

# **Summary of Emissions Factors Improvement Project Fact Finding Survey**

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Emissions Factors and Policy Applications Group  
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## Executive Summary

The Emissions Factors and Policy Applications Group (EFPAG) of EPA's Emissions Monitoring and Analysis Division (EMAD) is responsible for updating and improving the emissions factors program. To determine where the emissions factors program, in particular EPA's *Compilation of Air Pollutant Emission Factors* (AP-42), needs to be updated and improved, EFPAG interviewed and surveyed a variety of emissions factors users. This report summarizes the findings from this effort. Following are the major recommendations from the emissions factors users:

- A more open and less cumbersome process needs to be established that allows interested parties to assist in the improvement and development of emissions factors.
- The format of AP-42 should be updated along with the methods for accessing the factors and associated documentation.
- Guidance is needed to help users select the most appropriate factor; understand how to consider uncertainties when using factors; and gather data to estimate emissions when a factor is not available. Guidance is also needed on applying emissions factors in permitting and enforcement applications.
- Existing emissions factors should be updated and more factors are needed where gaps currently exist. In many cases, the new factors requested were related to more speciation (particle size for PM, specific chemicals for air toxics and VOCs). Attention also needs to be given to the development of regional factors and factors for unique events and circumstances.

The list of areas where the respondents recommend improvement is long. However, many individuals and groups providing input indicated a willingness to become stakeholders in efforts to improve the emissions factors program.

The primary next step in the renovation of the emissions factors program is to take advantage of the respondents' willingness to participate by organizing and carrying out a stakeholder engagement effort. In order to ensure the optimum short- and long-term cooperation and involvement, these stakeholders need to be involved early in the planning. In particular, it will be very important that these stakeholders provide input and accept responsibilities in outlining the new process for developing and improving emissions factors.

While a strong stakeholder involvement effort is the principal step that should be pursued, there were several suggestions made by the respondents that could be initiated immediately by EFPAG as stakeholder engagement activities are being planned. These include:

- Evaluate current software and internet tools.
- Develop an electronic test report submittal and review process.
- Develop draft methods for assessing and classifying the quality of emissions factors data.
- Conduct internal brainstorming of aspects of the program that can be streamlined.
- Evaluate the needs and issues associated with the use of emissions factors in permitting and enforcement.
- Assess the elements of the emissions factors program that are candidates for outsourcing or delegation to non-EMAD stakeholders.

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## 1.0 Introduction

This section provides an overview of the emissions factors survey project. It discusses the project history, the project rationale, and the analysis methodology.

Quantifying air emissions is a vital aspect of all air pollution programs. Regulatory authorities and others use emissions values in developing emissions inventories, identifying and evaluating control strategies, determining applicability of permit and regulatory requirements, assessing risks, and a variety of other applications. In an ideal situation, all emissions data users would derive values from emissions tests, continuous emissions monitoring data, or mass balances or other detailed engineering calculations. These methods are time- and resource-intensive, so users often do not have data sufficient to allow detailed site-specific emissions determinations. Without such data, emissions factors, which are representative annual average values that relate the quantity of a pollutant emitted with an activity associated with the release of that pollutant, are frequently the best or only method available for emissions determinations.

EPA's Office of Air Quality Planning and Standards (OAQPS) has long recognized the importance of emissions factors in implementing the air program. OAQPS has devoted energy and resources on developing and documenting emissions factors for use in applications focused almost entirely on emissions inventories and modeling. The primary emissions factors tool is the *Compilation of Air Pollutant Emission Factors*, or AP-42. There are two volumes of AP-42: Volume I contains emissions factors for stationary point and area sources and Volume II contains factors for mobile sources. The Emission Factor and Inventory Group (EFIG) of OAQPS's Emissions Monitoring and Analysis Division (EMAD) has historically been responsible for Volume I.

In 2003, EMAD undertook an assessment of groups and associated responsibilities. As a result of this assessment, the Emissions Factors and Policy Application Group (EFPAG) undertook the challenge of revamping the emissions factors program. This group formed a team to take a fresh look at the emissions factors program and the direction for its future. This team embarked on an

information gathering effort to obtain opinions, information, and suggestions on the status of the emissions factors program and how to improve it and AP-42. Another goal of this effort was to identify potential stakeholders who may be interested in participating in emissions factors program improvement projects.<sup>1</sup>

This document summarizes that effort. Following this introduction, Section 2 describes the information gathering process in more detail, and Section 3 summarizes the findings. Section 4 provides more information on the level of interest of those individuals and groups in future participation in the emissions factors program. Section 5 contains the major conclusions and next steps resulting from the recommendations of the emissions factors users.

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<sup>1</sup>In a separate, independent effort, the State and Territorial Air Pollution Program Administrators/ Association of Local Air Pollution Control Officers (STAPPA/ALAPCO) conducted its own survey on emissions factors.

## 2.0 Information Gathering Approach

The members of the EFPAG emissions factors improvement team decided to gather information from AP-42 users to help guide EFPAG in focusing efforts to improve the program. Specifically, the goal of the information gathering effort was to learn the following from users of AP-42 and other emissions factors:

- How emissions factors are used generally;
- What's working and what's not working in using emissions factors;
- Major areas for further exploration;
- Who the major stakeholders are and what their issues are;
- The user community's view of the emissions factors development process;
- How the military and other government facilities' needs in permitting and source monitoring are being met by the emissions factors program; and
- What interest there is in improving and developing new emissions factors or developing alternative emissions quantification procedures.

The desire was to obtain input from as many different types of emissions factors users as possible. The team identified the following types of people and organizations from whom they wished to solicit input:

- Individuals or groups who actively use emissions factors and care about improving the program;
- Individuals or groups with whom the team already has relationships;
- Individuals or groups who are frustrated with the program and no longer use emissions factors;
- Individuals or groups who have gone above and beyond using emissions factors; and
- Individuals on the management level.

They also wanted to ensure that the individuals or groups represent a broad cross-section of types of emissions factors uses (e.g., permitting, emission inventories, enforcement).

Using the criteria defined, the team created a list of groups and individuals from whom they wanted to obtain information. In general, this list included representatives from other EMAD groups, the three other OAQPS divisions, EPA Regional offices, other (non-OAQPS) EPA offices, other Federal agencies, State agencies, local agencies, regional planning and other state/local organizations, industry and industry trade organizations, and environmental advocacy groups. Table 1 summarizes the individuals and groups contacted in this information gathering effort. In total, 94 interviews and surveys were conducted by EFPAG in this effort. Appendix A identifies the EFPAG staff who conducted the interviews or other surveying for the particular individuals or groups.

These interviews primarily consisted of face-to-face meetings and telephone conference calls. In some instances, an individual or organization contacted by EFPAG staff forwarded the survey and/or solicited input from other individuals and reported the responses back to EFPAG. Specific questions were used to start the conversation and engage the interviewees. The specific questions were the following:

1. How do you or your constituents use emissions factors (e.g., inventories, permit applicability, compliance)?
2. Are the emissions factors you or your constituents use derived from EPA's AP-42 or other data sources? What are those other sources?
3. Do you use emissions factors from sources other than AP-42 because AP-42 does not provide factors for your source type or for other reasons?
4. To what extent does the use of emissions factors satisfy the needs of the military or other government facilities in your area or constituency in obtaining and complying with operating, NSR, or other permits and in meeting emissions monitoring needs?
5. Do you or your constituents provide data to EPA for developing emissions factors? What about the process for developing EPA emissions factors enhances or inhibits your participation?

6. Have you, your constituents, or others proposed to use emissions quantification procedures other than emissions factors? If so, why and what were those procedures?
7. Have you, your constituents, or others imposed or had imposed on you the use of emissions factors when there may have been other procedures providing more representative results?
8. If EPA decided not to update AP-42 again, what would your reaction be?
9. Would you consider more direct involvement in an effort to improve emissions factors or in developing appropriate alternatives to emissions quantification by emissions factors? If so, what level of involvement would that be?

Responses from these interviews, along with written responses by some groups and individuals not interviewed, were entered into a Microsoft Access database that was generally organized according to the nine questions listed above. As these questions were only a guide and not always asked directly, the interviews also solicited opinions on other topics. Two such recurring themes were emissions factors data quality and applications guidance. Two categories were added to the database to house comments related to these areas. Miscellaneous comments that did not answer one of the questions or fit into these other two categories were entered into a general category. Appendix B lists and describes the fields in the database. Appendix C contains the detailed entries organized according to question/category. Appendix C also contains a complete list of the individual interviews/surveys conducted.

**Table 1. Summary of Contacts to Gather Emissions Factors Information**

| <b>Respondent Type</b>                   | <b>Number of Interviews/ Contacts<sup>†</sup></b> | <b>Specific Agencies/Groups Contacted</b>   |
|--|---|---|
| U.S. Environmental Protection Agency     | 25  | EMAD/AQMG, AQSSD, ESD, ITPID, Region 1, Region 5, Region 6, Region 9, Region 10, Office of Enforcement and Compliance Assurance, Clean Air Markets Division, Climate Protection Partnership Division  |
| Other (non-EPA) Federal Agencies         | 3   | Department of Defense, Department of Agriculture, Forest Service  |
| State Agencies                           | 32  | South Carolina, Delaware, Pennsylvania, North Carolina, Minnesota, New Hampshire, Massachusetts, Maine, Vermont, Georgia, Florida, Washington, Oregon, Mississippi, Vermont, Virginia, Texas, Washington, New Jersey, Nebraska, Arizona, Colorado, Illinois, Indiana, California, Michigan, Wisconsin, Minnesota  |
| Local Agencies                           | 16  | Monterrey Bay Unified Air Pollution Control District (CA), Seattle Port Authority (WA), Lane County Regional Air Pollution Authority (OR), Port of Portland Authority (OR), Portland International Airport (OR), City of Jacksonville (FL), Puget Sound Clean Air Agency (WA), Sacramento Metropolitan Air Quality Management District (CA), Ventura County Air Pollution Control District (CA), Polk County Air Quality (IA), Allegheny County Air Quality Program (PA), Air Management Division of the Environmental Protection Commission, Hillsborough County (FL), Lincoln-Lancaster County Health Department (NE), Bay Area Air Quality Management District (CA), South Coast Air Quality Management District (CA), City of Houston (TX), City of Philadelphia (PA) |
| Planning and Environmental Organizations | 6   | STAPPA/ALAPCO, Sierra Club, Earth Justice, NRDC, National Environmental Trust, Frederick Law, Galveston and Houston Association for Smog Control, NESCAUM, WESTAR, Institute for Tribal Environmental Professionals, Coke Oven Environmental Task Force   |

**Table 1. Summary of Contacts to Gather Emissions Factors Information**

| <b>Respondent Type</b>    | <b>Number of Interviews/ Contacts<sup>†</sup></b> | <b>Specific Agencies/Groups Contacted</b>   |
|---------------------------|---|---|
| Industry                  | 13  | American Coke and Coal Chemicals Institute, National Oilseed Processors Association, TRC, Clean Air Implementation Project (Procter and Gamble, El Paso Corporation, ExxonMobil, Dow Chemical), NEDA/CARP, Georgia Pacific, Bridgewater Group, Reliant Energy, DaimlerChrysler, Huntsman Oil, Texas Petrochemicals, Texas Eastman, Taconite Mining Industry |
| Unknown <sup>‡</sup>      | 2   |   |
| <b>Total<sup>†‡</sup></b> | <b>94</b>   |   |

† There is not a one-to-one correspondence between the number of interview/contacts and the number of agencies. In some instances, multiple individuals or groups from the same Agency were interviewed, resulting in more than one interview/contact. For instance, there were six different interviews with representatives of the Texas Commission on Environmental Quality. Two of these were with individual managers, one was with representatives from their Mobile Emissions Group, one with representatives from their Air Permits Group, one with representatives from their Emissions Inventory Division, and one with representatives from the Houston Regional Office. In other instances, one interview included numerous individuals from various organizations (see footnote †‡ below).

‡ Two interview summaries were received that did not identify the individual interviewed or the organization that the individual represented.

†‡ There were 94 separate interviews/contacts conducted. This included three conference call interviews with EPA Regional offices that also included individuals representing state and local agencies. For instance, the interview with EPA Region 1 also included representatives from four Region 1 states. In the table, this interview was counted under both EPA and State Agency. Therefore, the sum of the numbers in the center column is greater than 94.

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### **3.0 Summary of Results**

As discussed in Section 2, the responses to the interviews and surveys were originally organized according to the questions asked and other recurring topics. A more in-depth review of these responses showed that they could be grouped in the following basic topic areas:

- Stakeholder involvement;
- Emissions factors application guidance;
- Activity data issues;
- Specific emissions factors;
- The concept of AP-42;
- Prioritization of efforts and resources;
- Process for developing and improving factors;
- Format and accessibility;
- Emissions factors data quality; and
- Special emissions factors.

The remainder of this section provides summaries of the respondents' comments and opinions organized according to these topics. The first four topic areas listed are discussed in Sections 3.1 through 3.4, with each section being dedicated to one topic. Because there were fewer comments on the last six topic areas listed above than for the first four, they are combined in Section 3.5.

#### **3.1 Stakeholder Involvement**

One of the key goals of this effort was to identify potential stakeholders who would be willing to participate in the effort to improve the emissions factors program and AP-42. There was considerable interest by respondents with a wide variety of affiliations who indicated a willingness, even an eagerness, to participate with the EPA in such efforts. Section 4 provides a detailed discussion of the responses related to potential participation in future emissions factors improvement efforts.

### **3.2 Emissions Factors Guidance Needed**

The respondents indicated a need for guidance related to emissions factors usage for inventory and non-inventory applications. The general types of guidance suggested were related to both selecting and using factors and to communicating emissions estimates calculated from factors. The following is a brief summary of the areas where the respondents indicated guidance is needed. See Table 2 for a detailed summary of their comments in this topic.

Three specific areas in which the respondents reported the desire to use emissions factors are in permitting, enforcement, and emissions inventory development. The respondents rely on emissions factors in these areas, but they were concerned that procedures for applying emissions factors are used inconsistently. Others noted the emissions factors are applied inappropriately in some instances. Therefore, several respondents requested that EPA develop guidance on the use of emissions factors for these three air pollution program areas.

The respondents also expressed uncertainty in how to select the most appropriate factor for a specific application and asked that guidance be developed to aid in this process. These requests also extended to what to do when an emissions factor is not available for a particular application. They would like guidance on how to ascertain the type and level of data needed to generate new emissions factors and how to obtain these data. This includes guidance on ordering and overseeing emissions tests designed to develop emissions factors.

The respondents recognized the uncertainties associated with emissions estimates generated through the use of emissions factors. They voiced a concern related to how to consider uncertainty data when applying emissions factors in certain situations and how to report emissions to reflect uncertainties. They asked for guidance to address the use of caveats, ranges, and other methods to recognize these uncertainties.

**Table 2. Summary of Comments Related to Emissions Factors Guidance**

| Specific Comment   | Respondent Type                     | Respondent   |
|--|-------------------------------------|--|
| <i>Guidance on what to do when there is no factor or when you want to use testing to develop or supplement a factor</i>  |                                     |  |
| Guidance needed for what to do in absence of an emissions factor for a process or source category.   | EPA                                 | EPA Office of Enforcement and Compliance Assurance   |
| It's very difficult for State or local agencies to order emissions tests to fill gaps in AP-42. Would like guidance from EPA for new emissions factors or for procedures for filling gaps.   | State Agency<br>Local Agency<br>EPA | State of South Carolina<br>State of Delaware<br>State of Pennsylvania<br>State of North Carolina<br>State of Minnesota<br>City of Philadelphia<br>Allegheny County<br>EPA Region 3 |
| Need guidance for test methods to use when data are not available.   | EPA<br>Industry                     | EPA Climate Protection Partnerships Division<br>American Coke and Coal Chemicals Institute<br>TRC  |
| Would like guidance and criteria for using data from industry-derived testing.   | Industry                            | TRC  |
| Need guidance on which test methods should be used with the emissions factors or which test methods were used to derive it.  | Industry                            | TRC  |
| Would like to have better information on what is required to provide oversight of source tests (sight observation, QA evaluation, etc.). Also, tools that would help in the review and observation of source tests and monitoring. | Local Agency                        | City of Houston  |

**Table 2. Summary of Comments Related to Emissions Factors Guidance**

| Specific Comment  | Respondent Type   | Respondent  |
|---|---|---|
| <i>Guidance on selecting the most appropriate factor or other data to use</i>   |   |   |
| Need more explicit guidance on when methods that are better than emissions factors should be used, or when use of emissions factors is not appropriate.   | State Agency<br>EPA<br>Industry<br>Federal Government<br>Environmental<br>Advocacy Groups | Texas Commission on Environmental Quality<br>Texas Commission on Environmental Quality – Emissions Inventory Division<br>EPA Office of Enforcement and Compliance Assurance<br>EPA Clean Air Markets Division<br>EPA Region 10<br>Climate Protection Partnerships Division<br>Clean Air Implementation Project (Procter and Gamble, El Paso Corporation, ExxonMobil, Dow Chemical)<br>American Coke and Coal Chemicals Institute<br>Department of Defense<br>Several environmental advocacy groups (Sierra Club, Earth Justice, NRDC, et al.) |
| There would not be a significant problem with having a different emissions factor (for different purposes) or a range for the emissions factors if there were adequate guidance on their uses.  | State Agency  | Texas Commission on Environmental Quality<br>Texas Commission on Environmental Quality – Emissions Inventory Division   |
| Emissions factors ranges set up diametric opposition between the regulated source and the regulating agency because the source selects the low end of the range and the agency would rather use the upper end of the range. There appears to be less acceptance of different emission factors for different purposes. | Local Agency  | Bay Area Air Quality Management District  |
| Need better instructions, disclaimers, and protocols.   | State Agency<br>EPA   | State of Georgia<br>State of Florida<br>EPA Region 4  |
| Need guidance on selection process.   | State Agency<br>EPA   | State of Maine<br>State of New Hampshire<br>State of Vermont<br>State of Massachusetts<br>EPA Region 1  |

**Table 2. Summary of Comments Related to Emissions Factors Guidance**

| <b>Specific Comment</b>  | <b>Respondent Type</b>  | <b>Respondent</b>   |
|--|---|---|
| Would like more information on how the emissions factors were derived to help them evaluate emissions factors from trade associations.       | State Agency  | Texas Commission on Environmental Quality   |
| <i>Guidance on using emissions factors in inventory development</i>  |   |   |
| Need guidance clarifying how emissions factors should be used for inventories (in associated data, such as activity data and fuel use).      | EPA<br>Planning and Environmental Organization                  | EPA Region 5<br>NESCAUM   |
| Need to coordinate guidance for inventory development with inventory development schedule.   | State Agency<br>Local Agency<br>EPA                             | State of South Carolina<br>State of Delaware<br>State of Pennsylvania<br>State of North Carolina<br>State of Minnesota<br>City of Philadelphia<br>Allegheny County<br>EPA Region 3                                |
| <i>Guidance on using emissions factors for permitting and enforcement</i>  |   |   |
| Need guidance as to when it is appropriate to base or enforce permit and enforcement limits with emissions factors.                          | Federal Government<br>Environmental Advocacy Groups<br>Industry | Department of Defense<br>Several environmental advocacy groups (Sierra Club, Earth Justice, NRDC, et al.)<br>Clean Air Implementation Project (Procter and Gamble, El Paso Corporation, ExxonMobil, Dow Chemical) |
| Guidance needed for use of QA/QC data in site-specific applicability determinations.   | Industry  | American Coke and Coal Chemicals Institute  |
| Need guidance on how to interpret permit and enforcement limits and compliance if an AP-42 emissions factor changes.                         | Industry  | NEDA/CARP<br>Clean Air Implementation Project (Procter and Gamble, El Paso Corporation, ExxonMobil, Dow Chemical)   |
| Need general guidance for using emissions factors for site-specific applications.  | Industry  | American Coke and Coal Chemicals Institute  |
| Emissions factors are averages, but permitting authorities do not want emissions from one source at any one time above the industry average. | Industry  | Clean Air Implementation Project (Procter and Gamble, El Paso Corporation, ExxonMobil, Dow Chemical)  |

**Table 2. Summary of Comments Related to Emissions Factors Guidance**

| <b>Specific Comment</b>   | <b>Respondent Type</b>   | <b>Respondent</b>  |
|---|--|--|
| Permitting authorities ignore guidance on emissions factors ratings.  | Industry   | TRC  |
| Emissions factors as they are now should not be used to establish short term (e.g., 1 hour) emission limits.  | Planning and Environmental Organization  | Coke Oven Environmental Task Force   |
| Need an incentive to limit the use of emissions factors for site-specific applicability and compliance.   | EPA<br>Industry  | EPA Office of Enforcement and Compliance Assurance<br>TRC  |
| <b><i>Guidance on taking into account uncertainty in emissions factors</i></b>  |  |  |
| AP-42 should include some guidance on using emissions factors uncertainty values (taking into account imprecision and emissions variability) for inventories, permit and enforcement fee calculations, applicability, and compliance. | State Agency<br>Local Agency<br>EPA<br>Planning and Environmental Organization<br>Industry | State of South Carolina<br>State of Delaware<br>State of Pennsylvania<br>State of North Carolina<br>State of Minnesota<br>City of Philadelphia<br>Allegheny County<br>EPA Region 3<br>NESCAUM<br>TRC |
| <b><i>Guidance to help the public understand emissions factors</i></b>  |  |  |
| Need guidance for the public on understanding the process for establishing permit and enforcement limits, demonstrating compliance, and emissions quantification procedures so they may make informed comments.                       | Planning and Environmental Organization  | Several environmental advocacy groups (Sierra Club, Earth Justice, NRDC, et al.)   |
| Need guidance for quantifying site-specific emissions for reporting purposes.   | Planning and Environmental Organization  | Several environmental advocacy groups (Sierra Club, Earth Justice, NRDC, et al.)   |

Finally, the respondents expressed a need for guidance to help inform and educate the public on how emissions factors are used and how to understand and interpret emission estimates generated with emissions factors. This guidance should particularly address emissions estimates that the public may see in permits, enforcement actions, and site-specific emissions estimates.

### **3.3 Activity Data Issues**

The respondents raised issues related to activity data. They stated that some emissions factors are in units for which the activity data needed cannot be easily measured, or for which the activity data is very costly to obtain. The respondents requested that the activity data and equations used to develop emissions factors be in practicable, usable units. Also, the respondents commented that EPA did not provide enough information to allow them to improve activity data. For example, some of the respondents stated that the emissions inventory data they received from the EPA were not clear on the origin of the activity data and how they could obtain more detailed information to improve the activity data supplied in the National Emissions Inventory. The respondents requested that EPA research ways to generate more activity data. Lastly, the respondents noted a lack of access to activity data. They suggested that EPA develop a clear method of communication related to activity data via the internet and through specific contacts. Table 3 provides a detailed summary of the respondents' comments on this topic.

### **3.4 Specific Emissions Factors**

Overall, the respondents proposed over 130 emissions factors or groups of emissions factors that they believe need to be developed or revised. Many respondents provided specific suggestions (e.g., a specific chemical/group of chemicals from a specific type of source); however, many of the emissions factors suggested were more general. For example, some respondents requested creating emissions factors for a specific chemical across all source types while others want EPA to create emissions factors for a specific source type across all chemicals produced by that source type. Table 4 lists the emissions factors (by chemical/group of chemical and source) that were identified as needing to be improved or developed.

**Table 3. Summary of Comments Related to Activity Data**

| <b>Emissions Factor</b>  | <b>Issue</b>   | <b>Respondent Type</b> | <b>Respondent</b>   |
|--------------------------|--|------------------------|---|
| Residential wood burning | Need activity data.  | Local Agency<br>EPA    | Puget Sound Clean Air Agency<br>EPA Region 5  |
| Chrome plating           | Equation needs to be adjusted to be more practical.  | Local Agency           | South Coast Air Quality Management District (California)                                |
| Chrome plating           | Equation, cannot get intensity number (power/surface area). Use plating efficiency instead of intensity. | Local Agency           | South Coast Air Quality Management District (California)                                |
| General                  | Need to know a contact for activity data.  | State Agency           | Texas Commission on Environmental Quality – Mobile Emissions Group                      |
| General                  | Need to know if a website is available for activity data.  | State Agency           | Texas Commission on Environmental Quality – Mobile Emissions Group                      |
| General                  | Consistency of the units used in AP-42 is a problem.   | State Agency           | Michigan Department of Environmental Quality  |
| General                  | Units used in AP-42 are sometimes not commonly-used or useful units.                                     | State Agency           | Wisconsin Department of Natural Resources<br>Oregon Department of Environmental Quality |
| General                  | Obtaining good activity data is a problem.   | State Agency           | Michigan Department of Environmental Quality  |



**Table 4. Summary of Specific Emissions Factors  
That Respondents Indicated Need to be Improved or Updated**

| Emissions Factor                   |                                   | Respondent Type  | Respondent   |
|------------------------------------|-----------------------------------|--|--|
| Chemical/<br>Group of<br>Chemicals | Source                            |  |  |
| PM <sub>10</sub>                   | Cooling towers                    | State Agency   | Texas Commission on Environmental Quality – General  |
| PM <sub>10</sub>                   | Paved and unpaved roads           | Federal Agency<br>Industry                                 | Department of Defense<br>Department of Defense Contractors   |
| PM <sub>10</sub>                   | Livestock                         | Federal Agency   | USDA   |
| PM <sub>10</sub>                   | Chemical fertilizers              | Federal Agency   | USDA   |
| PM <sub>10</sub>                   | Seasonal                          | EPA  | Air Quality Strategies and Standards Division (AQSSD)  |
| PM <sub>2.5</sub>                  | Combustion                        | State Agency<br>EPA  | State of New Hampshire<br>State of Massachusetts<br>State of Maine<br>State of Vermont<br>EPA Region 1 |
| PM <sub>2.5</sub>                  | Paved and unpaved roads           | Federal Agency<br>Industry                                 | Department of Defense<br>Department of Defense Contractors   |
| PM <sub>2.5</sub>                  | Livestock                         | Federal Agency   | USDA   |
| PM <sub>2.5</sub>                  | Chemical fertilizers              | Federal Agency   | USDA   |
| PM <sub>2.5</sub>                  | Direct emissions for inventories  | EPA  | Air Quality Strategies and Standards Division (AQSSD)  |
| PM                                 | Material handling operations      | Industry   | TRC  |
| PM                                 | Ammonia and Organics contribution | EPA  | Air Quality Strategies and Standards Division (AQSSD)  |
| PM                                 | Burning of tires (rates)          | State Agency   | California Air Resources Board   |
| PM                                 | All sources                       | EPA<br>Planning and Environmental Organization<br>Industry | EPA Region 10<br>NESCAUM<br>TRC  |

**Table 4. Summary of Specific Emissions Factors  
That Respondents Indicated Need to be Improved or Updated**

| Emissions Factor                   |                                      | Respondent Type  | Respondent  |
|------------------------------------|--------------------------------------|--|---|
| Chemical/<br>Group of<br>Chemicals | Source                               |  |   |
| Road dust                          | Paved roads                          | Local Agency<br>Federal<br>Government<br>Industry                                    | Bay Area Air Quality Management District<br>(California)<br>Department of Defense<br>Department of Defense Contractors  |
| Heavy metals                       | Mobile sources                       | State Agency   | Oregon Department of Environmental Quality  |
| Heavy metals                       | Natural gas<br>combustion            | State Agency<br>Local Agency<br>EPA<br>Planning and<br>Environmental<br>Organization | State of South Carolina<br>State of Delaware<br>State of Pennsylvania<br>State of North Carolina<br>State of Minnesota<br>City of Philadelphia<br>Allegheny County<br>Puget Sound Clean Air Agency<br>EPA Region 3<br>NESCAUM |
| Mercury                            | Pulp and paper<br>sources            | State Agency   | Oregon Department of Environmental Quality –<br>General staff, special projects   |
| Mercury                            | Compressor stations                  | State Agency   | Oregon Department of Environmental Quality –<br>General staff, special projects   |
| Mercury                            | Steel mills                          | State Agency<br>Planning and<br>Environmental<br>Organization                        | Oregon Department of Environmental Quality –<br>General staff, special projects<br>NESCAUM  |
| Mercury                            | Solid waste<br>incinerators          | State Agency   | Oregon Department of Environmental Quality –<br>General staff, special projects   |
| Mercury                            | Mobile sources<br>(need consistency) | State Agency<br>EPA  | Oregon Department of Environmental Quality –<br>General staff, special projects<br>EPA Clean Air Markets Division   |
| Mercury                            | Fire                                 | State Agency   | Oregon Department of Environmental Quality –<br>General staff, special projects   |
| Mercury                            | Crematoriums                         | State Agency   | Oregon Department of Environmental Quality –<br>General staff, special projects   |

**Table 4. Summary of Specific Emissions Factors  
That Respondents Indicated Need to be Improved or Updated**

| <b>Emissions Factor</b>                     |                        | <b>Respondent Type</b>            | <b>Respondent</b>  |
|---|------------------------|-----------------------------------|--|
| <b>Chemical/<br/>Group of<br/>Chemicals</b> | <b>Source</b>          |                                   |  |
| Mercury                                     | Combustion             | State Agency<br>EPA               | State of New Hampshire<br>State of Massachusetts<br>State of Maine<br>State of Vermont<br>EPA Region 1 |
| Mercury                                     | Electric arc furnaces  | State Agency                      | Michigan Department of Environmental Quality   |
| Mercury                                     | All sources            | State Agency                      | Oregon Department of Environmental Quality   |
| Lead  | All sources            | State Agency                      | Oregon Department of Environmental Quality   |
| Nickel                                      | All sources            | EPA                               | EPA Air Quality Modeling Group   |
| Toxic metals                                | Combustion             | State Agency<br>EPA               | State of New Hampshire<br>State of Massachusetts<br>State of Maine<br>State of Vermont<br>EPA Region 1 |
| Toxic metals                                | Plating (non-chromium) | Federal<br>Government<br>Industry | Department of Defense<br>Department of Defense contractors<br>TRC                                      |
| Toxic metals                                | General                | EPA                               | Emission Standards Division (Sally Shaver and Penny Lassiter)<br>EPA Region I Permitting Office        |
| Formaldehyde                                | Combustion sources     | State Agency<br>Industry<br>EPA   | Oregon Environmental Council<br>TRC<br>EPA Region 1 Permitting Office                                  |
| Chlorine                                    | Cooling towers         | State Agency                      | Texas Commission on Environmental Quality – General  |
| Chloroform                                  | Cooling towers         | State Agency                      | Texas Commission on Environmental Quality – General  |
| Hypochloride                                | Cooling towers         | State Agency                      | Texas Commission on Environmental Quality – General  |
| Ammonia                                     | Animal feed operations | EPA<br>Federal<br>Government      | EPA Emission Standards Division (Sally Shaver and Penny Lassiter)<br>USDA                              |

**Table 4. Summary of Specific Emissions Factors  
That Respondents Indicated Need to be Improved or Updated**

| Emissions Factor                   |  | Respondent Type                                     | Respondent   |
|------------------------------------|--|---|--|
| Chemical/<br>Group of<br>Chemicals | Source   |   |  |
| Ammonia slip                       | Livestock and Concentrated Animal Feedlots (CAFOs) | EPA   | EPA Air Quality Modeling Group   |
| Ammonia slip                       | Selective catalytic reduction                      | EPA   | EPA Air Quality Modeling Group   |
| Ammonia slip                       | Startup & Shutdown, all sources                    | Industry  | Reliant Energy   |
| Ammonia slip                       | All sources  | State Agency<br>EPA                                 | State of New Hampshire<br>State of Massachusetts<br>State of Maine<br>State of Vermont<br>EPA Region 1<br>EPA Region 5 |
| Formaldehyde                       | Turbines   | Planning and Environmental Organization<br>Industry | Several environmental advocacy groups (Sierra Club, Earth Justice, NRDC, et al.)<br>Reliant Energy                     |
| Dioxins                            | All sources  | State Agency<br>EPA                                 | Oregon Environmental Council<br>EPA Air Quality Modeling Group   |
| Furans                             | All sources  | EPA   | EPA Emission Standards Division  |
| PBTs                               | All sources  | State Agency  | Oregon Environmental Council   |
| Hexane                             | Turbines   | Planning and Environmental Organization<br>Industry | Several environmental advocacy groups (Sierra Club, Earth Justice, NRDC, et al.)<br>Reliant Energy                     |
| Benzene                            | All sources  | State Agency  | Oregon Environmental Council   |
| Acrolein                           | All sources  | State Agency<br>Industry                            | Oregon Environmental Council<br>TRC  |
| Polyaromatic hydrocarbons (PAHs)   | All sources  | EPA   | EPA Air Quality Modeling Group   |
| Speciated HAP                      | Refineries   | EPA   | EPA Region 6   |
| HAP                                | Aircraft engines                                   | Industry  | Department of Defense Contractors  |

**Table 4. Summary of Specific Emissions Factors  
That Respondents Indicated Need to be Improved or Updated**

| Emissions Factor                   |  | Respondent Type     | Respondent   |
|------------------------------------|--|---------------------|--|
| Chemical/<br>Group of<br>Chemicals | Source                                     |                     |  |
| HAP                                | Speciation for area sources                | EPA                 | EPA Region 6   |
| Toxics                             | Landfill combustion                        | Local Agency        | South Coast Air Quality Management District  |
| Toxics                             | Burn rates for tools                       | State Agency        | California Air Resources Board   |
| Toxics                             | Burn rates for tires                       | State Agency        | California Air Resources Board   |
| Solvents                           | All sources                                | EPA                 | EPA Air Quality Modeling Group   |
| Epoxies and resins                 | Boat building                              | EPA                 | EPA Region 1   |
| Low sulfur diesel emissions        | Commercial sea vessels                     | Local Agency        | Puget Sound Clean Air Agency   |
| NO <sub>x</sub>                    | Diesel                                     | State Agency<br>EPA | State of New Hampshire<br>State of Massachusetts<br>State of Maine<br>State of Vermont<br>EPA Region 1 |
| NO <sub>x</sub>                    | Combined cycle turbines                    | EPA                 | EPA Region 1   |
| SO <sub>x</sub>                    | Startup & Shutdown, all sources            | Industry            | Reliant Energy   |
| VOC                                | Startup and shutdown                       | Industry            | Reliant Energy   |
| VOC                                | Fugitive emissions from oil and gas fields | EPA                 | EPA Climate Protection Partnerships Division   |
| VOC                                | Aerospace Applications                     | EPA                 | EPA Region 1   |
| VOC                                | Pesticide production                       | State Agency        | Texas Commission on Environmental Quality – Mobile Emissions Group                                     |
| VOC                                | Herbicide production                       | State Agency        | Texas Commission on Environmental Quality  |

