

APPENDIX F

**MEETING MINUTES FOR THE AUGUST 25, 2004, EMISSIONS FACTORS PROGRAM
IMPROVEMENTS WORKSHOP**

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DATE: September 30, 2004

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. 4-03

SUBJECT: Meeting Minutes for the August 25, 2004, Emissions Factors Program Improvements Workshop

WORKSHOP SCHEDULE AND LOCATION

A stakeholders' workshop was held on August 25, 2004, in conference room 1153 of the EPA East building, Washington, D.C. The workshop commenced at 9:00 am and lasted until 4:00 pm.

WORKSHOP PURPOSE

The workshop was held to assess challenges facing the emissions factor program over the next 3 to 5 years and to develop action items that maintain attendees' involvement in the future of the program. It was organized and led by the Emission Factors and Policy Applications Group (EFPAG) of the Office of Air Quality Planning and Standards (OAQPS).

ATTENDEES

Forty-two individuals attended the workshop. Attendees included personnel from EPA, state governments, local and county governments, non-profit organizations, trade organizations, industry, and consulting firms. A complete list of attendees is included as Attachment 1.

WORKSHOP SUMMARY

The workshop commenced with a presentation by the workshop chairman, Mr. Peter Westlin (OAQPS, EFPAG) regarding the purpose of the workshop and the status of the emission factor development program. Mr. Westlin's presentation was followed by a presentation from the keynote speaker, Mr. Jeff Holmstead, Assistant Administrator for EPA's Office of Air and Radiation. Mr. Holmstead's talking points are 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. Information Transfer and Sharing
2. Emission Factor Data Uncertainty
3. Non-Inventory Applications of Emissions Factor

Approximately three hours were devoted to group discussions. At the conclusion of the individual break out sessions, each group presented all of the attendees with a summary of the topic discussed, issues identified, and at least one proposal to improve management of emission factors in the area discussed. Each attendee was then allowed to vote on the proposals to determine which proposals were most important to the group as a whole. Mr. Tom Driscoll facilitated a group discussion on these proposals and gave closing remarks to end the meeting.

PROPOSALS FROM THE GROUP BREAK OUT 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 break out sessions are included as Attachment 4.

Topic 1: Information Transfer and Sharing

The group discussion focused on the need to develop criteria for incorporating emission tests performed under other programs in the development of emission factors. For example, a mechanism needs to be developed for evaluating industry tests and using them to support emission factor development. To accomplish this goal, the group concluded that baseline criteria or requirements for information transfer and sharing and for accepting outside data in the development of emission factors need to be developed. In addition, a mechanism to audit QA/QC process information from emission tests would need to be established to ensure that data incorporated into emission factor development meets EPA quality standards.

The group made three proposals:

Proposal 1A: Establish, through stakeholder collaboration, baseline criteria and protocols for developing emission factors and for accepting and applying test data to factor development.

Proposal 1B: Develop, through stakeholder collaboration, standard operating procedures for test data auditing, conducting QA/QC, and completing the certification process.

Proposal 1C: Develop a certification process to ensure the validity and veracity of test data.

Topic 2: Emission Factor Data Uncertainty

The group discussion focused on the need to develop a standardized evaluation process for emission factors. In addition, the group concluded that a standardized depository of emission factor information would improve access to basic data as well as to summary data. Finally, the group concluded that basic data should be distilled for wider use.

The group made one proposal:

Proposal 2: Establish a collaborative group to develop standard protocols for data generation and collection, data evaluation, a data depository, and use of emission factor data.

Topic 3: Non-Inventory Applications of Emission Factors

The group's discussions focused on four issues: the inappropriate use of emission factors, acquisition of existing emission data, the format of available emission data, and the desire for emission factors of better quality. They felt that more data, particularly uncertainty data, should be collected and reported with emission factors.

The group made one proposal:

Proposal 3: Collect better data in a specified/standard format in an electronic format. Data should include more than simply an emission factor and should include sufficient detail to be correctly applied to activities other than an air emissions inventory.

WRAP UP

When the group reconvened, all attendees voted on the proposals. This helped to identify which issues and proposals were most relevant to the majority of attendees. A tally of the votes garnered by each proposal is included as Table 1.

TABLE 1. SUMMARY OF PROPOSALS MADE ON AUGUST 25

Proposal Number	Proposal	Number of Votes
1A	Establish, through stakeholder collaboration, baseline criteria and protocols for developing emission factors and for accepting and applying test data to factor development.	20
1B	Develop, through stakeholder collaboration, standard operating procedures for test data auditing, conducting QA/QC, and completing the certification process.	5
1C	Develop a certification process to ensure the validity and veracity of test data.	3
2	Establish a collaborative group to develop standard protocols for data generation and collection, data evaluation, a data depository, and use of emission factor data.	26
3	Collect better data in a specified/standard format in an electronic format. Data should include more than simply an emission factor and should include sufficient detail to be correctly applied to activities other than an air emissions inventory.	10

The voting summarized in Table 1 clearly indicates that collection and management of the data used to develop emission factors is of great importance to stakeholders. The consensus appears to be that EFPAG should take advantage of the many emission tests conducted for other programs or for state agencies and should incorporate this data in emission factor development. In order to ensure that the emission tests used are appropriate, it is recommended that EFPAG establish protocols by which the data should be collected and QA/QC procedures for its approval before being incorporated into emission factor development.

