope of stakeholder contacts
 - Summarize areas of concern
 - Highlight stakeholder proposals
-

Why did we seek stakeholder input?

- Meet the people who are implementing the emissions factors program
 - Learn the program
 - Get a snapshot of the emissions factors program
 - Learn how emissions factors are used
 - Find out what is working
 - Find out what is not working
 - Determine needs
-

Who are the stakeholders we've met?

- State (32), Local (16), and Tribal (1) air pollution control agencies
 - emissions inventory, permitting, source testing, enforcement, and policy staff and management
 - Industry and Consultants (13)
 - Environmental Advocacy Groups (6)
 - Federal Agencies (3)
 - EPA Offices and Regions (including OAQPS and ORD (25)
 - Others
 - Airport authorities
 - Marine terminal authorities
-

What are stakeholders' concerns?

- EPA appears to have disinvested from the EF program
 - AP-42 is used extensively, is needed, and EPA must be involved
 - Data from source testing are not submitted to EPA, or, when submitted, don't get into AP-42
 - EFs & the associated information are sometimes difficult to find
-

What else did we hear?

- There are many processes for which there are few, old, poor or unknown quality, or no EFs
 - Published EFs do not address regional differences
 - Stakeholders look to other resources for EFs (e.g., Europe, other states, testing)
 - State and Local Programs reluctant to use industry or trade association emissions factors or data
 - EF development process takes too long, needs transparency
 - Some of the stakeholders feel omitted from the emissions factors development process
-

What else did we hear?

- EFs are being misused
 - Intended for inventory development
 - National and regional emissions averages
 - Annual rates
 - Applied to permitting – NSR, PSD, title V
 - Site-specific applicability
 - Site-specific fee determinations
 - Short averaging times – daily, hourly
 - Compliance
 - Applied for regulatory development - MACT
-

Fact Finding Report

- Results are compiled in “Summary of Emissions Factors Improvement Project Fact Finding Survey” report
- Copies of all responses and summary of comments included
- The website for this report is:

[http://www.epa.gov/ttn/chief/efdocs/efimproverproject.pdf](http://www.epa.gov/ttn/chief/efddocs/efimproverproject.pdf)

EPA-sponsored EF Improvement Workshops

- June 2004 EI conference
 - 80+ state/local/tribal/EPA participants
 - August 2004 Washington, DC workshops
 - Two one-day workshops
 - 80+ industry, government, and public participants
 - Focus on developing proposals to address stakeholder concerns
-

June Clearwater EF Workshop (cont.)

- Proposals from workshops:
 - Develop tools, rules, and guidance for non-inventory applications
 - Establish, understand, and use EF data quality and uncertainty information
 - Tap into industry-sponsored testing
 - Develop electronic clearinghouse for source test data and QA information
 - Standardize, streamline, and develop an approval system for overall EF development process
 - Develop standard protocols for data generation and collection, data evaluation, a data depository, and use of emissions factors data
 - Make the development and use of emissions factors small business friendly
-

What are the next steps and how do you get involved?

- Build on EFPAG projects with work groups to address:
 - Standardize and streamline data collection and reporting for EF development
 - Develop standard procedures for defining and using EF uncertainty
 - Develop guidance and outreach for non-inventory applications
-

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ATTACHMENT 4
SUMMARY OF COMMENTS RECEIVED REGARDING THE NOVEMBER 8, 2004,
EMISSIONS FACTORS IMPROVEMENT PROGRAM WORKSHOP

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SUMMARY OF COMMENTS RECEIVED REGARDING THE NOVEMBER 8, 2004, EMISSIONS FACTORS IMPROVEMENT PROGRAM WORKSHOP

On November 8, 2004, EFPAG held a collaborative workshop with representatives from other OAQPS divisions and ORD. Nineteen of the 46 people in attendance at the workshop completed a comment form that was distributed at the end of the workshop. The comment form included a five-part question that required numerical answers, followed by four questions that required prose answers. The questions and responses are summarized in the following paragraphs.

Question 1: Please rate various aspects of the workshop on a scale of 1 to 4, with 4 being the best. Responses to Question 1 are summarized in Table 1. As demonstrated in the table, overall ratings of the conference were positive.