**Table 4. Summary of Specific Emissions Factors  
That Respondents Indicated Need to be Improved or Updated**

| <b>Emissions Factor</b>                     |  | <b>Respondent Type</b>   | <b>Respondent</b>   |
|---|--|--|---|
| <b>Chemical/<br/>Group of<br/>Chemicals</b> | <b>Source</b>  |  |   |
| VOC   | Stage 2 operations<br>(gasoline vapor recovery)              | EPA  | EPA Air Quality Strategies and Standards Division   |
| VOC   | Non-attainment areas   | State Agency   | Texas Commission on Environmental Quality   |
| VOC   | Area sources   | State Agency<br>EPA<br>Planning and Environmental Organization | State of New Hampshire<br>State of Massachusetts<br>State of Maine<br>State of Vermont<br>EPA Region 1<br>NESCAUM |
| Speciated VOC                               | Percolation through soil                                     | State Agency   | Texas Commission on Environmental Quality – Mobile Emissions Group  |
| Speciated VOC                               | Internal combustion engines                                  | State Agency   | Texas Commission on Environmental Quality   |
| Speciated VOC                               | External combustion engines                                  | State Agency   | Texas Commission on Environmental Quality   |
| Speciated VOC                               | Coal (Lignite, sub-bituminous and petroleum coke) combustion | State Agency   | Texas Commission on Environmental Quality   |
| Speciated VOC                               | Coal-fired power plants                                      | State Agency   | Texas Commission on Environmental Quality – Emissions Inventory Division  |
| Condensable emissions                       | Asphalt plants   | State Agency<br>EPA  | State of New Hampshire<br>State of Massachusetts<br>State of Maine<br>State of Vermont<br>EPA Region 1            |
| All pollutants                              | Paved roads  | Local Agency   | Lane County Regional Air Pollution Authority  |
| All pollutants                              | Alternative fuels  | Local Agency<br>Federal Agency<br>Industry                     | Lane County Regional Air Pollution Authority<br>Department of Defense<br>Department of Defense Contractors        |

**Table 4. Summary of Specific Emissions Factors  
That Respondents Indicated Need to be Improved or Updated**

| <b>Emissions Factor</b>                     |   | <b>Respondent Type</b>  | <b>Respondent</b>  |
|---|---|---|--|
| <b>Chemical/<br/>Group of<br/>Chemicals</b> | <b>Source</b>                                       |   |  |
| All pollutants                              | Use of alternative fuels at wood product facilities | Local Agency  | Lane County Regional Air Pollution Authority   |
| All pollutants                              | Wood products                                       | EPA   | EPA Region 10  |
| All pollutants                              | Cement plants                                       | State Agency<br>Planning and<br>Environmental<br>Organization | Texas Commission on Environmental Quality<br>NESCAUM   |
| All pollutants                              | Coke ovens  | State Agency<br>Local Agency<br>EPA<br>Industry               | State of South Carolina<br>State of Delaware<br>State of Pennsylvania<br>State of North Carolina<br>State of Minnesota<br>City of Philadelphia<br>Allegheny County<br>EPA Region 3<br>American Coke and Coal Chemicals Institute |
| All pollutants                              | Ore transfer  | Industry  | Taconite Mining Industry   |
| All pollutants                              | Coal slag piles                                     | State Agency  | Texas Commission on Environmental Quality  |
| All pollutants                              | Limestone from nonmetallic mining                   | State Agency  | Wisconsin Department of Natural Resources –<br>Bureau of Air Management  |
| All pollutants                              | Regional values for rock crushing                   | State Agency<br>EPA   | State of New Hampshire<br>State of Massachusetts<br>State of Maine<br>State of Vermont<br>EPA Region 1   |
| All pollutants                              | Silt loading  | State Agency  | Oregon Department of Environmental Quality –<br>General Staff  |
| All pollutants                              | Materials handling                                  | State Agency<br>EPA<br>Local Agency                           | State of New Hampshire<br>State of Massachusetts<br>State of Maine<br>State of Vermont<br>EPA Region 1<br>Air Management Division of Environmental<br>Protection Commission, Hillsborough County<br>(Tampa), Florida             |

**Table 4. Summary of Specific Emissions Factors  
That Respondents Indicated Need to be Improved or Updated**

| <b>Emissions Factor</b>                     |  | <b>Respondent Type</b>                  | <b>Respondent</b>  |
|---|--|---|--|
| <b>Chemical/<br/>Group of<br/>Chemicals</b> | <b>Source</b>  |   |  |
| All pollutants                              | Foundries (casting lines)                                  | EPA                                     | EPA Region 5   |
| All pollutants                              | Foundries testing  | State Agency                            | State of Minnesota   |
| All pollutants                              | Silicon smelters   | Local Agency                            | Lane Regional Air Pollution Authority  |
| All pollutants                              | Steel mills  | State Agency                            | Texas Commission on Environmental Quality  |
| All pollutants                              | Fossil-fueled (coal) power plants                          | State Agency<br>Local Agency<br>EPA     | State of South Carolina<br>State of Delaware<br>State of Pennsylvania<br>State of North Carolina<br>State of Minnesota<br>City of Philadelphia<br>Allegheny County<br>EPA Region 3 |
| All pollutants                              | Oil and gas transport from wells                           | State Agency                            | Texas Commission on Environmental Quality – Mobile Emissions Group   |
| All pollutants                              | Loading/Unloading  | State Agency                            | Texas Commission on Environmental Quality – Emissions Inventory Division   |
| All pollutants                              | Offshore oil and gas production                            | State Agency                            | Texas Commission on Environmental Quality – Mobile Emissions Group   |
| All pollutants                              | Gasoline service stations that also distribute diesel fuel | Planning and Environmental Organization | Institute for Tribal Environmental Professionals   |
| All pollutants                              | Reformulated gas   | EPA                                     | EPA Air Quality Modeling Group   |
| All pollutants                              | Commercial aircraft  | Local Agency                            | Puget Sound Clean Air Agency<br>Port of Portland Authority   |
| All pollutants                              | Ocean-going vessels  | Local Agency                            | Puget Sound Clean Air Agency   |
| All pollutants                              | Non-road vehicles  | Planning and Environmental Organization | NESCAUM  |
| All pollutants                              | Aggregate industries                                       | Local Agency                            | Lane Regional Air Pollution Authority  |
| All pollutants                              | Wastewater emissions                                       | State Agency                            | Texas Commission on Environmental Quality – Mobile Emissions Group   |



**Table 4. Summary of Specific Emissions Factors  
That Respondents Indicated Need to be Improved or Updated**

| Emissions Factor                   |                              | Respondent Type                       | Respondent   |
|------------------------------------|------------------------------|---------------------------------------|--|
| Chemical/<br>Group of<br>Chemicals | Source                       |                                       |  |
| All pollutants                     | Digester gas from landfills  | Local Agency                          | South Coast Air Quality Management District (California)   |
| All pollutants                     | Municipal waste incinerators | State Agency                          | State of Minnesota   |
| All pollutants                     | Animal carcass combustion    | State Agency                          | Minnesota Pollution Control Authority  |
| All pollutants                     | Animal feeding operations    | State Agency<br>EPA<br>Federal Agency | Minnesota Pollution Control Authority<br>EPA Region 10<br>EPA Climate Protection Partnerships Division<br>USDA   |
| All pollutants                     | Agriculture sources          | State Agency<br>EPA                   | State of New Hampshire<br>State of Massachusetts<br>State of Maine<br>State of Vermont<br>EPA Region 1   |
| All pollutants                     | Pesticides                   | State Agency                          | Texas Commission on Environmental Quality – Mobile Emissions Group   |
| All pollutants                     | Herbicides                   | State Agency                          | Texas Commission on Environmental Quality – Mobile Emissions Group   |
| All pollutants                     | Manufactured logs            | Local Agency                          | Puget Sound Clean Air Agency   |
| All pollutants                     | Agricultural burning         | EPA                                   | EPA Region 10  |
| All pollutants                     | Open burning                 | Federal Government<br>Industry        | Department of Defense<br>Department of Defense Contractors   |
| All pollutants                     | Forest fires                 | Local Agency                          | Puget Sound Clean Air Agency   |
| All pollutants                     | Fires                        | State Agency<br>Local Agency<br>EPA   | State of South Carolina<br>State of Delaware<br>State of Pennsylvania<br>State of North Carolina<br>State of Minnesota<br>City of Philadelphia<br>Allegheny County<br>EPA Region 3 |
| All pollutants                     | Indoor burning               | Local Agency                          | Puget Sound Clean Air Agency   |

**Table 4. Summary of Specific Emissions Factors  
That Respondents Indicated Need to be Improved or Updated**

| Emissions Factor                   |   | Respondent Type                                   | Respondent  |
|------------------------------------|---|---|---|
| Chemical/<br>Group of<br>Chemicals | Source  |   |   |
| All pollutants                     | Detonation  | Federal<br>Government<br>Industry                 | Department of Defense<br>Department of Defense Contractors  |
| All pollutants                     | Munitions usage,<br>storage, and<br>destruction   | Federal<br>Government<br>Industry                 | Department of Defense<br>Department of Defense Contractors  |
| All pollutants                     | Wafer and chip<br>manufacturing   | State Agency                                      | Texas Commission on Environmental Quality –<br>Air Permits  |
| All pollutants                     | Bakeries  | Local Agency                                      | Lane Regional Air Pollution Authority   |
| All pollutants                     | New flare<br>technologies (i.e.,<br>multipoint smaller<br>flare fields)                           | Planning and<br>Environmental<br>Organization     | Several environmental advocacy groups (Sierra<br>Club, Earth Justice, NRDC, et al.)   |
| All pollutants                     | Flares  | State Agency                                      | Texas Commission on Environmental Quality   |
| All pollutants                     | Light and heavy<br>liquids  | State Agency                                      | Texas Commission on Environmental Quality –<br>Mobile Emissions Group   |
| All pollutants                     | Small combustion<br>units   | EPA   | EPA Clean Air Markets Division  |
| All pollutants                     | Small and large<br>boilers and turbines<br>that take differences<br>between types into<br>account | Industry  | Clean Air Implementation Project (Procter and<br>Gamble, El Paso Corporation, ExxonMobil,<br>Dow Chemical)  |
| All pollutants                     | Wood-fired boilers  | Local Agency                                      | Puget Sound Clean Air Agency  |
| All pollutants                     | Small engines   | State Agency<br>EPA<br>Federal Agency<br>Industry | Oregon Department of Environmental Quality<br>Texas Commission on Environmental Quality –<br>Mobile Emissions Group<br>State of New Hampshire<br>State of Vermont<br>State of Massachusetts<br>State of Maine<br>EPA Region 1<br>Department of Defense<br>Department of Defense Contractors |

**Table 4. Summary of Specific Emissions Factors  
That Respondents Indicated Need to be Improved or Updated**

| Emissions Factor                   |  | Respondent Type                          | Respondent   |
|------------------------------------|--|--|--|
| Chemical/<br>Group of<br>Chemicals | Source                                   |  |  |
| All pollutants                     | Compressors                              | State Agency                             | Texas Commission on Environmental Quality –<br>Mobile Emissions Group  |
| All pollutants                     | Cooling towers                           | State Agency<br>Local Agency<br>Industry | Texas Commission on Environmental Quality<br>City of Houston<br>Huntsman Oil   |
| All pollutants                     | Cooling towers –<br>controlled emissions | State Agency                             | Texas Commission on Environmental Quality –<br>Mobile Emissions Group  |
| All pollutants                     | Tanks                                    | State Agency                             | Texas Commission on Environmental Quality –<br>Emissions Inventory Division  |
| All pollutants                     | Fugitive emissions                       | State Agency                             | Texas Commission on Environmental Quality –<br>Mobile Emissions Group<br>Texas Commission on Environmental Quality –<br>Emissions Inventory Division                               |
| All MACT/HAP<br>pollutants         | All MACT/HAP<br>sources                  | State Agency<br>Local Agency<br>EPA      | State of South Carolina<br>State of Delaware<br>State of Pennsylvania<br>State of North Carolina<br>State of Minnesota<br>City of Philadelphia<br>Allegheny County<br>EPA Region 3 |

### **3.5 Miscellaneous Comments**

The respondents to the emissions factors survey commented on the AP-42 program in general. These comments included: (1) the concept of AP-42, (2) prioritization efforts and resources, (3) the process for developing or improving factors, (4) AP-42 format and access, (5) emissions factors data quality, and (6) special emissions factors. Table 5 provides a summary of these comments, and they are discussed in the subsections below.

#### **3.5.1 Concept of AP-42**

Many respondents had comments related to the overall concept of AP-42. Some respondents (Federal, State, and local agencies) stressed the importance of keeping all emissions factors data available through one source. One of the respondents stated that the EPA needs to reexamine the purpose of AP-42 and whether its purpose would allow it to recognize (and link to) other emissions factors that are available.

#### **3.5.2 Prioritization of Efforts and Resources**

Several respondents suggested that EPA both update and improve the AP-42 program. While they seemed to agree that a shift in the prioritization of efforts and resources is needed, they did not necessarily agree on exactly what those shifts and prioritizations should be. Some suggested “filling in the blanks” related to emissions factors by creating emissions factors for new sources and/or chemicals that currently do not have emissions factors. Some respondents proposed prioritizing the new emissions factors by focusing on high-risk pollutants first. Instead of applying resources to AP-42, others suggested shifting them toward projects that reduce emissions and/or create better measurement techniques.

**Table 5. Summary of Other Miscellaneous Comments on Emissions Factors and the Emissions Factors Program**

| Comment   | Respondent Type                         | Respondent   |
|---|---|--|
| <i>Concept of AP-42</i>   |   |  |
| It is important to keep all emissions factors data available through one source (e.g., AP-42) and continue to build new sections addressing the permitting applications.  | State Agency<br>Local Agency<br>EPA     | State of South Carolina<br>State of Delaware<br>State of Pennsylvania<br>State of North Carolina<br>State of Minnesota<br>City of Philadelphia<br>Allegheny County<br>EPA Region 3 |
| EPA needs to re-examine the purpose of AP-42 and decide whether to recognize other emissions factors that are available; centralizing all emissions factors in one database would be a mistake and too complex. | EPA                                     | EPA Region 5   |
| The emissions factors program is overdue for reevaluation.  | Local Agency                            | City of Houston  |
| Would like AP-42 to be more current and accurate.   | Local Agency                            | Lane County Regional Air Pollution Authority (Oregon)<br>Monterey Bay Unified Air Pollution Control District (California)  |
| Likes the idea of taking steps to improve AP-42, but not sure if it would be possible to add new source information in AP-42 rather than update old sources.  | Local Agency                            | Bay Area Air Quality Management District (California)  |
| <i>Prioritization of Effort and Resources in the Emissions factors Program</i>  |   |  |
| Pay more attention to filling blanks in emissions factors before improving existing emissions factors.  | Planning and Environmental Organization | NESCAUM  |
| For HAPs, start with high-risk pollutants.  | Local Agency<br>State Agency<br>EPA     | State of South Carolina<br>State of Delaware<br>State of Pennsylvania<br>State of North Carolina<br>State of Minnesota<br>City of Philadelphia<br>Allegheny County<br>EPA Region 3 |
| OAQPS's priorities should be put toward projects that will reduce emissions rather than developing new or revised emissions factors.  | EPA                                     | EPA Air Quality Strategies and Standards Division  |

**Table 5. Summary of Other Miscellaneous Comments on Emissions Factors and the Emissions Factors Program**

| Comment  | Respondent Type  | Respondent   |
|--|--|--|
| Emissions factors to be developed or updated should be prioritized based on risk or emissions.   | EPA  | EPA Air Quality Modeling Group   |
| EPA should shift resources to better measurement.  | EPA  | EPA Region 6 Air Permits Staff   |
| Identify and provide emissions factors for new kinds of sources or changes in control technologies or new pollutant-specific needs. Do not focus so much effort on “traditional” source types.                                   | State Agency   | Oregon Department of Environmental Quality   |
| Revise emissions factors by going through hierarchy of data. Find best data and use it for all applications. Involves looking at source inventory, activity level and emissions factors, including impact of control/no control. | Local Agency   | Bay Area Air Quality Management District (California)  |
| <b><i>Process for Developing or Improving Emissions factors</i></b>  |  |  |
| An open, transparent process for emissions factors development and issue resolution is needed, with reasonable criteria for evaluating and assessing data quality.   | State Agency<br>EPA<br>Industry<br>Planning and Environmental Organization | State of New Hampshire<br>State of Massachusetts<br>State of Maine<br>State of Vermont<br>EPA Region 1<br>EPA Clean Air Markets Division<br>EPA Emission Standards Division (Sally Shaver and Penny Lassiter)<br>American Coke and Coal Chemicals Institute<br>Coke Oven Environmental Task Force<br>NESCAUM |
| Want a standardized process for development and incorporation of new or revised emissions factors into AP-42.  | EPA<br>Industry  | EPA Air Quality Modeling Group<br>EPA Region I<br>Department of Defense contractors  |
| Need a faster process for adding and revising AP-42 emissions factors.   | Industry   | American Coke and Coal Chemicals Institute<br>NEDA/CARP<br>Bridgewater Group Inc.<br>Clean Air Implementation Project (Procter and Gamble, El Paso Corporation, ExxonMobil, Dow Chemical)  |

**Table 5. Summary of Other Miscellaneous Comments on Emissions Factors and the Emissions Factors Program**

| Comment  | Respondent Type  | Respondent  |
|--|--|---|
| Need procedure to include source test data when updating and creating emissions factors and include the source test data in background information associated with the emissions factor.                       | Industry<br>Planning and Environmental Organization<br>EPA | Clean Air Implementation Project (Procter and Gamble, El Paso Corporation, ExxonMobil, Dow Chemical)<br>Reliant Energy<br>Several environmental advocacy groups (Sierra Club, Earth Justice, NRDC, et al.)<br>EPA Region I<br>EPA Region 10 |
| Envision an internet system with information such as (1) Who are you? (2) Where are you located? (3) Type of facility/process? (4) Test data? (5) Input data?  | Local Agency   | Bay Area Air Quality Management District (California)   |
| Could use a specified format so that source tests could be entered by State/local agencies from their own databases into read-only public servers which could be accessed by others as needed for information. | State Agency<br>EPA  | State of Georgia<br>State of Florida<br>EPA Region 4  |
| Would like to see EPA acknowledge or give approval for use of other sources of emissions factors (such as those used in Europe).   | Local Agency<br>EPA  | Lane County Regional Air Pollution Authority (Oregon)<br>EPA Region 10  |
| Use data from government agencies, States, regions, districts, etc., but not from sources.   | State Agency   | California Air Resources Board  |
| There is no clear connection between EIIP, which is dynamic and flexible and AP-42, which is static.   | State Agency   | Texas Commission on Environmental Quality – Mobile Emissions Group  |
| FIRE has not been updated when AP-42 has been updated. Both need to be updated at the same time.   | State Agency   | Minnesota Pollution Control Authority – Emissions Inventory Group<br>Wisconsin Department of Natural Resources – Bureau of Air Management   |
| Would like EPA to keep AP-42 current. EPA should review the emissions factors periodically.  | State Agency<br>Industry                                   | Michigan Department of Environmental Quality<br>NEDA/CARP   |
| <i>Format and Access</i>   |  |   |

**Table 5. Summary of Other Miscellaneous Comments on Emissions Factors and the Emissions Factors Program**

| Comment   | Respondent Type  | Respondent  |
|---|--|---|
| Would like AP-42 to be modernized to provide other types of data such as links to new emissions factors.  | State Agency   | Texas Commission on Environmental Quality                             |
| Use a hierarchy system, with facility-specific source test data at the top, then AP-42 and other information next.  | Local Agency   | South Coast Air Quality Management District (California)              |
| Direct links from AP-42 to actual emissions factors developed by Europe, Texas Commission on Environmental Quality, California Air Resources Board, etc. would be helpful.  | State Agency   | Minnesota Air Pollution Control Authority – Emissions Inventory Group |
| Could have two sets of emissions factors: (1) a static set of emissions factors based on a lot of data and (2) another newer, less scrutinized set of emissions factors and/or source testing data. Users could then choose between established emissions factors and newer data/emissions factors. | Local Agency   | Lane County Regional Air Pollution Authority                          |
| It would be very helpful for updates to be comprehensive so emissions inventory staff would not need to look through older editions of AP-42 for some emissions factors.  | State Agency   | Minnesota Pollution Control Authority – Emissions Inventory Group     |
| Emissions inventory folks do not get the AP-42 CDs.   | State Agency   | Michigan Department of Environmental Quality                          |
| Background documents, error bounds, and other information on emissions factors are extensively accessed and used by State and local agencies to make their own decisions. Keep that accessibility.  | State Agency<br>EPA  | State of Georgia<br>State of Florida<br>EPA Region 4                  |
| Collect source tests into a central repository for access and use by State and local agencies.  | State Agency<br>EPA<br>Planning and Environmental Organization | State of Georgia<br>State of Florida<br>EPA Region 4<br>WESTAR        |
| Sometimes have difficulty finding emissions factors or data because they are not on all websites, or they are not clearly linked to all websites.   | State Agency   | Texas Commission on Environmental Quality – Mobile Emissions Group    |



**Table 5. Summary of Other Miscellaneous Comments on Emissions Factors and the Emissions Factors Program**

| Comment   | Respondent Type | Respondent   |
|---|-----------------|--|
| Suggest scanning AP-42 basic documents and link them to AP-42 so users could access and use all available data from which a single emissions factor is developed. | State Agency    | California Air Resources Board   |
| Would like to see the format of AP-42 change so that other programs can use the data  | EPA             | EPA Region VI RCRA staff   |
| <i>Emissions Factors Data Quality</i>   |                 |  |
| EPA could add the new emissions factors or data to AP-42 and give it a “U” rating for unknown until the factor or data can be reviewed.                           | State Agency    | Oregon Department of Environmental Quality   |
| Would like more “A” and “B” and fewer “E” and “F” emissions factors. “A” and “B” are more defensible.   | Local Agency    | Lane County Regional Air Pollution Authority (Oregon)  |
| Make AP-42 more robust and improve the “D” and “E” rated factors so they become “A” and “B”.  | Local Agency    | Port of Portland Authority – Portland International Airport  |
| Recommend that EPA continue evaluating more reliable data so that the ratings of many of the factors can be improved.   | State Agency    | Mississippi Department of Environmental Quality  |
| Include test method information and how it affects the emissions factor in the background information.  | Industry        | Clean Air Implementation Project (Procter and Gamble, El Paso Corporation, ExxonMobil, Dow Chemical) |
| Need to provide more critical insight into emissions variability.   | Industry        | NEDA/CARP  |
| Evaluate data but at a more cursory level – caveat it.  | State Agency    | California Air Resources Board   |

**Table 5. Summary of Other Miscellaneous Comments on Emissions Factors and the Emissions Factors Program**

| Comment  | Respondent Type                                       | Respondent  |
|--|---|---|
| Would like to have “error bounds,” “standard deviation,” or ranges of emissions factors, as this would help in several programs.   | State Agency<br>Federal Government<br>Industry<br>EPA | Texas Commission on Environmental Quality<br>Texas Commission on Environmental Quality – Emissions Inventory Division<br>Texas Commission on Environmental Quality – Mobile Emissions Group<br>Department of Defense<br>Clean Air Implementation Project (Procter and Gamble, El Paso Corporation, ExxonMobil, Dow Chemical)<br>Department of Defense contractors<br>EPA Emission Standards Division (Sally Shaver and Penny Lassiter)<br>EPA Region I Permitting Group |
| Need confidence values for emissions factors for test methods and field applications.  | EPA   | EPA Region I  |
| High numbers or ranges in AP-42 are helpful.   | State Agency  | Wisconsin Department of Natural Resources – Bureau of Air Management  |
| Would like to have integrated and speciated databases as well as the addition of data age in AP-42.  | State Agency  | California Air Resources Board  |
| People see EPA estimates versus California estimates, and the estimates do not match. That is a visibility problem for them. They feel California’s data are better than EPA’s data. | State Agency  | California Air Resource Board   |
| It is okay to have draft documents and factors in AP-42 instead of only final emissions factors so long as the user understands the difference.                                      | State Agency  | Oregon Department of Environmental Quality  |
| Caveats are not usually paid attention to, so more care should be taken with draft emissions factors.  | Industry  | American Coke and Coal Chemicals Institute  |
| <i>Special Emissions Factors</i>   |   |   |
| Area source emissions factors were developed for urban counties and may not apply to rural counties.   | State Agency  | Michigan Department of Environmental Quality  |

**Table 5. Summary of Other Miscellaneous Comments on Emissions Factors and the Emissions Factors Program**

| Comment   | Respondent Type  | Respondent  |
|---|--|---|
| Should include more data to account for local and regional differences in all emissions factors (humidity specifically mentioned).                                    | Planning and Environmental Organization<br>State Agency        | NESCAUM<br>California Air Resources Board<br>TCEQ - Mobile Emissions Group  |
| Need emissions factors with confidence levels that represent short time periods for micro-scale inventories.  | EPA  | EPA Emission Standards Division   |
| Need to develop emissions factors to account for start-ups, shutdowns, or malfunctions, which may represent 2% to 5% of annual operation.                             | EPA<br>Local Agency<br>Planning and Environmental Organization | EPA Air Quality Strategies and Standards Division<br>Air Management Division of the Environmental Protection Commission – Hillsborough County (Tampa), Florida<br>NESCAUM |
| Every new regulation promulgated by the EPA should have a corresponding new source category in AP-42 and associated emissions factors for the pollutant(s) regulated. | State Agency   | Florida Department of Environmental Protection  |
| EPA needs to develop capture efficiencies or assumptions for calculating capture efficiencies instead of assuming 100% capture.                                       | Local Agency   | Air Management Division of the Environmental Protection Commission – Hillsborough County (Tampa), Florida   |
| Would like to have emissions factors information that is more representative of typical operations.   | State Agency   | Texas Commission on Environmental Quality   |
| Explore the use of simple surrogates in providing PM <sub>2.5</sub> emissions factors.  | State Agency<br>EPA  | State of Georgia<br>State of Florida<br>EPA Region 4  |
| Believe that TANKS, SPECIATE, the wastewater software, and landfill software all need to be updated.  | Local Agency   | Lane County Regional Air Pollution Authority (Oregon)   |
| Emissions factors should not overestimate emissions. To do so puts American companies at a disadvantage in the world marketplace.                                     | Industry   | Taconite Mining Industry Representatives  |

### **3.5.3 Process for Developing or Improving Factors**

The respondents stated that EPA needs to re-design and then maintain the process for developing and improving emissions factors in four different ways. First, they believed that the EPA should use a transparent process to develop emissions factors and resolve associated issues.

Also, they suggested that EPA standardize and streamline not only the development and improvement of emissions factors but also the improvement of the program as a whole. EPA should improve the format and access for AP-42. This includes organizing the emissions factors program and associated documentation, providing links to emissions factors developed outside of EPA, and collecting source test data into a central repository.

Next, the respondents proposed that EPA determine a way to provide more accurate emissions factors information to users more quickly. EPA should provide an avenue for users to submit data and other information more directly to the AP-42 program. Lastly, the respondents stressed a need for the AP-42 program to accept data and emissions factors from other sources into the AP-42 program.

### **3.5.4 Format and Accessibility**

The respondents made suggestions related to the format and accessibility of emissions factors. Respondents indicated they do not believe AP-42 emissions factors, as well as background documentation, are currently very accessible to users. Also, they stated that EPA has used emissions factors that were not in AP-42, making it difficult to find the emissions factor used as well as its background documentation. They suggested that the AP-42 program should be re-organized in a more easily accessible format and should include accessibility to non-AP-42 emissions factors. Likewise, they believe that EPA needs to improve the accessibility of emissions factors and related documentation and that this information should be available via the Internet.

### **3.5.5 Emissions Factors Data Quality**

Several respondents also raised concerns related to the data quality of emissions factors. The respondents suggested that the EPA make the emissions factors more defensible both by improving their ratings (e.g., improving “E” and “F” emissions factors to “A” and “B” emissions factors) and by adding more information related to error bounds and standard deviations. Moreover, some respondents would like EPA to caveat data so that users can understand the limitations associated with each emissions factor. Lastly, some respondents would like more background data on emissions factors such as test method information so that users would gain a better understanding of the emissions factors quality.

### **3.5.6 Special Emissions Factors**

Since different regions of the country have different features that may influence emissions such as meteorology, topography, and population density, some respondents expressed a desire to have emissions factors that are tailored to specific regions. They believed that the EPA should develop emissions factors not just for the macroscale level (e.g., nationwide) but on the microscale level (e.g., statewide) as well. Also, several respondents suggested creating emissions factors for special events such as start-ups, shutdowns, and malfunctions, which may result in sources emitting large amounts of pollutants.

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#### 4.0 Detailed Discussion of Potential Stakeholder Involvement

The previous section showed that respondents identified a large number of emissions factors and areas of the emissions factors program that they believe need to be improved. As discussed in Section 1, one of the questions asked was whether the individuals or groups being interviewed would consider more direct involvement in an effort to improve emissions factors or in developing appropriate alternatives to emissions quantification by emissions factors, and, if yes, what that level of involvement would be. Overall, most respondents stated a basic willingness to participate in such an effort. Table 6 shows a breakdown of types of respondents and their stated willingness to participate.

**Table 6. Summary of Potential Participation in Emissions Factors Development and Improvement**

| <b>Respondent Type</b>                   | <b>Total Responding to Question<sup>†</sup></b> | <b>Number Indicating They Would Consider Direct Involvement</b> | <b>Number Indicating They Did Not Believe They Would Be Able to Be Directly Involved</b> |
|--|---|---|--|
| State Agencies or Agency Groups          | 26  | 15  | 11   |
| Local Agencies                           | 9   | 8   | 1  |
| EPA                                      | 7   | 7   | 0  |
| Industry                                 | 11  | 9   | 2  |
| Planning and Environmental Organizations | 2   | 2   | 0  |
| <b>Total</b>                             | <b>55</b>                                       | <b>41</b>   | <b>14</b>  |

<sup>†</sup> The question asked was - “Would you consider more direct involvement in an effort to improve emissions factors or in developing appropriate alternatives to emissions quantification by emissions factors? If so, what level of involvement would that be?”

As shown in Table 6, of the 55 participants who responded to the question, 41 stated that they would consider providing direct involvement in an effort to improve emissions factors and the emissions factors program. The respondents willing to participate includes a mix of State agencies, local agencies, EPA, industry, and environmental organizations. Table 7 specifically lists the 41 agencies that answered in the affirmative to the question about future involvement.

The level of interest in participating in the AP-42 update and improvement process ranged from a general willingness to be involved to specific interest in data collection and emissions factors development. Table 8 summarizes the specific manners in which respondents indicated a willingness to participate.

A quarter of the respondents, largely State Agencies or groups within State agencies, indicated that they did not anticipate they would be able to participate in any efforts to improve emissions factors or the overall program. This opinion was primarily due to the lack of resources in both funds and manpower. Also, some respondents were concerned about a possible lack of support from upper management. A few respondents showed a general disinterest.

Several respondents provided suggestions on how to involve stakeholders in the emissions factors improvement process. Many suggested that the AP-42 update and improvement process should be one in which the EPA involves stakeholders as well as other organizations such as Regional Planning Organizations (RPOs) where emissions factors data may be collected. Also, respondents proposed that, when bringing together stakeholders to develop and improve emissions factors, the EPA should consider the capabilities, interests, and workload of those involved. Lastly, the EPA should provide incentives to encourage participants to submit better data for the emissions factors program. Table 9 lists these recommendations.