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**ATTACHMENT 1
ATTENDEES TO THE AUGUST 25, 2004,
EMISSION FACTOR IMPROVEMENT WORKSHOP**

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WORKSHOP ATTENDEES - AUGUST 25, 2004

Name	Organization
US EPA	
Alice Chow	Region III
Loren Denton	HQ/Air Enforcement Division
Ken Gigliello	OECA/OC/CAMPD
Janet Kremer	Region III
Arnie Leriche	OECA/OC
Betsy Metcalf	DSIMB, ETDD, OC
Jeff Robinson	Region VI
Cary Secrest	OECA/ORE/AED
Velu Senthil	TRI OEI
Scott Throwe	OECA/OC
Public Interest Groups	
John Walke	NRDC
Industry	
Joe Araiza	Reliant Energy
John Bundfield	American Forest and Paper Association
Una Connoloy	National Asphalt Paving Association
Larry Craigie	ACMA
Gary Ewing	SECOR International, Inc.
Gary Fore	National Asphalt Paving Association
Anne Giesecke	American Bakers Association
Tim Hunt	American Forest and Paper Association
Mike Innerarity	ExxonMobil
James Jensen	CH2MHill, Hill AFB
Todd Johnston	National Mining Association
Jacqueline Kaiser	ExxonMobil
Richard (Dick) Karp	American Petroleum Institute
Marcia Kinter	SGIA, representing the screen and digital communities

WORKSHOP ATTENDEES - AUGUST 25, 2004 (CONT.)

Name	Organization
Carla Lane	PPG Industries
Paul Lynch	KeySpan Energy
Eric Malès	National Lime Association
Robert Peters	Aerospace Industries Association
Tiffany Ronsonet	Newport News Shipbuilding
Ram Singhal	Flexible Packaging Association
Ed Skernolis	Waste Management, Inc.
Jennifer Snyder	Corn Refiners Association
Val Ughetta	Alliance of Automobile Manufacturers
Brandon Viars	NSSGA
Phillip Wakelyn	National Cotton Council
Tom Wigglesworth	NPRA
James Wilson	E. H. Pechan
Tom Wood	Cooper Tire & Rubber Company - for Rubber Manufacturing Association
State/Local/Tribal Agencies	
Larry Si	NJ Department of Environmental Protection
Dean Van Orden	PA Department of Environmental Protection
Danny Wong	NJ Department of Environmental Protection

ATTACHMENT 2
TALKING POINTS FOR THE KEYNOTE SPEAKER AT THE AUGUST 25, 2004,
EMISSION FACTOR IMPROVEMENT WORKSHOP, MR. JEFF HOLMSTEAD

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Emissions Factors Program Improvement Workshop
August 25, 2004
Draft talking points for Jeff Holmstead

Background

Location: EPA Ariel Rios East Room 1153

Goal of the workshop is: to engage stakeholders in reviewing and developing collaborative strategies to advance the emissions factors program both in data development and in applications.

Approx 36 people in audience

One third are state/local/federal environmental officials, the remainder are from industry / environmentalist group representatives.

Time allocated to Jeff: 9-9:30, 20 min talk, 10 Q&A

“It is not on EPA’s shoulders to do all EF work, so collaborative process is highly important”

I. Introduction

Personal experience with emissions factors

Worked with the American Plastics Council, (APC) which is an organization representing companies which manufactured and marketed products containing methylene diphenyl isocyanate (MDI). MDI is used for bonding rubber to nylon, etc.

Assisted APC in a partnership with EPA to:

- validate a suite of source test methodologies used by the industry
- design and implement an emission testing program by member companies at various sites to characterize the emissions from the production and application of their products
- conduct a survey of the industry to characterize the operations and activity levels by each operation to use with emissions factors developed from the testing program to estimate national, regional and sited specific emissions.

Introducing the three themes

Main Theme for talk: Importance of collaboration in policy making (drawing on personal experience)

Second Theme: Limitations of current EF program

Third Theme: Future directions

II. Collaboration: Everyone benefits when Industry and Regulatory Agencies collaborate “from cradle to grave”

Collaboration is essential when developing an effective solution to very complex issues. Collaborative efforts foster diverse perspectives, which usually lead to more comprehensive solutions amicable to all parties involved.

Without a consolidated approach, we all encounter significant resistance in accepting the data at the end of an expensive process. The delays and lack of acceptance creates:

- access to incomplete or inappropriate information
- inadequate time for the agencies to understand and feel comfortable with the information
- inadequate time for the industry to perform additional work to fill gaps where information can not be obtained retroactively
- and unfortunately ... unnecessary tension.

MOL’s principles of collaboration: EPA was collaborative beforehand, but with MOL, even more so

Good example of the importance of industry/agency collaboration was the development of the clean air diesel rule

Detail on collaborative process during clean air diesel rule
Elaboration on how personal experience with APC and collaborative process we see room for improvement in the EF program, and believe the best way to improve the program is through collaboration

Explanation of how EF program fits into broader OAR mission

EPA would like to engage more stakeholders in prospective efforts to improve emissions factors using agreed upon protocols. In addition, we are interested in establishing a process that:

incorporates existing source test data collection and evaluation efforts by industry and State/local agencies

establishes standardized protocols to qualify this data and provides a streamlined method to incorporate the data into the emissions factors development process.

III. Existing programmatic structure has limited the EF program in the past.

The emissions inventory program and the emissions factors program have traditionally been connected programmatically. Originally, the primary goal was emissions factors development in support of national and regional inventories. Over the years, many programs have been created or expanded, resulting in inappropriate use of emissions factors

As a result, many sources which are not a significant component of the national emissions inventory have poor or misleading emissions factors. Except for the new area of fine PM emissions factors, the current availability of emissions factors is reasonable for tracking national progress and for making most decisions for managing regional air quality. However, the current availability of emissions factors does not provide the information for making decisions with respect to individual facilities.