Table 1. Responses to Question 1

Question	Number of Responses					Average Rating
	Poor (1)	Average (2)	Good (3)	Excellent (4)	No Response	
Usefulness of Supplemental Materials	0	5	9	2	3	2.8
Quality of Equipment and Printed Materials	0	3	11	3	2	3.0
Organization of Topics	0	0	11	6	2	3.4
Effectiveness of Group Discussions	1	2	6	7	3	3.2
Overall Rating for Workshop	0	2	10	5	2	3.2

Question 2a: Did the workshop meet your expectations? Nineteen respondents replied to this question. Four respondents replied that the workshop had met their expectations somewhat, 14 respondents replied that the workshop had fulfilled their expectations, and 1 respondent replied that the workshop had been better than expected.

Question 2b: What exercises did you like best? Fifteen respondents replied to this question.

- Six respondents indicated that they found the group discussions most valuable.
- Six other respondents identified specific points of the group sessions: four indicated that they found the brainstorming session, where many possible uses of emissions factor were identified, to be most rewarding, while two preferred the project or solution development portion of the group discussions.
- The remaining three respondents found the large group sessions to be most valuable. One preferred the initial presentations given by EFPAG members, One respondent favored the definition of program milestones, while the last respondent favored the final phase of discussion, when all workgroups summarized their projects for the rest of the workshop participants.

Question 2c: What suggested improvements do you have? Eight respondents replied to this question.

- Two respondents felt that the session format should be altered. One respondent

suggested that the morning presentations be shortened to allow more time for small group discussions, while the other respondent suggested that the last summary session be eliminated to provide more time to identify potential needs for revised emissions factors.

- Two respondents commented on the facilitation of the group breakout sessions. One requested that outside facilitators be used for the sessions, while the other respondent requested that facilitators attempt to improve the focus of the group discussions since their group seemed to stray off topic.
- Two individuals did not feel that statistics had been handled appropriately. One respondent desired more time devoted to statistics and data distribution. The other respondent suggested that terms be defined better as he or she felt that too much time was spent during the in group discussions trying to define variability and uncertainty.
- One respondent suggested that considerably more time than is currently proposed might be required to ensure that a good job is performed reinventing the emissions factor program.
- The remaining respondent suggested that the organizers spend more time reiterating the primary needs to complete the emissions inventory improvement project.

Question 3: What specific exercises or projects that were not discussed do you think the Emissions Factors program should consider? Eight respondents replied to this question.

- Two respondents requested that objectives for data quality and for the overall emission factor effort be clearly established.
- Two respondents were concerned about how variability and uncertainty might be used: one felt that variability should be explicitly considered when developing emissions factor and when using them for policy decisions or applications. Another recommended that EFPAG conduct a project to help quantify the measurement of uncertainty and variability with regards to emissions factor.
- Two respondents requested that EFPAG conduct more outreach to other EPA divisions and also to stakeholders. One individual felt that EFPAG should communicate closely with other divisions in OAQPS for activity and review of emissions factors and also that EFPAG should incorporate activity factors in emission estimations. The other individual requested that EFPAG voluntarily generate reports and create mailing lists to keep stakeholders informed of emission factor development activities and that they should also develop a matrix to help solve questions about emissions factor.
- The final two respondents had requests pertaining to a broader range of emission measurement activities. One respondents requested that EFPAG generate a rule making in lieu of only guidance and that guidance be provided for process measurement activities. The other respondents requested that a specific industry or industries be targeted for trial/testing.

Question 4: Would you be interested in collaborating with EFPAG on any current or future product development activities? Twelve respondents indicated that they would be interested in collaborating with EFPAG and supplied their email addresses; their names and email addresses are presented in Table 2.

Question 5: Any additional comments or feedback? Seven respondents replied to this question.

- Four respondents offered general positive comments about the sessions.
- One respondent stated that he arrived too late to comment extensively.
- One respondent requested that the workshop format be tweaked to allow more time for exercises.
- The final respondent expressed concerns that giving official approval for the non-inventory use of emissions factors could cause their use or abuse to increase and felt

instead that EPA should advocate the use of actual emissions testing and/or monitoring instead.