**Table 7. Stakeholders Indicating They Would Consider Direct Involvement in an Emissions Factors Program Improvement Process**

| <b>Respondent Type</b>   | <b>Respondent Name</b>  |
|--|---|
| State Agencies and Agency Groups                                     | Arizona Department of Environmental Protection  |
|  | Florida Department of Environmental Protection  |
|  | Georgia Environmental Protection Division   |
|  | Illinois Environmental Protection Agency  |
|  | Indiana Department of Environmental Management  |
|  | State of Maine  |
|  | State of Massachusetts  |
|  | Michigan Department of Environmental Quality  |
|  | Minnesota Pollution Control Authority   |
|  | Minnesota Pollution Control Authority – Air Permitting Group                                      |
|  | State of New Hampshire  |
|  | New Jersey Department of Environmental Protection   |
|  | Oregon Department of Environmental Quality  |
|  | State of Vermont  |
| Wisconsin Department of Natural Resources – Bureau of Air Management |   |
| Local Agencies   | Air Management Division of the Environmental Protection Commission, Hillsborough County (Florida) |
|  | Lane County Regional Air Pollution Authority (Oregon)   |
|  | Monterey Bay Unified Air Pollution Control District (California)                                  |
|  | Polk County Health Department (Iowa)  |
|  | Port of Portland Authority – Portland International Airport (Oregon)                              |
|  | Puget Sound Clean Air Agency (Washington)   |
|  | Sacramento Metropolitan Air Quality Management District (California)                              |
|  | Ventura County Air Pollution Control District (California)  |
| EPA  | Climate Protection Partnerships Division  |
|  | Emission Standards Division   |
|  | Office of Enforcement and Compliance Assurance  |

**Table 7. Stakeholders Indicating They Would Consider Direct Involvement in an Emissions Factors Program Improvement Process**

| Respondent Type                          | Respondent Name   |
|--|---|
|  | Risk and Exposure Assessment Group  |
|  | Region 5  |
|  | Region 6  |
|  | Region 10   |
| Industry                                 | DaimlerChrysler   |
|  | Department of Defense Contractors   |
|  | Georgia-Pacific Corporation   |
|  | NEDA/CARP   |
|  | Taconite Mining Industry  |
|  | Texas Petrochemicals  |
|  | Texas Eastman   |
|  | TRC<br>Clean Air Implementation Project (Procter and Gamble, El Paso Corporation, ExxonMobil, Dow Chemical) |
| Planning and Environmental Organizations | Coke Oven Environmental Task Force  |
|  | WESTAR  |

**Table 8. Summary of Level of Involvement Offered by Respondents**

| <b>Respondent Type</b> | <b>Respondent</b>   | <b>Level of Involvement Offered</b>  |
|------------------------|---|--|
| EPA                    | EPA Region 10   | General willingness to be involved   |
| EPA                    | EPA Region 6  | Would consider submitting source testing data to EPA   |
| EPA                    | EPA Office of Enforcement and Compliance Assurance  | Could add requirement for data submission to consent and settlement agreements<br>Could use section 114 authority to collect annual emissions report<br>Could develop an AP-42 chapter to provide an effective State data submission process with State agency responsibilities and testing data submission procedures for emissions factors development |
| EPA                    | EPA Region 5  | Would direct sources to send source test data to EPA   |
| EPA                    | EPA Emission Standards Division   | Would collaborate with EPA in developing or updating emissions factors   |
| EPA                    | EPA Climate Protection Partnerships Division  | Could provide data and identify data sources to expand AP-42 for greenhouse gases<br>When finished, can provide emissions factors for landfill operations  |
| EPA                    | EPA Office of Enforcement and Compliance Assurance  | Could encourage State agencies to provide compliance test and monitoring data  |
| EPA                    | EPA Risk and Exposure Assessment Division   | Has data for gas and oil-fired turbines that could be used to develop emissions factors with confidence levels<br>Has grant to evaluate emissions of 18 HAPs that presents an opportunity to collaborate to develop emissions factors for them   |
| Industry               | Clean Air Implementation Project (Procter and Gamble, El Paso Corporation, ExxonMobil, Dow Chemical)  | Would collaborate with EPA in developing or updating emissions factors   |
| Industry               | NEDA/CARP   | Could assist with general information and legal thinking about the use and applicability of emissions estimates and reliance on emissions factors, but trade associations are best source for technical assistance   |
| Industry               | Taconite Mining Industry<br>TRC<br>Texas Eastman<br>Georgia-Pacific Corporation<br>Department of Defense contractors<br>DaimlerChrysler<br>Texas Petrochemicals | Might participate in a workgroup as a stakeholder to develop new/improved emissions factors  |

**Table 8. Summary of Level of Involvement Offered by Respondents**

| <b>Respondent Type</b>                  | <b>Respondent</b>   | <b>Level of Involvement Offered</b>   |
|---|---|---|
| Local Agency                            | Polk County Air Quality (Iowa)  | Depends on what type of involvement is necessary, the resources it would require, and the resources available   |
| Local Agency                            | Lane County Regional Air Pollution Authority (Oregon)<br>Sacramento Metropolitan Air Quality Management District (California)<br>Monterey Bay Unified Air Pollution Control District (California) | Would consider submitting source testing data to EPA  |
| Local Agency                            | Puget Sound Clean Air Agency (Washington)<br>Wisconsin Department of Natural Resources Bureau of Air Management   | Currently participate on EIIP subcommittees   |
| Local Agency                            | Port of Portland Authority – Portland International Airport (Oregon)  | Might participate in a workgroup as a stakeholder to develop new/improved emissions factors   |
| Local Agency                            | Air Management Division of the Environmental Protection Commission, Hillsborough County (Tampa), Florida  | Would participate if certain sections were targeted for comment and revision  |
| Local Agency                            | Ventura County Air Pollution Control District (California)  | The level of involvement would depend on how critical the emissions factors under development would be to the VCAPCD. If participation involved frequent travel to the East Coast, participation would be more limited. If EPA is seeking assistance in this area, suggest having a discussion with the CAPCOA Engineering Managers Committee |
| Local Agency                            | Monterey Bay Unified Air Pollution Control District (California)  | Could review factors to the extent resources are available  |
| Planning and Environmental Organization | WESTAR  | Depends on what type of involvement is necessary, the resources it would require, and the resources available   |
| Planning and Environmental Organization | Coke Oven Environmental Task Force  | Can provide source test data where available  |
| Planning and Environmental Organization | Coke Oven Environmental Task Force  | Might participate in a workgroup as a stakeholder to develop new/improved emissions factors   |

**Table 8. Summary of Level of Involvement Offered by Respondents**

| <b>Respondent Type</b> | <b>Respondent</b>   | <b>Level of Involvement Offered</b>   |
|------------------------|---|---|
| State Agency           | Wisconsin Department of Natural Resources Bureau of Air Management  | Would like to work on a better source test data delivery system for State data<br>Would like to have a State workshop for emissions factors development   |
| State Agency           | Indiana Department of Environmental Management  | Due to resource constraints, involvement likely would be limited to developing/validating emissions factors testing protocols, observing field testing, and reviewing test report in order to quality assure and validate the data<br>Would also be willing to help develop a protocol for getting this data to the appropriate people at EPA for compilation                               |
| State Agency           | Florida Department of Environmental Protection  | If asked, fairly certain we would participate in the development and/or improvement of an AP-42 emissions factor for a source category, if that source category existed in Florida. Believe that all State air agencies would participate in studies and the development of emissions factors for an affected source category that exists in their State but is not covered in AP-42        |
| State Agency           | Arizona Department of Environmental Protection  | Interested in the technical review, analyses of the data use<br>Can provide input relating to the specific sources operating in Arizona   |
| State Agency           | New Jersey Department of Environmental Protection   | Could provide stack test summarization package including the outcome of approximately 1,200 stack tests and has an associated 4,000 to 5,000 individual contaminant test results of the highest quality available<br><br>NJ is looking to develop a format for future data compilation and wishes to ensure that all relevant information is included in the package. We welcome EPA input. |
| State Agency           | Minnesota Pollution Control Authority   | They would also be interested in ensuring data from source testing in Minnesota gets into AP-42   |
| State Agency           | Michigan Department of Environmental Quality<br>Minnesota Pollution Control Authority<br>Minnesota Pollution Control Authority – Air Permitting Group | Might participate in a workgroup as a stakeholder to develop new/improved emissions factors   |

**Table 8. Summary of Level of Involvement Offered by Respondents**

| <b>Respondent Type</b> | <b>Respondent</b>   | <b>Level of Involvement Offered</b>  |
|------------------------|---|--|
| State Agency           | Illinois Environmental Protection Agency  | Results from previous emissions factors development study, "Adopt-a-Factor," did not have the oversight to make sure the money was spent on developing emissions factors |
| State Agency           | State of New Hampshire<br>State of Massachusetts<br>State of Maine<br>State of Vermont  | New England states are interested in helping to collect emissions data for emissions factors development and a standardized process for data submittals                  |
| State Agency           | Georgia Environmental Protection Division<br>Oregon Department of Environmental Quality<br>Illinois Environmental Protection Agency | Depends on what type of involvement is necessary, the resources it would require, and the resources available  |

**Table 9. Summary of Respondents' Suggestions for Stakeholder Involvement in Emissions Factors Improvement Effort**

| <b>Comment</b>   | <b>Respondent Type</b>   | <b>Respondent</b>   |
|--|--|---|
| The EPA should consider the capabilities, abilities, and workload of State/local agencies [when updating AP-42]. | Local Agency   | City of Houston   |
| EPA should be able to provide incentives to get better data to be used in the AP-42 program.                     | Industry   | Huntsman Oil  |
| Full stakeholder involvement in emissions factors is a good idea.  | State Agency<br>Local Agency<br>EPA<br>Industry<br>Planning and Environmental Organization | State of South Carolina<br>State of Delaware<br>State of Pennsylvania<br>State of North Carolina<br>State of Minnesota<br>City of Philadelphia<br>Allegheny County<br>EPA Region 3<br>EPA Region 1<br>NEDA/CARP<br>Coke Oven Environmental Task Force |
| Need to work closer with RPOs on emissions factors development.  | State Agency   | Minnesota Air Pollution Control Authority – Emissions Inventory Group   |
| EPA should work with FAA to come up with better emissions factors [for aircraft].                                | Local Agency   | Port of Portland Authority – Portland International Airport   |
| Should include resources from other organizations.   | EPA<br>Industry  | EPA Clean Air Markets Division<br>National Oilseed Processors Association   |

## **5.0 Conclusions and Next Steps**

There are several conclusions that can be drawn from this effort. First and foremost, AP-42 continues to be a tool upon which many groups and agencies rely heavily in their efforts to develop, implement, and comply with air pollution regulations. There are a number of areas where emissions factors users believe the program can be improved. These areas include:

- The process for developing and improving emissions factors
- Methods for providing emissions factors data and other information to users
- Guidance on selecting and using emissions factors
- The number and quality of emissions factors

Section 5.1 presents major suggestions made by the respondents in each of these four areas. Not only did respondents have numerous suggestions, they also indicated a willingness to become stakeholders in efforts to improve the emissions factors program. Section 5.2 provides an outline of a stakeholder engagement strategy for a large emissions factors improvement effort. Finally, Section 5.3 summarizes a basic plan of action from the suggestions made by the commenter.

### **5.1 Suggestions for Improvement**

The following sections present the major suggestions made by the emissions factors users that were interviewed and those that provided voluntary responses to the survey. The four sections correspond to the four areas listed above. Under each area, the major suggestions/recommendations are listed. For some suggestions, the following points are for additional clarification.



### **5.1.1 Process for emissions factors development and improvement**

- Develop a system where interested parties can participate in the improvement and development of emissions factors.
  - It needs to be much more open and transparent than in the past.
  - It should be designed for the long-term, meaning that it needs to deal with the continuing development and improvement of factors rather than a large one-time effort to address the current needs.
  - It should streamline the EPA approval process.
- Provide a mechanism (preferably electronic) for electronic test report submittal and review.

### **5.1.2 Methods for providing emissions factors data and other information to users**

- Conduct additional data gathering to identify specific problems with current methods (CHIEF website, CDs, etc.) used to make AP-42 emissions factors and background data available and develop options to improve accessibility.
- Provide complete and easy access to all available test data.
  - Background test data used to develop EPA emissions factors.
  - Other test data.
- Provide a listing of, and links to, emissions factors developed by other organizations (State and local agencies, Europe, etc.).

*Note: While respondents clearly would like more information and data available, there are concerns regarding how this information would be used. Therefore, making raw test data and other emissions factors available should be accompanied by guidance on how to select and use this information (see Section 5.1.3.). Such guidance will likely be application-specific.*

### **5.1.3 Guidance on selecting and using emissions factors**

- Develop guidance on the selection of the most appropriate emissions factor. This would include the selection of the AP-42 factor that best applies and the consideration and selection of emissions factors developed by other agencies or groups. This would also include guidance on interpreting caveats and data quality ratings.
- Develop guidance on developing emissions factors from available test data or other information. This should include guidance on how to order emissions tests to facilitate the development of emissions factors. This would also include guidance on evaluating and considering data quality.

- Develop guidance on using emissions factors for non-inventory applications (permitting, enforcement, etc.).

#### **5.1.4 New and improved emissions factors**

- Prioritize emissions factors needs.
- Identify special emissions factors that are appropriate to be developed on the national level.
- Develop or improve emissions factors.

### **5.2 Stakeholder Engagement**

As discussed in Section 4.0, many emissions factors users indicated a willingness to participate, assist, and even partner with OAQPS in improving the emissions factors program. Since it has been expressed that this program needs to be more open and inclusive, and since the desire is that the program be less centralized, it is critical to engage stakeholders early and often in the process. This section outlines an approach for this stakeholder engagement effort.

Stakeholders should be involved in the entire emissions factors improvement effort. This effort should not only involve these stakeholders as information providers, but should also identify areas of responsibility that can be delegated to them.

The initial step in this effort needs to be the identification and recruitment of willing stakeholders. The first and most obvious group to contact should be those respondents who indicated a desire to partner with EFPAG in this emissions factors improvement effort. While the number of groups contacted in this information gathering was substantial, EFPAG should consider additional effort expanding the

Appendix D contains an example of a major multi-year stakeholder engagement effort conducted by the PIRG of ITPID to develop implementation materials for several coating NESHAPs. The pilot for this approach was the Paper and Other Web Coating NESHAP. PIRG engaged over 50 partners in an effort to develop implementation materials for this rule. The partners agreed upon a process for identifying the most needed implementation materials and for sharing in the development of these materials. To date, over 25 different implementation materials have been developed, most by non-EPA partners. This could serve as a model for the emissions factors stakeholder engagement.

search to other emissions factors users who may have an interest in partnering with EPA. For example, EFPAG could make use of materials (brochures, mini-CDs, web pages, notifications in publications, etc.) to distribute to potential stakeholders to explain the purpose of EFPAG's upcoming efforts, the opportunities for stakeholders to be involved, and the expectations of these stakeholders (see the Attachment to Appendix D for an example). Such materials would help recruit and educate stakeholders on the process.

After stakeholders have been identified, EFPAG could host a kick-off stakeholder meeting to introduce the project and decide on the process for proceeding. The results of EFPAG's information gathering effort should be made available to all prior to this meeting.

While EFPAG should maintain the leadership role in this effort, they should be open to involving partners as much as possible, provided that the partners are willing to accept responsibility and contribute. Given the past concerns about the openness of the program, it is important that EFPAG enter this partnering effort with as few pre-conceived notions as possible. The more effort EFPAG invests in soliciting and considering ideas of the partners, the less likely the process will slip into the more traditional "EPA proposes and stakeholders criticize" mode.

One discussion that would likely be helpful in setting this tone of shared ownership early would be to discuss the different possible levels of involvement for emissions factors improvement partners. These roles could range from minimal efforts such as providing or quality assuring emissions test data to participating in, and even chairing committees charged with addressing particular issues associated with the program. This will encourage stakeholders to think of their possible roles rather than their pet issues.

As noted above and discussed in Section 3.4, a large number of specific emissions factors were identified as needing to be improved or developed. In addition, the activity data issues discussed in Section 3.3, the data quality issues discussed in Section 3.5.5, and the special factors discussed in Section 3.5.6 are all related to the improvement of existing factors or the development of new ones. While addressing these concerns will ultimately provide the products needed by emissions

factors users, the initial phases of this stakeholder engagement effort should focus more on the process-related issues raised by the respondents (Section 3.5.3). If the process for improving or developing an emissions factor is defined, along with a clear understanding of how responsibilities of this process will be assigned and shared, then the development or improvement of the factor should be much smoother.

Committees could be formed to address issues not directly associated with specific emissions factors. This would include the guidance issues raised in Section 3.2 and the format and accessibility issues raised in Section 3.5.4.

### **5.3 Next Steps**

The primary next step that is needed is to organize and carry out a stakeholder engagement effort that will take advantage of the opportunity to partner with emissions factors users. To ensure the optimum short- and long-term cooperation and involvement, these stakeholders need to be involved early in the planning. In particular, it will be very important that these stakeholders provide input and accept responsibilities in outlining the new process for developing and improving emissions factors.

While a strong stakeholder involvement effort is the principal step that should be pursued, there are several suggestions made by the respondents that could be initiated immediately by EFPAG as stakeholder engagement activities are being planned. These include:

- Evaluate current software and internet tools.
- Develop an electronic test report submittal and review process.
- Develop draft methods for assessing and classifying the quality of emissions factors data.
- Conduct internal brainstorming of aspects of the program that can be streamlined.
- Evaluate the needs and issues associated with the use of emissions factors in permitting and enforcement.

- Assess the elements of the emissions factors program that are candidates for outsourcing or delegation to non-EMAD stakeholders.

The ultimate outcome of this effort to improve the emissions factors program should be not only a system that will result in addressing the current needs of emissions factors program, but one that can anticipate and react to future needs of emissions factors users. EMAD can maintain their role as the experts and coordinators in emissions quantification, yet share the responsibilities and resource burdens with emissions factors users.

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# Appendices



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**Appendix A. List of EFPAG Staff Who Interviewed and Surveyed Respondents**

| <b>EFPAG Staff</b>  | <b>Phone Number<sup>†</sup></b>              | <b>Category of Individuals/Groups Interviewed/Surveyed</b>          |
|---|--|---|
| Tom Driscoll  | 541-5135                                     | Pacific Northwest (Oregon and Washington) and Northern Central U.S. |
| Ron Myers<br>Tom Driscoll                                   | 541-5407<br>541-5135                         | Texas   |
| Peter Westlin   | 541-1058                                     | Washington, D.C. and Northeast States                               |
| Barrett Parker<br>Ron Myers                                 | 541-5635<br>541-5407                         | California  |
| John Bosch  | 541-5583                                     | Southeastern States (Georgia, Florida)                              |
| Kay Whitfield<br>Mike Ciolek<br>Gary McAlister<br>Ron Myers | 541-2509<br>541-4921<br>541-1062<br>541-5407 | North Carolina, OAQPS Stakeholders <sup>‡</sup>                     |
| Tom Driscoll<br>Others                                      | 541-5135                                     | Military contractors, STAPPA/ALAPCO                                 |

<sup>†</sup>All phone numbers have a 919 area code.

<sup>‡</sup>OAQPS meetings were attended by several team members.

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**Appendix B. Description of Fields in Emissions Factors  
Survey Response Database**

| <b>Form Category</b>                       | <b>Description</b>  | <b>Notes</b>  |
|--|---|---|
| Survey ID                                  | Number descriptor for indexing within Database  |   |
| Respondent Type                            | Type of agency completing survey/interview (Federal agency, State agency, local agency, EPA Offices [e.g., EMAD, ESD, etc.], Organization, Tribe)                                 | If two types of agencies were recorded on the same survey/summary (such as State agencies & EPA Offices), then the survey may be listed under one category or the other to avoid double counting. |
| Respondent Name                            | Name of agency/organization. If provided, a specific contact name is also listed.   |   |
| EF Use (Question 1)                        | Answers to Question 1 of Survey: How do you or your constituents use emissions factors?   | This field also corresponds to <i>Comments on How Emissions Factors are Used</i> , which is one of the categories in some of the interview summaries.   |
| Derivation of EFs (Question 2)             | Answers to Question 2 of Survey: Are the emissions factors you or your constituents use derived from EPA's AP-42 or other data sources? What are those other sources?             |   |
| Use of EFs from Other Sources (Question 3) | Answers to Question 3 of the survey: Do you use emissions factors from sources other than AP-42 because AP-42 does not provide factors for your source type or for other reasons? |   |

**Appendix B. Description of Fields in Emissions Factors  
Survey Response Database**

| <b>Form Category</b>                           | <b>Description</b>  | <b>Notes</b>  |
|--|---|---|
| Use of EFs by Govmt.<br>(Question 4)           | Answers to Question 4 of the survey: To what extent does the use of emissions factors satisfy the needs of the military or other government facilities in your area or constituency in obtaining and complying with operating, NSR, or other permits and in meeting emissions monitoring needs? |   |
| Data Supplied to EPA (Question 5)              | Answers to Question 5 of the survey: Do you or your constituents provide data to EPA for developing emissions factors? What about the process for developing EPA emissions factors enhances or inhibits your participation?   |   |
| Emissions Quant. Other Than EF<br>(Question 6) | Answers to Question 6 of the survey: Have you, your constituents, or others proposed to use emissions quantification procedures other than emissions factors? If so, why and what were these procedures?  |   |
| Imposition of EFs<br>(Question 7)              | Answers to Question 7 of the survey: Have you, your constituents, or others imposed or had imposed on you the use of emissions factors when there may have been other procedures providing more representative results?   |   |
| AP-42 Update/Improvement<br>(Question 8)       | Answers to Question 8 of the survey: If EPA decided not to update AP-42 again, what would your reaction be?   | This field also corresponds to Suggestions for areas in AP-42 needing updates, which is one of the categories in some of the interview summaries. |

**Appendix B. Description of Fields in Emissions Factors  
Survey Response Database**

| <b>Form Category</b>                        | <b>Description</b>  | <b>Notes</b>   |
|---|---|--|
| Would you help develop EFs?<br>(Question 9) | Answers to Question 9 of the survey: Would you consider more direct involvement in an effort to improve emissions factors or in developing appropriate alternatives to emissions quantification by emissions factors? If so, what level of involvement would that be? | The first question is a yes/no response in the database. The second question includes a more detailed answer, if provided. |
| Program Areas to Improve                    | This field corresponds to suggestions made in the interviews related to areas of the program needing improvement.   |  |
| Guidance                                    | This field corresponds to the section entitled <i>Suggestions for implementation guidance</i> in some of the interview summaries.   |  |
| Notes                                       | This field allows for the entry of other data that may be relevant to the project. This includes any general comments that were made regarding the emissions factors program.   |  |

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**Appendix C: Detailed Responses and Comments as Contained in  
Emissions Factors Survey Response Database**



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# Respondents to Survey

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| Survey ID | Respondent Name |
|-----------|-----------------|
|-----------|-----------------|

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34 FIATqs

## **EPA**

- 9 EPA/OAQPS, Air Quality Strategies and Standards Division (AQSSD), Ozone Policy and Strategies Group (OPSG) (Tom Helms, Tom Rosendahl, Bill Johnson, David Sanders)
- 11 EPA NE Regional Office permitting group (Susan Lancey, Brendan McCahill, Steve Rapp)
- 12 EPA Region I representative (Al Hicks)
- 13 EPA/OAQPS, Emissions Standards Division (ESD), Risk Exposure and Assessment Group (REAG) (David Guinnup, Ted Palma, and Neal Fann)
- 14 EPA Office of Enforcement and Compliance Assurance (OECA) (Charlie Garlow, Rich Biondi, Mamie Miller, Scott Throwe, Mario Jorquera)
- 16 EPA Clean Air Markets Division (CAMD), Bryan Bloomer, Matthew Boze, Ruben Deza, Leif Hockstad, Travis Johnson, Manuel Oliva, John Schakenbach
- 17 EPA/Climate Protection Partnerships Division (CPPD)
- 18 EPA/OAQPS, Emission Standards Division (ESD) (Sally Shaver, Penny Lassiter)
- 23 EPA/OAQPS, Information Transfer and Program Integration Division (ITPID), Integrated Implementation Group (IIG)
- 25 EPA/OAQPS, Emissions Monitoring and Analysis Division (EMAD), Air Quality Modeling Group (AQMG) (Madeleine Strum, Brian Timin, Joe Touma, Ellen Baldrige)
- 27 EPA/OAQPS, Emissions Standards Division (ESD), Coatings and Consumer Products Group (CCPG) (Dave Salman, Printing MACT)

**Survey ID    Respondent Name**

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- 28    EPA Region VI RCRA Staff (Jeff Yurk)
- 29    EPA/OAQPS, Emissions Monitoring and Analysis Division (EMAD), Air Quality Modeling Group (AQM) (Madeleine Strum and Joe Touma)
- 30    Region 10 and Washington Department of Ecology (Madonna Narvaez, Maynard Okereke, Herman Wong, Emad Shahin, Paul Boys, Don Dossett, Lester Keel, Rindy Ramos, Beth Stipek)
- 33    EPA/OAQPS, Emissions Standards Division (ESD), Coatings and Consumer Products Group (CCPG) (Dianne Byrne)
- 41    US EPA Region 5 (Michael Rizzo, Farro Assadi, Genevieve D'Amico, Rafiu Dania, Mary Tyson, Loretta Lehrmann, Regina Charles, Brent Marable, Bill McDowell)
- 42    EPA Region 6 Air Toxics Staff (Ruben Casso, Carrie Paige)
- 43    EPA Region 6 Air Permits Staff (Tom Diggs, Guy Donaldson, Bonnie Braganz, Daron Page)
- 44    US EPA Region 5 Air Permitting Section (Ethan Chatfield, Sam Portanova, Stacey Coburn, Rachel Rinehart, Beth Valenziano, Jennifer Darrow, Genevieve D'Amico, Laura David, Susan Stepkowski, Danny Marcos, Constantine Blathras, Kaushal Gupta, Richard Angelbeck, Bob Miller)
- 45    US EPA Region 6 Air Enforcement Section (Michelle Kelly, David Garcia, Gerald Mokry, Raymond Magyar, Robert Todd)
- 132    EPA Region 9 (Stan Tong, John Kim)
- 133    Region 9

***Federal Agency***

- 2    Department of Defense
- 6    USDA
- 111    United States Forest Service - Seattle Office (Sue Ferguson, Susan O'Neill)

***Industry***

**Survey ID    Respondent Name**

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- 1    American Coke and Coal Chemicals Institute and National Oilseed Processors Association (David Ailor)
  
- 7    TRC (consulting firm) (Steve Eitelman, Mark Hultman, Gary Hunt, Howard Schiff, Ray Topazio, Al Wilder)
  
- 8    Proctor and Gamble, El Paso Corporation, ExxonMobil, Dow Chemical, Clean Air Implementation Project
  
- 10   National Oilseed Processors Association (participants include Ag Processing Inc.; Ajax, Archer Daniels Midland; Cargill; Corn Refiners Association, National Cotton Council; Shaw, Pittman, Potts and Trowbridge)
  
- 15   NEDA/CARP (Todd Rollefson)
  
- 19   Georgia-Pacific Corporation
  
- 21   Bridgewater Group Inc. (consulting firm) (Candice Hatch)
  
- 24   Reliant Energy, Air Resources Permitting and Compliance Group for Texas and Illinois Plants (Joe Araiza)
  
- 26   DOD Environmental Contractors (Drek Newton [Navy], Paul Josephson [Army], Scott Cummings [Army], Steve Rasmussen [Air Force])
  
- 36   Daimler Chrysler, Corporate Regulatory Planning Group (Mary Snow Cooper)
  
- 37   Huntsman Oil (Peter Houston)
  
- 38   Texas Petrochemicals (Max Jones, John Yoars, Chris Hendricks, Mike Wieczorek)
  
- 39   Texas Eastman (Jeff Mach)
  
- 40   Taconite Mining Industry Representatives (Nancy Smith, Sarrah Mattila, Dave Skolasinski)

**Local Agency**

- 31   Monterey Bay Unified Air Pollution Control District
  
- 101   Seattle Port Authority (Barbara Cole)

**Survey ID    Respondent Name**

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- 102 Lane County Regional Air Pollution Authority (Max Hueftle, Robert Koster, Drew Johnson)
- 103 Port of Portland Authority - Portland International Airport, Oregon (Steve Mrazek).
- 106 City of Jacksonville, Florida (Lori Tilley)
- 110 Puget Sound Clean Air Agency, Washington (Kwame Agyei, Steve Van Slyke, John Anderson, and David Kircher)
- 113 Sacramento Metropolitan Air Quality Management District (Jorge Guzman)
- 114 Ventura County Air Pollution Control District (Karl Krause, Manager, Engineering Division -- Chair of the CAPCOA Engineering Managers Committee)
- 121 Polk County Air Quality, Iowa (Gary Young)
- 124 Allegheny County Air Quality Program, Pittsburgh, PA (no specific contact)
- 128 Air Management Division of the Environmental Protection Commission, Hillsborough County (Tampa), Florida
- 131 Lincoln-Lancaster County Health Department, Nebraska (Gary Bergstrom)
- 134 Bay Area Air Quality Management District, CA (Peter Hess, Bill Guy, Joe Slamovich, Charles McClure)
- 136 South Coast Air Quality Management District, California
- 139 City of Houston (Arturo Blanco, Daniel Hoyt)

***Planning and Environmental Organizations***

- 3 STAPPA/ALAPCO
- 4 several environmental advocacy groups (Sierra Club, Earth Justice, NRDC, National Environmental Trust, Frederick Law, Galveston and Houston Association for Smog Control)
- 5 NESCAUM
- 20 WESTAR (in Portland, OR) (Bob Lebens)

**Survey ID    Respondent Name**

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- 22    Institute for Tribal Environmental Professionals
- 32    Coke Oven Environmental Task Force (white paper prepared by Allen Dittenhoefer of Enviroplan Consulting)

**S/L/T agency?**

- 35    ?

**State & Local Agencies in Region 3, 4 and 8**

- 117    State of South Carolina (Bob Betterton), City of Philadelphia (Haley Comer), EPA Region III (Helene Drago), State of Delaware (David Fees), Allegheny County (Marty Hochhauser), State of Pennsylvania (John Hulsberg), City of Philadelphia (Henry Kim), State of North Carolina (Jim Southerland), State of Minnesota (Chun Yi Wu)

**State & Local Agencies, EPA Region 1**

- 120    State of New Hampshire (Mike Fitzgerald, Sonny Strickland, and Dave Heasley), EPA Region 1 (Bob McConnell), State of Massachusetts (Ken Satell), State of Maine (Doug Schell), State of Vermont (Bart Sponoeller),

**State & Local Agencies, Region 4**

- 118    Region 4, State of Georgia, State of Florida

**State Agency**

- 100    Washington Department of Ecology (Beth Stipek)
- 104    Oregon Environmental Council (OEC) (Laura Weiss)
- 105    Oregon Department of Environmental Quality (ODEQ) (John Ruscigno, Audrey O'Brien, Greg Grunow, Carey Chang, Dave Kauth, Pat Vernon)
- 107    Mississippi Department of Environmental Quality (Dan McLeod)
- 108    Oregon Department of Environmental Quality (Greg Aldrich, Eric Blischke, Gregg Lande)

**Survey ID    Respondent Name**

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- 109 Oregon Department of Environmental Quality (Sarah Armitage, MaryAnn Fitzgerald, Ryan Ross, Svetlana Lazare, Gregg Lande, Jerry Ebersole, Christ Swab, Jeffrey Stocum, Jerry Preston, Phil Allen, Annette, Corey Chang)
- 112 Vermont Department of Environmental Conservation (Doug Elliott)
- 115 Commonwealth of Virginia (Regina Jordan)
- 116 Texas Commission on Environmental Quality (Kathy Pendleton)
- 119 State of Washington (one section, not sure which, David Wendt)
- 122 New Jersey Department of Environmental Protection (No specific contact)
- 123 Nebraska Department of Environmental Quality (David Brown)
- 125 Arizona Department of Environmental Protection (Darlene Celaya)
- 126 Colorado Department of Public Health and Environment
- 127 Georgia Environmental Protection Division (Jimmy Johnston)
- 129 Illinois Environmental Protection Agency
- 130 Indiana Department of Environmental Management (Phil Perry)
- 135 California Air Resources Board (Chris Nguyen, Keith Rosecrantz, Pat Gaffney)
- 137 Michigan Department of Environmental Quality (John Schroeder, Scott Edic, Dennis McGeen, Rick Dalebout)
- 138 Wisconsin Department of Natural Resources Bureau of Air Management (Susan Linderm, Mike Ross, Bob Eckdale, Corey Carter, Roger Fritz, Pat Kirsop, Ralph Patterson, Andy Seeber, Colin Duffy, Phillip Spranger)
- 140 Minnesota Pollution Control Authority, Emissions Inventory Group (Paul Kim)
- 141 Minnesota Air Pollution Control Authority , Air Permitting Group (Peggy Bartz, Steve Gorg)
- 142 Minnesota Pollution Control Authority, Permitting Supervisors (Carolina Schmitt, Don Smith)

**Survey ID    Respondent Name**

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- 143    Texas Commission on Environmental Quality, Mobile Emissions Group (Steve Anderson, Diane Preusse, Bertie Fernando, Melinda Torres, Greg Lauderdale, Karla Hardison)
  
- 144    Texas Commission on Environmental Quality, Air Permits (Randy Hamilton, Bob Mann, John Smith, Vincent Meiller)
  
- 145    Texas Commission on Environmental Quality, Houston Regional Office (Diana Sullivan, Dick Flannery, Matthew Kolodney, Claudio Galli, Manuel Bautista, Billie Zaporteza, Enayat Zareian, Kiranmai Valluri, Mohammed Bajwa, Henry Iyamu, Robert Buchanan, Vicky Wang, Jeanette Schwartz, Vivek Kim, Rickey Wilson, Nadia Hameid, Kesha Ragin, La Juan Julian, Sherri Gregg, Wayne Strickler, Ruth Cleveland, Cedric Flemming, Regina Speights, Angela Robinson, and Mukhtar Malik)
  
- 146    Texas Commission on Environmental Quality, Emissions Inventory Division (Russ Nettles, Kevin Cauble, Kathy Pendleton, Paul Henry, Michal de la Cruz)
  
- 147    Texas Commission on Environmental Quality
  
- 148    Florida Department of Environmental Protection (Bruce Mitchell)



# **1. How do you or your constituents use emissions factors (e.g., inventories, permit applicability, compliance)?**

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## **FIATqs**

**Survey ID:** 34                      **Respondent Type:** ?

inventories, permit applicability, and compliance

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**EPA Clean Air Markets Division (CAMD), Bryan Bloomer, Matthew Boze, Ruben Deza, Leif Hockstad, Travis Johnson, Manuel Oliva, John Schakenbach**

**Survey ID:** 16                      **Respondent Type:** EPA

CO2 EF used to support inventory submitted to UN and in developing an aggregate international inventory on carbon loading

use EFs for methane and NOx for inventories

use EFs for small boilers and turbines to quantify potential contributions and reductions

Use fuel-specific EFs with fuel flow data for monitoring emissions from large boilers and turbines

mainly use AP-42 EFs for permit applicability

---

**EPA NE Regional Office permitting group (Susan Lancey, Brendan McCahill, Steve Rapp)**

**Survey ID:** 11                      **Respondent Type:** EPA

determining potential to emit (PTE) for NSR and Title V permit applications

in preconstruction permits

final enforceable permit emissions limits (for NSR and PSD) are derived from permit inventory values based on EFs that are source category averages

EFs are in permits for triggering NSR or other applicability determinations

---

# **1. How do you or your constituents use emissions factors (e.g., inventories, permit applicability, compliance)?**

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**EPA Office of Enforcement and Compliance Assurance (OECA) (Charlie Garlow, Rich Biondi, Mamie Miller, Scott Throwe, Mario Jorquera)**

**Survey ID: 14                      Respondent Type: EPA**

used in permits for setting limits and demonstrating compliance

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**EPA Region 6 Air Permits Staff (Tom Diggs, Guy Donaldson, Bonnie Braganz, Daron Page)**

**Survey ID: 43                      Respondent Type: EPA**

use EF to develop base-year inventories for non-attainment areas and SIP inventories, special studies, MOBILE6 inventories, applicability, and to check state's emissions computations

---

**EPA Region 9 (Stan Tong, John Kim)**

**Survey ID: 132                      Respondent Type: EPA**

First cut to determine if major source or PSD applicability. Also used as the basis of annual inventories of PM10 plans. To determine significant emission categories for RACM/BACM. For permitting all the time unless test report exists. Basis for proceeding for PSD< NSR, major vs. minor issues.

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**EPA Region I representative (Al Hicks)**

**Survey ID: 12                      Respondent Type: EPA**

used for selecting calibrations ranges for test methods

used as a first cut for air quality modeling

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**EPA Region VI RCRA Staff (Jeff Yurk)**

**Survey ID: 28                      Respondent Type: EPA**

in developing modeling inputs from inventories based on EFs

---

# **1. How do you or your constituents use emissions factors (e.g., inventories, permit applicability, compliance)?**

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***EPA/Climate Protection Partnerships Division (CPPD)***

**Survey ID: 17                      Respondent Type: EPA**

in developing inventories

in conducting mitigation analyses for mostly voluntary programs

---

***EPA/OAQPS, Air Quality Strategies and Standards Division (AQSSD), Ozone Policy and Strategies Group (OPSG) (Tom Helms, Tom Rosendahl, Bill Johnson, David Sanders)***

**Survey ID: 9                      Respondent Type: EPA**

the division's work relies on modeling based on inventories that are built using EFs

use AP-42 as general resource about processes, control technologies, and average emissions when addressing control strategy questions

---

***EPA/OAQPS, Emission Standards Division (ESD) (Sally Shaver, Penny Lassiter)***

**Survey ID: 18                      Respondent Type: EPA**

in developing inventories of toxic pollutants

---

***EPA/OAQPS, Emissions Monitoring and Analysis Division (EMAD), Air Quality Modeling Group (AQMG) (Madeleine Strum and Joe Touma)***

**Survey ID: 29                      Respondent Type: EPA**

don't use EFs, but the emission rates they use in their models are from States and local agencies who use either emission factors or mass balance

---

***EPA/OAQPS, Emissions Standards Division (ESD), Coatings and Consumer Products Group (CCPG) (Dave Salman, Printing MACT)***

**Survey ID: 27                      Respondent Type: EPA**

none

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# **1. How do you or your constituents use emissions factors (e.g., inventories, permit applicability, compliance)?**

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**EPA/OAQPS, Emissions Standards Division (ESD), Coatings and Consumer Products Group (CCPG) (Dianne Byrne)**

**Survey ID: 33                      Respondent Type: EPA**

risk reduction calculation of chromium and chrome6 emissions in welding operations

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**EPA/OAQPS, Emissions Standards Division (ESD), Risk Exposure and Assessment Group (REAG) (David Guinnup, Ted Palma, and Neal Fann)**

**Survey ID: 13                      Respondent Type: EPA**

ESD uses inventories based on EFs, industry sources, and state and local agency information

---

**EPA/OAQPS, Information Transfer and Program Integration Division (ITPID), Integrated Implementation Group (IIG)**

**Survey ID: 23                      Respondent Type: EPA**

NSR major source determinations

"Netting Analysis", which is when an existing facility wants to add on but take credit for past process changes, which requires the establishment of the facility's baseline emissions through testing or calculation using EFs

---

**Region 10 and Washington Department of Ecology (Madonna Narvaez, Maynard Okereke, Herman Wong, Emad Shahin, Paul Boys, Don Dossett, Lester Keel, Rindy Ramos, Beth Stipek)**

**Survey ID: 30                      Respondent Type: EPA**

verification of emissions

to compare standard to actuals for requiring emissions monitoring

targeting pulp and paper PSD investigations

Modeling for PSD

to determine whether requirements have been triggered

to determine some source testing requirements

---

# **1. How do you or your constituents use emissions factors (e.g., inventories, permit applicability, compliance)?**

---

## **Region 9**

**Survey ID: 133                      Respondent Type: EPA**

Owens dry lake bed needed \$350 million and four years to develop emissions factors and determine control needs. Great reliance on emissions factors. Used in attainment designations. Tribes do their own emissions inventories and rely on AP-42. Need factors for agricultural tilling, pesticide applications, open burning, unpaved roads, and burning factors.