This is not to indicate there has not been great progress in developing emissions factors as there are over 21,000 emission factors. However, **only 20% of these 21,000 factors** carry an above average rating and **70% carry a below average or lower rating**. These lower rated factors are much like the original emissions factors for MDI where the supporting data is meager at best and misleading at worst.

IV. The Future Direction

EPA has re-evaluated the emissions factors program and has separated the emissions factors program from the inventory program to encourage improvements in areas not related to national or regional emissions inventories.

The separation of the programs does not mean an increase in the funding nor an increase in EPA people, but a refocusing of objectives and a pressure to find better ways to make progress with the same or fewer resources. We will also dispel the belief that EPA is the only entity with the capability and resources to participate in the emissions factors development process.

In the future, we hope to replace the subjective components of the process with better defined and quantitative measures, and will **encourage more industry associations, State/local Tribal agencies to participate in the process to achieve a common goal**.

Conclude with reinforcement of importance of collaboration

ATTACHMENT 3
EFPAG PRESENTATIONS FROM THE AUGUST 25, 2004,
EMISSION FACTOR IMPROVEMENT WORKSHOP

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Emissions Factors

Improvement Workshop

A Vision for the Emissions Factors Program

**Emissions Factors and Policy
Applications Group (EFPAG)**

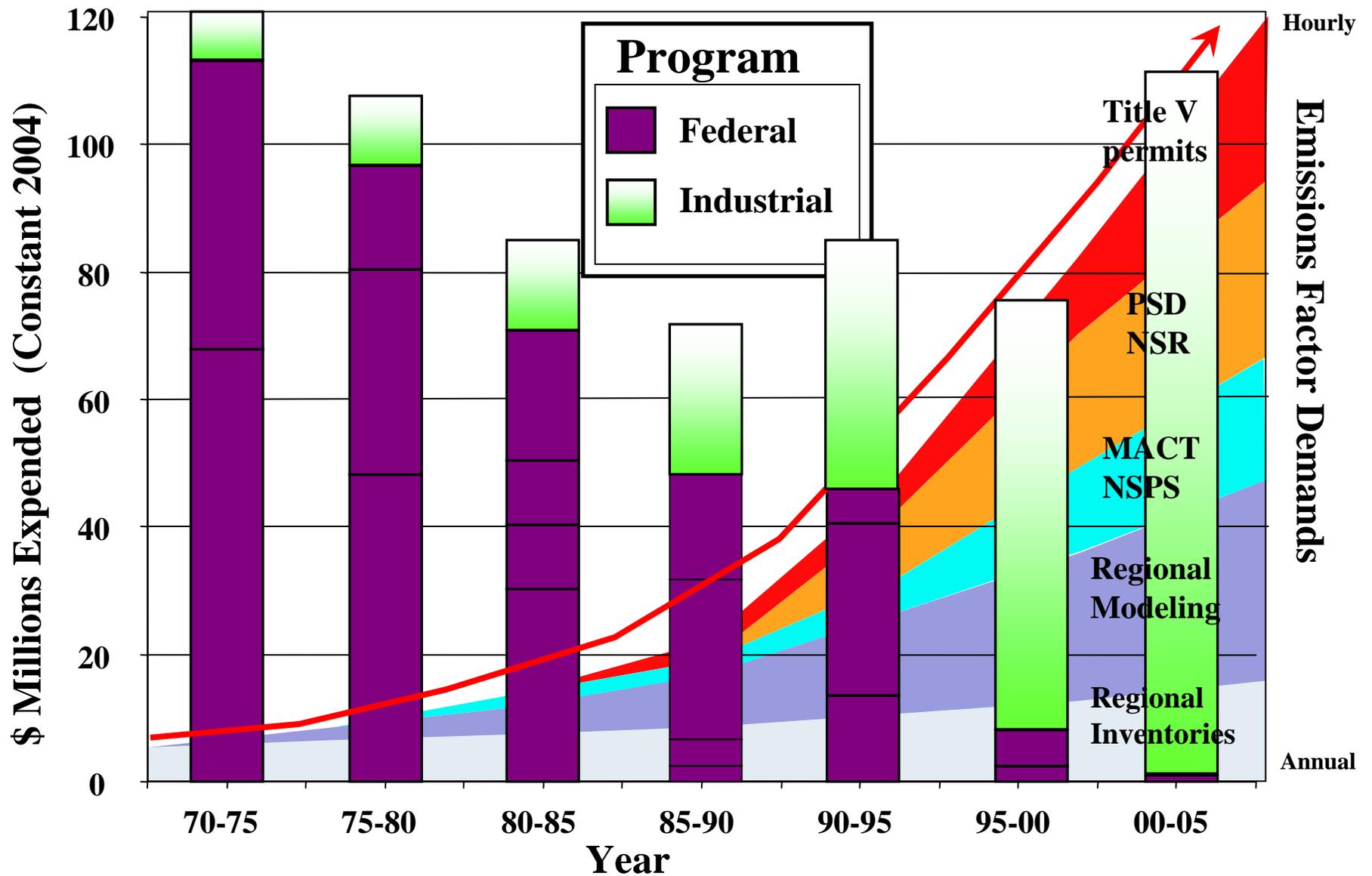
Washington, DC

August 2004

Purposes for today's workshop

- Review current EF program
 - Discuss problem areas and stakeholders' concerns
 - Link EF program goals with EFPAG mission
 - Describe planned FY04 activities and products
 - Group sessions to develop proposals for 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 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 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 cares about the 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 limits
-