Table 2. Workshop Attendees Interested in Future Collaborations with EFPAG

Name	Email Address	Comment
Amanda Aldridge	aldridge.amanda@epa.gov	“Tools for Communities” Emission Reduction Benefit Matrix–Robin Langdon, contact
Dennis Crumpler	crumpler.dennis@epa.gov	Maybe to a limited extent
Troy Doby	doby.troy@epa.gov	
Robert Fegley	fegley.robert@epa.gov	Maybe, not much experience in this area
David Ferguson	ferguson.david@epa.gov	Metal finishing industries
Paul Groff	groff.paul@epa.gov	
James Hirtz	hirtz.james@epa.gov	
Warren Johnson	johnson.warren@epa.gov	
Doug McKinney	mckinney.douglas@epa.gov	
Melissa Payne	payne.melissa@epa.gov	Outreach and marketing phases
Velu Senthil	senthil.velu@epa.gov	Products #3 and #1
Joe Wood	wood.joe@epa.gov	

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ATTACHMENT 5
DETAILS FROM THE GROUP BREAK OUT SESSIONS HELD DURING THE
NOVEMBER 8, 2004, EMISSIONS FACTORS IMPROVEMENT PROGRAM
WORKSHOP

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DETAILS FROM THE GROUP BREAK OUT SESSIONS HELD DURING THE NOVEMBER 8, 2004, EMISSIONS FACTORS IMPROVEMENT PROGRAM WORKSHOP

During the group discussions, each group was asked to sequentially perform the following six tasks:

1. In brainstorming fashion, list all of the applications for which emissions factors are currently used.
2. In brainstorming fashion, identify all of the goals that would need to be completed in order to implement a project to address the topic assigned to the group.
3. Identify several key goals from the list developed above.
4. Develop a proposal(s) to address the key goals.
5. Develop milestones to accomplish the proposal(s).
6. Identify the stakeholders that would be affected/involved with the proposed effort.

The groups responses to tasks 2 through 6 are described below.

Group 1: Standardize and Streamline the Emissions Data Collection and Reporting Process for Emissions Factors

Facilitator: Ron Myers

Recorder: Art Werner

Goals Identified

- Standard formats
- Submit data to EPA
- Specify sampling and analysis methodology
- QA requirements
- Electronic reporting
- Record source operating conditions
- Uncertainty analysis
- Parameters of test conditions
- Specify sampling equipment
- Standard definitions and units
- Confidentiality
- Site specific info
- Collect data for models
- Geographic variability
- Conditions: steady state, worst case, best case, startup
- Report operating conditions
- Data analysis and interpretation
- Standardized rating system
- Documentation
- Standard approach to collaborate with industry
- Incentives for industry and states
- Test plan review
- Variability

Goals Addressed

The group focused on establishing reporting requirements for emissions test data collection. Specific goals addressed included:

- Develop profiles of pollutant-emitting processes by industry
 - Identify process, pollutants, and description
 - Key variabilities – control, operation
 - Collect information from industry
 - Geography
 - Operating conditions (typical, upset, extreme, percent of load)
 - Raw materials
 - Historical info
 - Process rate info
- Define the format in which emission data would be collected
 - Test method
 - QA
 - Reporting formats
 - Electronic reporting to states and EPA
 - Define data
 - Data analysis
- Develop procedures for independent assessment of the collected data
 - Uncertainty
 - Variability
 - Documentation

Proposal Developed

The group believed that the best way to achieve the goals identified above would be to develop a web-based test report format that would ensure consistent information was submitted and would allow for electronic upload and data processing. The group recommended that the test reports be form-driven and customized by industry type. In addition, the group recommended that incentives (both positive and negative) be explored as a means to convince states, one of the primary stakeholders, to implement the new procedures and mechanisms.

Milestones Identified

- Baseline: Identify what is currently reported to states?
- Design format with input from states
- Design review by stakeholders
- Beta test
- Marketing plan/incentives
- Reassess
- Automate
- Implement
- Revise AP-42 and define other EF uses

Stakeholders Identified

Stakeholders are listed in descending order of involvement with the project.