---

**US EPA Region 5 (Michael Rizzo, Farro Assadi, Genevieve D'Amico, Rafiu Dania, Mary Tyson, Loretta Lehrmann, Regina Charles, Brent Marable, Bill McDowell)**

**Survey ID: 41                      Respondent Type: EPA**

use EF to check TRI submittals, permitting, emissions inventories, target inspections, enforcement, risk assessment, modeling, citizen complaints, nonattainment area tests, Chicago Risk study

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**US EPA Region 5 Air Permitting Section (Ethan Chatfield, Sam Portanova, Stacey Coburn, Rachel Rinehart, Beth Valenziano, Jennifer Darrow, Genevieve D'Amico, Laura David, Susan Stepkowski, Danny Marcos, Constantine Blathras, Kaushal Gupta, Richard Angelbeck, Bob Miller)**

**Survey ID: 44                      Respondent Type: EPA**

for ambient air quality analyses for PSD permitting, calculating permit limits, compliance determinations

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**US EPA Region 6 Air Enforcement Section (Michelle Kelly, David Garcia, Gerald Mokry, Raymond Magyar, Robert Todd)**

**Survey ID: 45                      Respondent Type: EPA**

use EF for PSD investigations, applicability determinations, propose emissions limits, other compliance purposes  
use AP-42 to learn about an industry, its history and throughput  
they encourage states to require testing

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## **Department of Defense**

**Survey ID: 2                      Respondent Type: Federal Agency**

applicability determinations (esp. for HAP from fuels)

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# **1. How do you or your constituents use emissions factors (e.g., inventories, permit applicability, compliance)?**

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**United States Forest Service - Seattle Office (Sue Ferguson, Susan O'Neill)**

**Survey ID:** 111      **Respondent Type:** Federal Agency

Parse the emissions developed from fires. Work on how to mitigate the effects of fires. Define the mitigation techniques and anticipate impacts of fires.

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**American Coke and Coal Chemicals Institute and National Oilseed Processors Association (David Ailor)**

**Survey ID:** 1      **Respondent Type:** Industry

site-specific applicability for Title V  
residual risk decision making

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**Bridgewater Group Inc. (consulting firm) (Candice Hatch)**

**Survey ID:** 21      **Respondent Type:** Industry

clients use emission factors to develop emissions inventories, for permitting, compliance, EIS, TRI  
used especially for fugitive sources and smaller (i.e., area) sources

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**Daimler Chrysler, Corporate Regulatory Planning Group (Mary Snow Cooper)**

**Survey ID:** 36      **Respondent Type:** Industry

to characterize emissions from many smaller sources  
TRI  
permitting for combustion sources

---

# **1. How do you or your constituents use emissions factors (e.g., inventories, permit applicability, compliance)?**

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**DOD Environmental Contractors (Drek Newton [Navy], Paul Josephson [Army], Scott Cummings [Army], Steve Rasmussen [Air Force])**

**Survey ID:** 26                      **Respondent Type:** Industry

applicability determinations and determining synthetic minor source status

determining HAP emissions from fuels

annual emissions statements

calculating Title V fees

in creating model inputs

in calculations where test data is not available

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## **Georgia-Pacific Corporation**

**Survey ID:** 19                      **Respondent Type:** Industry

emissions inventory development

permitting

compliance

SARA 313 emission estimates

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## **Huntsman Oil (Peter Houston)**

**Survey ID:** 37                      **Respondent Type:** Industry

permitting, TRI, inventories

---

# **1. How do you or your constituents use emissions factors (e.g., inventories, permit applicability, compliance)?**

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## ***NEDA/CARP (Todd Rollefson)***

**Survey ID:** 15                      **Respondent Type:** Industry

determining potential to emit for permit applications

final permit limits derived from preconstruction permit EF values based on EFs that are source category averages

production limits in permits are based on maximum emissions load calculated from EF and activities measurement

permit applicability

NSR determinations

payment of operating fees

for annual or biannual emission inventories that most states require

for compliance, particularly when stack testing is not feasible

for company benchmarking and internal environmental stewardship programs

---

## ***Proctor and Gamble, El Paso Corporation, ExxonMobil, Dow Chemical, Clean Air Implementation Project***

**Survey ID:** 8                      **Respondent Type:** Industry

site-specific emissions quantification for emissions inventory, Title V, NSR/PSD

in permits as basis for limits and demonstrating compliance

---

## ***Reliant Energy, Air Resources Permitting and Compliance Group for Texas and Illinois Plants (Joe Araiza)***

**Survey ID:** 24                      **Respondent Type:** Industry

permitting and emission inventories

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# **1. How do you or your constituents use emissions factors (e.g., inventories, permit applicability, compliance)?**

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**Taconite Mining Industry Representatives (Nancy Smith, Sarrah Mattila, Dave Skolasinski)**

**Survey ID:** 40                      **Respondent Type:** Industry

to determine permit fees

to develop permit limits

for emissions fees

inventories

determine whether a potential construction project is worthwhile (or whether it will be a permit nightmare)

to check stack testing results

---

**Texas Eastman (Jeff Mach)**

**Survey ID:** 39                      **Respondent Type:** Industry

to quantify emissions from utilities and feed stock, ethylene cracking, boilers, fluid bed and rotary kilns, waste disposal , gaseous waste, activated sludge plant and olefin units

to develop compliance plan

to compute TRI emissions

---

# **1. How do you or your constituents use emissions factors (e.g., inventories, permit applicability, compliance)?**

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**TRC (consulting firm) (Steve Eitelman, Mark Hultman, Gary Hunt, Howard Schiff, Ray Topazio, Al Wilder)**

**Survey ID:** 7                      **Respondent Type:** Industry

determining potential to emit for permit applications

annual inventory reports

final enforceable permits limits, derived from preconstruction permits based on EFs that are source category averages

site-specific risk assessments

compliance determinations

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**Air Management Division of the Environmental Protection Commission, Hillsborough County (Tampa), Florida**

**Survey ID:** 128                      **Respondent Type:** Local agency

Use for inventories, permit applicability, and compliance.

---

**Allegheny County Air Quality Program, Pittsburgh, PA (no specific contact)**

**Survey ID:** 124                      **Respondent Type:** Local Agency

estimate actual and potential emissions for the processes of all regulated sources where source-specific emission factors are not available to this agency or to the regulated sources. Background information from sections of AP-42 is used to determine if there are better alternatives to the average factors or if there should be limitations placed on the use of the average factor for a specific case. May be used as part of a process in determining source classifications, air permit applicability, permit emission limitations, emission fees, permit fees, and source compliance.

---

**Bay Area Air Quality Management District, CA (Peter Hess, Bill Guy, Joe Slamovich, Charles McClure)**

**Survey ID:** 134                      **Respondent Type:** Local agency

Use inventory as input to calculate risk. Use Emissions factors in inventory work.

---

# **1. How do you or your constituents use emissions factors (e.g., inventories, permit applicability, compliance)?**

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## ***City of Houston (Arturo Blanco, Daniel Hoyt)***

**Survey ID:** 139                      **Respondent Type:** Local agency

Use emissions factors to quantify emissions from cooling towers (controlled and uncontrolled) and fugitives. They would like us to revisit the cooling tower emissions factors. They also use emissions factors core compliance purposes, inspections, PTE calculations, permit applicability, and emissions inventory. A bout 15% of their sources are in the 2800 and 2900 SCC.

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## ***City of Jacksonville, Florida (Lori Tilley)***

**Survey ID:** 106                      **Respondent Type:** Local Agency

Inventories and permit applicability. Generally not for compliance purposes.

---

## ***Lane County Regional Air Pollution Authority (Max Hueftle, Robert Koster, Drew Johnson)***

**Survey ID:** 102                      **Respondent Type:** Local Agency

Emissions factors are used to determine/check fee reporting/determination, TRI data use. Process descriptions in AP-42 are appreciated, esp. for permitting new sources or for new employees. Emissions factors are also used for external combustion and oil-fired [boilers?]. Would like emissions factors for silicon smelters, bakeries, paved roads, and aggregate industries.

---

## ***Lincoln-Lancaster County Health Department, Nebraska (Gary Bergstrom)***

**Survey ID:** 131                      **Respondent Type:** Local agency

Use emissions factors for emissions inventories, permits, applicability, and compliance.

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## ***Monterey Bay Unified Air Pollution Control District***

**Survey ID:** 31                      **Respondent Type:** Local Agency

to determine applicability, particularly for NSR for BACT offset, and increment analysis

permit conditions may be based on EFs

---

# **1. How do you or your constituents use emissions factors (e.g., inventories, permit applicability, compliance)?**

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## ***Polk County Air Quality, Iowa (Gary Young)***

**Survey ID:** 121      **Respondent Type:** Local Agency

Permit generation and emissions inventories. Compliance determinations are based on compliance with permit conditions generated using emissions factors.

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## ***Port of Portland Authority - Portland International Airport, Oregon (Steve Mrazek)***

**Survey ID:** 103      **Respondent Type:** Local Agency

Use E.Fs to show that sources are a non-major source for criteria pollutants and HAPs. Also use E.Fs for conformity determinations and applicability purposes. Sources include marine terminal operations (ships, tugs, locomotives, trucks, and yard vehicles) and aviation sources (gas-fired boilers, emergency generators, surface transportation source using MOBILE5, and aircraft and ground service equipment).

---

## ***Puget Sound Clean Air Agency, Washington (Kwame Agyei, Steve Van Slyke, John Anderson, and David Kircher)***

**Survey ID:** 110      **Respondent Type:** Local Agency

Use emissions factors in strategy development, targeting sources for inspections, determining whether a source is an area source or a synthetic minor, permit applicability, annual reporting, fee structure, learning tool, and fugitive losses (pain manufacturers).

---

## ***Sacramento Metropolitan Air Quality Management District (Jorge Guzman)***

**Survey ID:** 113      **Respondent Type:** Local Agency

Emission factors are used when actual emissions data for an emissions unit are not available, and the emissions level is too small to justify requiring a source test.

---

## ***Seattle Port Authority (Barbara Cole)***

**Survey ID:** 101      **Respondent Type:** Local Agency

E.F.s used while working with Federal agencies to demonstrate conformity and to develop Seattle Environmental Policy Act (similar to NEPA) applications. (NEPA not applicable for most of their projects since they are transportation-related) Emission factors are used on a voluntary basis for permitting boilers, cruise ship terminals, and mobile models for sea-going vessels (Question 1)

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# 1. How do you or your constituents use emissions factors (e.g., inventories, permit applicability, compliance)?

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## **South Coast Air Quality Management District, California**

**Survey ID:** 136      **Respondent Type:** Local agency

emissions inventories, permitting

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## **Ventura County Air Pollution Control District (Karl Krause, Manager, Engineering Division -- Chair of the CAPCOA Engineering Managers Committee)**

**Survey ID:** 114      **Respondent Type:** Local Agency

Use emissions factors in compiling planning emissions inventories, developing stationary source rules, and in permitting. For permitted emissions, the emissions factors serve both as an upper limit on emissions from the facility and as a way to characterize the facility. Thus, they are used in new source review applicability. Permit conditions or rule limits may be based on an allowable emission rate that might be considered an emissions factor.

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## **Coke Oven Environmental Task Force (white paper prepared by Allen Dittenhoefer of Enviroplan Consulting)**

**Survey ID:** 32      **Respondent Type:** Planning and Environmental Organizations

to estimate emissions for annual emission fee reports  
annual emission statements for nonattainment areas  
for TRI  
for Title V air permit applications  
for construction/operating permit applications  
for NSR applicability and permit applications  
for MACT applicability  
for permit compliance demonstrations and compliance assurance monitoring (CAM) requirements  
in development of inventories  
for Section 112 residual risk analyses

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## **NESCAUM**

**Survey ID:** 5      **Respondent Type:** Planning and Environmental Organizations

In developing inventories for modeling  
permitting applicability determinations, esp for PM

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# 1. How do you or your constituents use emissions factors (e.g., inventories, permit applicability, compliance)?

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**several environmental advocacy groups (Sierra Club, Earth Justice, NRDC, National Environmental Trust, Frederick Law, Galveston and Houston Association for Smog Control)**

**Survey ID: 4                      Respondent Type: Planning and Environmental Organizations**

not used by these groups, but they have comments -  
facilities should not be allowed to use process activity data combined with EFs to demonstrate compliance  
site-specific application of EFs for NSR/PSD emissions quantification is too readily accepted  
inventories should not be based on AP-42 data - they are not representative of the real situation and are difficult to explain to the international community

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## **STAPPA/ALAPCO**

**Survey ID: 3                      Respondent Type: Planning and Environmental Organizations**

about 80% of emissions estimates state permitting agencies develop for attainment/nonattainment determinations are from AP-42

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## **WESTAR (in Portland, OR) (Bob Lebens)**

**Survey ID: 20                      Respondent Type: Planning and Environmental Organizations**

permitting  
emission inventories

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**Survey ID: 35                      Respondent Type: S/L/T agency?**

use EF in absence of source test/actual data for inventories, permits, and compliance

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# 1. How do you or your constituents use emissions factors (e.g., inventories, permit applicability, compliance)?

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**State of South Carolina (Bob Betterton), City of Philadelphia (Haley Comer), EPA Region III (Helene Drago), State of Delaware (David Fees), Allegheny County (Marty Hochhauser), State of Pennsylvania (John Hulsberg), City of Philadelphia (Henry Kim), State of North Carolina (Jim Southerland), State of Minnesota (Chun Yi Wu)**

**Survey ID:** 117      **Respondent Type:** State & Local Agencies in Region 3, 4 and 8

Criteria and Air toxics inventories, potential to emit for Title V and NSR decisions, emissions limits for permits, enforcement to check work of engineers and permit writers before issuing permits, emissions calculations and a determination of whether testing is necessary.

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**State of New Hampshire (Mike Fitzgerald, Sonny Strickland, and Dave Heasley), EPA Region 1 (Bob McConnell), State of Massachusetts (Ken Satell), State of Maine (Doug Schell), State of Vermont (Bart Sponoeller),**

**Survey ID:** 120      **Respondent Type:** State & Local Agencies, EPA Region 1

State-specific inventories for criteria and air toxic pollutants, AP-42/CHIEF used almost exclusively since State agency have almost no resources for developing emissions factors. Some states might use source-derived data but usually require emissions testing or CEMS data for verification along with accurate activities data.

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**California Air Resources Board (Chris Nguyen, Keith Rosecrantz, Pat Gaffney)**

**Survey ID:** 135      **Respondent Type:** State agency

Use emissions factors to generate inventories to calculate risk. Emissions factors are also good to see if it is a good fit. Can use for regulation development, permits, etc. Starting point for emissions inventories, area sources.

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**Arizona Department of Environmental Protection (Darlene Celaya)**

**Survey ID:** 125      **Respondent Type:** State agency

Use emissions factors for estimating annual emission inventories, permit applicability, and verifying compliance when no other emissions factor is available.

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# **1. How do you or your constituents use emissions factors (e.g., inventories, permit applicability, compliance)?**

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## ***Colorado Department of Public Health and Environment***

**Survey ID:** 126      **Respondent Type:** State agency

Use for inventories, permit applicability, compliance, calculating allowable emissions based on the requested production/throughput rate.

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## ***Commonwealth of Virginia (Regina Jordan)***

**Survey ID:** 115      **Respondent Type:** State Agency

Used to develop permit limits and to track emissions through the emissions inventory.

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## ***Florida Department of Environmental Protection (Bruce Mitchell)***

**Survey ID:** 148      **Respondent Type:** State Agency

Air permitting staffs accept that use of the AP-42 emissions factors in calculating the potential pollutant emissions for a proposed new or modified emissions unit contained in an application for an air construction permit. If a consultant wants to use some other document(s) to calculate the potential pollutant emissions for a proposed air emitting project, then it has to be provided as a supplement to the application.

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## ***Georgia Environmental Protection Division (Jimmy Johnston)***

**Survey ID:** 127      **Respondent Type:** State Agency

Used extensively in permit applicability, permit fees, emissions inventories, and SIP and other planning. Sometimes used for compliance purposes.

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## ***Illinois Environmental Protection Agency***

**Survey ID:** 129      **Respondent Type:** State agency

Inventories, permitting, compliance or any other activity where an estimate of emissions is needed.

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# **1. How do you or your constituents use emissions factors (e.g., inventories, permit applicability, compliance)?**

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## ***Indiana Department of Environmental Management (Phil Perry)***

**Survey ID:** 130                      **Respondent Type:** State agency

The most common use of emissions factors is for permitting purposes. In most cases, the permit sections use AP-42 as a default for estimating emissions for permitting applicability decisions. There are also some instances where a source may be subject to possible PSD issue relating to equipment that is already installed and operating. Testing is the primary means in developing an emissions factor to determine if the source should have gone through PSD. Emissions factors are also used for rule applicability. Sources will use emissions factors to report their yearly emissions on their annual emissions statements.

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## ***Michigan Department of Environmental Quality (John Schroeder, Scott Edic, Dennis McGeen, Rick Dalebout)***

**Survey ID:** 137                      **Respondent Type:** State Agency

Use emissions factors for emissions inventory development and permitting as well as for process models. Do not use or review TRI data very often.

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## ***Minnesota Air Pollution Control Authority , Air Permitting Group (Peggy Bartz, Steve Gorg)***

**Survey ID:** 141                      **Respondent Type:** State agency

Use emissions factors for permitting purposes. They determine compliance terms and conditions based on emissions factors.

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## ***Minnesota Pollution Control Authority, Emissions Inventory Group (Paul Kim)***

**Survey ID:** 140                      **Respondent Type:** State agency

Uses emissions factors to develop emissions inventory. Sometimes, the Emissions Inventories rule does not allow him to use manufacturer's specifications.

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# **1. How do you or your constituents use emissions factors (e.g., inventories, permit applicability, compliance)?**

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## **Minnesota Pollution Control Authority, Permitting Supervisors (Carolina Schmitt, Don Smith)**

**Survey ID:** 142                      **Respondent Type:** State agency

Use emissions factors to develop emission profiles of sectors, for determining appropriate testing methods, trends reports, PM2.5, PM10, and toxics emissions inventories. AP-42 is the default source for estimating emissions. It is a good starting point for estimating air permit fees.

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## **Mississippi Department of Environmental Quality (Dan McLeod)**

**Survey ID:** 107                      **Respondent Type:** State Agency

Uses AP-42 in the event more reliable data re not available for projecting emissions inventory and permit or regulation applicability. Do not use them for demonstrating compliance with applicable emission limitations. Use AP-42 factors when determining the margin of compliance with a relative emission limitation when determining to what degree and frequency of monitoring is needed to satisfy the requirements of the Title V permitting program.

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## **Nebraska Department of Environmental Quality (David Brown)**

**Survey ID:** 123                      **Respondent Type:** State Agency

Actual emissions in annual emissions inventory reports. Calculate actual and potential emissions regarding permit applicability.

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## **New Jersey Department of Environmental Protection (No specific contact)**

**Survey ID:** 122                      **Respondent Type:** State Agency

Annual reports on actual air emissions (may rely upon AP-42 emissions factors as a method of quantifying/estimating their actual emissions if they do not have any provisions for emissions monitoring or periodic stack test data to use as a basis for these estimates.) prepare emissions inventories, permit limits

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## **Oregon Department of Environmental Quality (Greg Aldrich, Eric Blischke, Gregg Lande)**

**Survey ID:** 108                      **Respondent Type:** State Agency

Emission factors are used for water contamination studies, Willamette River Mercury Deposition Study. Need good emissions factors for mercury from pulp and paper sources, compressor stations, steel mills, solid waste incinerators, mobile sources, and fire.

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# **1. How do you or your constituents use emissions factors (e.g., inventories, permit applicability, compliance)?**

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**Oregon Department of Environmental Quality (ODEQ) (John Ruscigno, Audrey O'Brien, Greg Grunow, Carey Chang, Dave Kauth, Pat Vernon)**

**Survey ID: 105                      Respondent Type: State Agency**

Uses E.Fs for emissions inventories, permit applicability, and compliance. Also uses E.Fs for penalty calculations to determine the extend of an exceedance or violation. Use to prioritize or focus on source activities and to estimate baseline emissions. AP-42 is used to evaluate new source tests and for the Portland Air Toxics Assessment (PATA), which is a modeling study being done by ODEQ.

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**Oregon Department of Environmental Quality (Sarah Armitage, MaryAnn Fitzgerald, Ryan Ross, Svetlana Lazare, Gregg Lande, Jerry Ebersole, Christ Swab, Jeffrey Stocum, Jerry Preston, Phil Allen, Annette, Corey Chang)**

**Survey ID: 109                      Respondent Type: State Agency**

Used for emissions inventories, permit applicability, compliance, control strategy analysis and selection, modeling, fees, credibility and checking their "science", consumer outreach and education, lawn mower buy back program, and others.

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**Oregon Environmental Council (OEC) (Laura Weiss)**

**Survey ID: 104                      Respondent Type: State Agency**

Indirectly uses E.Fs when they look up TRI data or review permits. Rely on ODEQ emissions inventories for some of their projects. Having trouble assessing lead, mercury, dioxins, PBTs, benzene, acrolein, and formaldehyde for a Campaign for Dirty Dozen Initiative.

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**State of Washington (one section, not sure which, David Wendt)**

**Survey ID: 119                      Respondent Type: State Agency**

Emissions inventory. Many of our permits have an annual emission limit for specific pollutants. These are usually derived from stack test data, but sometimes based on emissions factors. AP-42 factors are sometimes used to determine applicability.

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# **1. How do you or your constituents use emissions factors (e.g., inventories, permit applicability, compliance)?**

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## ***Texas Commission on Environmental Quality***

**Survey ID:** 147      **Respondent Type:** State Agency

AP-42 is used primarily as a reality check for other "better" methods to estimate emissions. Use TANKS routinely for long-term emissions quantification, but it has problems for short-term quantification (Hourly). They believe there are problems with the liquid density numbers in TANKS, as well.

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## ***Texas Commission on Environmental Quality (Kathy Pendleton)***

**Survey ID:** 116      **Respondent Type:** State Agency

Inventories. Factors are used heavily for this purpose.

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## ***Texas Commission on Environmental Quality, Air Permits (Randy Hamilton, Bob Mann, John Smith, Vincent Meiller)***

**Survey ID:** 144      **Respondent Type:** State Agency

Use AP-42 very rarely. It is a good starting point for them. There are not good emissions factors for the PM/PM10 split. They use AP-42 to check and compare emissions tests' results. Use emissions factors from AP-42 and other sources to evaluate the necessity of periodic monitoring and testing. This is especially the case for permitting of cooling towers and combustion systems (power plants, industrial boilers, commercial boilers, etc.).

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## ***Texas Commission on Environmental Quality, Emissions Inventory Division (Russ Nettles, Kevin Cauble, Kathy Pendleton, Paul Henry, Michal de la Cruz)***

**Survey ID:** 146      **Respondent Type:** State Agency

Use emissions factors to determine fees and for checking TRI submissions.

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# **1. How do you or your constituents use emissions factors (e.g., inventories, permit applicability, compliance)?**

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**Texas Commission on Environmental Quality, Houston Regional Office**  
*(Diana Sullivan, Dick Flannery, Matthew Kolodney, Claudio Galli, Manuel Bautista, Billie Zaportez, Enayat Zareian, Kiranmai Valluri, Mohammed Bajwa, Henry Iyamu, Robert Buchanan, Vicky Wang, Jeanette Schwartz, Vivek Kim, Rickey Wilson, Nadia Hameid, Kesha Ragin, La Juan Julian, Sherri Gregg, Wayne Strickler, Ruth Cleveland, Cedric Flemming, Regina Speights, Angela Robinson, and Mukhtar Malik)*

**Survey ID:** 145                      **Respondent Type:** State Agency

Use emissions factors for compliance purposes and permit applicability.

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**Texas Commission on Environmental Quality, Mobile Emissions Group**  
*(Steve Anderson, Diane Preusse, Bertie Fernando, Melinda Torres, Greg Lauderdale, Karla Hardison)*

**Survey ID:** 143                      **Respondent Type:** State Agency

Use emissions factors to characterize the emissions of area and mobile sources.

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**Vermont Department of Environmental Conservation (Doug Elliott)**

**Survey ID:** 112                      **Respondent Type:** State Agency

Inventories, permit applicability, occasionally permit limits quantification of emissions to compare against permit thresholds triggering additional monitoring, recordkeeping, and more extensive permit limits.

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**Washington Department of Ecology (Beth Stipek)**

**Survey ID:** 100                      **Respondent Type:** State Agency

Emission factors are used as second data for calculating emissions from sources, if available, in the absence of source tests/actual data.

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**1. How do you or your constituents use emissions factors (e.g., inventories, permit applicability, compliance)?**

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**Wisconsin Department of Natural Resources Bureau of Air Management  
(Susan Linderm, Mike Ross, Bob Eckdale, Corey Carter, Roger Fritz, Pat Kirsop, Ralph Patterson, Andy Seeber, Colin Duffy, Phillip Spranger)**

**Survey ID:** 138      **Respondent Type:** State agency

Use emissions factors to calculate emissions fees (based on actual, \$10,000,000 annually -- 60% of budget), to determine whether source testing is required (if the emissions are close to threshold) for potential synthetic minors, to quality assure TRI data, and to determine applicability for standards. The Bureau usually uses the worst case assumption, and the burden is on industry to test and demonstrate their source is a synthetic minor.

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## 2. Are the emissions factors you or your constituents use derived from EPA's AP-42 or other data sources? What are those other sources?

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### *FIATqs*

**Survey ID:** 34                      **Respondent Type:** ?

source tests, CARB, process knowledge, material balance

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### *EPA Region 6 Air Permits Staff (Tom Diggs, Guy Donaldson, Bonnie Braganz, Daron Page)*

**Survey ID:** 43                      **Respondent Type:** EPA

Region 6 uses AP-42, but also uses MSDS info, manufacturers specifications, validated CEMs data, and other data

States usually go with a more conservative approach, such as what similar industries emit

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### *EPA Region 6 Air Toxics Staff (Ruben Casso, Carrie Paige)*

**Survey ID:** 42                      **Respondent Type:** EPA

from guidance, MOBILE6 modeling, AP-42, reference documents, internal and external worst case assumptions

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### *EPA Region 9 (Stan Tong, John Kim)*

**Survey ID:** 132                      **Respondent Type:** EPA

Usually have CEMS data and use emissions factors as a second check. If emissions factors are below permit levels, uncomfortable and look for more information.

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### *EPA Region 1 representative (Al Hicks)*

**Survey ID:** 12                      **Respondent Type:** EPA

primarily AP-42, also use results of previous testing

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## 2. Are the emissions factors you or your constituents use derived from EPA's AP-42 or other data sources? What are those other sources?

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**EPA Region VI RCRA Staff (Jeff Yurk)**

**Survey ID:** 28                      **Respondent Type:** EPA

uses state and national inventories that are based on emission factors, but doesn't know where emissions factors are used

uses the SPECIATE model, or Locator and Estimator documents to fill inventory data gaps before using AP-42

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**Region 10 and Washington Department of Ecology (Madonna Narvaez, Maynard Okereke, Herman Wong, Emad Shahin, Paul Boys, Don Dossett, Lester Keel, Rindy Ramos, Beth Stipek)**

**Survey ID:** 30                      **Respondent Type:** EPA

AP-42, CARB, industry trade organizations, manufacturer's specifications

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**US EPA Region 5 (Michael Rizzo, Farro Assadi, Genevieve D'Amico, Rafiu Dania, Mary Tyson, Loretta Lehrmann, Regina Charles, Brent Marable, Bill McDowell)**

**Survey ID:** 41                      **Respondent Type:** EPA

use AP-42, source tests, trade associations, CARB, Japan Efs for steel foundries, European Efs for animal feeding operations

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**US EPA Region 5 Air Permitting Section (Ethan Chatfield, Sam Portanova, Stacey Coburn, Rachel Rinehart, Beth Valenziano, Jennifer Darrow, Genevieve D'Amico, Laura David, Susan Stepkowski, Danny Marcos, Constantine Blathras, Kaushal Gupta, Richard Angelbeck, Bob Miller)**

**Survey ID:** 44                      **Respondent Type:** EPA

AP-42, landfill permits, derive own EF, open flare manufacturer's specifications, trade associations, others

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**US EPA Region 6 Air Enforcement Section (Michelle Kelly, David Garcia, Gerald Mokry, Raymond Magyar, Robert Todd)**

**Survey ID:** 45                      **Respondent Type:** EPA

use AP-42 mostly, but also use manufacturer's specifications, trade association info, source testing would like to learn more about other EF sources, like CARB's EF

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## 2. Are the emissions factors you or your constituents use derived from EPA's AP-42 or other data sources? What are those other sources?

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**United States Forest Service - Seattle Office (Sue Ferguson, Susan O'Neill)**

**Survey ID:** 111                      **Respondent Type:** Federal Agency

Use emissions factors culled from an EC/R report by Battye and Battye for the USFS Lab in Missoula -- Fire Chemistry Project. They have emissions factors for carbon monoxide, PMFine, HAPs, carbon, and ammonia from fires. Did literature search to find Global Bio-Geo chemical cycles from biomass burning.

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**Bridgewater Group Inc. (consulting firm) (Candice Hatch)**

**Survey ID:** 21                      **Respondent Type:** Industry

use AP-42, CARB emissions factors

sometimes use articles and information from other industries

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**Daimler Chrysler, Corporate Regulatory Planning Group (Mary Snow Cooper)**

**Survey ID:** 36                      **Respondent Type:** Industry

AP-42, vendors, manufacturers, Alliance (automobile trade association) study on dynamometers, other trade associations, SERDP emissions factors for foundries

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**DOD Environmental Contractors (Drek Newton [Navy], Paul Josephson [Army], Scott Cummings [Army], Steve Rasmussen [Air Force])**

**Survey ID:** 26                      **Respondent Type:** Industry

AP-42, CARB and ASTM

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**Georgia-Pacific Corporation**

**Survey ID:** 19                      **Respondent Type:** Industry

use AP-42 in conjunction with National Council for Air and Stream Improvement (NCASI) test data, site specific source tests, vendor guarantees, state permitting records, other manufacturer's monitoring data and other engineering estimates

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## 2. Are the emissions factors you or your constituents use derived from EPA's AP-42 or other data sources? What are those other sources?

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**Huntsman Oil (Peter Houston)**

**Survey ID:** 37                      **Respondent Type:** Industry

derive own EF from testing, particularly for larger sources

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**NEDA/CARP (Todd Rollefson)**

**Survey ID:** 15                      **Respondent Type:** Industry

AP-42 is usually the most cost-effective

EFs from MACT rule development

EFs from EPA's Emissions Inventory Improvement Project

vendor specified emissions data

company may develop their own EF from source testing if there is no AP-42 EF

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**Reliant Energy, Air Resources Permitting and Compliance Group for Texas and Illinois Plants (Joe Araiza)**

**Survey ID:** 24                      **Respondent Type:** Industry

AP-42, CARB and EPRI

manufacturers specifications

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**Taconite Mining Industry Representatives (Nancy Smith, Sarrah Mattila, Dave Skolasinski)**

**Survey ID:** 40                      **Respondent Type:** Industry

AP-42

FIRE

stack testing

mass balance (for mercury)

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## 2. Are the emissions factors you or your constituents use derived from EPA's AP-42 or other data sources? What are those other sources?

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*Texas Eastman (Jeff Mach)*

**Survey ID:** 39                      **Respondent Type:** Industry

currently only uses AP-42

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*Air Management Division of the Environmental Protection Commission, Hillsborough County (Tampa), Florida*

**Survey ID:** 128                      **Respondent Type:** Local agency

Use emissions factors derived from AP-42; however, also use the following data sources as necessary: stack testing, CEM, STAPPA/ALAPCO Air Quality Permit books, AP-40, Manufacturer's information, FIRE 6.23, and Trade Organizations.

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*Allegheny County Air Quality Program, Pittsburgh, PA (no specific contact)*

**Survey ID:** 124                      **Respondent Type:** Local Agency

Use emission factors from AP-42. Also from stack testing and other types of appropriate testing conducted by sources in other states or by their industry's professional organization such as the API, NAPA, and National Paint and Coatings Association. CEM data and material balances are also used when available. Non-AP-42 factors in FIRE are also used.

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*City of Houston (Arturo Blanco, Daniel Hoyt)*

**Survey ID:** 139                      **Respondent Type:** Local agency

Primarily use AP-42 emissions factors. However, TCEQ uses emissions factors from other countries (Germany), CARB, and TCEQ specific. In some cases, concerned about the reliability of these factors but accept what TCEQ puts in the permit. An example is the bakery emissions factor from CARB.

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*City of Jacksonville, Florida (Lori Tilley)*

**Survey ID:** 106                      **Respondent Type:** Local Agency

AP-42 and other sources such as FIRE, EIIP, trade organizations, L&E documents, etc.

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## 2. Are the emissions factors you or your constituents use derived from EPA's AP-42 or other data sources? What are those other sources?

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**Lane County Regional Air Pollution Authority (Max Hueftle, Robert Koster, Drew Johnson)**

**Survey ID:** 102                      **Respondent Type:** Local Agency

Use emissions factors from NCASI, industry associations, CARB, and MSDS sheets. Also use material balance as an emissions estimation. Would rather use EPA emissions factors rather than industry emissions factors because EPA E.Fs are easier to defend and justify.

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**Lincoln-Lancaster County Health Department, Nebraska (Gary Bergstrom)**

**Survey ID:** 131                      **Respondent Type:** Local agency

AP-42, stack testing, emissions tests, EPA computer models, air pollution engineering manual.

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**Monterey Bay Unified Air Pollution Control District**

**Survey ID:** 31                      **Respondent Type:** Local Agency

source test information, mass balances, manufacturer's information

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**Polk County Air Quality, Iowa (Gary Young)**

**Survey ID:** 121                      **Respondent Type:** Local Agency

Most of work products use AP-42. Exceptions include internal combustion, stationary diesel engine factors developed by Iowa and factors from the Rubber Manufacturers Association which are used in conjunction with permitting at the tire production facilities within jurisdiction.

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**Port of Portland Authority - Portland International Airport, Oregon (Steve Mrazek).**

**Survey ID:** 103                      **Respondent Type:** Local Agency

Derive E.Fs from industry trade associations, Canada air pollution controls agencies, and CARB, esp. for particulate HAPs. CARB E.Fs at times are not nationally representative.

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## 2. Are the emissions factors you or your constituents use derived from EPA's AP-42 or other data sources? What are those other sources?

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***Puget Sound Clean Air Agency, Washington (Kwame Agyei, Steve Van Slyke, John Anderson, and David Kircher)***

**Survey ID:** 110                      **Respondent Type:** Local Agency

Developed their own emissions factors. Also use manufacturer's specs, CARB, NY Port Authority, and Canadian emissions factors. Sometimes require sources to conduct source testing. Use SCAQMD emissions factors for hamburger joints.

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***Sacramento Metropolitan Air Quality Management District (Jorge Guzman)***

**Survey ID:** 113                      **Respondent Type:** Local Agency

Mostly AP-42, manufacturer's certification levels (IC engines) or manufacturer's emission guaranteed levels.

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***South Coast Air Quality Management District, California***

**Survey ID:** 136                      **Respondent Type:** Local agency

Use from a number of sources, AP-42, other regulatory sources, literature, source tests

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***Ventura County Air Pollution Control District (Karl Krause, Manager, Engineering Division -- Chair of the CAPCOA Engineering Managers Committee)***

**Survey ID:** 114                      **Respondent Type:** Local Agency

AP-42 are the default emissions factors. If an appropriate allowable emission rate (based on a rule or a permit condition) applies to a pollutant and a piece of equipment, that emission rate or an emission factor derived from that emission rate is often used in place of the default factor. If source test data are available for a pollutant and a piece of equipment, that emission rate or an emission factor derived from that emission rate may be used in place of the default factor. In some cases, use emissions factors suggested by CARB in place of AP-42 factors.