What are the elements 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 - TBD
 - Fact finding – Tom Driscoll, EFPAG
 - EF Development projects – Ron Myers, EFPAG
 - Applications Issues – Barrett Parker, EFPAG
 - Workshop sessions – Peter Westlin, EFPAG
 - Wrap-up – Tom Driscoll, EFPAG
-

Presentations

- State Agency - TBD
 - Fact finding – Tom Driscoll, EFPAG
 - EF Development projects – Ron Myers, EFPAG
 - Applications Issues – Barrett Parker, EFPAG
 - Workshop sessions – Facilitators, EFPAG staff
 - Tom Driscoll
 - Robin Langdon
 - Ron Myers
 - Barrett Parker
 - Wrap-up – Tom Driscoll , EFPAG
-



Discussion?

Emissions Factors Program Fact Finding Survey

Tom Driscoll

Emissions Factors and Policy Applications Group (D243-02)

Emissions Monitoring and Analysis Division

Office of Air Quality Planning and Standard

Emissions Factors Workshop

Washington, DC

August 25 and 26, 2004

Why did we undertake the survey?

- 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
-

Whom did we survey?

- 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 (25)
 - Others
 - Airport authorities
 - Marine terminal authorities
-

How did we survey?

- How do you use emissions factors?
 - Are the emissions factors you use derived from EPA's AP-42 or other data sources?
 - If EPA decided not to update AP-42 again, what would your reaction be?
 - Do you provide data to EPA for developing emissions factors?
 - Have you proposed to use emissions quantification procedures other than emissions factors?
 - Have you imposed or had imposed on you the use of emissions factors when there may have been other procedures providing more representative results?
 - Would you consider more direct involvement in the emissions factors program?
-

What Did We Hear?

- EPA appears to have disinvested from the emissions factors program
 - Data from source testing are not submitted to EPA, or, sometimes are submitted to EPA, but don't get into AP-42
 - Emissions factors are being misused
 - Emissions factors & the associated information are sometimes difficult to find
-

What Did We Hear (continued)?

- There are many sources with few, old, poor or unknown quality, or no emissions factors
 - Emissions factors from other sources are used
 - Emissions factors may need to be region-specific
 - Takes too long to develop emissions factors
-

What Did We Hear (continued)?

- AP-42 is used extensively, is needed, and EPA must be involved
 - State and Local Programs lack trust industry or trade association in emissions factors or data
 - Some of the stakeholders feel omitted from the emissions factors development process
 - Transparent development process needed
-

What Did We Hear (continued)?

- Guidance is needed:
 - Which emissions factors to use for a source category or process when there are none in AP-42
 - Procedures for S/Ls to fill gaps in AP-42
 - Using industry-derived source testing
 - Which test methods to use when developing emissions factors
-

What Did We Hear (continued)?

- Guidance is needed (continued):
 - When use of emissions factors is appropriate and when not to use them
 - When there is a range of emissions factors
 - With better disclaimers, instructions, and protocols
 - For using emissions factors from other sources
-

What Did We Hear (continued)?

- Guidance is needed (continued):
 - For using emissions factors to base permit or enforcement limits
 - For using emissions factors for applicability determinations
 - To interpret permit and enforcement limits when the emissions factors are amended
 - When permitting authorities ignore guidance on emissions factors' ratings
-

Can others collaborate with EPA?

- Don't have time to help
 - Participate in workgroups
 - Help develop specific emissions factors, e.g., HAPS or aircraft EFs
 - Help develop new data submittal process
 - Help develop and test the new protocol for establishing EFs
-

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)

June Clearwater EF Workshop

- Discuss survey report findings and propose ideas to address shortcomings
 - Presentations:
 - Patrick Gaffney of CARB, highlights
 - When are there enough data for EFs?
 - EPA should decide sources to be studied
 - Emissions studies for dairies conducted in 1938
-

June Clearwater EF Workshop (cont.)

- Groups addressed specific issues
 - Group proposals or products:
 - 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 a checklist for overall EF development process
-

Wrap Up

- Although we have plans to address our findings, we still want to hear your thoughts, ideas, and comments

- My contact info:

(919) 541-5135

driscoll.tom@epa.gov

New EF Development Directions

An Updated Program
for a New Century

Ron Myers
Emissions Factors & Policy
Applications Group

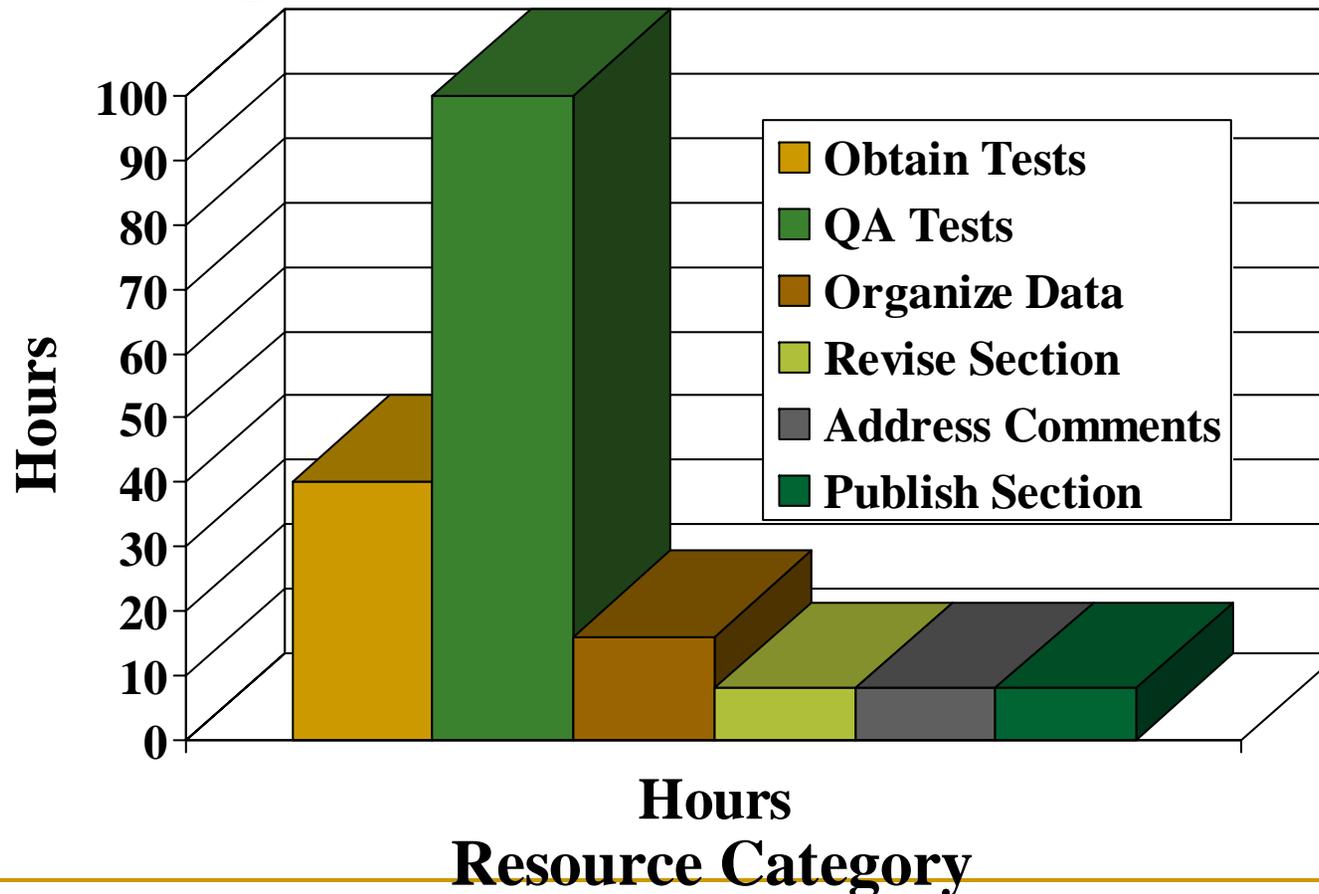
Emissions Factors Capabilities vs. Program Requirements

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
 - State Test Assessments
 - Information manually transcribed multiple times
 - Some assessments are very rigorous
 - No clear assessment standard
 - 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**

- Use existing state test report review processes
 - Several are more rigorous than EF process
 - All are at least comparable to EF process
 - Adapt processes for new quantitative method
 - Incorporate Field Observations
 - Not presently used in EF work
 - Provide valuable information
 - Information not in test reports
 - Incorporate Process Variables
 - Most variables not used now
 - Some variables not used or recorded are critical
 - Generate Quantitative Quality Indicator
-

EPA Active Project Efforts (cont)

■ **Enhance Data Transfer Capabilities**

- Reduce Data Transcription Time
- Reduce Data Transcription 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**

- Develop Quantitative Options
 - Include Accuracy Estimate
 - Include Precision Estimate
 - Reduce Users Misinterpretation
 - Encourage Uncertainty Propagation
 - Emission inventory applications
 - Non inventory applications
-

Emissions Factors Selection

Imagining Outside the Box

The screenshot shows the Morningstar Fund Screener interface. At the top, there's a navigation bar with 'Back', 'Forward', 'Stop', 'Refresh', and 'Home' buttons, and a URL bar showing 'http://screen.morningstar.com/FundSelector.html?fsection=ToolScreener'. Below this is a 'Welcome to Fund Screener' section with instructions: 'Find funds two different ways: • Set any or all of the criteria provided below • Select a Morningstar Screen'. There's a 'Morningstar Screens' link and a note: 'Our analysts have built some screens to get you started.' The main interface has two tabs: 'Set Criteria' (active) and 'Show/Score Results'. Below the tabs are sections for 'Fund Type', 'Cost and Purchase', and 'Ratings and Risk'. Each section contains criteria with dropdown menus or checkboxes.

Welcome to Fund Screener

Find funds two different ways:

- Set any or all of the criteria provided below
- Select a Morningstar Screen

[Morningstar Screens](#)
Our analysts have built some screens to get you started.