- State/local/tribal
 - STAPPA/ALAPCO
 - RPOs
 - Health departments
 - Permit writers
 - Enforcement personnel
 - Testing contractors
 - Attorneys general
- Industry
- Trade associations
- Other EPA offices
 - OAR
 - ORD
 - OECA
 - OPPTS
 - TRI
 - OEI
 - OW
 - Superfund
- Testing and other contractors
- Other federal entities
 - DOI
 - USDA
 - OHS
 - DOT
 - DOE
 - DOD
 - Forest Service
 -
- Universities
- Control and instrument vendors
- Standard developers
- Canada and Mexico
- Environmental groups
- Public

Group 2: Establish Procedures for Defining Data Uncertainty in Reporting and Using Emissions Factors, for Inventory and Non-inventory Applications

Facilitator: Barrett Parker
Recorder: Robin Langdon

Goals Identified

- Standardize data collection approach
- Certify source testers
- Identify shortcomings of data collection
- Specify data use
- Develop guidelines for data uses
- Assure/understand data quality
- Advise and consent only (use their data)
- Find self interest
- Define all conditions pertaining to data collection
- Minimize data flow
- Use instruments (monitors) for data for emissions factor
- Identify operational control factors
- Analyze statistically per given purpose
- Assign a rank factor
- Define uncertainty analysis
- Differentiate between uncertainty and variability
- Find rewards/incentives for allies
- Design internal guidance approval process
- Determine end users
- Perform feedback regarding guidance use
- Perform site evaluations
- Generate calibration standard
- Identify the relevant data quality official
- Set priorities

Goals Addressed

- Define emissions factors as a function of uncertainty, variability, and application
 - List applications and determine what we need to know for each application
 - Define rules/guidelines for collecting data for existing technology and for using the data
- Develop guidelines and alternatives for emissions factor characterization for non-inventory applications
 - Match emissions factor component with emission factor application
 - Prioritize emissions factor applications or develop example/generic model

Proposals Developed

- Develop guidance for non-inventory applications/uses understanding that uncertainty is a function of the time interval of the application.

Milestones Identified

- How to use uncertainty information

- 6-12 months: develop generic framework (including operating conditions data) – table by which one can assess uncertainty/variability in emission calculations
- Prioritize non-inventory applications
- Apply generic model to non-inventory applications

Stakeholders Identified

Stakeholders are listed in descending order of involvement with the project.

- Industry/trade associations
- State/local/tribal agencies
- EPA regional offices
- ORD and OAQPS
- Experts
- Other EPA offices
- Vendors
- Environmental groups
- Community groups

Group 3: Establish an Outreach Program to Improve the Understanding and Application of Emissions Factors and Other Emissions Quantification Tools

Facilitator: Tom Driscoll
Recorder: Sean Mulligan

Goals Identified

- Define audience
- Web-based/online training for emissions factors use
- Additional training through non-web platform: video-based training is one possibility, other literature
- Rule making for emissions factors use
- Menu/matrix for emissions factors problem solving
- Guidance for emissions factors use
- Marketing plan/ad campaign
- Community tool to characterize tools, emissions factor, health effects, cost/benefit
- Third party verification/endorsement of emissions factor
- Implementation guidance as an outreach tool
- Complaint center/hot line
- Emissions characterization/quantification hierarchy by use
- Feedback loop

Goal Addressed

- Menu/matrix for emissions factors problem solving

Proposal Developed

The group recommended that a menu or matrix for emissions factor problem solving be developed by EFPAG that would:

- Be web-based with links to other sites/data
- Include a companion guidance document in hard copy
- Serve as “one stop shopping” for emissions factors
- Be bilingual
- Included guidance on when and how to use emissions factors by application
- Be tailored for different audiences
- Contain an FAQ section
- Identify when to use emissions factors instead of other data/methods to quantify emissions
- Provide information to assist with interpreting and understanding uncertainty and variability

Milestones Identified

- Determine whether the tool should be category or application driven
- Determine whether the tool should be source characteristic or source category specific
- Time frame: 2 years for beta version of matrix to be complete

Stakeholders Identified

Stakeholders are listed in descending order of involvement with the project.

- State/local/tribal agencies
- Industry/consultants
- Small business
- Other federal government agencies
- RPOs
- Other EPA
- Academics
- Environmental groups/think tanks
- Media
- COG's, congressional, staff, mayors
- General public

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