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## 2. Are the emissions factors you or your constituents use derived from EPA's AP-42 or other data sources? What are those other sources?

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**Coke Oven Environmental Task Force (white paper prepared by Allen Dittenhoefer of Enviroplan Consulting)**

**Survey ID:** 32                      **Respondent Type:** Planning and Environmental Organizations

SPECIATE data base  
EPA Factor Information Retrieval Data System (FIRE)  
EPA protocol for equipment leak estimates  
EPA locating and estimating series  
Emission Inventory Improvement Program  
technical literature  
EF documents prepared by state air pollution control agencies  
NESHAP background information documents  
site-specific EF based on source testing, engineering calculations and/or unit-specific process design

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**WESTAR (in Portland, OR) (Bob Lebens)**

**Survey ID:** 20                      **Respondent Type:** Planning and Environmental Organizations

WESTAR doesn't use EFs, but most of their states use AP-42

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**Survey ID:** 35                      **Respondent Type:** S/L/T agency?

AP-42 used if available, if not look for other research data or manufacturer data

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**California Air Resources Board (Chris Nguyen, Keith Rosecrantz, Pat Gaffney)**

**Survey ID:** 135                      **Respondent Type:** State agency

Have a lot of source tests from the "Hot Spots" program. Would be useful to have local or regional specific factors.

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**Arizona Department of Environmental Protection (Darlene Celaya)**

**Survey ID:** 125                      **Respondent Type:** State agency

Most are derived from EPA's AP-42 manual. Have received factors from CARB, TANK, and manufacturer's guarantee and test data.

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## 2. Are the emissions factors you or your constituents use derived from EPA's AP-42 or other data sources? What are those other sources?

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### ***Colorado Department of Public Health and Environment***

**Survey ID:** 126                      **Respondent Type:** State agency

From both AP-42 and other sources. 70% are probably AP-42. 15% manufacturer data. 10% mass balance. 5% stack tests.

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### ***Commonwealth of Virginia (Regina Jordan)***

**Survey ID:** 115                      **Respondent Type:** State Agency

AP-42 and other sources used. These include (1) Source-specific stack testing, (2) Industry group data, (3) Vendor information for tests conducted on the same equipment at other sites, (4) For quarry operations, VDEQ and the Virginia Aggregates Association jointly developed factors more specific to the limestone processed in this region of the country, (5) MSDS, (6) Material Balance, (7) Material analysis/tests.

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### ***Florida Department of Environmental Protection (Bruce Mitchell)***

**Survey ID:** 148                      **Respondent Type:** State Agency

Two sources of emissions factors that we have seen in permitting projects are from the pulp and paper association's research arm called NCASI, and the utility's research arm called EPRI.

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### ***Georgia Environmental Protection Division (Jimmy Johnston)***

**Survey ID:** 127                      **Respondent Type:** State Agency

Both AP-42 and other sources. Other sources include site-specific or equipment-specific factors developed through testing, NCASI, vendors, and any other credible source.

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### ***Illinois Environmental Protection Agency***

**Survey ID:** 129                      **Respondent Type:** State agency

Use AP-42 as well as factors derived from site-specific emissions testing and other sources.

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## 2. Are the emissions factors you or your constituents use derived from EPA's AP-42 or other data sources? What are those other sources?

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**Indiana Department of Environmental Management (Phil Perry)**

**Survey ID:** 130                      **Respondent Type:** State agency

Primary source of emissions factors is AP-42. Alternatives such as FIRE or STAPPA/ALAPCO derived factors, or in some cases industry-specific factors are used. In certain cases, EPA locating and estimating documents are referenced. Depending upon the rating of the AP-42 factor, or upon the confidence we have in the other factors, may require validation of the factor prior to allowing it to be incorporated into the source's permit. Stack tests conducted according to the same procedures as compliance tests are the primary way we derive this type of emissions factor.

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**Michigan Department of Environmental Quality (John Schroeder, Scott Edic, Dennis McGeen, Rick Dalebout)**

**Survey ID:** 137                      **Respondent Type:** State Agency

Use emissions factor from AP-42 mostly. Sometimes use site-specific emissions factors or look for emissions factors in EIIP documents. The emissions inventory staff does not have time to look for other emissions factors.

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**Minnesota Air Pollution Control Authority , Air Permitting Group (Peggy Bartz, Steve Gorg)**

**Survey ID:** 141                      **Respondent Type:** State agency

Use AP-42, CHIEF, and FIRE emissions factors, but they also use background documents, AIRS-derived emissions factors, manufacturer's specifications, emissions factors from trade associations (such as the fiberglass trade association). They use emissions factors to develop compliance terms and conditions in permits.

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**Minnesota Pollution Control Authority, Emissions Inventory Group (Paul Kim)**

**Survey ID:** 140                      **Respondent Type:** State agency

Uses emissions factors from AP-42, mostly, but also uses emissions factors from FIRE and background chapters of AP-42.

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## 2. Are the emissions factors you or your constituents use derived from EPA's AP-42 or other data sources? What are those other sources?

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**Minnesota Pollution Control Authority, Permitting Supervisors (Carolina Schmitt, Don Smith)**

**Survey ID:** 142                      **Respondent Type:** State agency

Have an established, documented hierarchy on how to estimate emissions, and emissions factors are very low compared to source testing. They do use AP-42 and sometimes other sources.

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**Mississippi Department of Environmental Quality (Dan McLeod)**

**Survey ID:** 107                      **Respondent Type:** State Agency

Depends on whether more reliable emission data is available. The other sources could be site-specific emissions data from compliance testing an/or manufacturer's data on the emission unit.

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**Nebraska Department of Environmental Quality (David Brown)**

**Survey ID:** 123                      **Respondent Type:** State Agency

Both Ap-42 and other sources are used. Other sources include stack testing, mass balance, manufacturer data, trade information.

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**New Jersey Department of Environmental Protection (No specific contact)**

**Survey ID:** 122                      **Respondent Type:** State Agency

For permitting, AP-42 used for smaller source categories, but other methods such as material balances, regulatory limits, etc. are used in many cases as well. For larger sources, data sources such as RACT/BACT/LAER Clearinghouse may be used. For emissions statements, see above. Also, facilities may use mass balance, production records, knowledge of formulations and other process information to estimate emissions. Other sources for emissions factors include FIRE, EIIP, the NESCAUM GSE model, and emissions factors generated by CARB and SCAQMD.

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**Oregon Department of Environmental Quality (Greg Aldrich, Eric Blischke, Gregg Lande)**

**Survey ID:** 108                      **Respondent Type:** State Agency

Get emissions factors from ODEQ air programs. Gleaned some from the Mercury Report to Congress.

---

## 2. Are the emissions factors you or your constituents use derived from EPA's AP-42 or other data sources? What are those other sources?

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**Oregon Department of Environmental Quality (ODEQ) (John Ruscigno, Audrey O'Brien, Greg Grunow, Carey Chang, Dave Kauth, Pat Vernon)**

**Survey ID:** 105                      **Respondent Type:** State Agency

Other E.Fs used include E.Fs from AFPA, site-specific, NCASI, and particle board testing. Need E.Fs that account for the type of wood and the types of boilers. Seeking Hg EF for crematoriums.

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**Oregon Department of Environmental Quality (Sarah Armitage, MaryAnn Fitzgerald, Ryan Ross, Svetlana Lazare, Gregg Lande, Jerry Ebersole, Christ Swab, Jeffrey Stocum, Jerry Preston, Phil Allen, Annette, Corey Chang)**

**Survey ID:** 109                      **Respondent Type:** State Agency

Use emissions factors from many other sources, including CARB, State of Washington, API, NCASI, Minnesota, New jersey (mercury), Ohio, NESHAP background documents, AWMA journal, Section 112(k) development documentation, back calculation from EPA model results, an other industrial trade groups. Look for the newest or most appropriate emissions factor. Use older versions of AP-42 because some emissions factors are withdrawn from newer versions. Know of newer and better emissions factors but are puzzled why AP-42 does not get updated sooner. EPA could add the newer emissions factors or data to AP-42 and give it a "U" rating for unknown until the factor or data can be reviewed.

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**Oregon Environmental Council (OEC) (Laura Weiss)**

**Survey ID:** 104                      **Respondent Type:** State Agency

Use other sources but are uncomfortable with having to rely on them because they are unsure whether other E.Fs are reliable and representative.

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**State of Washington (one section, not sure which, David Wendt)**

**Survey ID:** 119                      **Respondent Type:** State Agency

Use stack test data when available. National Council of the Paper Industry for Air and Stream Improvement technical bulletin for lumber industry permits and emission inventories since there are not up-to-date AP-42 emissions factors. Sometimes consider manufacturer's data, but if there is a reliable AP-42 emissions factor that is more conservative, we would use.

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## 2. Are the emissions factors you or your constituents use derived from EPA's AP-42 or other data sources? What are those other sources?

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### ***Texas Commission on Environmental Quality***

**Survey ID:** 147                      **Respondent Type:** State Agency

In addition to using AP-42 emission factors, they use emission factors available from CARB, NCASI, other State agencies, GTI, API. They especially use speciation profiles available from these organizations even when EPA profiles are available. They also use manufacturers specifications, trade associations (i.e., MDI from foam manufacturing), and source test data from other similar sources. They would like more information on how the emissions factors were derived to help them evaluate emissions factors from trade associations.

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### ***Texas Commission on Environmental Quality (Kathy Pendleton)***

**Survey ID:** 116                      **Respondent Type:** State Agency

Both are used. Also sources like API. Some are from university research or association groups.

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### ***Texas Commission on Environmental Quality, Emissions Inventory Division (Russ Nettles, Kevin Cauble, Kathy Pendleton, Paul Henry, Michal de la Cruz)***

**Survey ID:** 146                      **Respondent Type:** State Agency

Use EP-42 emissions factors, but they use emissions factors available from CARB, NCASI, other State agencies, GTI, Gas Research Institute, State of Alabama, and API. They especially use speciation profiles available from these organizations even when EPA profiles are available.

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### ***Texas Commission on Environmental Quality, Houston Regional Office (Diana Sullivan, Dick Flannery, Matthew Kolodney, Claudio Galli, Manuel Bautista, Billie Zaporteza, Enayat Zareian, Kiranmai Valluri, Mohammed Bajwa, Henry Iyamu, Robert Buchanan, Vicky Wang, Jeanette Schwartz, Vivek Kim, Rickey Wilson, Nadia Hameid, Kesha Ragin, La Juan Julian, Sherri Gregg, Wayne Strickler, Ruth Cleveland, Cedric Flemming, Regina Speights, Angela Robinson, and Mukhtar Malik)***

**Survey ID:** 145                      **Respondent Type:** State Agency

Use AP-42 and other emissions factors such as CARB's.

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## 2. Are the emissions factors you or your constituents use derived from EPA's AP-42 or other data sources? What are those other sources?

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**Texas Commission on Environmental Quality, Mobile Emissions Group (Steve Anderson, Diane Preusse, Bertie Fernando, Melinda Torres, Greg Lauderdale, Karla Hardison)**

**Survey ID:** 143                      **Respondent Type:** State Agency

Use AP-42 as the default or the starting point for their search for an emissions factor. However, use CARB, trade association, studies, fund research survey work, and manufacturers specifications as well. For compressors, use Environ (consultant) data which is emissions estimates.

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**Vermont Department of Environmental Conservation (Doug Elliott)**

**Survey ID:** 112                      **Respondent Type:** State Agency

Almost exclusively AP-42

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**Washington Department of Ecology (Beth Stipek)**

**Survey ID:** 100                      **Respondent Type:** State Agency

AP-42 is used as the first thing in searching for emission factors. If EFs are not available, then we use research done on the type of process analyzed. MSDS is also used for toxic emissions.

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**Wisconsin Department of Natural Resources Bureau of Air Management (Susan Linderm, Mike Ross, Bob Eckdale, Corey Carter, Roger Fritz, Pat Kirsop, Ralph Patterson, Andy Seeber, Colin Duffy, Phillip Spranger)**

**Survey ID:** 138                      **Respondent Type:** State agency

Use AP-42 as the starting point, but they also use emissions factors from trade associations, research papers, and other countries. They would like to be able to track what other states and countries are doing. They have difficulty accepting manufacturer's specifications.

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### 3. Do you use emissions factors from sources other than AP-42 because AP-42 does not provide factors for your source type or for other reasons?

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#### **FIATqs**

**Survey ID:** 34                      **Respondent Type:** ?

AP-42 or other, depending on which is more reliable

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#### **EPA Region 9 (Stan Tong, John Kim)**

**Survey ID:** 132                      **Respondent Type:** EPA

Would force to get site to test if compliance is questionable. If you trust industry, scrutinize data. Look for technical articles. Research for available source tests. If industry develops an emissions factor, look hard to see if the emissions factor is appropriate to apply to other sites from the site where it was developed.

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#### **EPA Region I representative (Al Hicks)**

**Survey ID:** 12                      **Respondent Type:** EPA

previous testing to get site-specific information

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#### **EPA Region VI RCRA Staff (Jeff Yurk)**

**Survey ID:** 28                      **Respondent Type:** EPA

occasionally uses average emission factors approach, screening ranges approach, U.S. EPA correlation approach, unit-specific correlation approach and U.S. EPA's TANKS program

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#### **EPA/Climate Protection Partnerships Division (CPPD)**

**Survey ID:** 17                      **Respondent Type:** EPA

Mine Safety and Health Administration for fugitive organics

Department of Agriculture for methane from rice fields and other operations

Washington State University for methane emissions from cattle

Bureau of Land Management for other sources of methane emissions

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### 3. Do you use emissions factors from sources other than AP-42 because AP-42 does not provide factors for your source type or for other reasons?

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**Region 10 and Washington Department of Ecology (Madonna Narvaez, Maynard Okereke, Herman Wong, Emad Shahin, Paul Boys, Don Dossett, Lester Keel, Rindy Ramos, Beth Stipek)**

**Survey ID: 30                      Respondent Type: EPA**

use Oregon's wood products emissions factors

Region 10 has rejected some local program's inventories that used emission factors rather than actual emissions information

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**US EPA Region 5 (Michael Rizzo, Farro Assadi, Genevieve D'Amico, Rafiu Dania, Mary Tyson, Loretta Lehrmann, Regina Charles, Brent Marable, Bill McDowell)**

**Survey ID: 41                      Respondent Type: EPA**

use other EF because AP-42 doesn't have appropriate Efs, they are dated, or there is no supporting data (like test conditions or test methods used)

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**US EPA Region 5 Air Permitting Section (Ethan Chatfield, Sam Portanova, Stacey Coburn, Rachel Rinehart, Beth Valenziano, Jennifer Darrow, Genevieve D'Amico, Laura David, Susan Stepkowski, Danny Marcos, Constantine Blathras, Kaushal Gupta, Richard Angelbeck, Bob Miller)**

**Survey ID: 44                      Respondent Type: EPA**

use other EF if more appropriate than AP-42 or if AP-42 doesn't have the needed EF  
use other sources if they are more comparable

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**US EPA Region 6 Air Enforcement Section (Michelle Kelly, David Garcia, Gerald Mokry, Raymond Magyar, Robert Todd)**

**Survey ID: 45                      Respondent Type: EPA**

use other sources than AP-42 when new control equipment is in place  
some Ef are in rules, like the Texas PM limit and a Texas wood chip pile rule

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### 3. Do you use emissions factors from sources other than AP-42 because AP-42 does not provide factors for your source type or for other reasons?

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**United States Forest Service - Seattle Office (Sue Ferguson, Susan O'Neill)**

**Survey ID:** 111                      **Respondent Type:** Federal Agency

Emissions factors for fires were developed in the 1980s and did not take into account some factors that were found to be important.

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**Daimler Chrysler, Corporate Regulatory Planning Group (Mary Snow Cooper)**

**Survey ID:** 36                      **Respondent Type:** Industry

use other sources when AP-42 doesn't have what they need, look for the best fit for the emissions quantification

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**DOD Environmental Contractors (Drek Newton [Navy], Paul Josephson [Army], Scott Cummings [Army], Steve Rasmussen [Air Force])**

**Survey ID:** 26                      **Respondent Type:** Industry

Use most accurate available

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**Georgia-Pacific Corporation**

**Survey ID:** 19                      **Respondent Type:** Industry

National Council for Air and Stream Improvement (NCASI)  
other paper industry data

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**NEDA/CARP (Todd Rollefson)**

**Survey ID:** 15                      **Respondent Type:** Industry

reports from states (e.g., NOx from gas turbine lab studies or field demonstrations)

vendor data or source testing of similar equipment at other plants

may use mass balance or engineering calculations

minor sources in high tech industries more often generate their own factors due to the speed of changes in their industry

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### 3. Do you use emissions factors from sources other than AP-42 because AP-42 does not provide factors for your source type or for other reasons?

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**Reliant Energy, Air Resources Permitting and Compliance Group for Texas and Illinois Plants (Joe Araiza)**

**Survey ID:** 24                      **Respondent Type:** Industry

other sources used for formaldehyde, carbon monoxide, and nitrogen oxides because there are none in AP-42 for them to use

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**Taconite Mining Industry Representatives (Nancy Smith, Sarrah Mattila, Dave Skolasinski)**

**Survey ID:** 40                      **Respondent Type:** Industry

use AP-42

have looked at European EF

use mass balance for mercury

stack sampling

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**Texas Eastman (Jeff Mach)**

**Survey ID:** 39                      **Respondent Type:** Industry

use Toxchem or Water9

have own technique for estimating waste water emissions

have own technique for estimating activated sludge plant emissions

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**Texas Petrochemicals (Max Jones, John Yoars, Chris Hendricks, Mike Wieczorek)**

**Survey ID:** 38                      **Respondent Type:** Industry

use VERP for grandfathered units instead of AP-42

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### 3. Do you use emissions factors from sources other than AP-42 because AP-42 does not provide factors for your source type or for other reasons?

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***Air Management Division of the Environmental Protection Commission, Hillsborough County (Tampa), Florida***

**Survey ID:** 128                      **Respondent Type:** Local agency

Yes. See previous question.

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***Allegheny County Air Quality Program, Pittsburgh, PA (no specific contact)***

**Survey ID:** 124                      **Respondent Type:** Local Agency

Use the most applicable data. Emissions factors from other sources are used because they are specific to the source or the type of source being evaluated or are based on site-specific measurements. Test data from other sources, including sources outside Allegheny County, are sometimes available where AP-42 data are not or may be preferred over AP-42.

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***City of Jacksonville, Florida (Lori Tilley)***

**Survey ID:** 106                      **Respondent Type:** Local Agency

Yes. AP-42 does not provide factors for the source type. However, AP-42 is usually our first source of reference for emission factors.

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***Lane County Regional Air Pollution Authority (Max Hueftle, Robert Koster, Drew Johnson)***

**Survey ID:** 102                      **Respondent Type:** Local Agency

Use EFs from other sources because AP-42 does not have E.Fs for some sources, or other entities have newer or more appropriate factors. They do not trust the E.Fs for gas-fired boilers. Also, think NCASI E.Fs under-predict emissions. Can't always require source testing because these sources can be difficult to test.

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***Lincoln-Lancaster County Health Department, Nebraska (Gary Bergstrom)***

**Survey ID:** 131                      **Respondent Type:** Local agency

Use other sources for various reasons.

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### 3. Do you use emissions factors from sources other than AP-42 because AP-42 does not provide factors for your source type or for other reasons?

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***Monterey Bay Unified Air Pollution Control District***

**Survey ID:** 31                      **Respondent Type:** Local Agency

yes if other sources more accurately represent emissions from a specific piece of equipment or operations

Also use a CARB database called CATEF which has HAP EF derived from Hot Spots testing

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***Polk County Air Quality, Iowa (Gary Young)***

**Survey ID:** 121                      **Respondent Type:** Local Agency

See above. State's engine factors are more conservative and RMA factors provide information not available in AP-42.

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***Port of Portland Authority - Portland International Airport, Oregon (Steve Mrazek).***

**Survey ID:** 103                      **Respondent Type:** Local Agency

E.Fs from other sources are used because AP-42 does not have the factors they need (such as commercial aircraft), or the AP-42 is not representative or specific enough.

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***Puget Sound Clean Air Agency, Washington (Kwame Agyei, Steve Van Slyke, John Anderson, and David Kircher)***

**Survey ID:** 110                      **Respondent Type:** Local Agency

Use other emissions factors because AP-42 does not have appropriate emissions factors. The emissions factors are not correct for the Northwest applications (i.e., the emissions factors for rock crushers were developed in southern Texas). Sometimes the emissions factors are conglomerated in other information such as Technical Support Documents and are difficult to find.

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***Sacramento Metropolitan Air Quality Management District (Jorge Guzman)***

**Survey ID:** 113                      **Respondent Type:** Local Agency

AP-42 factors are very generic. If we have a better source, we will use it.

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### 3. Do you use emissions factors from sources other than AP-42 because AP-42 does not provide factors for your source type or for other reasons?

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**Ventura County Air Pollution Control District (Karl Krause, Manager, Engineering Division – Chair of the CAPCOA Engineering Managers Committee)**

**Survey ID:** 114      **Respondent Type:** Local Agency

Generally use factors other than AP-42 factors because the other factors represent either emission limitations or actual source test data. On occasion, have had to use another source for emission factors because AP-42 does not include the emission source.

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**Coke Oven Environmental Task Force (white paper prepared by Allen Dittenhoefer of Enviroplan Consulting)**

**Survey ID:** 32      **Respondent Type:** Planning and Environmental Organizations

yes -AP-42 doesn't have EF for all coke oven processes  
more accurate EF from related industries

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**WESTAR (in Portland, OR) (Bob Lebens)**

**Survey ID:** 20      **Respondent Type:** Planning and Environmental Organizations

don't use EFs

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**Survey ID:** 35      **Respondent Type:** S/L/T agency?

yes if actual data are available as a result of a source test or manufacturers data, MSDS, etc.

Good engineering practices are also used when no data are available

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**Arizona Department of Environmental Protection (Darlene Celaya)**

**Survey ID:** 125      **Respondent Type:** State agency

Try to use source-specific factors when available. Do make a comparison of that factor with the AP-42 factor.

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### 3. Do you use emissions factors from sources other than AP-42 because AP-42 does not provide factors for your source type or for other reasons?

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#### ***Colorado Department of Public Health and Environment***

**Survey ID:** 126                      **Respondent Type:** State agency

Usual because the other emissions factor is more site/equipment specific or because there are no AP-42 factors.

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#### ***Commonwealth of Virginia (Regina Jordan)***

**Survey ID:** 115                      **Respondent Type:** State Agency

Any source-specific information such as stack tests or CEM data, industry data, or vendor information on the same type of equipment, material analysis, or other source-specific data are always preferred. If source-specific factors are not available, AP-42 is preferred.

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#### ***Florida Department of Environmental Protection (Bruce Mitchell)***

**Survey ID:** 148                      **Respondent Type:** State Agency

We allow the use of non-AP-42 emissions data if it is more representative of a particular project's potential emissions. See above.

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#### ***Georgia Environmental Protection Division (Jimmy Johnston)***

**Survey ID:** 127                      **Respondent Type:** State Agency

Sometimes because AP-42 does not have the factor(2) needed and sometimes because other factors are more accurate for the project in question.

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#### ***Illinois Environmental Protection Agency***

**Survey ID:** 129                      **Respondent Type:** State agency

For HAP emissions estimates, but for criteria pollutants this is very rare.

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#### ***Indiana Department of Environmental Management (Phil Perry)***

**Survey ID:** 130                      **Respondent Type:** State agency

FIRE and industry derived emissions factors are used pending a determination of acceptance by DEM.

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### **3. Do you use emissions factors from sources other than AP-42 because AP-42 does not provide factors for your source type or for other reasons?**

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**Michigan Department of Environmental Quality (John Schroeder, Scott Edic, Dennis McGeen, Rick Dalebout)**

**Survey ID:** 137                      **Respondent Type:** State Agency

Use other sources of emissions factors because AP-42 does not have emissions factors that are up-to-date or appropriate for some source categories. For example, use FIRE because that is where much of the area source emissions factors are. LADCO provided a report to EPA on what methods the RPOs are using to calculate emissions. AP-42 also lacks adequate lead emissions factors. They also use emissions factors developed by trade associations.

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**Minnesota Air Pollution Control Authority , Air Permitting Group (Peggy Bartz, Steve Gorg)**

**Survey ID:** 141                      **Respondent Type:** State agency

Use emissions factors from sources other than AP-42 because AP-42 does not provide emission factors for a particular source category. Sometimes, sources ask to use emissions factors from other sources.

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**Minnesota Pollution Control Authority, Emissions Inventory Group (Paul Kim)**

**Survey ID:** 140                      **Respondent Type:** State agency

Uses AP-42 for mostly smaller sources. Sometimes looks at older versions of AP-42 to get emissions factors that may have been pulled.

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**Minnesota Pollution Control Authority, Permitting Supervisors (Carolina Schmitt, Don Smith)**

**Survey ID:** 142                      **Respondent Type:** State agency

Use emissions factors from other sources such as biomass fuels, pilot plants, etc. because those AP-42 are not up-to-date or do not exist. They use CARB's emissions factors for some air toxics sources/pollutants. They have a turnkey manure plant in Minnesota, and they use emissions factors from Europe. Sometimes they cause controversy by asking sources to test. Essentially, it boils down to requiring testing if the margin of compliance is close to the level of the standard, a compliance issue, public concern, or a risk-based limit.

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### **3. Do you use emissions factors from sources other than AP-42 because AP-42 does not provide factors for your source type or for other reasons?**

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**Mississippi Department of Environmental Quality (Dan McLeod)**

**Survey ID:** 107                      **Respondent Type:** State Agency

We use factors from other sources than AP-42. Source may have site-specific data from source testing of its emissions or of emissions from a similar process at another site. May use emission factors from published industrial or equipment manufacturer's documents.

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**Nebraska Department of Environmental Quality (David Brown)**

**Survey ID:** 123                      **Respondent Type:** State Agency

In some cases, AP-42 does not provide data for the source type. In other situation there is better information more specific to a process at the facility. The emissions factors in AP-42 are more generally applied.

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**New Jersey Department of Environmental Protection (No specific contact)**

**Survey ID:** 122                      **Respondent Type:** State Agency

Alternative emissions factors are used because AP-42 does not provide factors for a particular source type. In other cases, the alternative methods provide data that are the most up-to-date, more representative, and/or accurate for the type of source. This is especially true for data from CA.

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**Oregon Department of Environmental Quality (Greg Aldrich, Eric Blischke, Gregg Lande)**

**Survey ID:** 108                      **Respondent Type:** State Agency

Used emissions factors that are provided by the ODEQ Air Program, and sometimes the Air Program gets emissions factors from other sources. ODEQ can also require source testing for mercury and PM10 chemical mass balance, MRI, and DRI testing.

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**Oregon Department of Environmental Quality (ODEQ) (John Ruscigno, Audrey O'Brien, Greg Grunow, Carey Chang, Dave Kauth, Pat Vernon)**

**Survey ID:** 105                      **Respondent Type:** State Agency

The EF [in AP-42] for boilers did not consider the age of the boiler and control equipment. There is also a gap for mobile source E.Fs for heavy metals. Sometimes use E.Fs found in Technical Support Documents and/or permits.

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### **3. Do you use emissions factors from sources other than AP-42 because AP-42 does not provide factors for your source type or for other reasons?**

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***Oregon Department of Environmental Quality (Sarah Armitage, MaryAnn Fitzgerald, Ryan Ross, Svetlana Lazare, Gregg Lande, Jerry Ebersole, Christ Swab, Jeffrey Stocum, Jerry Preston, Phil Allen, Annette, Corey Chang)***

**Survey ID:** 109                      **Respondent Type:** State Agency

Yes. Want factors for silt loading and small engines, for example. Wondered why HAP, ammonia, PMFine, mercury, and diesel emissions factors are not in AP-42 yet. Uses USFS FIRE profile emissions factors. AP-42 should linked to USFS website. No pertinent emissions factor for civilian aircraft. Emissions factors are sometimes not in useful units. For example, some of the units used are grams/horsepower, which is not a unit anyone uses and is not enforceable. Some units are impracticable and not enforceable. Want units relating to typical usage. It is okay to have draft documents and factors in AP-42 instead of only final emissions factors so long as the user understands.

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***Oregon Environmental Council (OEC) (Laura Weiss)***

**Survey ID:** 104                      **Respondent Type:** State Agency

Use E.Fs from other sources such as other states, environmental groups, and NATA data. Asked why data from these types of sources are not already in AP-42.

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***State of Washington (one section, not sure which, David Wendt)***

**Survey ID:** 119                      **Respondent Type:** State Agency

Use stack test data when available. Use emissions factors from other sources when no AP-42 factors are available.

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***Texas Commission on Environmental Quality***

**Survey ID:** 147                      **Respondent Type:** State Agency

Use emissions factors from other sources because AP-42 does not have an emissions factor or the factors are outdated.

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***Texas Commission on Environmental Quality (Kathy Pendleton)***

**Survey ID:** 116                      **Respondent Type:** State Agency

Generally, because they are not in AP-42.

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### 3. Do you use emissions factors from sources other than AP-42 because AP-42 does not provide factors for your source type or for other reasons?

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**Texas Commission on Environmental Quality, Emissions Inventory Division  
(Russ Nettles, Kevin Cauble, Kathy Pendleton, Paul Henry, Michal de la Cruz)**

**Survey ID:** 146                      **Respondent Type:** State Agency

AP-42 does not have speciation profiles (or the speciation profiles are outdated) which would be very helpful.

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**Texas Commission on Environmental Quality, Houston Regional Office (Diana Sullivan, Dick Flannery, Matthew Kolodney, Claudio Galli, Manuel Bautista, Billie Zaporteza, Enayat Zareian, Kiranmai Valluri, Mohammed Bajwa, Henry Iyamu, Robert Buchanan, Vicky Wang, Jeanette Schwartz, Vivek Kim, Rickey Wilson, Nadia Hameid, Kesha Ragin, La Juan Julian, Sherri Gregg, Wayne Strickler, Ruth Cleveland, Cedric Flemming, Regina Speights, Angela Robinson, and Mukhtar Malik)**

**Survey ID:** 145                      **Respondent Type:** State Agency

Ap-42 does not always provide factors for the specific source type. However, the other factors are not approved by EPA. Enforce on a permit, not on AP-42 emissions factor.

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**Texas Commission on Environmental Quality, Mobile Emissions Group (Steve Anderson, Diane Preusse, Bertie Fernando, Melinda Torres, Greg Lauderdale, Karla Hardison)**

**Survey ID:** 143                      **Respondent Type:** State Agency

AP-42 typically does not have area source or HAP emissions factors.

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**Vermont Department of Environmental Conservation (Doug Elliott)**

**Survey ID:** 112                      **Respondent Type:** State Agency

Seldom

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**Washington Department of Ecology (Beth Stipek)**

**Survey ID:** 100                      **Respondent Type:** State Agency

We also use emission factors from other sources than AP-42. Can be from source test or manufacturers' data or from good engineering data.

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**4. To what extent does the use of emissions factors satisfy the needs of the military or other government facilities in your area or constituency in obtaining and complying with operating, NSR, or other permits and in meeting emissions monitoring needs?**

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**FIATqs**

**Survey ID: 34                      Respondent Type: ?**

if no source test data, then the best EF available for NSR or emission inventory

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**EPA Region 9 (Stan Tong, John Kim)**

**Survey ID: 132                      Respondent Type: EPA**

San Diego is doing a mass balance approach to coatings. Some facilities just supply gallons used, and the District calculates. Region only experienced with demolition of munitions. Wanted help on toxics. Also asked about driving vehicles through a fire during Desert Storm Preparation. Sometimes bases are discouraged from speaking to regulators. They develop their own in these cases. Bases more afraid about internal military audits than EPA. Districts provide estimates of military emissions. They use AP-42 for equipment unless something else exists. Open burning and open detonation emissions estimates are unknown. Sometimes a separate study is needed. The ideal is to get the Districts to do studies. It ultimately falls on the Region.

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**EPA Region VI RCRA Staff (Jeff Yurk)**

**Survey ID: 28                      Respondent Type: EPA**

need better EFs for airports and support equipment

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**Region 10 and Washington Department of Ecology (Madonna Narvaez, Maynard Okereke, Herman Wong, Emad Shahin, Paul Boys, Don Dossett, Lester Keel, Rindy Ramos, Beth Stipek)**

**Survey ID: 30                      Respondent Type: EPA**

don't deal with military much, but haven't had any problems

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#### **4. To what extent does the use of emissions factors satisfy the needs of the military or other government facilities in your area or constituency in obtaining and complying with operating, NSR, or other permits and in meeting emissions monitoring needs?**

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##### **Region 9**

**Survey ID:** 133                      **Respondent Type:** EPA

Tribal applications for emissions factors. Incentives for smoke management. Deal with regional haze. Mexican border status developing an inventory. PM and agricultural burning are issues. Working with ERG on data from Mexico due to confidentiality issues.

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**US EPA Region 5 (Michael Rizzo, Farro Assadi, Genevieve D'Amico, Rafiu Dania, Mary Tyson, Loretta Lehmann, Regina Charles, Brent Marable, Bill McDowell)**

**Survey ID:** 41                      **Respondent Type:** EPA

don't deal much with military, don't think they can enforce against federal facilities

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**US EPA Region 5 Air Permitting Section (Ethan Chatfield, Sam Portanova, Stacey Coburn, Rachel Rinehart, Beth Valenziano, Jennifer Darrow, Genevieve D'Amico, Laura David, Susan Stepkowski, Danny Marcos, Constantine Blathras, Kaushal Gupta, Richard Angelbeck, Bob Miller)**

**Survey ID:** 44                      **Respondent Type:** EPA

don't deal with military much, but with iterations with Federal land managers, they are usually no questions

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**US EPA Region 6 Air Enforcement Section (Michelle Kelly, David Garcia, Gerald Mokry, Raymond Magyar, Robert Todd)**

**Survey ID:** 45                      **Respondent Type:** EPA

EF are usually not an issue, and they have worked with military on surface coating, ammunition disposal, metal plating, Pantex sources, DOE strategic oil reserves

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#### **4. To what extent does the use of emissions factors satisfy the needs of the military or other government facilities in your area or constituency in obtaining and complying with operating, NSR, or other permits and in meeting emissions monitoring needs?**

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**United States Forest Service - Seattle Office (Sue Ferguson, Susan O'Neill)**

**Survey ID:** 111                      **Respondent Type:** Federal Agency

Deal with the military some. As FLMs, they review permit applications from these facilities. They review the emissions factors used in these permits. Also, McCord AFB and Fort Lewis do prescribed burning, which requires permits. They get some meteorological data from the Navy.

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**Bridgewater Group Inc. (consulting firm) (Candice Hatch)**

**Survey ID:** 21                      **Respondent Type:** Industry

a client uses the Air Emissions Inventory Guidance Document for Stationary Sources at Air Force Installations, which is an excellent document

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**DOD Environmental Contractors (Drek Newton [Navy], Paul Josephson [Army], Scott Cummings [Army], Steve Rasmussen [Air Force])**

**Survey ID:** 26                      **Respondent Type:** Industry

acceptable when more accurate data is not available  
permitting authorities are reluctant to use non-AP-42 Efs

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**Air Management Division of the Environmental Protection Commission, Hillsborough County (Tampa), Florida**

**Survey ID:** 128                      **Respondent Type:** Local agency

AP-42 can be used for boiler emissions at these facilities.