Set Criteria | **Show/Score Results** | [Reset Search](#) | [Analyst Insights](#) | [Instructions](#)

Fund Type

- Fund group: All
- Morningstar Category: All
- Manager tenure greater than or equal to: Any

Cost and Purchase

- Minimum initial purchase less than or equal to: Any
- Load funds: Include load funds
- Expense ratio less than or equal to: Any

Ratings and Risk

Check all the ratings that you would like to include:

- Morningstar Star Rating
 - ★
 - ★★
 - ★★★

26400 bps : 00:05:57 Done

Program Specific
Emissions Factor
Selection & Adjustments

- Bias
- Precision
- Source Variability

Emissions Factors Use Simulation

- National Program
 - Four/Five Regional Programs
 - One Regulatory Authority per region
 - One Quantification Consultant per region
 - Eight highly competitive corporations per region
-

Emissions Factors Use Simulation

- National Program
 - Establishes Health Goals
 - Establishes National Emissions Standards
 - Determines National Emissions Factors
-

Emissions Factors Use Simulation

- ❑ One person is the regulatory authority
 - Establishes emission limitation in region
 - Collects permit fees
 - Evaluates compliance with applicable limit
 - Collects fines for non-compliance
-

Emissions Factors Use Simulation

- Eight people per group have one folded page
 - On the back of their page is their annual CA\$H balance sheet
 - The folded page presents information on their production facilities
 - Facility number
 - Control device
 - Fuel type
 - Product recycle percent
 - Daily production level
 - Site specific emissions information is under the fold
-

Emissions Factors Use Simulation

- One person is quantification consultant
 - Applies Emissions Factors @ \$1,000/facility
 - Performs Source Test @ \$10,000/facility



Emissions Factors Use Simulation

- Discussion on acceptability of emissions factors
 - Discussion on decision process for use of emissions factors vs. paying for better emissions information
 - Discussion on problems created by processes
-

EPA Active Project Efforts (cont)

■ Identifying non traditional EF Uses

- 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

Target Dates for Products

- Document Presenting Options, Influencing Criteria and Potential Impacts
 - Nov 2004
 - Decision on options for further development
 - April 2005
 - Draft revised procedure for EF development
 - June 2005
 - Draft electronic process for EF development
 - 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
-

Looking for Answers in All the Right Places

An assessment of the national emissions factors program and where we are going.

Emissions Factors Improvement Workshop 2004

Session purposes

- To assess challenges facing the emissions factor program over the next 3 to 5 years, and
 - To develop action items that maintain your involvement in the future of the program
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Session structure

- A forum for frank interchange with:
 - Small group discussions and
 - Combined group review and assessments
 - Review follow-up actions at the end of the workshop
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More structure

- Each group will have:
 - Facilitator to help the discussion (EFPAG person)
 - Recorder to record the results on flip chart (probably an EPA person)
 - Reporter to summarize the results for the larger group (group participant - need to identify/elect/volunteer)
 - Group participants to contribute ideas
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Ground rules

- Respect for each other and our opinions is inherent, act accordingly!
 - All ideas are acceptable (see above)
 - One voice at a time- let the facilitator facilitate
 - Everyone will have opportunity to contribute
 - Focus comments on interests, not positions (we are not here to bargain)
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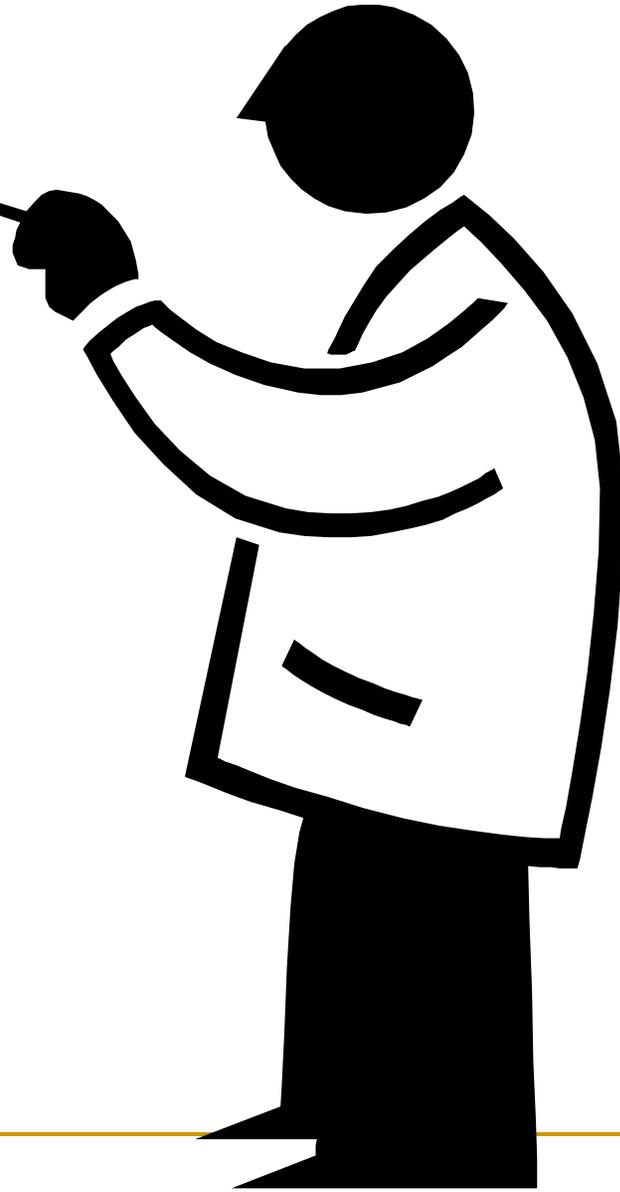
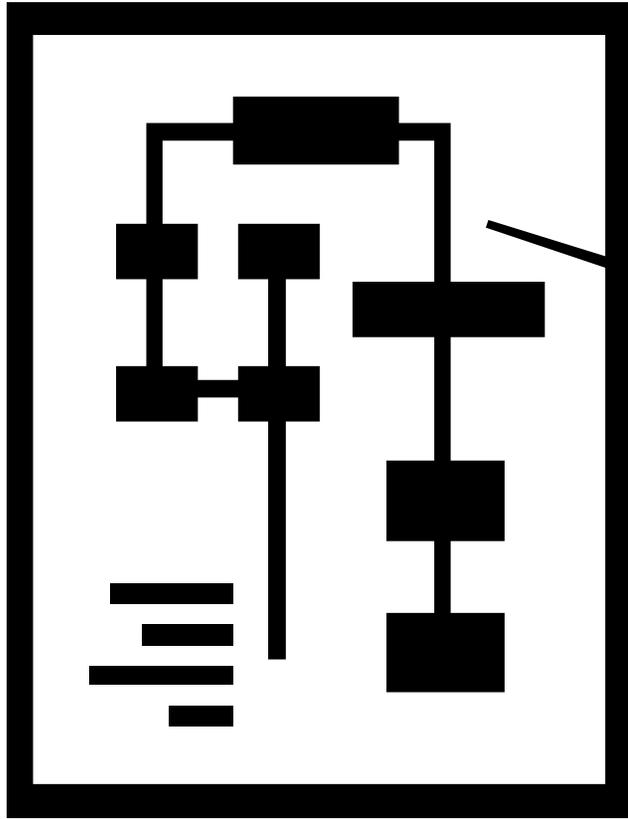
Starter