---

**Allegheny County Air Quality Program, Pittsburgh, PA (no specific contact)**

**Survey ID:** 124                      **Respondent Type:** Local Agency

AP-42 provides the bulk of factors for the estimating of emissions from the National Energy Technology Lab (NETL) and the CDC NIOSH Labs located in Allegheny County as well as the three VA hospitals in Allegheny County. AP-42 factors are essential.

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#### **4. To what extent does the use of emissions factors satisfy the needs of the military or other government facilities in your area or constituency in obtaining and complying with operating, NSR, or other permits and in meeting emissions monitoring needs?**

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**City of Houston (Arturo Blanco, Daniel Hoyt)**

**Survey ID:** 139                      **Respondent Type:** Local agency

Not applicable

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**City of Jacksonville, Florida (Lori Tilley)**

**Survey ID:** 106                      **Respondent Type:** Local Agency

Emission factors are used extensively in obtaining and complying with permits.

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**Lane County Regional Air Pollution Authority (Max Hueftle, Robert Koster, Drew Johnson)**

**Survey ID:** 102                      **Respondent Type:** Local Agency

USFS is the most active in using E.Fs. They review PSD Modeling because they are near the Columbia Gorge. Also send permits to the appropriate Federal Land Managers. No military installations are located in Lane County. LRAPA also participates in WRAP.

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**Lincoln-Lancaster County Health Department, Nebraska (Gary Bergstrom)**

**Survey ID:** 131                      **Respondent Type:** Local agency

Emissions factors satisfy operating permit needs to a great extent. NSR permits do not apply to our constituency. Because in an attainment area, use PSD permits, and the emissions factors work well for these. The military does not use emission factors. We inventory their emissions.

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**Monterey Bay Unified Air Pollution Control District**

**Survey ID:** 31                      **Respondent Type:** Local Agency

military sources frequently permitted using AP-42 information

---

#### **4. To what extent does the use of emissions factors satisfy the needs of the military or other government facilities in your area or constituency in obtaining and complying with operating, NSR, or other permits and in meeting emissions monitoring needs?**

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**Polk County Air Quality, Iowa (Gary Young)**

**Survey ID:** 121                      **Respondent Type:** Local Agency

2 National Guard bases. Permitting at these facilities done using AP-42.

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**Port of Portland Authority - Portland International Airport, Oregon (Steve Mrazek).**

**Survey ID:** 103                      **Respondent Type:** Local Agency

Military uses EDMS, which is an emissions inventory tool approved by EPA and FAA to characterize aircraft emissions.

---

**Puget Sound Clean Air Agency, Washington (Kwame Agyei, Steve Van Slyke, John Anderson, and David Kircher)**

**Survey ID:** 110                      **Respondent Type:** Local Agency

Have military installations within their jurisdiction. Concerns regarding smoke generator and dry dock sand blasting. Fort Lewis's variance has expired for smoke generation. For Lewis uses ultra-low sulfur fuels and there are no emissions factors for this type of fuel.

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**Sacramento Metropolitan Air Quality Management District (Jorge Guzman)**

**Survey ID:** 113                      **Respondent Type:** Local Agency

It depends on the emissions unit and the level of emissions.

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**South Coast Air Quality Management District, California**

**Survey ID:** 136                      **Respondent Type:** Local agency

Responsible for a couple of military installations, who use the default emissions factors either from AP-42 or developed from local source tests.

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#### **4. To what extent does the use of emissions factors satisfy the needs of the military or other government facilities in your area or constituency in obtaining and complying with operating, NSR, or other permits and in meeting emissions monitoring needs?**

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**Ventura County Air Pollution Control District (Karl Krause, Manager, Engineering Division -- Chair of the CAPCOA Engineering Managers Committee)**

**Survey ID:** 114                      **Respondent Type:** Local Agency

The need for operating permits and the applicability of new source review depend on the ability to estimate emissions. Meeting emission-reporting requirement also requires in many cases the ability to estimate emissions. Often this means estimating the emissions or a number of pollutants from a number of pieces of equipment. Although we try to have better data than that available from AP-42 for the more critical portions of the estimates, AP-42 factors are generally necessary for a more complete characterization of emissions. This discussion certainly applies to military and other government facilities (three large navy facilities within our jurisdiction).

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**WESTAR (in Portland, OR) (Bob Lebens)**

**Survey ID:** 20                      **Respondent Type:** Planning and Environmental Organizations

thinks Utah has had some problems characterizing emissions from some DOD sources

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?

**Survey ID:** 35                      **Respondent Type:** S/L/T agency?

use, EF does satisfy the military needs

---

**California Air Resources Board (Chris Nguyen, Keith Rosecrantz, Pat Gaffney)**

**Survey ID:** 135                      **Respondent Type:** State agency

Not involved in exotic areas such as rockets. The military determines these emissions factors themselves or has a contractor do it. Other sources transfer from other sources, such as combustion devices, so CARB can identify or develop appropriate emissions factors.

---

#### **4. To what extent does the use of emissions factors satisfy the needs of the military or other government facilities in your area or constituency in obtaining and complying with operating, NSR, or other permits and in meeting emissions monitoring needs?**

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##### **Arizona Department of Environmental Protection (Darlene Celaya)**

**Survey ID:** 125                      **Respondent Type:** State agency

The few military operations have utilized manufacturer's specifications to estimate accurate emissions and thus avoid NSR regulations rather than AP-42.

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##### **Colorado Department of Public Health and Environment**

**Survey ID:** 126                      **Respondent Type:** State agency

95% of the time it meets their needs. Sometimes there is a specialized military emission point that requires additional information/discussion.

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##### **Commonwealth of Virginia (Regina Jordan)**

**Survey ID:** 115                      **Respondent Type:** State Agency

AP-42 is used in the absence of source-specific data. Military/government sources in this area rely mostly on AP-42.

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##### **Florida Department of Environmental Protection (Bruce Mitchell)**

**Survey ID:** 148                      **Respondent Type:** State Agency

We cannot comment on "satisfying the needs of the military or government facilities." However, military and government facilities follow the same permitting process as any other facility.

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##### **Georgia Environmental Protection Division (Jimmy Johnston)**

**Survey ID:** 127                      **Respondent Type:** State Agency

The same as any other industry.

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#### **4. To what extent does the use of emissions factors satisfy the needs of the military or other government facilities in your area or constituency in obtaining and complying with operating, NSR, or other permits and in meeting emissions monitoring needs?**

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##### **Illinois Environmental Protection Agency**

**Survey ID:** 129                      **Respondent Type:** State agency

It plays an important role, however only they [the Federal installations] would be able to answer that question accurately.

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##### **Indiana Department of Environmental Management (Phil Perry)**

**Survey ID:** 130                      **Respondent Type:** State agency

Not currently aware of any emissions factor work we have been involved in that affected military or other governmental entities. If such work were necessary, they would go through the same procedures as any industrial process.

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##### **Michigan Department of Environmental Quality (John Schroeder, Scott Edic, Dennis McGeen, Rick Dalebout)**

**Survey ID:** 137                      **Respondent Type:** State Agency

Do not have many dealings with the military.

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##### **Minnesota Air Pollution Control Authority , Air Permitting Group (Peggy Bartz, Steve Gorg)**

**Survey ID:** 141                      **Respondent Type:** State agency

They do not deal with the military very much, and when they do, there are no issues involving emissions factors.

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##### **Minnesota Pollution Control Authority, Emissions Inventory Group (Paul Kim)**

**Survey ID:** 140                      **Respondent Type:** State agency

Was not aware of any problems with the military using emissions factors. Most of their sources are small, and they use AP-42 for these sources.

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**4. To what extent does the use of emissions factors satisfy the needs of the military or other government facilities in your area or constituency in obtaining and complying with operating, NSR, or other permits and in meeting emissions monitoring needs?**

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**Minnesota Pollution Control Authority, Permitting Supervisors (Carolina Schmitt, Don Smith)**

**Survey ID:** 142                      **Respondent Type:** State agency

Do not treat military facilities any different than they treat any other facility. There are no emissions factors for chemical de-mil activities, which results in more research on their part.

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**Mississippi Department of Environmental Quality (Dan McLeod)**

**Survey ID:** 107                      **Respondent Type:** State Agency

For military installations, use AP-42 factors for combustion sources but for site-specific sources like rocket testing, etc., have used emission factors supplied by the military as well as specific industrial publications.

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**Nebraska Department of Environmental Quality (David Brown)**

**Survey ID:** 123                      **Respondent Type:** State Agency

Fairly good.

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**New Jersey Department of Environmental Protection (No specific contact)**

**Survey ID:** 122                      **Respondent Type:** State Agency

Military and other governmental facilities may rely upon AP-42 emissions factors when more specific emissions information is not available.

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**Oregon Department of Environmental Quality (Greg Aldrich, Eric Blischke, Gregg Lande)**

**Survey ID:** 108                      **Respondent Type:** State Agency

This group deals with the Umatilla Incinerator, which is a military de-mil operations. They also have some ship issues from those ships using the Columbia River.

#### **4. To what extent does the use of emissions factors satisfy the needs of the military or other government facilities in your area or constituency in obtaining and complying with operating, NSR, or other permits and in meeting emissions monitoring needs?**

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**Oregon Department of Environmental Quality (ODEQ) (John Ruscigno, Audrey O'Brien, Greg Grunow, Carey Chang, Dave Kauth, Pat Vernon)**

**Survey ID: 105                      Respondent Type: State Agency**

Some Federal Land Managers are not happy with the modeling and impact analyses in some permits. They have issues with "cumulative" emissions.

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**Oregon Department of Environmental Quality (Sarah Armitage, MaryAnn Fitzgerald, Ryan Ross, Svetlana Lazare, Gregg Lande, Jerry Ebersole, Christ Swab, Jeffrey Stocum, Jerry Preston, Phil Allen, Annette, Corey Chang)**

**Survey ID: 109                      Respondent Type: State Agency**

OR does not have military bases. Have dealings with Federal Land Managers on visibility and fire issues. FLMs do not believe AP-42 emissions factors for fire and visibility and are developing some for their use.

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**Oregon Environmental Council (OEC) (Laura Weiss)**

**Survey ID: 104                      Respondent Type: State Agency**

Not applicable for military.

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**State of Washington (one section, not sure which, David Wendt)**

**Survey ID: 119                      Respondent Type: State Agency**

Minimal. Very few government facilities in area.

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**Texas Commission on Environmental Quality**

**Survey ID: 147                      Respondent Type: State Agency**

Military relies heavily on AP-42 emissions factors because they have many small sources that are identical or very similar to emission sources from civilian sources. The emissions quantification of demil operations at military installations is not a big problem in Texas.

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**4. To what extent does the use of emissions factors satisfy the needs of the military or other government facilities in your area or constituency in obtaining and complying with operating, NSR, or other permits and in meeting emissions monitoring needs?**

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**Texas Commission on Environmental Quality (Kathy Pendleton)**

**Survey ID:** 116                      **Respondent Type:** State Agency

For most applications, AP-42 factors are available. We do prefer direct measurements so when those are available, they are to be used.

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**Texas Commission on Environmental Quality, Emissions Inventory Division  
(Russ Nettles, Kevin Cauble, Kathy Pendleton, Paul Henry, Michal de la Cruz)**

**Survey ID:** 146                      **Respondent Type:** State Agency

The military uses AP-42 often. They do not know of any issues with emissions factors. They report weapons destruction to TCEQ.

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**Texas Commission on Environmental Quality, Houston Regional Office (Diana Sullivan, Dick Flannery, Matthew Kolodney, Claudio Galli, Manuel Bautista, Billie Zaporteza, Enayat Zareian, Kiranmai Valluri, Mohammed Bajwa, Henry Iyamu, Robert Buchanan, Vicky Wang, Jeanette Schwartz, Vivek Kim, Rickey Wilson, Nadia Hameid, Keshia Ragin, La Juan Julian, Sherri Gregg, Wayne Strickler, Ruth Cleveland, Cedric Flemming, Regina Speights, Angela Robinson, and Mukhtar Malik)**

**Survey ID:** 145                      **Respondent Type:** State Agency

Do not deal with military.

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**Texas Commission on Environmental Quality, Mobile Emissions Group (Steve Anderson, Diane Preusse, Bertie Fernando, Melinda Torres, Greg Lauderdale, Karla Hardison)**

**Survey ID:** 143                      **Respondent Type:** State Agency

Work with military to characterize the emissions from aircraft and tanks. Activity data are hard to get.

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**4. To what extent does the use of emissions factors satisfy the needs of the military or other government facilities in your area or constituency in obtaining and complying with operating, NSR, or other permits and in meeting emissions monitoring needs?**

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**Vermont Department of Environmental Conservation (Doug Elliott)**

**Survey ID:** 112                      **Respondent Type:** State Agency

Not applicable

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**Washington Department of Ecology (Beth Stipek)**

**Survey ID:** 100                      **Respondent Type:** State Agency

Use of emission factors does satisfy military's needs. When other new data is available, it is evaluated and accepted if it meets good engineering practice.

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**Wisconsin Department of Natural Resources Bureau of Air Management (Susan Linderm, Mike Ross, Bob Eckdale, Corey Carter, Roger Fritz, Pat Kirsop, Ralph Patterson, Andy Seeber, Colin Duffy, Phillip Spranger)**

**Survey ID:** 138                      **Respondent Type:** State agency

Do not deal with the military very much. They do have some issues with Veterans Administration Hospitals' burning and readings from nearby ambient monitors.

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## **5. Do you or your constituents provide data to EPA for developing emissions factors? What about the process for developing EPA emissions factors enhances or inhibits your participation?**

### **FIATqs**

**Survey ID:** 34                      **Respondent Type:** ?

No - no funding or manpower

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### **EPA Region 9 (Stan Tong, John Kim)**

**Survey ID:** 132                      **Respondent Type:** EPA

Yes, but management is difficult due to resources. Problem: confidential business information and the fact that emissions data cannot be confidential business information. Like a concept of a national database with this information. Would have great value, especially if complete, similar to the BACT/LAER clearinghouse.

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### **Region 10 and Washington Department of Ecology (Madonna Narvaez, Maynard Okereke, Herman Wong, Emad Shahin, Paul Boys, Don Dossett, Lester Keel, Rindy Ramos, Beth Stipek)**

**Survey ID:** 30                      **Respondent Type:** EPA

Region 10 could send source testing info to OAQPS, preferably electronically

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### **US EPA Region 5 (Michael Rizzo, Farro Assadi, Genevieve D'Amico, Rafiu Dania, Mary Tyson, Loretta Lehrmann, Regina Charles, Brent Marable, Bill McDowell)**

**Survey ID:** 41                      **Respondent Type:** EPA

haven't asked for any, so they don't get any; not sure they could handle the amount of data if they did ask for it

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### **US EPA Region 6 Air Enforcement Section (Michelle Kelly, David Garcia, Gerald Mokry, Raymond Magyar, Robert Todd)**

**Survey ID:** 45                      **Respondent Type:** EPA

not aware of a process for submitting data  
would provide data if they could and had resources for it

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## 5. Do you or your constituents provide data to EPA for developing emissions factors? What about the process for developing EPA emissions factors enhances or inhibits your participation?

**United States Forest Service - Seattle Office (Sue Ferguson, Susan O'Neill)**

**Survey ID:** 111                      **Respondent Type:** Federal Agency

Do not provide data for emissions factors development. However, the Missoula USFS laboratory does. Missoula is conducting a fire study to measure carbon monoxide, carbon dioxide, and total particulates, but the study is not refined enough to use for emissions factors.

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**Bridgewater Group Inc. (consulting firm) (Candice Hatch)**

**Survey ID:** 21                      **Respondent Type:** Industry

clients usually give data to industry trade associations, not to EPA

clients routinely submit compliance source test reports to state agencies

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**Daimler Chrysler, Corporate Regulatory Planning Group (Mary Snow Cooper)**

**Survey ID:** 36                      **Respondent Type:** Industry

have provided info from the dynamometer and SERDP foundry studies to EPA

sent in section 114 info, which mostly was mass balance data for surface coatings, foundries, boilers, and engine testing MACTs

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**DOD Environmental Contractors (Drek Newton [Navy], Paul Josephson [Army], Scott Cummings [Army], Steve Rasmussen [Air Force])**

**Survey ID:** 26                      **Respondent Type:** Industry

provide source test data for compliance that could be used in developing EFs - a computerized system to submit this would be helpful

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**Georgia-Pacific Corporation**

**Survey ID:** 19                      **Respondent Type:** Industry

we provide data to EPA through the National Council for Air and Stream Improvement (NCASI)

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**5. Do you or your constituents provide data to EPA for developing emissions factors? What about the process for developing EPA emissions factors enhances or inhibits your participation?**

**NEDA/CARP (Todd Rollefson)**

**Survey ID:** 15                      **Respondent Type:** Industry

usually supplied only through Section 114 information requests

companies do not have much incentive to provide this information as it could be used against them, particularly for NSR

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**Reliant Energy, Air Resources Permitting and Compliance Group for Texas and Illinois Plants (Joe Araiza)**

**Survey ID:** 24                      **Respondent Type:** Industry

no, EPRI does though

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**Taconite Mining Industry Representatives (Nancy Smith, Sarrah Mattila, Dave Skolasinski)**

**Survey ID:** 40                      **Respondent Type:** Industry

provided stack testing data for MACT, but hasn't been incorporated into AP-42

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**Texas Eastman (Jeff Mach)**

**Survey ID:** 39                      **Respondent Type:** Industry

would be willing to submit test data to EPA

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**Air Management Division of the Environmental Protection Commission, Hillsborough County (Tampa), Florida**

**Survey ID:** 128                      **Respondent Type:** Local agency

Have pointed out errors and provided clarification when the backup document was not able to be located. On the other hand, the apparent lack of interest in reviewing emissions factors on a regular basis has inhibited our participation in this process.

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**5. Do you or your constituents provide data to EPA for developing emissions factors? What about the process for developing EPA emissions factors enhances or inhibits your participation?**

**Allegheny County Air Quality Program, Pittsburgh, PA (no specific contact)**

**Survey ID:** 124                      **Respondent Type:** Local Agency

Have provided data from the USX Clairton Coke Works to EPA for the development of emissions factors. The lack of a firm publicized schedule for the development of emissions factors tends to inhibit participation.

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**City of Houston (Arturo Blanco, Daniel Hoyt)**

**Survey ID:** 139                      **Respondent Type:** Local agency

Currently provide any data they have to TCEQ. They do not do stack testing but are thinking about starting.

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**City of Jacksonville, Florida (Lori Tilley)**

**Survey ID:** 106                      **Respondent Type:** Local Agency

No. We generally do not have the resources to compile this data.

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**Lane County Regional Air Pollution Authority (Max Hueftle, Robert Koster, Drew Johnson)**

**Survey ID:** 102                      **Respondent Type:** Local Agency

Never knew there is/was a process for submitting data from source tests. Never knew they should invite EPA to observe source tests. BACT/LAER Clearinghouse is too cumbersome and should not be used as a model for AP-42 data entry. Recommend sending in scanned reports in a certain format to e-mail. May be able to commit to this method; however, accountability may be a problem.

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**Lincoln-Lancaster County Health Department, Nebraska (Gary Bergstrom)**

**Survey ID:** 131                      **Respondent Type:** Local agency

No, do not provide data to EPA regarding development of emissions factors.

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## **5. Do you or your constituents provide data to EPA for developing emissions factors? What about the process for developing EPA emissions factors enhances or inhibits your participation?**

**Monterey Bay Unified Air Pollution Control District**

**Survey ID:** 31                      **Respondent Type:** Local Agency

have helped EPA develop EF in the past but are constrained by their budget to help more

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**Polk County Air Quality, Iowa (Gary Young)**

**Survey ID:** 121                      **Respondent Type:** Local Agency

No. Inadequate resources.

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**Port of Portland Authority - Portland International Airport, Oregon (Steve Mrazek).**

**Survey ID:** 103                      **Respondent Type:** Local Agency

Not yet but would like to provide data. The process is too difficult, and submission of data depends on the contact. The airport management community are hoping this will change and that EPA will partner with FAA, NASA, and other interested parties in the near future to complete new aircraft emissions tests to characterize HAP emissions and improve the data quality.

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**Puget Sound Clean Air Agency, Washington (Kwame Agyei, Steve Van Slyke, John Anderson, and David Kircher)**

**Survey ID:** 110                      **Respondent Type:** Local Agency

Did not know they could submit data or emissions factors they have developed to EPA. EPA should let testers know what kinds of data are needed. They have concerns about some testing where there is not uncontrolled emissions testing; most testing is conducted for compliance purposes. In some cases, there is no need to send all data in. It is important for EPA to scrutinize the data it receives.

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**Sacramento Metropolitan Air Quality Management District (Jorge Guzman)**

**Survey ID:** 113                      **Respondent Type:** Local Agency

Yes. Not directly, but EPA contractors have used our source test data to develop emissions factors.

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## 5. Do you or your constituents provide data to EPA for developing emissions factors? What about the process for developing EPA emissions factors enhances or inhibits your participation?

**Seattle Port Authority (Barbara Cole)**

**Survey ID:** 101      **Respondent Type:** Local Agency

Does not provide data for emissions factors development. Do not conduct source testing.

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**South Coast Air Quality Management District, California**

**Survey ID:** 136      **Respondent Type:** Local agency

Not answered

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**Ventura County Air Pollution Control District (Karl Krause, Manager, Engineering Division -- Chair of the CAPCOA Engineering Managers Committee)**

**Survey ID:** 114      **Respondent Type:** Local Agency

We have provided data in the past for EPA emission factor development. Because more emission factor development seems to take place at EPA facilities in the east, it has often seemed to be burdensome in terms of time and travel and budget to participate in development.

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**Coke Oven Environmental Task Force (white paper prepared by Allen Dittenhoefer of Enviroplan Consulting)**

**Survey ID:** 32      **Respondent Type:** Planning and Environmental Organizatio

have provided test reports as part of AP-42 review/comment process, which have been used as basis for standards

industry has problems with the process for participation:

EPA should supply more opportunities for data/comment submittal process

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**WESTAR (in Portland, OR) (Bob Lebens)**

**Survey ID:** 20      **Respondent Type:** Planning and Environmental Organizatio

OR, WA and ID have collaborated to establish EFs for residential wood burning, marine vessels, and locomotives, but they aren't in AP-42 yet

process is inhibited by time it takes to get new data submitted to EPA incorporated into AP-42

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**5. Do you or your constituents provide data to EPA for developing emissions factors? What about the process for developing EPA emissions factors enhances or inhibits your participation?**

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**Survey ID:** 35                      **Respondent Type:** S/L/T agency?

yes, have contacted EPA about a large discrepancy between an emission factor and any source testing seen

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**California Air Resources Board (Chris Nguyen, Keith Rosecrantz, Pat Gaffney)**

**Survey ID:** 135                      **Respondent Type:** State agency

California-specific data and sometimes refinery AP-42 emissions factors are used. No mechanism exists to provide EPA with data. They would be interested if a mechanism were available.

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**Arizona Department of Environmental Protection (Darlene Celaya)**

**Survey ID:** 125                      **Respondent Type:** State agency

Have not provided any data but will gladly do so if requested. This process will definitely be enhanced with our participation.

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**Colorado Department of Public Health and Environment**

**Survey ID:** 126                      **Respondent Type:** State agency

No. We have never really considered participating.

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**Commonwealth of Virginia (Regina Jordan)**

**Survey ID:** 115                      **Respondent Type:** State Agency

A lime processing plant in our area was used to develop some AP-42 data. The Central Office, not the regional offices, makes decisions such as participating in such a process. Regional offices are not advised of any such participation.

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## **5. Do you or your constituents provide data to EPA for developing emissions factors? What about the process for developing EPA emissions factors enhances or inhibits your participation?**

### **Florida Department of Environmental Protection (Bruce Mitchell)**

**Survey ID:** 148                      **Respondent Type:** State Agency

Not sure if Florida has ever participated in the development of an "emissions factor" for an air emitting activity; and I'm not aware of the process that goes into the development of an "emissions factor."

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### **Georgia Environmental Protection Division (Jimmy Johnston)**

**Survey ID:** 127                      **Respondent Type:** State Agency

Now aware that we do. Not familiar with the process for providing information to EPA for developing/improving emissions factors.

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### **Illinois Environmental Protection Agency**

**Survey ID:** 129                      **Respondent Type:** State agency

Many sources in Illinois have contributed data to EPA in the development of emissions factors.

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### **Indiana Department of Environmental Management (Phil Perry)**

**Survey ID:** 130                      **Respondent Type:** State agency

Have not had much direct involvement with the emissions factor development for EPA except in the instance of working with EPA on some of the Fiver Reinforced Plastics emissions factors. Have been involved in some 114 requests for certain source categories. The extent of this involvement was primarily test observation and report review in order to quality-assure the data that was sent to IDEM and EPA.

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### **Michigan Department of Environmental Quality (John Schroeder, Scott Edic, Dennis McGeen, Rick Dalebout)**

**Survey ID:** 137                      **Respondent Type:** State Agency

Did not know that they were supposed to or that there is a process to submit test data to EPA. Believe test data has not been submitted, but they were not sure. Their districts review source test reports and probably would send to EPA, if possible.

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**5. Do you or your constituents provide data to EPA for developing emissions factors? What about the process for developing EPA emissions factors enhances or inhibits your participation?**

**Minnesota Air Pollution Control Authority , Air Permitting Group (Peggy Bartz, Steve Gorg)**

**Survey ID:** 141                      **Respondent Type:** State agency

Not applicable.

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**Minnesota Pollution Control Authority, Emissions Inventory Group (Paul Kim)**

**Survey ID:** 140                      **Respondent Type:** State agency

Had some comments about the process for getting new emissions factors affected: It is too long and usually states will need the emissions factors long before they are developed and approved. In some cases, the data provided in AP-42 does not include enough background information such as QA/QC. They would rather observe source testing than review the QA/QC from the test reports. They have an asphalt emissions factor that was peer-reviewed. They do not currently provide data to EPA for emissions factor development.

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**Minnesota Pollution Control Authority, Permitting Supervisors (Carolina Schmitt, Don Smith)**

**Survey ID:** 142                      **Respondent Type:** State agency

Are not providing data for emissions factors development. They know of data being provided for the taconite MACT and the ethanol plants, but their data have not been used in developing emissions factors. They try to participate when asked. They see an EPA-Industry Alliance needed. Since industry complains about emissions factors, they should work with us to develop these emissions factors.

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**Mississippi Department of Environmental Quality (Dan McLeod)**

**Survey ID:** 107                      **Respondent Type:** State Agency

Do not provide data to EPA since we do not do independent emissions testing. In the past, some facilities have provided emissions test information to EPA that was used for emissions factor work. This was by agreement between the facility and EPA.

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**5. Do you or your constituents provide data to EPA for developing emissions factors? What about the process for developing EPA emissions factors enhances or inhibits your participation?**

**Nebraska Department of Environmental Quality (David Brown)**

**Survey ID:** 123      **Respondent Type:** State Agency

No. It is pretty much a budget issue (time & money) that inhibits our involvement in these activities.

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**New Jersey Department of Environmental Protection (No specific contact)**

**Survey ID:** 122      **Respondent Type:** State Agency

Do not directly provide emissions factor information to EPA. Routinely report emissions for various source categories along with process parameters and other information that could be used to derive an emission factor for that particular facility.

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**Oregon Department of Environmental Quality (Greg Aldrich, Eric Blischke, Gregg Lande)**

**Survey ID:** 108      **Respondent Type:** State Agency

No

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**Oregon Department of Environmental Quality (ODEQ) (John Ruscigno, Audrey O'Brien, Greg Grunow, Carey Chang, Dave Kauth, Pat Vernon)**

**Survey ID:** 105      **Respondent Type:** State Agency

Providing dat to EPA is a very low priority. ODEQ thinks EPA asks too many questions. Need to streamline the process. EPA should send a contractor to go through their files.

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**Oregon Department of Environmental Quality (Sarah Armitage, MaryAnn Fitzgerald, Ryan Ross, Svetlana Lazare, Gregg Lande, Jerry Ebersole, Christ Swab, Jeffrey Stocum, Jerry Preston, Phil Allen, Annette, Corey Chang)**

**Survey ID:** 109      **Respondent Type:** State Agency

Don't know of a process to provide data and wonder how the process could be made more current. Have lots of data to offer and believes that Chapter 10 of AP-42 needs to be updated.

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**5. Do you or your constituents provide data to EPA for developing emissions factors? What about the process for developing EPA emissions factors enhances or inhibits your participation?**

**Oregon Environmental Council (OEC) (Laura Weiss)**

**Survey ID:** 104                      **Respondent Type:** State Agency

OEC does not conduct source tests or collect data.

---

**State of Washington (one section, not sure which, David Wendt)**

**Survey ID:** 119                      **Respondent Type:** State Agency

Do not provide data and have never been involved in the process.

---

**Texas Commission on Environmental Quality**

**Survey ID:** 147                      **Respondent Type:** State Agency

There are volumes of emissions test data available within their files, but there is no conduit to get this information to EPA or to get it into a system where it would have a broader use within their own organization.

---

**Texas Commission on Environmental Quality (Kathy Pendleton)**

**Survey ID:** 116                      **Respondent Type:** State Agency

Don't really know.

---

**Texas Commission on Environmental Quality, Emissions Inventory Division (Russ Nettles, Kevin Cauble, Kathy Pendleton, Paul Henry, Michal de la Cruz)**

**Survey ID:** 146                      **Respondent Type:** State Agency

They do not know how to submit data to EPA.

---

## 5. Do you or your constituents provide data to EPA for developing emissions factors? What about the process for developing EPA emissions factors enhances or inhibits your participation?

**Texas Commission on Environmental Quality, Houston Regional Office (Diana Sullivan, Dick Flannery, Matthew Kolodney, Claudio Galli, Manuel Bautista, Billie Zaporteza, Enayat Zareian, Kiranmai Valluri, Mohammed Bajwa, Henry Iyamu, Robert Buchanan, Vicky Wang, Jeanette Schwartz, Vivek Kim, Rickey Wilson, Nadia Hameid, Kesha Ragin, La Juan Julian, Sherri Gregg, Wayne Strickler, Ruth Cleveland, Cedric Flemming, Regina Speights, Angela Robinson, and Mukhtar Malik)**

**Survey ID:** 145                      **Respondent Type:** State Agency

Do not provide data to EPA because it has never been offered to them. They do not have much time to provide data.

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**Vermont Department of Environmental Conservation (Doug Elliott)**

**Survey ID:** 112                      **Respondent Type:** State Agency

We will provide stack test data when pertinent.

---

---

**Washington Department of Ecology (Beth Stipek)**

**Survey ID:** 100                      **Respondent Type:** State Agency

Have experienced emission factors way below any source test seen. EPA contacted about findings. However, no agency uses these emissions factors anymore.

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**Wisconsin Department of Natural Resources Bureau of Air Management (Susan Linderm, Mike Ross, Bob Eckdale, Corey Carter, Roger Fritz, Pat Kirsop, Ralph Patterson, Andy Seeber, Colin Duffy, Phillip Spranger)**

**Survey ID:** 138                      **Respondent Type:** State agency

Submit data to Region 5 every year, but would like to submit it electronically.

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**6. Have you, your constituents, or others proposed to use emissions quantification procedures other than emissions factors? If so, why and what were those procedures?**

---

**FIATqs**

**Survey ID:** 34                      **Respondent Type:** ?

use best EF available, AP-42 EF generally have a poor quality rating

---

**EPA Region 9 (Stan Tong, John Kim)**

**Survey ID:** 132                      **Respondent Type:** EPA

Some sources do self-reporting. It is the agency's responsibility to do QA/QC of data.

---

**Region 10 and Washington Department of Ecology (Madonna Narvaez, Maynard Okereke, Herman Wong, Emad Shahin, Paul Boys, Don Dossett, Lester Keel, Rindy Ramos, Beth Stipek)**

**Survey ID:** 30                      **Respondent Type:** EPA

prefer actual source test info to EFs

have required manufacturer's specifications over EF in some cases, such as the ethylene oxide sterilizer MACT

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**US EPA Region 5 (Michael Rizzo, Farro Assadi, Genevieve D'Amico, Rafiu Dania, Mary Tyson, Loretta Lehrmann, Regina Charles, Brent Marable, Bill McDowell)**

**Survey ID:** 41                      **Respondent Type:** EPA

prefer to use source testing, also use material balance, manufacturers specifications, receptor modeling, MSDS sheets, look for emissions profiles

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**US EPA Region 5 Air Permitting Section (Ethan Chatfield, Sam Portanova, Stacey Coburn, Rachel Rinehart, Beth Valenziano, Jennifer Darrow, Genevieve D'Amico, Laura David, Susan Stepkowski, Danny Marcos, Constantine Blathras, Kaushal Gupta, Richard Angelbeck, Bob Miller)**

**Survey ID:** 44                      **Respondent Type:** EPA

use manufacturer's specifications, MSDS sheets, source testing, EF is the least preferable options

---

**6. Have you, your constituents, or others proposed to use emissions quantification procedures other than emissions factors? If so, why and what were those procedures?**

---

**US EPA Region 6 Air Enforcement Section (Michelle Kelly, David Garcia, Gerald Mokry, Raymond Magyar, Robert Todd)**

**Survey ID: 45                      Respondent Type: EPA**

would rather use CEMs, stack tests, manufacturers specifications, and/or operating parameters

---

**United States Forest Service - Seattle Office (Sue Ferguson, Susan O'Neill)**

**Survey ID: 111                      Respondent Type: Federal Agency**

No, not yet.

---

**Bridgewater Group Inc. (consulting firm) (Candice Hatch)**

**Survey ID: 21                      Respondent Type: Industry**

no

---

**DOD Environmental Contractors (Drek Newton [Navy], Paul Josephson [Army], Scott Cummings [Army], Steve Rasmussen [Air Force])**

**Survey ID: 26                      Respondent Type: Industry**

they use mass balance and source test data to quantify emissions

---

**Georgia-Pacific Corporation**

**Survey ID: 19                      Respondent Type: Industry**

prefer to use actual measurements of stack parameters using EPA reference test methods where compliance and/or costs of control are critical

for inventories or public information, mass balance estimates are typically preferred

---

**NEDA/CARP (Todd Rollefson)**

**Survey ID: 15                      Respondent Type: Industry**

companies test to use the best available information over generic EFs

---

**6. Have you, your constituents, or others proposed to use emissions quantification procedures other than emissions factors? If so, why and what were those procedures?**

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**Taconite Mining Industry Representatives (Nancy Smith, Sarrah Mattila, Dave Skolasinski)**

**Survey ID:** 40                      **Respondent Type:** Industry

no

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**Texas Eastman (Jeff Mach)**

**Survey ID:** 39                      **Respondent Type:** Industry

often use testing and/or monitoring data instead of EF

---

**Air Management Division of the Environmental Protection Commission, Hillsborough County (Tampa), Florida**

**Survey ID:** 128                      **Respondent Type:** Local agency

Have used such things as stack testing results, mass balance, and CEM for emissions quantification procedures.

---

**Allegheny County Air Quality Program, Pittsburgh, PA (no specific contact)**

**Survey ID:** 124                      **Respondent Type:** Local Agency

Have used and proposed to use material balances as well as stack tests to calculate emissions. For some sources under specific conditions, AP-42 factors produce results that are either too high or too low to be credible. Have used EPA Tanks Program to calculate emissions.

---

**City of Houston (Arturo Blanco, Daniel Hoyt)**

**Survey ID:** 139                      **Respondent Type:** Local agency

No response

---

**City of Jacksonville, Florida (Lori Tilley)**

**Survey ID:** 106                      **Respondent Type:** Local Agency

Yes. We use stack test and CEM data when available because this data provide a more accurate estimate of emissions.