- Introduce yourselves to each other
 - List as many as you can - products and applications involving the emissions factors program; examples:
 - National PM and PM_{fine} inventories
 - Record on the flip chart paper at your table
 - You have 5 minutes!
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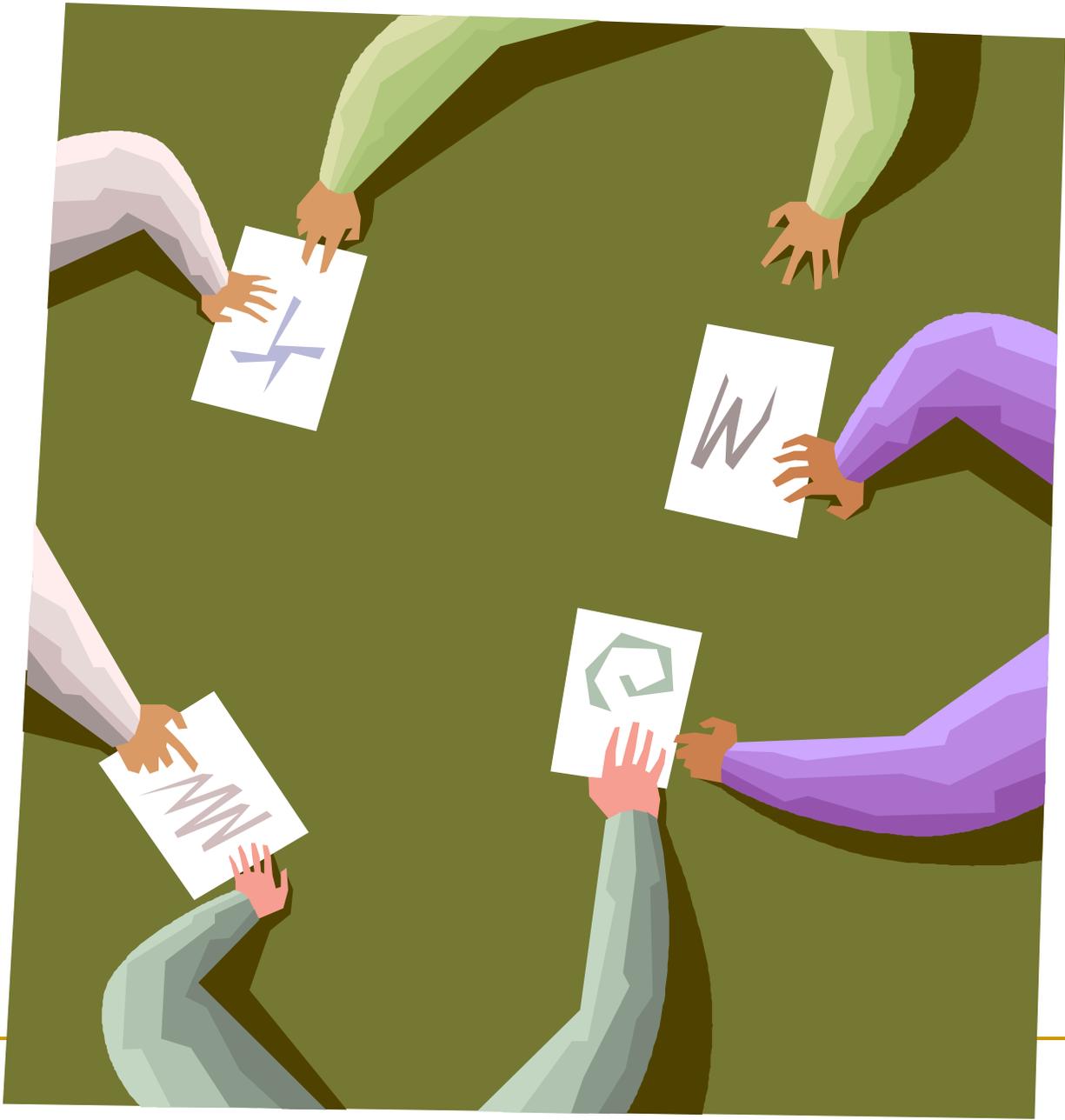
Step one

- Each table – Review the issue assigned to your table and identify possible actions for resolution (no more than 8 words each)
 - Record on the flip chart paper at your table
 - No judgment - just a list
 - You have 10 minutes!
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Step two