---

**6. Have you, your constituents, or others proposed to use emissions quantification procedures other than emissions factors? If so, why and what were those procedures?**

---

**Lane County Regional Air Pollution Authority (Max Hueftle, Robert Koster, Drew Johnson)**

**Survey ID:** 102                      **Respondent Type:** Local Agency

Have required source testing, use of material balance, or data spreadsheets.

---

**Lincoln-Lancaster County Health Department, Nebraska (Gary Bergstrom)**

**Survey ID:** 131                      **Respondent Type:** Local agency

No.

---

**Monterey Bay Unified Air Pollution Control District**

**Survey ID:** 31                      **Respondent Type:** Local Agency

EF may be based on emission tests or manufacturers data

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**Polk County Air Quality, Iowa (Gary Young)**

**Survey ID:** 121                      **Respondent Type:** Local Agency

Only stack testing to establish allowable emissions rates for selected processes.

---

**Port of Portland Authority - Portland International Airport, Oregon (Steve Mrazek).**

**Survey ID:** 103                      **Respondent Type:** Local Agency

They have proposed to use source test data from other sources where appropriate. Also use manufacturers' specs when provided, but aircraft engine manufacturers are not always forthcoming with emissions information.

---

**Puget Sound Clean Air Agency, Washington (Kwame Agyei, Steve Van Slyke, John Anderson, and David Kircher)**

**Survey ID:** 110                      **Respondent Type:** Local Agency

Happens often if the emissions factors for a particular source category are better or newer.

---

**6. Have you, your constituents, or others proposed to use emissions quantification procedures other than emissions factors? If so, why and what were those procedures?**

---

**Sacramento Metropolitan Air Quality Management District (Jorge Guzman)**

**Survey ID:** 113      **Respondent Type:** Local Agency

Mass balance

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**South Coast Air Quality Management District, California**

**Survey ID:** 136      **Respondent Type:** Local agency

Use industry-developed factors, CARB numbers, AP-42, whatever is best source.

---

**Ventura County Air Pollution Control District (Karl Krause, Manager, Engineering Division -- Chair of the CAPCOA Engineering Managers Committee)**

**Survey ID:** 114      **Respondent Type:** Local Agency

Question unclear. Many of our surface coating facilities and solvent cleaning operations use a mass balance approach to quantify emissions. The emission factor is expressed in terms of the amount of solvent per gallon of material. Some of our larger NOx sources now have CEMS and directly measure emissions and use the data for emissions quantification.

---

**Coke Oven Environmental Task Force (white paper prepared by Allen Dittenhoefer of Enviroplan Consulting)**

**Survey ID:** 32      **Respondent Type:** Planning and Environmental Organizations

Use EPA TANKS program for coke byproduct recovery plant storage tanks and process vessels

use models such as Surface Impoundment Modeling System (SIMS) and WATER9 model

Coke Oven NESHAP BID correlation equations for estimates benzene soluble organic coke oven emissions from charging operations, door leaks, and topside leaks

engineering calculations, mass balance, facility-specific source test data

---

**6. Have you, your constituents, or others proposed to use emissions quantification procedures other than emissions factors? If so, why and what were those procedures?**

---

**WESTAR (in Portland, OR) (Bob Lebens)**

**Survey ID:** 20                      **Respondent Type:** Planning and Environmental Organizations

WESTAR and its states are concerned about EFs for the WRAP Annex Rule for SO2

Also worried about increments tracking which are calculated using EFs

---

?

**Survey ID:** 35                      **Respondent Type:** S/L/T agency?

have seen others propose to use other equations due to the fact that the EF were very small compared to actual data

---

**California Air Resources Board (Chris Nguyen, Keith Rosecrantz, Pat Gaffney)**

**Survey ID:** 135                      **Respondent Type:** State agency

Staff determines if District data are better.

---

**Arizona Department of Environmental Protection (Darlene Celaya)**

**Survey ID:** 125                      **Respondent Type:** State agency

Yes. Material balance, calculation based on material properties such as VOC content.

---

**Colorado Department of Public Health and Environment**

**Survey ID:** 126                      **Respondent Type:** State agency

Mass balance.

---

**Florida Department of Environmental Protection (Bruce Mitchell)**

**Survey ID:** 148                      **Respondent Type:** State Agency

See #2 and #3.

---

## **6. Have you, your constituents, or others proposed to use emissions quantification procedures other than emissions factors? If so, why and what were those procedures?**

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### **Georgia Environmental Protection Division (Jimmy Johnston)**

**Survey ID:** 127                      **Respondent Type:** State Agency

2 answers. (1) For instance in which the source has yet to be constructed (generally permitting situations), and (2) for post construction using projected maximum production and projected materials used and testing or monitoring data from similar sources. Examples include mass balance calculations, CEMS, emissions tests.

---

### **Illinois Environmental Protection Agency**

**Survey ID:** 129                      **Respondent Type:** State agency

Many times, site-specific testing or monitoring data is available that provides a more accurate assessment of emissions. Occasionally, a source is able to identify where their emissions unit is significantly different than the generally accepted factor for like equipment. In these cases, we may use other accepted methods of estimating emissions such as material balance.

---

### **Indiana Department of Environmental Management (Phil Perry)**

**Survey ID:** 130                      **Respondent Type:** State agency

Some emissions factors may be derived from testing other than stack tests. These may include mass balance or feed stream knowledge. However, these were always considered as emissions factors and were developed with that intent in mind.

---

### **Michigan Department of Environmental Quality (John Schroeder, Scott Edic, Dennis McGeen, Rick Dalebout)**

**Survey ID:** 137                      **Respondent Type:** State Agency

Require or use mass balance, trade association data or information, and/or stack sampling, if available.

---

### **Minnesota Air Pollution Control Authority , Air Permitting Group (Peggy Bartz, Steve Gorg)**

**Survey ID:** 141                      **Respondent Type:** State agency

They use emissions quantification procedures such as mass balance, source testing, CEMs, and manufacturer's specifications. They usually do not rely on control equipment.

---

**6. Have you, your constituents, or others proposed to use emissions quantification procedures other than emissions factors? If so, why and what were those procedures?**

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**Minnesota Pollution Control Authority, Emissions Inventory Group (Paul Kim)**

**Survey ID:** 140                      **Respondent Type:** State agency

The Minnesota Emissions Inventory rule requires that site-specific data be used, if available.

---

**Minnesota Pollution Control Authority, Permitting Supervisors (Carolina Schmitt, Don Smith)**

**Survey ID:** 142                      **Respondent Type:** State agency

They used a statistical analysis with correction factors approach to derive emissions factors for estimating emissions from cooling towers.

---

**Mississippi Department of Environmental Quality (Dan McLeod)**

**Survey ID:** 107                      **Respondent Type:** State Agency

Have used chemical mass balance calculations for estimating certain emissions. Used often in calculating VOC emissions from coating operations. Also used this approach on occasion for estimating SO2 emissions utilizing chemical analysis of the medium producing the SOC emissions.

---

**Nebraska Department of Environmental Quality (David Brown)**

**Survey ID:** 123                      **Respondent Type:** State Agency

We do use other procedures that yield better information that is specific to the particular processes at a facility. These other procedures would include: trade industry information, manufacturer's data, stack testing results, CEMS data.

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**6. Have you, your constituents, or others proposed to use emissions quantification procedures other than emissions factors? If so, why and what were those procedures?**

---

**New Jersey Department of Environmental Protection (No specific contact)**

**Survey ID:** 122      **Respondent Type:** State Agency

Yes. The following emissions quantification procedures are specified in NJ's Emission Statement regulation (ranked in order of preference): (1) CEM, (2) Predictive Emissions Monitoring, (3) Department-Approved and Supervised Source Emissions Testing Performed during the Reporting Year, (4) Department-Approved and Supervised Source Emission Testing Performed in a Prior Year, (5) Mass/material balance, (6) AP-42 Emission factor or other EPA-Approved Emission Estimation Methodology or Selection of a Source Emission Test for a Similar Size Unit from the AP-42 Basis and Background Documents, (7) Manufacturer's Estimate, and (8) Others, including Industry Council or Organization Emission Factor, Source emission testing not approved or supervised by the Department, and Good Engineering Judgment/Factor.

---

**Oregon Department of Environmental Quality (Greg Aldrich, Eric Blischke, Gregg Lande)**

**Survey ID:** 108      **Respondent Type:** State Agency

They have used TRI data in the past.

---

**Oregon Department of Environmental Quality (ODEQ) (John Ruscigno, Audrey O'Brien, Greg Grunow, Carey Chang, Dave Kauth, Pat Vernon)**

**Survey ID:** 105      **Respondent Type:** State Agency

ODEQ asks sources to test if they do not like the E.Fs or if they want to get out of PSD or Title V. Use material balance for sulfur dioxide. Also use CEMS data or "back calculate" to quantify emissions.

---

**Oregon Department of Environmental Quality (Sarah Armitage, MaryAnn Fitzgerald, Ryan Ross, Svetlana Lazare, Gregg Lande, Jerry Ebersole, Christ Swab, Jeffrey Stocum, Jerry Preston, Phil Allen, Annette, Corey Chang)**

**Survey ID:** 109      **Respondent Type:** State Agency

For dry cleaners, the ODEQ requires mass balance. Used testing info from other states for mercury emissions from baghouses for steel mills.

---

**6. Have you, your constituents, or others proposed to use emissions quantification procedures other than emissions factors? If so, why and what were those procedures?**

---

**Oregon Environmental Council (OEC) (Laura Weiss)**

**Survey ID:** 104                      **Respondent Type:** State Agency

Others have been advocates of direct emissions monitoring but have not supplied data for development of emissions factors.

---

**State of Washington (one section, not sure which, David Wendt)**

**Survey ID:** 119                      **Respondent Type:** State Agency

No

---

**Texas Commission on Environmental Quality (Kathy Pendleton)**

**Survey ID:** 116                      **Respondent Type:** State Agency

Use other quantification methods all the time. CEM on combustion sources. Stack sampling on stacks (with approved methodology). Material balance on solvent and paint usage. When a different method measures emissions from a specific unit rather than uses a general factor, it is typically preferred.

---

**Texas Commission on Environmental Quality, Air Permits (Randy Hamilton, Bob Mann, John Smith, Vincent Meiller)**

**Survey ID:** 144                      **Respondent Type:** State Agency

They are very willing to supply data

---

**Texas Commission on Environmental Quality, Emissions Inventory Division (Russ Nettles, Kevin Cauble, Kathy Pendleton, Paul Henry, Michal de la Cruz)**

**Survey ID:** 146                      **Respondent Type:** State Agency

They would rather depend on information from MSDS sheets, material balance, manufacturers specifications, and/or abatement devise efficiencies.

---

**6. Have you, your constituents, or others proposed to use emissions quantification procedures other than emissions factors? If so, why and what were those procedures?**

---

**Vermont Department of Environmental Conservation (Doug Elliott)**

**Survey ID:** 112                      **Respondent Type:** State Agency

For permitting purposes, we do not want to underestimate the emissions potential but also want to hold facilities to the best readily achievable emissions rate. AP-42 represents the typical emissions, not the worst case or the best so we always look for equipment-specific emissions when possible.

---

**Washington Department of Ecology (Beth Stipek)**

**Survey ID:** 100                      **Respondent Type:** State Agency

Believe that the procedure for calculating emissions is pretty standard. Others have proposed to use other equations, as it was a result of the belief that the EF were very small compared to the actual data.

---

**Wisconsin Department of Natural Resources Bureau of Air Management (Susan Linderm, Mike Ross, Bob Eckdale, Corey Carter, Roger Fritz, Pat Kirsop, Ralph Patterson, Andy Seeber, Colin Duffy, Phillip Spranger)**

**Survey ID:** 138                      **Respondent Type:** State agency

Use other emissions quantification approaches such as stack sampling, CEMS, mass balance, MSDS sheets, or manufacturer's specifications whenever possible.

---

**7. Have you, your constituents, or others imposed or had imposed on you the use of emissions factors when there may have been other procedures providing more representative results?**

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**FIATqs**

**Survey ID: 34                      Respondent Type: ?**

only if nothing else is available

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**EPA Region 9 (Stan Tong, John Kim)**

**Survey ID: 132                      Respondent Type: EPA**

Not discussed

---

**Region 10 and Washington Department of Ecology (Madonna Narvaez, Maynard Okereke, Herman Wong, Emad Shahin, Paul Boys, Don Dossett, Lester Keel, Rindy Ramos, Beth Stipek)**

**Survey ID: 30                      Respondent Type: EPA**

no

---

**US EPA Region 5 (Michael Rizzo, Farro Assadi, Genevieve D'Amico, Rafiu Dania, Mary Tyson, Loretta Lehrmann, Regina Charles, Brent Marable, Bill McDowell)**

**Survey ID: 41                      Respondent Type: EPA**

use methods listed in question 6, EF are last choice

---

**US EPA Region 5 Air Permitting Section (Ethan Chatfield, Sam Portanova, Stacey Coburn, Rachel Rinehart, Beth Valenziano, Jennifer Darrow, Genevieve D'Amico, Laura David, Susan Stepkowski, Danny Marcos, Constantine Blathras, Kaushal Gupta, Richard Angelbeck, Bob Miller)**

**Survey ID: 44                      Respondent Type: EPA**

EF use is last choice

---

## 7. Have you, your constituents, or others imposed or had imposed on you the use of emissions factors when there may have been other procedures providing more representative results?

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**US EPA Region 6 Air Enforcement Section (Michelle Kelly, David Garcia, Gerald Mokry, Raymond Magyar, Robert Todd)**

**Survey ID: 45                      Respondent Type: EPA**

EF was imposed on them in the Refinery Initiative

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**United States Forest Service - Seattle Office (Sue Ferguson, Susan O'Neill)**

**Survey ID: 111                      Respondent Type: Federal Agency**

No

---

**Bridgewater Group Inc. (consulting firm) (Candice Hatch)**

**Survey ID: 21                      Respondent Type: Industry**

no usually AP-42 is used, which is defensible

---

**Daimler Chrysler, Corporate Regulatory Planning Group (Mary Snow Cooper)**

**Survey ID: 36                      Respondent Type: Industry**

have never been forced to use an EF they thought was inappropriate

---

**DOD Environmental Contractors (Drek Newton [Navy], Paul Josephson [Army], Scott Cummings [Army], Steve Rasmussen [Air Force])**

**Survey ID: 26                      Respondent Type: Industry**

reluctant to use EFs other than AP-42 if there is an EF in AP-42 because it is easier to defend

---

**Georgia-Pacific Corporation**

**Survey ID: 19                      Respondent Type: Industry**

have heard that one state prescribes the EF used for calculating state emission fees

---

**7. Have you, your constituents, or others imposed or had imposed on you the use of emissions factors when there may have been other procedures providing more representative results?**

---

**NEDA/CARP (Todd Rollefson)**

**Survey ID:** 15                      **Respondent Type:** Industry

yes, regulators will require use of EF generated by vendors, believing those are superior to EPA or company-generated data

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**Texas Eastman (Jeff Mach)**

**Survey ID:** 39                      **Respondent Type:** Industry

no

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**Air Management Division of the Environmental Protection Commission,  
Hillsborough County (Tampa), Florida**

**Survey ID:** 128                      **Respondent Type:** Local agency

No

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**Allegheny County Air Quality Program, Pittsburgh, PA (no specific contact)**

**Survey ID:** 124                      **Respondent Type:** Local Agency

Not to our knowledge.

---

**City of Houston (Arturo Blanco, Daniel Hoyt)**

**Survey ID:** 139                      **Respondent Type:** Local agency

No response

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**City of Jacksonville, Florida (Lori Tilley)**

**Survey ID:** 106                      **Respondent Type:** Local Agency

Yes. Facilities sometimes report emission estimates using emission factors rather than stack test or CEM data in record keeping document provided to us.

---

**7. Have you, your constituents, or others imposed or had imposed on you the use of emissions factors when there may have been other procedures providing more representative results?**

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**Lane County Regional Air Pollution Authority (Max Hueftle, Robert Koster, Drew Johnson)**

**Survey ID:** 102                      **Respondent Type:** Local Agency

They would need serious justification for requiring use of E.Fs when there is better data to estimate emissions.

---

**Lincoln-Lancaster County Health Department, Nebraska (Gary Bergstrom)**

**Survey ID:** 131                      **Respondent Type:** Local agency

No.

---

**Monterey Bay Unified Air Pollution Control District**

**Survey ID:** 31                      **Respondent Type:** Local Agency

no, the most representative approach is the accepted norm

---

**Polk County Air Quality, Iowa (Gary Young)**

**Survey ID:** 121                      **Respondent Type:** Local Agency

No

---

**Port of Portland Authority - Portland International Airport, Oregon (Steve Mrazek).**

**Survey ID:** 103                      **Respondent Type:** Local Agency

Some pulp and paper facilities were forced to use E.Fs as a result of the Pulp and Paper Enforcement Initiative.

---

**Puget Sound Clean Air Agency, Washington (Kwame Agyei, Steve Van Slyke, John Anderson, and David Kircher)**

**Survey ID:** 110                      **Respondent Type:** Local Agency

No. Use the best data.

---

**7. Have you, your constituents, or others imposed or had imposed on you the use of emissions factors when there may have been other procedures providing more representative results?**

---

**Sacramento Metropolitan Air Quality Management District (Jorge Guzman)**

**Survey ID:** 113                      **Respondent Type:** Local Agency

Yes. Source testing always provides more representative results. However, when dealing with very small emission units, it is not a cost-effective manner for estimating emissions.

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**Seattle Port Authority (Barbara Cole)**

**Survey ID:** 101                      **Respondent Type:** Local Agency

No

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**South Coast Air Quality Management District, California**

**Survey ID:** 136                      **Respondent Type:** Local agency

Not answered

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**Ventura County Air Pollution Control District (Karl Krause, Manager, Engineering Division -- Chair of the CAPCOA Engineering Managers Committee)**

**Survey ID:** 114                      **Respondent Type:** Local Agency

Do not think so.

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**Coke Oven Environmental Task Force (white paper prepared by Allen Dittenhoefer of Enviroplan Consulting)**

**Survey ID:** 32                      **Respondent Type:** Planning and Environmental Organizations

for the assessment of annual emission fees

in specification of construction/operating permit emission limits

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**WESTAR (in Portland, OR) (Bob Lebens)**

**Survey ID:** 20                      **Respondent Type:** Planning and Environmental Organizations

NA

---



**7. Have you, your constituents, or others imposed or had imposed on you the use of emissions factors when there may have been other procedures providing more representative results?**

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?

**Survey ID:** 35                      **Respondent Type:** S/L/T agency?

yes, some industries have insisted on using AP-42 when it was for their advantage

---

**California Air Resources Board (Chris Nguyen, Keith Rosecrantz, Pat Gaffney)**

**Survey ID:** 135                      **Respondent Type:** State agency

Not really an issue.

---

**Arizona Department of Environmental Protection (Darlene Celaya)**

**Survey ID:** 125                      **Respondent Type:** State agency

Yes.

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**Colorado Department of Public Health and Environment**

**Survey ID:** 126                      **Respondent Type:** State agency

No

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**Commonwealth of Virginia (Regina Jordan)**

**Survey ID:** 115                      **Respondent Type:** State Agency

This office always uses the most representative factors available.

---

**Florida Department of Environmental Protection (Bruce Mitchell)**

**Survey ID:** 148                      **Respondent Type:** State Agency

Not to my knowledge

---

## **7. Have you, your constituents, or others imposed or had imposed on you the use of emissions factors when there may have been other procedures providing more representative results?**

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### **Georgia Environmental Protection Division (Jimmy Johnston)**

**Survey ID:** 127                      **Respondent Type:** State Agency

Always use the best data that is available to us. For post-construction situations, emissions factors are sometimes used in lieu of more representative procedures when those procedures would be cost prohibitive. The need for accuracy is taken into consideration when determining when more representative procedures should be used.

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### **Illinois Environmental Protection Agency**

**Survey ID:** 129                      **Respondent Type:** State agency

Not in recollection.

---

### **Indiana Department of Environmental Management (Phil Perry)**

**Survey ID:** 130                      **Respondent Type:** State agency

Not that I am aware of at this time. Generally, we have allowed companies to perform emissions factor development testing if they so choose. This has always been done with the understanding that they would be forced to use the unit-specific factors they developed even if they showed emissions in excess of the very factors they were disputing.

---

### **Michigan Department of Environmental Quality (John Schroeder, Scott Edic, Dennis McGeen, Rick Dalebout)**

**Survey ID:** 137                      **Respondent Type:** State Agency

During the fee challenge where a source contests its emissions fees, information on how the emissions inventory is derived is considered. In some cases, use of emissions factors is required instead of other emissions quantification practices.

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## 7. Have you, your constituents, or others imposed or had imposed on you the use of emissions factors when there may have been other procedures providing more representative results?

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**Minnesota Air Pollution Control Authority , Air Permitting Group (Peggy Bartz, Steve Gorg)**

**Survey ID:** 141                      **Respondent Type:** State agency

If test data are more than 5 years old, then they require the source to test or use emissions factors. If they are uncomfortable with test data, then AP-42 is used. IF the testing was conducted by EPA or required by EPA and was site-specific, then they would use the data.

---

**Minnesota Pollution Control Authority, Emissions Inventory Group (Paul Kim)**

**Survey ID:** 140                      **Respondent Type:** State agency

Emissions factors would not be used where there were more representative emissions quantification information, unless the source data were more than five years old.

---

**Minnesota Pollution Control Authority, Permitting Supervisors (Carolina Schmitt, Don Smith)**

**Survey ID:** 142                      **Respondent Type:** State agency

Use Midwest Scaling Factors for VOCs from ethanol plants; Method 25 reports results as carbon instead of VOC. The applicability for ethanol plants is based on Method 25 testing. They have a problem issuing permits for some industry sectors because there are no emissions factors in AP-42. Also have problems with adequately estimating emissions from sources with emissions caps.

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**Mississippi Department of Environmental Quality (Dan McLeod)**

**Survey ID:** 107                      **Respondent Type:** State Agency

No

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**Nebraska Department of Environmental Quality (David Brown)**

**Survey ID:** 123                      **Respondent Type:** State Agency

No

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## 7. Have you, your constituents, or others imposed or had imposed on you the use of emissions factors when there may have been other procedures providing more representative results?

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**New Jersey Department of Environmental Protection (No specific contact)**

**Survey ID:** 122                      **Respondent Type:** State Agency

The Emission Statement rules along with the guidelines for preparing air permit applications are flexible enough to allow a facility to use the best available emission estimation method for a particular source. See above.

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**Oregon Department of Environmental Quality (ODEQ) (John Ruscigno, Audrey O'Brien, Greg Grunow, Carey Chang, Dave Kauth, Pat Vernon)**

**Survey ID:** 105                      **Respondent Type:** State Agency

Use whatever method seems to provide the best emissions quantification, which is important for determining permit fees. Fee hierarchy is in section 340.220.

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**Oregon Department of Environmental Quality (Sarah Armitage, MaryAnn Fitzgerald, Ryan Ross, Svetlana Lazare, Gregg Lande, Jerry Ebersole, Christ Swab, Jeffrey Stocum, Jerry Preston, Phil Allen, Annette, Corey Chang)**

**Survey ID:** 109                      **Respondent Type:** State Agency

Not applicable to ODEQ since they use more representative data if it exists. For NEI, OAQPS uses other data instead of the data submitted by ODEQ for some final numbers, and they believe the final numbers were based on emissions factors.

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**Oregon Environmental Council (OEC) (Laura Weiss)**

**Survey ID:** 104                      **Respondent Type:** State Agency

Not Applicable

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**State of Washington (one section, not sure which, David Wendt)**

**Survey ID:** 119                      **Respondent Type:** State Agency

No

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## 7. Have you, your constituents, or others imposed or had imposed on you the use of emissions factors when there may have been other procedures providing more representative results?

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### **Texas Commission on Environmental Quality**

**Survey ID:** 147                      **Respondent Type:** State Agency

They do impose the use of AP-42 emissions factors on sources when the source test data from the facilities s are old, poorly planned, and implemented or is otherwise not appropriate.

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### **Texas Commission on Environmental Quality (Kathy Pendleton)**

**Survey ID:** 116                      **Respondent Type:** State Agency

We do have constituents preferring the use of AP-42 when it calculates lower emissions than a direct measurement. We prefer the direct method.

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### **Texas Commission on Environmental Quality, Emissions Inventory Division (Russ Nettles, Kevin Cauble, Kathy Pendleton, Paul Henry, Michal de la Cruz)**

**Survey ID:** 146                      **Respondent Type:** State Agency

If CEMS data seem incorrect, then a source may be asked to rely on emissions factors. However, it is not usually the case. In these cases, they downgrade the numbers to "estimate."

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### **Texas Commission on Environmental Quality, Houston Regional Office (Diana Sullivan, Dick Flannery, Matthew Kolodney, Claudio Galli, Manuel Bautista, Billie Zaporteza, Enayat Zareian, Kiranmai Valluri, Mohammed Bajwa, Henry Iyamu, Robert Buchanan, Vicky Wang, Jeanette Schwartz, Vivek Kim, Rickey Wilson, Nadia Hameid, Keshia Ragin, La Juan Julian, Sherri Gregg, Wayne Strickler, Ruth Cleveland, Cedric Flemming, Regina Speights, Angela Robinson, and Mukhtar Malik)**

**Survey ID:** 145                      **Respondent Type:** State Agency

No, but have had to use them because nothing is available. Have used CARB emissions factors, but this is not an EPA-approved method.

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### **Vermont Department of Environmental Conservation (Doug Elliott)**

**Survey ID:** 112                      **Respondent Type:** State Agency

No. If there is something better, we use it.

---

## **7. Have you, your constituents, or others imposed or had imposed on you the use of emissions factors when there may have been other procedures providing more representative results?**

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**Washington Department of Ecology (Beth Stipek)**

**Survey ID: 100**

**Respondent Type: State Agency**

Some industries have tried and insisted upon using AP-42 when it was to their advantage. The actual data proved that AP-42 emission factors were much less than the actual data. However, actual data was more than 5 years old.

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**Wisconsin Department of Natural Resources Bureau of Air Management (Susan Linderm, Mike Ross, Bob Eckdale, Corey Carter, Roger Fritz, Pat Kirsop, Ralph Patterson, Andy Seeber, Colin Duffy, Phillip Spranger)**

**Survey ID: 138**

**Respondent Type: State agency**

In some cases, stack tests may not be used. They use emissions factors indirectly for asphalt plant fuel's sulfur content. Another example they used was for chromium electroplaters. They test with both control devices, but do not want to issue a permit with a limit for both control devices.

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## 8. If EPA decided not to update AP-42 again, what would your reaction be?

### FIATqs

Survey ID: 34                      Respondent Type: ?

need to support AP-42 and update it

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### EPA Region 6 Air Toxics Staff (Ruben Casso, Carrie Paige)

Survey ID: 42                      Respondent Type: EPA

bad idea not to update

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### EPA Region 9 (Stan Tong, John Kim)

Survey ID: 132                      Respondent Type: EPA

It would be a problem. There would be cases where we have nothing to go on. We would look for similar sources, but they may not exist. We would also look at rules that might apply to source and look at background information from rule. Local Districts default to AP-42 if they do not do their own testing. Still need AP-42 as a default. EPA should be responsible to have data and provide an update of AP-42. AP-42 was last updated 5 years ago.

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### EPA Region VI RCRA Staff (Jeff Yurk)

Survey ID: 28                      Respondent Type: EPA

need to be updated or they won't be used

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### Region 10 and Washington Department of Ecology (Madonna Narvaez, Maynard Okereke, Herman Wong, Emad Shahin, Paul Boys, Don Dossett, Lester Keel, Rindy Ramos, Beth Stipek)

Survey ID: 30                      Respondent Type: EPA

needs to be supported and updated

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### Region 9

Survey ID: 133                      Respondent Type: EPA

You'd better have something else. You need to update AP-42 to include the technology/sources not covered in it. Needs to be quality assured.

---

## 8. If EPA decided not to update AP-42 again, what would your reaction be?

**US EPA Region 5 (Michael Rizzo, Farro Assadi, Genevieve D'Amico, Rafiu Dania, Mary Tyson, Loretta Lehrmann, Regina Charles, Brent Marable, Bill McDowell)**

**Survey ID: 41                      Respondent Type: EPA**

a lot more data to be included with EF so they can evaluate the source test

they thought AP-42 already wasn't being supported and was near death

the older the EF get, the less they rely on them (referring to AP-42)

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**US EPA Region 5 Air Permitting Section (Ethan Chatfield, Sam Portanova, Stacey Coburn, Rachel Rinehart, Beth Valenziano, Jennifer Darrow, Genevieve D'Amico, Laura David, Susan Stepkowski, Danny Marcos, Constantine Blathras, Kaushal Gupta, Richard Angelbeck, Bob Miller)**

**Survey ID: 44                      Respondent Type: EPA**

do care about AP-42, provides national consistency and evens playing field over an industry

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**US EPA Region 6 Air Enforcement Section (Michelle Kelly, David Garcia, Gerald Mokry, Raymond Magyar, Robert Todd)**

**Survey ID: 45                      Respondent Type: EPA**

not be OK to stop supporting AP-42 - sources would start shopping around for EF, and there would be a drop in the validity of emissions quantification based on EF - leading to court battles  
AP-42 fosters national consistency

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**United States Forest Service - Seattle Office (Sue Ferguson, Susan O'Neill)**

**Survey ID: 111                      Respondent Type: Federal Agency**

They would be disappointed if EPA decided not to support AP-42. It would make their job more difficult. AP-42 is the central repository, and the standard for emissions factors. It is quite valuable to the USFS, even if they are developing their own emissions factors.

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**Bridgewater Group Inc. (consulting firm) (Candice Hatch)**

**Survey ID: 21                      Respondent Type: Industry**

AP-42 must be updated!

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## 8. If EPA decided not to update AP-42 again, what would your reaction be?

**Daimler Chrysler, Corporate Regulatory Planning Group (Mary Snow Cooper)**

**Survey ID:** 36                      **Respondent Type:** Industry

need to keep and update AP-42

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**Georgia-Pacific Corporation**

**Survey ID:** 19                      **Respondent Type:** Industry

it's important to keep and update AP-42

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**Huntsman Oil (Peter Houston)**

**Survey ID:** 37                      **Respondent Type:** Industry

need to keep it - it's used as an adjunct for more difficult to test sources

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**Reliant Energy, Air Resources Permitting and Compliance Group for Texas and Illinois Plants (Joe Araiza)**

**Survey ID:** 24                      **Respondent Type:** Industry

AP-42 does need updates

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**Texas Eastman (Jeff Mach)**

**Survey ID:** 39                      **Respondent Type:** Industry

not supporting AP-42 over time would be problematic, but wouldn't care too much on storage tanks

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**Air Management Division of the Environmental Protection Commission, Hillsborough County (Tampa), Florida**

**Survey ID:** 128                      **Respondent Type:** Local agency

We would be upset because AP-42 is a starting point for facilities, especially with respect to similar sources.

---

## 8. If EPA decided not to update AP-42 again, what would your reaction be?

### **Allegheny County Air Quality Program, Pittsburgh, PA (no specific contact)**

**Survey ID:** 124                      **Respondent Type:** Local Agency

This would have a detrimental effect because it is such a useful and widely accepted source of data on industrial and manufacturing processes. Use of AP-42 is especially true for coal, natural gas, and fuel oil-fired boilers and combustion units.

---

### **Bay Area Air Quality Management District, CA (Peter Hess, Bill Guy, Joe Slamovich, Charles McClure)**

**Survey ID:** 134                      **Respondent Type:** Local agency

AP-42 was the 'bible' of permitting. That has changed over the years. While less useful, it is still a great backstop. It should be done, but it is a resource issue. If EPA had funds available for grants, it would become a priority. Maybe an RFT would be a mechanism. A fee-based system could be supported, but it would need to have QA/QC. Envision an internet system with information such as (1) Who are you? (2) Where are you located? (3) Type of facility/process? (4) Test data (5) Input data? Likes the idea of taking steps to improve AP-42. Not sure if it would be possible to add new source information in AP-42 rather than update old sources.

---

### **City of Houston (Arturo Blanco, Daniel Hoyt)**

**Survey ID:** 139                      **Respondent Type:** Local agency

Believe that doing away with AP-42 would be unfortunate because the current factors are somewhat out of date, and technology in several industries is changing quickly. Many of these industries are small and cannot afford to do testing for the different operations that they perform. It is a useful tool. Changes are overdue.

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### **City of Jacksonville, Florida (Lori Tilley)**

**Survey ID:** 106                      **Respondent Type:** Local Agency

Very disturbing. AP-42 is generally the first source of reference we used to obtain emission factors. If we do not find them there, we go to other sources.

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## 8. If EPA decided not to update AP-42 again, what would your reaction be?

**Lane County Regional Air Pollution Authority (Max Hueftle, Robert Koster, Drew Johnson)**

**Survey ID:** 102                      **Respondent Type:** Local Agency

Would like AP-42 to be more current and accurate, but EPA should not quit supporting the EF program.

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**Lincoln-Lancaster County Health Department, Nebraska (Gary Bergstrom)**

**Survey ID:** 131                      **Respondent Type:** Local agency

We would be highly disappointed.

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**Monterey Bay Unified Air Pollution Control District**

**Survey ID:** 31                      **Respondent Type:** Local Agency

AP-42 should be updated

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**Polk County Air Quality, Iowa (Gary Young)**

**Survey ID:** 121                      **Respondent Type:** Local Agency

Disbelief and dismay

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**Port of Portland Authority - Portland International Airport, Oregon (Steve Mrazek).**

**Survey ID:** 103                      **Respondent Type:** Local Agency

Please don't stop supporting AP-42. It is very much needed for applicability purposes. Please make AP-42 more robust and improve the "D" and "E" rated factors so that they become "A" and "B."

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**Puget Sound Clean Air Agency, Washington (Kwame Agyei, Steve Van Slyke, John Anderson, and David Kircher)**

**Survey ID:** 110                      **Respondent Type:** Local Agency

EPA must support AP-42; there is no substitute. There would be chaos, panic, outrage, sorrow, hate, and discontent. EPA must lead the way on developing emissions factors.

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## 8. If EPA decided not to update AP-42 again, what would your reaction be?

### **Sacramento Metropolitan Air Quality Management District (Jorge Guzman)**

**Survey ID:** 113      **Respondent Type:** Local Agency

Many permitting decisions would be based on very bad science!

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### **Seattle Port Authority (Barbara Cole)**

**Survey ID:** 101      **Respondent Type:** Local Agency

AP-42 is not used that much, but it is at least important as a fallback.

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### **South Coast Air Quality Management District, California**

**Survey ID:** 136      **Respondent Type:** Local agency

Want to see AP-42 survive. It's a great starting point. Use a hierarchy system, with facility-specific source test data at the top, then Ap-42 and other source information next.

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### **Ventura County Air Pollution Control District (Karl Krause, Manager, Engineering Division -- Chair of the CAPCOA Engineering Managers Committee)**

**Survey ID:** 114      **Respondent Type:** Local Agency

We would probably continue to use the last AP-42 as a source of default emissions factors.

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### **Coke Oven Environmental Task Force (white paper prepared by Allen Dittenhoefer of Enviroplan Consulting)**

**Survey ID:** 32      **Respondent Type:** Planning and Environmental Organizations

AP-42 program should be continued

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### **WESTAR (in Portland, OR) (Bob Lebens)**

**Survey ID:** 20      **Respondent Type:** Planning and Environmental Organizations

need to keep and update AP-42 so that states will use the same EFs for the same kinds of sources

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## 8. If EPA decided not to update AP-42 again, what would your reaction be?