- Each table
 - Review the list and clarify activities where there are questions (e.g., expand to clarify goal or task, combine similar actions)
 - Decide which are most important to your group (no more than three, use any criteria or method)
 - Put one or two top rated actions into clear proposal statements on a flipchart (e.g., collaboration between EPA, states, and specific industry sector to develop...)
 - You have 15 minutes!
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Step three

- Each table will report to whole group the proposal statements and background (e.g., who, what, when, how)
 - The entire group will discuss to clarify all of the proposals
 - We will post all of the final proposals on the walls
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Step four

- Break for 10 minutes
 - During the break, use the markers at your table to check your top choices
 - Each person gets four votes/checks
 - Put your checks beside one, two, three, or four of the statements
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Step five

- Review voting results – which are the top three?
 - For top three proposals, discuss:
 - Who are affected by this task/product?
 - What conversations are necessary (e.g., lobby for action, seek resources, develop collaborations)?
 - What do you think will be different as a result? Negative (e.g., for your organization)? Positive (e.g. for program; for clients)?
 - EFPAG will collect all charts and include in follow-up report
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Wrap-up

- EFPAG will summarize and distribute results to conference participants via e-mail
- Your continued involvement encouraged (e.g., respond to summary report, propose collaborative projects)
- Please, collect your participation gifts



ATTACHMENT 4
DETAILS FROM THE GROUP BREAK OUT SESSIONS HELD DURING THE
AUGUST 25, 2004, EMISSION FACTOR IMPROVEMENT WORKSHOP

This page included to provide for two-sided printing.

DETAILS FROM THE GROUP BREAK OUT SESSIONS HELD DURING THE AUGUST 25, 2004, EMISSION FACTOR IMPROVEMENT WORKSHOP

Group 1: Information Transfer and Sharing

A. Major Points Discussed

Note: The group developed a list of points of interest and members were allowed to vote for those they considered most important. Votes tallies are shown below.

- Developing criteria for accepting industry tests – 6 votes
- Establish baseline criteria/requirements – 10 votes
- Collaboration – 0 votes
- Electronic management of test data (digital data transfer) – 3 votes
- Data system – 0 votes
- Compatibility/common language – 2 votes
- Training – 1 vote
- Third party auditing/QA/QC/process info – 6 votes
- Confidentiality issues/security – 0 votes
- Transferring existing hard copy info – 0 votes
- Easy accessibility/availability – 0 votes
- Strategy for participation (rules and responsibility) – 2 votes
- Certification of submitted data – 4 votes
- Legality of accepting/using data – 0 votes

B. Proposals Developed

- Establish, through stakeholder collaboration, baseline criteria and protocols for developing emission factors and for accepting and applying test data (including modeling data, lab data, CEMS) to factor development.
- Develop, through stakeholder collaboration, standard operating procedures for test data auditing, conducting QA/QC, and completing the certification process.
- Develop a certification process to ensure the validity and veracity of test data., including:
 - who – legal liability
 - when
 - how (e.g., electronic)

Group 2: Emission Factor Data Uncertainty

A. Major Points Discussed

- More testing
- Guidance on data elements
- Guidance on stack test contents
- Basic statistical principles
- Education/certification of testers and data collaborators
- More process information
- Protocols for collection/reporting test plan generation
- Capture state/local data
- Regionalize EF's
- Spatial/temporal data
- Collaborative teams
- QA/QC – effective standards
- QA/QC on analytical as well as collection methods
- More data from multiple sources
- Improved detection levels
- Electronic results reporting
- Feedback to testers regarding quality – continuous improvement
- Invite test companies to become involved in efforts
- Protocols tailored to application – compliance, inventory, etc.

B. Prioritized List of Points Discussed

- Data elements
- Source test development
- Use of emission factors
- QA/QC
- Source characterization – process info
- Compilation of data that is already out there – state/industry
- Standardized data generation process
- Standardized evaluation process
- Standardized depository to improve access to basic data as well as summary data
- Distill basic data for use – how to guidance/protocol

C. Proposals Developed

- Establish a collaborative group to develop standard protocols for data generation and collection, data evaluation, a data depository, and use of emission factor data.

Group 3: Non-Inventory Applications of Emission Factors

A. Major Points Discussed

- Need more data
- Industry supply data
- Formatting of data
- Standardization
- Evaluate appropriateness for use of EP-42 emission factors
- Prospecting/ vs retro
- Worst case emission factors/max and min
- Source of data
- Generic vs. source-specific or SCC specific emission factors
- Better quality data
- Applicability/depends on operating conditions
- Regional variability
- Different factors for different uses
- Nomograph (3-D)
- Better caveats in AP-42
- Few alternatives
- Applicability/depends on operating conditions

B. Prioritized Approach for Addressing Non-Inventory Applications

- Acquire existing data
- Format of data
- More detail on data
- Better quality (less uncertainty)
- Inappropriate use of emission factors

C. Approaches Considered

- Acquire existing data, get data in electronic format from:
 - State files
 - Other sources (DOE, DOD)
 - Industry
- Format of data: electronic format-standard
- Better quality data
 - Required fields in test reports
 - Delineate applicability
- Inappropriate use
 - Guidance
 - More detail on each emission factor
 - Use test data if possible/feasible
 - Phase out D & E - rated factors
- More detail
 - Test conditions-specify
 - Process operating conditions
 - Problems during test
 - Make sure fields filled out

D. Proposals Developed

- Collect better data in a specified/standard format in an electronic format. Data should include more than simply an emission factor and should include sufficient detail to be correctly applied to activities other than an air emissions inventory.