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Survey ID: 35                      Respondent Type: S/L/T agency?

need to update and improve AP-42

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**State of South Carolina (Bob Betterton), City of Philadelphia (Haley Comer), EPA Region III (Helene Drago), State of Delaware (David Fees), Allegheny County (Marty Hochhauser), State of Pennsylvania (John Hulsberg), City of Philadelphia (Henry Kim), State of North Carolina (Jim Southerland), State of Minnesota (Chun Yi Wu)**

Survey ID: 117                      Respondent Type: State & Local Agencies in Region 3, 4 and 8

Areas needing updates: (1) air toxics emissions from combustion sources, especially fossil fuel-fired (coal) power plants, (2) update refinery emissions with trade association data, (3) Some recent trade association (e.g., coatings) are lower than AP-42 Efs and the effects of temperature and other conditions on VOC emissions not addressed in AP-42, (4) Need to incorporate data for MWIs and foundries testing (Minnesota), (5) Some data from area sources available for landfills, dry cleaners, and Taconite mine sites (Minnesota), (6) Delaware in the process of reviewing EF gaps relative to inventories and will have results in about 4 months, (7) EF in AP-42 for fires needs updating, (8) Current EF for HCl from coal combustion is too low, (9) Need NH3 and PM2.5 EF data, (10) Development for HAP emissions factors should start from an analysis of pollutants of high risk and work from there to identify sources and associated emissions factors, (11) Metals speciation, (12) Coke ovens, (13) Almost all MACT sources and pollutants need updating and gap filling, (14) Nearly all representatives on the calls believed that full stakeholder involvement in EF was a good idea, (15) Important to keep all EF data available through one source (e.g., AP-42) and continuing to build new sections addressing permitting applications.

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## 8. If EPA decided not to update AP-42 again, what would your reaction be?

**State of New Hampshire (Mike Fitzgerald, Sonny Strickland, and Dave Heasley), EPA Region 1 (Bob McConnell), State of Massachusetts (Ken Satell), State of Maine (Doug Schell), State of Vermont (Bart Sponoeller),**

**Survey ID:** 120                      **Respondent Type:** State & Local Agencies, EPA Region 1

Area sources. Use AP-42-based emissions inventories to gauge emissions rates and emissions limits and reverse comparisons using compliance testing and mass balance equations. Massachusetts and Maine have inventories for review and uploading on AIRS. Could be used for emissions factors improvements. Speciated organic emissions factors for area sources. NH3 for newer technologies. Greenhouse gases. Mercury and other toxic metals from combustion, including wood burning. PM2.5 for combustion sources plus guidance on selection processes. Agriculture sources. Rock crushing values that recognize regional differences. Diesel Nox emissions factors for low emitting units. Emissions factors for material handling. PM2.5 for combustion sources are incomplete and inconsistent. Need Emissions factors for small engines. Condensable emissions from asphalt plants.

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**California Air Resources Board (Chris Nguyen, Keith Rosecrantz, Pat Gaffney)**

**Survey ID:** 135                      **Respondent Type:** State agency

AP-42 should be updated. It is a default for cases where CA data is non-existent or limited. SJVAPD has developed a number of area source methodologies but are reluctant to post them on the web. AP-42 is a little outdated, but it would be unfortunate if EPA didn't maintain it. It is a valuable source for inventory development. Streamline revision. Talk with CARB to get relevant information for a national clearinghouse. Evaluate data but at a more cursory level -- caveat it. Use data from government agencies, states, regions, district, but not sources. A reservoir or resource for EPA. Could also use state agencies to do source tests rather than consultants. If you let non-governmental entities input data, you need to have strict documentation. It would be nice to have AP-42 contain regional or state-specific emissions factors. Suggestion to scan AP-42 basic documents and link them to AP-42 so users could access and use all available data that a single emissions factor is developed from. AP-42 is always the starting point.

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**Arizona Department of Environmental Protection (Darlene Celaya)**

**Survey ID:** 125                      **Respondent Type:** State agency

The factors will be too old without the consideration of new technology and new information. Regularly reviewing and updating the numbers will provide the states with a baseline to measure other approaches.

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## 8. If EPA decided not to update AP-42 again, what would your reaction be?

### Colorado Department of Public Health and Environment

Survey ID: 126                      Respondent Type: State agency

We would urge EPA to continue to provide updates.

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### Commonwealth of Virginia (Regina Jordan)

Survey ID: 115                      Respondent Type: State Agency

Panic!

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### Florida Department of Environmental Protection (Bruce Mitchell)

Survey ID: 148                      Respondent Type: State Agency

AP-42 provides perimeters throughout the country with a reliable and consistent method for defining a source's potential to emit (PTE). If AP-42 is no longer updated, this nationwide consistency may be jeopardized. In addition, permittees may have to rely on other methods for determining PTE.

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### Georgia Environmental Protection Division (Jimmy Johnston)

Survey ID: 127                      Respondent Type: State Agency

I would flip out.

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### Illinois Environmental Protection Agency

Survey ID: 129                      Respondent Type: State agency

Adverse. EPA should periodically update the factors.

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### Indiana Department of Environmental Management (Phil Perry)

Survey ID: 130                      Respondent Type: State agency

AP-42 is relied upon heavily by the permits section. Therefore we would hope that AP-42 would continue to be a living document updated with the most accurate up to date information possible. Unless another publication was designed to take its place, we would have a negative reaction if the updates were terminated.

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## 8. If EPA decided not to update AP-42 again, what would your reaction be?

**Michigan Department of Environmental Quality (John Schroeder, Scott Edic, Dennis McGeen, Rick Dalebout)**

**Survey ID:** 137                      **Respondent Type:** State Agency

Their first reaction was, "You would still update FIRE, right?" They think there would not be emissions inventories, modeling, or emissions calculations, if AP-42 was not supported. There would be no consistency between States. There would be problems with conformity requirements if AP-42 were not supported.

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**Minnesota Air Pollution Control Authority , Air Permitting Group (Peggy Bartz, Steve Gorg)**

**Survey ID:** 141                      **Respondent Type:** State agency

They worry about national consistency issues. A major problem they have is that even when they do not believe AP-42 or think there are better data available, they use AP-42 anyway. They think there is information on the RACT/BACT/LAER Clearinghouse that might be useful.

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**Minnesota Pollution Control Authority, Emissions Inventory Group (Paul Kim)**

**Survey ID:** 140                      **Respondent Type:** State agency

It would be bad if EPA did not support AP-42, but they would live with it. They would probably use the emissions factors anyway.

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**Minnesota Pollution Control Authority, Permitting Supervisors (Carolina Schmitt, Don Smith)**

**Survey ID:** 142                      **Respondent Type:** State agency

If EPA discontinues support of AP-42, industry will be slowed up in getting their permits, which is bad for everybody and slows compliance. Good emissions factors makes permit streamlining go faster.

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## 8. If EPA decided not to update AP-42 again, what would your reaction be?

### Mississippi Department of Environmental Quality (Dan McLeod)

**Survey ID:** 107                      **Respondent Type:** State Agency

AP-42 is useful in making emissions estimates and needs to be maintained. May be other sources for emission estimates that at times are more reliable. Still, AP-42 is useful when there is no other emission data available. We suggest that EPA continue devoting resources to maintaining it and developing new emission factors for sources that have no emission factors at this time. Recommend that EPA continue evaluating more reliable data so that the ratings of many of the factors can be improved upon. Good AP-42 emission factors provide for consistency across the board in estimating emissions which provides consistency with permitting and establishing permit limitations.

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### Nebraska Department of Environmental Quality (David Brown)

**Survey ID:** 123                      **Respondent Type:** State Agency

This would introduce some difficulties compiling the NEI if no common emission factor source is used by all.

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### New Jersey Department of Environmental Protection (No specific contact)

**Survey ID:** 122                      **Respondent Type:** State Agency

EPA is an ideal clearing house for emissions factors since it routinely receives emission estimates and associated data from a multitude of emission sources. IT also services as a valuable resources for the identification and investigation of sources of emissions. The loss of this national resource would hamper the development and updating of available emission factors information and over time reduce the quality of emission estimation methods.

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### Oregon Department of Environmental Quality (Greg Aldrich, Eric Blischke, Gregg Lande)

**Survey ID:** 108                      **Respondent Type:** State Agency

It is the cornerstone of the air program, even with the limitations. It should not be discontinued. EPA should continue to support AP-42. There should be a national program to fill gaps, similar to the Urban Air Toxics Program.

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## 8. If EPA decided not to update AP-42 again, what would your reaction be?

**Oregon Department of Environmental Quality (ODEQ) (John Ruscigno, Audrey O'Brien, Greg Grunow, Carey Chang, Dave Kauth, Pat Vernon)**

**Survey ID:** 105                      **Respondent Type:** State Agency

Do not abandon AP-42. Do more research to get out in front of the curve. Don't react to needs. Identify and provide E.Fs for new kinds of sources or changes in control technologies or new pollutant-specific needs. Do not focus so much effort on "traditional" source types.

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**Oregon Department of Environmental Quality (Sarah Armitage, MaryAnn Fitzgerald, Ryan Ross, Svetlana Lazare, Gregg Lande, Jerry Ebersole, Christ Swab, Jeffrey Stocum, Jerry Preston, Phil Allen, Annette, Corey Chang)**

**Survey ID:** 109                      **Respondent Type:** State Agency

A national AP-42 maintained by EPA is essential for consistency, credibility, and an authoritative repository for emissions factors. The public perception is that AP-42 is the place to go for emissions factors. It is the place where ODEQ starts to look at emissions factors. They think it is integral to retain the "gold standard" approach, but to point to other sources of emissions factors. There was a comment about "one stop" shopping where all the emissions factors information is in one place or one website, not like the situation now where one has to look at CHIEF, AP-42, and EPA BIDS, etc. There should be consistency regardless of purpose.

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**Oregon Environmental Council (OEC) (Laura Weiss)**

**Survey ID:** 104                      **Respondent Type:** State Agency

OEC would care if EPA withdrew support for AP-42. Rely on emissions inventories from others, and believe updating AP-42 is warranted and needed.

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**State of Washington (one section, not sure which, David Wendt)**

**Survey ID:** 119                      **Respondent Type:** State Agency

Does this mean that no new emissions factors would be developed or just that the AP-42 format would not be updated? We would continue to rely on stack test data when available, and use older AP-42 data when nothing else is available. The advantage of AP-42 is that it gives at least a measure of standardization for emissions calculations.

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## 8. If EPA decided not to update AP-42 again, what would your reaction be?

### **Texas Commission on Environmental Quality**

**Survey ID:** 147                      **Respondent Type:** State Agency

Would be highly disappointed if EPA walked away from maintaining AP-42 because they think it would severely cripple the program to quantify emissions at most sources. They need good emissions factors for sources where they can't test.

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### **Texas Commission on Environmental Quality (Kathy Pendleton)**

**Survey ID:** 116                      **Respondent Type:** State Agency

Disappointment. It is often the only source of emissions factors for many categories, especially VOCs. Calculations of tank emissions and many fugitives are considered AP-42 even if it is a formula rather than a single factor. New pollutant such as ammonia which we are now required to track do not have good factors.

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### **Texas Commission on Environmental Quality, Air Permits (Randy Hamilton, Bob Mann, John Smith, Vincent Meiller)**

**Survey ID:** 144                      **Respondent Type:** State Agency

They would be disappointed if EPA did not support AP-42. It's a great resource.

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### **Texas Commission on Environmental Quality, Emissions Inventory Division (Russ Nettles, Kevin Cauble, Kathy Pendleton, Paul Henry, Michal de la Cruz)**

**Survey ID:** 146                      **Respondent Type:** State Agency

They would be severely hurt and disappointed. AP-42 is a reality check for emissions quantification. Although sometimes updating an emissions factor can cause problems.

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## 8. If EPA decided not to update AP-42 again, what would your reaction be?

**Texas Commission on Environmental Quality, Houston Regional Office (Diana Sullivan, Dick Flannery, Matthew Kolodney, Claudio Galli, Manuel Bautista, Billie Zaporteza, Enayat Zareian, Kiranmai Valluri, Mohammed Bajwa, Henry Iyamu, Robert Buchanan, Vicky Wang, Jeanette Schwartz, Vivek Kim, Rickey Wilson, Nadia Hameid, Keshia Ragin, La Juan Julian, Sherri Gregg, Wayne Strickler, Ruth Cleveland, Cedric Flemming, Regina Speights, Angela Robinson, and Mukhtar Malik)**

**Survey ID:** 145                      **Respondent Type:** State Agency

AP-42 needs to be updated to include sources not in the document. However, if it doesn't happen, will deal with it as best as possible. Have to use emissions factors because there is nothing else. They are not just used for emissions inventory. Also, they are outdated. They need emissions factors to take into account different production rates. EPA needs a mechanism to collect data from facilities. A good source for information is the facilities. Some good ones to check are Dow Research in Freeport, TX and Shell Research in West Hollow, Houston, TX. If EPA cannot collect these data and act as a repository, then they should pay the state or a subcontractor to do the job.

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**Texas Commission on Environmental Quality, Mobile Emissions Group (Steve Anderson, Diane Preusse, Bertie Fernando, Melinda Torres, Greg Lauderdale, Karla Hardison)**

**Survey ID:** 143                      **Respondent Type:** State Agency

If EPA decided not to support AP-42, they would write their congressman! They would be very disappointed. However, they would start to develop their own emissions factors (they already do).

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**Vermont Department of Environmental Conservation (Doug Elliott)**

**Survey ID:** 112                      **Respondent Type:** State Agency

Disappointment. It is a necessary document for permitting even if we don't rely completely on the emissions levels predicted by it.

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**Washington Department of Ecology (Beth Stipek)**

**Survey ID:** 100                      **Respondent Type:** State Agency

It would be a mistake not to update AP-42. Would cause problems and confusion, esp. in small industries. Regulators would have a hard time convincing small industries that data are the results of many source tests. Would put small industries at a disadvantage because they cannot afford source tests. Would cause inequality among industries.

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## 8. If EPA decided not to update AP-42 again, what would your reaction be?

**Wisconsin Department of Natural Resources Bureau of Air Management (Susan Linderm, Mike Ross, Bob Eckdale, Corey Carter, Roger Fritz, Pat Kirsop, Ralph Patterson, Andy Seeber, Colin Duffy, Phillip Spranger)**

**Survey ID: 138                      Respondent Type: State agency**

Believe EPA not supporting AP-42 would be a terrible idea. Permitting is very difficult without AP-42. AP-42 is especially helpful when research to find appropriate emissions factors is needed. AP-42 is needed for demonstrating whether a rule is applicable to a source. If EPA did not support AP-42, then industry would need to test more, and that would be a burden on them. AP-42 also provides data for control strategy development for SIPs and regulation development. Rely on AP-42 knowing that the emissions factors are averages. It is important to maintain AP-42 for national consistency. They want the program to be taken seriously.

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**9. Would you consider more direct involvement in an effort to improve emissions factors or in developing appropriate alternatives to emissions quantification by emissions factors? If so, what level of involvement would that be?**

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**FIATqs**

**Survey ID: 34                      Respondent Type: ?**

No

not without funding

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**EPA Office of Enforcement and Compliance Assurance (OECA) (Charlie Garlow, Rich Biondi, Mamie Miller, Scott Throwe, Mario Jorquera)**

**Survey ID: 14                      Respondent Type: EPA**

Yes

OECA could use section 114 authority to collect annual emissions reports and use them to update or verify current EF data

OECA could encourage state agencies to provide compliance test and monitoring data

OECA could help to develop an AP-42 chapter to provide an effective state data submission process, including state agency responsibility and testing data submission procedures for EF development

OECA could add requirements for data submission to consent and settlement agreements

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**EPA Region 9 (Stan Tong, John Kim)**

**Survey ID: 132                      Respondent Type: EPA**

NA

Need to have an OAQPS contact to work with Air Districts, etc. as new factors are developed. The Region would be a conduit only during the process.

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**9. Would you consider more direct involvement in an effort to improve emissions factors or in developing appropriate alternatives to emissions quantification by emissions factors? If so, what level of involvement would that be?**

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**EPA Region VI RCRA Staff (Jeff Yurk)**

**Survey ID: 28                      Respondent Type: EPA**

NA

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**EPA/Climate Protection Partnerships Division (CPPD)**

**Survey ID: 17                      Respondent Type: EPA**

Yes

currently working to develop EFs for landfill operations  
could provide data and identify other data sources to improve and expand AP-42 for greenhouse gases

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**EPA/OAQPS, Emission Standards Division (ESD) (Sally Shaver, Penny Lassiter)**

**Survey ID: 18                      Respondent Type: EPA**

Yes

residual risk group has a grant to evaluate emissions of 18 HAPs that presents an opportunity for collaboration to develop EFs for them

could assign one ESD person to work on this collaboration with EMAD

---

**EPA/OAQPS, Emissions Monitoring and Analysis Division (EMAD), Air Quality Modeling Group (AQMG) (Madeleine Strum, Brian Timin, Joe Touma, Ellen Baldrige)**

**Survey ID: 25                      Respondent Type: EPA**

NA

have given information on the percentage of chrome6 in total chromium for many industries that could be used

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**9. Would you consider more direct involvement in an effort to improve emissions factors or in developing appropriate alternatives to emissions quantification by emissions factors? If so, what level of involvement would that be?**

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**EPA/OAQPS, Emissions Standards Division (ESD), Coatings and Consumer Products Group (CCPG) (Dave Salman, Printing MACT)**

**Survey ID: 27                      Respondent Type: EPA**

Yes

would help develop or update EF if it involved inks or coatings

---

**EPA/OAQPS, Emissions Standards Division (ESD), Risk Exposure and Assessment Group (REAG) (David Guinnup, Ted Palma, and Neal Fann)**

**Survey ID: 13                      Respondent Type: EPA**

Yes

REAG has data for gas and oil-fired turbines that could be used to develop EFs with known confidence levels

ESD could collaborate with EFPAG for EF improvement for toxic HAPs and defining effective monitoring

---

**Region 10 and Washington Department of Ecology (Madonna Narvaez, Maynard Okereke, Herman Wong, Emad Shahin, Paul Boys, Don Dossett, Lester Keel, Rindy Ramos, Beth Stipek)**

**Survey ID: 30                      Respondent Type: EPA**

Yes

several people mentioned they would like to be more involved

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**9. Would you consider more direct involvement in an effort to improve emissions factors or in developing appropriate alternatives to emissions quantification by emissions factors? If so, what level of involvement would that be?**

---

**Region 9**

**Survey ID:** 133      **Respondent Type:** EPA

Yes

No vehicle exists at this time for sharing data. Not enough impetus to publish as an EPA report but would like to share information. A formal process should be developed. Working on emissions factor work with Canada, etc.

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**US EPA Region 5 (Michael Rizzo, Farro Assadi, Genevieve D'Amico, Rafiu Dania, Mary Tyson, Loretta Lehrmann, Regina Charles, Brent Marable, Bill McDowell)**

**Survey ID:** 41      **Respondent Type:** EPA

Yes

would direct sources to send their source tests to EPA, OAQPS  
would not commit to workgroup participation

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**US EPA Region 5 Air Permitting Section (Ethan Chatfield, Sam Portanova, Stacey Coburn, Rachel Rinehart, Beth Valenziano, Jennifer Darrow, Genevieve D'Amico, Laura David, Susan Stepkowski, Danny Marcos, Constantine Blathras, Kaushal Gupta, Richard Angelbeck, Bob Miller)**

**Survey ID:** 44      **Respondent Type:** EPA

No

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**US EPA Region 6 Air Enforcement Section (Michelle Kelly, David Garcia, Gerald Mokry, Raymond Magyar, Robert Todd)**

**Survey ID:** 45      **Respondent Type:** EPA

Yes

would consider providing source test data if resources were available

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**9. Would you consider more direct involvement in an effort to improve emissions factors or in developing appropriate alternatives to emissions quantification by emissions factors? If so, what level of involvement would that be?**

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**United States Forest Service - Seattle Office (Sue Ferguson, Susan O'Neill)**

**Survey ID:** 111      **Respondent Type:** Federal Agency

Yes

They want to work on testing the sensitivity of emission factors through their Blue Sky model that the USFS is developing. Blue Sky Program will be used to manage smoke and PMFINE emissions for visibility. Blue Sky is a real-time program and can be used to predict impacts. Program will be available to smoke managers and burn bosses.

---

**American Coke and Coal Chemicals Institute and National Oilseed Processors Association (David Ailor)**

**Survey ID:** 1      **Respondent Type:** Industry

NA

industry-provided information has been misused in the past

---

**Bridgewater Group Inc. (consulting firm) (Candice Hatch)**

**Survey ID:** 21      **Respondent Type:** Industry

No

as a consultant the contribution would have to be from her clients

---

**Daimler Chrysler, Corporate Regulatory Planning Group (Mary Snow Cooper)**

**Survey ID:** 36      **Respondent Type:** Industry

NA

Chrysler has been involved with emission factors development through Alliance and the engine manufacturer's trade association

---

**9. Would you consider more direct involvement in an effort to improve emissions factors or in developing appropriate alternatives to emissions quantification by emissions factors? If so, what level of involvement would that be?**

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**DOD Environmental Contractors (Drek Newton [Navy], Paul Josephson [Army], Scott Cummings [Army], Steve Rasmussen [Air Force])**

**Survey ID: 26                      Respondent Type: Industry**

Yes

might participate in a user workgroup

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**Georgia-Pacific Corporation**

**Survey ID: 19                      Respondent Type: Industry**

Yes

either thought the individual company, or through an effort by the pulp and paper industry or the National Council for Air and Stream Improvement (NCASI) in a work group

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**Huntsman Oil (Peter Houston)**

**Survey ID: 37                      Respondent Type: Industry**

NA

no response

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**NEDA/CARP (Todd Rollefson)**

**Survey ID: 15                      Respondent Type: Industry**

Yes

NEDA/CARP could assist with general info and legal thinking about the use and applicability of emissions estimates and reliance on EFs, but trade associations are the best source for technical assistance

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**9. Would you consider more direct involvement in an effort to improve emissions factors or in developing appropriate alternatives to emissions quantification by emissions factors? If so, what level of involvement would that be?**

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**Proctor and Gamble, El Paso Corporation, ExxonMobil, Dow Chemical, Clean Air Implementation Project**

**Survey ID: 8                      Respondent Type: Industry**

Yes

CAIP interested in collaborating w/EPA in developing updates for combustion and fugitive emissions

---

**Taconite Mining Industry Representatives (Nancy Smith, Sarrah Mattila, Dave Skolasinski)**

**Survey ID: 40                      Respondent Type: Industry**

Yes

would participate in a workgroup to develop EF for fugitives, specific to their industry, especially for road dust

can't provide data routinely due to costs

---

**Texas Eastman (Jeff Mach)**

**Survey ID: 39                      Respondent Type: Industry**

Yes

might be interested in participating in industry workgroup, but are already involved in the ACC olefin panel

---

**Texas Petrochemicals (Max Jones, John Yoars, Chris Hendricks, Mike Wieczorek)**

**Survey ID: 38                      Respondent Type: Industry**

Yes

might be willing to provide data, but working through the ACC only

---

**9. Would you consider more direct involvement in an effort to improve emissions factors or in developing appropriate alternatives to emissions quantification by emissions factors? If so, what level of involvement would that be?**

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**TRC (consulting firm) (Steve Eitelman, Mark Hultman, Gary Hunt, Howard Schiff, Ray Topazio, Al Wilder)**

**Survey ID:** 7                      **Respondent Type:** Industry

Yes

TRC wants to be a stakeholder in EF improvement work

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**Air Management Division of the Environmental Protection Commission, Hillsborough County (Tampa), Florida**

**Survey ID:** 128                      **Respondent Type:** Local agency

Yes

If certain sections were targeted for comments and revision.

---

**Allegheny County Air Quality Program, Pittsburgh, PA (no specific contact)**

**Survey ID:** 124                      **Respondent Type:** Local Agency

Yes

EPA needs to work more closely with STAPPA/ALAPCO to outline the current procedure of emission factor development, publicize a schedule, and identify the areas where state and local agencies could best contribute.

---

**City of Houston (Arturo Blanco, Daniel Hoyt)**

**Survey ID:** 139                      **Respondent Type:** Local agency

NA

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**9. Would you consider more direct involvement in an effort to improve emissions factors or in developing appropriate alternatives to emissions quantification by emissions factors? If so, what level of involvement would that be?**

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**City of Jacksonville, Florida (Lori Tilley)**

**Survey ID: 106                      Respondent Type: Local Agency**

No

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**Lane County Regional Air Pollution Authority (Max Hueftle, Robert Koster, Drew Johnson)**

**Survey ID: 102                      Respondent Type: Local Agency**

Yes

Would consider scanning source testing data to submit to EPA.

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**Lincoln-Lancaster County Health Department, Nebraska (Gary Bergstrom)**

**Survey ID: 131                      Respondent Type: Local agency**

No

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**Monterey Bay Unified Air Pollution Control District**

**Survey ID: 31                      Respondent Type: Local Agency**

Yes

could provide input information such as source tests data, could review factors to the extent resources are available

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**9. Would you consider more direct involvement in an effort to improve emissions factors or in developing appropriate alternatives to emissions quantification by emissions factors? If so, what level of involvement would that be?**

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**Polk County Air Quality, Iowa (Gary Young)**

**Survey ID:** 121      **Respondent Type:** Local Agency

Yes

Depending on what resource commitment was required.

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**Port of Portland Authority - Portland International Airport, Oregon (Steve Mrazek).**

**Survey ID:** 103      **Respondent Type:** Local Agency

Yes

Steve would like to participate as a member of a steering committee. Some industry trade associations would also be interested. Hoping that EPA will partner with FAA, NASA, ACI-NA, and others to improve the body of science for HAPs emission from aircraft in the near future (Question 9-TD).

---

**Puget Sound Clean Air Agency, Washington (Kwame Agyei, Steve Van Slyke, John Anderson, and David Kircher)**

**Survey ID:** 110      **Respondent Type:** Local Agency

Yes

They participate on EIP subcommittees.

---

**Sacramento Metropolitan Air Quality Management District (Jorge Guzman)**

**Survey ID:** 113      **Respondent Type:** Local Agency

Yes

Can provide source test data where available.

---

**9. Would you consider more direct involvement in an effort to improve emissions factors or in developing appropriate alternatives to emissions quantification by emissions factors? If so, what level of involvement would that be?**

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**Seattle Port Authority (Barbara Cole)**

**Survey ID:** 101                      **Respondent Type:** Local Agency

Yes

Would like to be involved in the development of emissions factors for ships.

---

**South Coast Air Quality Management District, California**

**Survey ID:** 136                      **Respondent Type:** Local agency

Yes

Would provide access to files, but they do not have the manpower to gather and review their test reports. Testers could enter data electronically into a database.

---

**Ventura County Air Pollution Control District (Karl Krause, Manager, Engineering Division -- Chair of the CAPCOA Engineering Managers Committee)**

**Survey ID:** 114                      **Respondent Type:** Local Agency

Yes

The level of involvement would depend on how critical the emission factors under development would be to VCAPCD. If participation involved frequent travel to the east coast, participation would be more limited. If EPA is seeking assistance in this area, suggest having a discussion with CAPCOA Engineering Managers Committee.

---

**Coke Oven Environmental Task Force (white paper prepared by Allen Dittenhoefer of Enviroplan Consulting)**

**Survey ID:** 32                      **Respondent Type:** Planning and Environmental Organizations

Yes

would submit source test reports regularly and participate in a stakeholder workgroup, to help review and interpret test data and to resolve issues and finalize data

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**9. Would you consider more direct involvement in an effort to improve emissions factors or in developing appropriate alternatives to emissions quantification by emissions factors? If so, what level of involvement would that be?**

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**WESTAR (in Portland, OR) (Bob Lebens)**

**Survey ID:** 20      **Respondent Type:** Planning and Environmental Organizations

Yes

maybe be involved if asked by council, they already do studies and workshops for the states that often include discussions about EFs

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**Survey ID:** 35      **Respondent Type:** S/L/T agency?

No

our agency is small and resources are limited, but would like to be informed of the development

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**State of New Hampshire (Mike Fitzgerald, Sonny Strickland, and Dave Heasley), EPA Region 1 (Bob McConnell), State of Massachusetts (Ken Satell), State of Maine (Doug Schell), State of Vermont (Bart Sponoeller),**

**Survey ID:** 120      **Respondent Type:** State & Local Agencies, EPA Region 1

Yes

New England States interested in helping to collect emissions data for EF development and a standardized process for data submittals.

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**California Air Resources Board (Chris Nguyen, Keith Rosecrantz, Pat Gaffney)**

**Survey ID:** 135      **Respondent Type:** State agency

NA

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**9. Would you consider more direct involvement in an effort to improve emissions factors or in developing appropriate alternatives to emissions quantification by emissions factors? If so, what level of involvement would that be?**

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**Arizona Department of Environmental Protection (Darlene Celaya)**

**Survey ID:** 125      **Respondent Type:** State agency

Yes

Interested in the technical review, analyses of the data use. Can provide input relating to the specific sources operating in Arizona.

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**Colorado Department of Public Health and Environment**

**Survey ID:** 126      **Respondent Type:** State agency

No

We currently have no resources to direct to this type of task.

---

**Commonwealth of Virginia (Regina Jordan)**

**Survey ID:** 115      **Respondent Type:** State Agency

Yes

This would have to be a Central Office decision.

---

**Florida Department of Environmental Protection (Bruce Mitchell)**

**Survey ID:** 148      **Respondent Type:** State Agency

Yes

If asked, I'm fairly certain that we would participate in the development and/or improvement of an AP-42 EF for a source category, if that source category existed in Florida. I believe that all state air agencies would participate in studies and the development of emissions factors for an affected source category that exists in their state, which is not covered in AP-42.

---

**9. Would you consider more direct involvement in an effort to improve emissions factors or in developing appropriate alternatives to emissions quantification by emissions factors? If so, what level of involvement would that be?**

---

**Georgia Environmental Protection Division (Jimmy Johnston)**

**Survey ID:** 127      **Respondent Type:** State Agency

NA

Not sure. It depends on what type of involvement is necessary, the resources that it would require, and the resources available.

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**Illinois Environmental Protection Agency**

**Survey ID:** 129      **Respondent Type:** State agency

Yes

However, our current level of resources are limited. Would need to know more before we could decide on a level of involvement. Results from a previous emissions factor development study, "Adopt-a-Factor", did not have the oversight to make sure the money was spent on developing emissions factors.

---

**Indiana Department of Environmental Management (Phil Perry)**

**Survey ID:** 130      **Respondent Type:** State agency

Yes

Involvement would most likely be limited to developing/validating emissions factors testing protocols, observing field testing, and reviewing the test reports in order to quality assure and validate the data generated. We would also be willing to help develop a protocol for getting this data to the appropriate people at EPA for compilation. Concerns with resource allocation at this time would most likely limit further involvement.

---

**9. Would you consider more direct involvement in an effort to improve emissions factors or in developing appropriate alternatives to emissions quantification by emissions factors? If so, what level of involvement would that be?**

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**Michigan Department of Environmental Quality (John Schroeder, Scott Edic, Dennis McGeen, Rick Dalebout)**

**Survey ID:** 137      **Respondent Type:** State Agency

Yes

They would be willing to participate on a workgroup, but they will be limited in staff in FY04. They are currently working with LADCO on the RPO data exchange protocol. They are also working on a Great Lakes Commission air toxics protocol. They believe that the Consolidated Emissions Reporting Rule will ensure that EPA receives all the source test data.

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**Minnesota Air Pollution Control Authority , Air Permitting Group (Peggy Bartz, Steve Gorg)**

**Survey ID:** 141      **Respondent Type:** State agency

Yes

They would be interested in participating in a workgroup.

---

**Minnesota Pollution Control Authority, Emissions Inventory Group (Paul Kim)**

**Survey ID:** 140      **Respondent Type:** State agency

No

Does not have time to participate in a workgroup, but EPA could contact and ask questions or run ideas by him.

---

**9. Would you consider more direct involvement in an effort to improve emissions factors or in developing appropriate alternatives to emissions quantification by emissions factors? If so, what level of involvement would that be?**

---

**Minnesota Pollution Control Authority, Permitting Supervisors (Carolina Schmitt, Don Smith)**

**Survey ID:** 142                      **Respondent Type:** State agency

Yes

They would be interested in participating in workgroups to improve the program. They would also be interested in ensuring data from source testing in Minnesota gets into AP-42. AIRS and RBLC databases are hard to work with and should not be used as a model for AP-42. In the RBLC, PM and VOC information is not always very helpful. They need information such as how the VOCs were measured, for example.

---

**Mississippi Department of Environmental Quality (Dan McLeod)**

**Survey ID:** 107                      **Respondent Type:** State Agency

Yes

We would consider more involvement, but that would have to be approved by upper level management.

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**Nebraska Department of Environmental Quality (David Brown)**

**Survey ID:** 123                      **Respondent Type:** State Agency

No

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**9. Would you consider more direct involvement in an effort to improve emissions factors or in developing appropriate alternatives to emissions quantification by emissions factors? If so, what level of involvement would that be?**

---

**New Jersey Department of Environmental Protection (No specific contact)**

**Survey ID:** 122                      **Respondent Type:** State Agency

Yes

NJ recently completed a summarization package of stack test results for the last four years. The data includes the outcome of approximately 1200 stack tests and has an associated 4000 to 5000 individual contaminant test results that the Department believes is of the highest quality available. The format provides the source, source state ID, type of unit, size of unit, contaminant tested, results, and permit allowable. In most cases the fuel is listed and subcategory provided. This data is available for EPA/other State use upon request. Most importantly, NJ is looking to develop a format for future data compilation and wishes to ensure that all relevant information is included in the package. While we have DEP feedback for this endeavor, we welcome EPA input.

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**Oregon Department of Environmental Quality (Greg Aldrich, Eric Blischke, Gregg Lande)**

**Survey ID:** 108                      **Respondent Type:** State Agency

NA

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**Oregon Department of Environmental Quality (ODEQ) (John Ruscigno, Audrey O'Brien, Greg Grunow, Carey Chang, Dave Kauth, Pat Vernon)**

**Survey ID:** 105                      **Respondent Type:** State Agency

No

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**9. Would you consider more direct involvement in an effort to improve emissions factors or in developing appropriate alternatives to emissions quantification by emissions factors? If so, what level of involvement would that be?**

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**Oregon Environmental Council (OEC) (Laura Weiss)**

**Survey ID: 104                      Respondent Type: State Agency**

No

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**State of Washington (one section, not sure which, David Wendt)**

**Survey ID: 119                      Respondent Type: State Agency**

Yes

Given the increase in workload, involvement would be minimal.

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**Texas Commission on Environmental Quality**

**Survey ID: 147                      Respondent Type: State Agency**

NA

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**Texas Commission on Environmental Quality (Kathy Pendleton)**

**Survey ID: 116                      Respondent Type: State Agency**

NA

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**Texas Commission on Environmental Quality, Air Permits (Randy Hamilton, Bob Mann, John Smith, Vincent Meiller)**

**Survey ID: 144                      Respondent Type: State Agency**

NA

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**9. Would you consider more direct involvement in an effort to improve emissions factors or in developing appropriate alternatives to emissions quantification by emissions factors? If so, what level of involvement would that be?**

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**Texas Commission on Environmental Quality, Emissions Inventory Division  
(Russ Nettles, Kevin Cauble, Kathy Pendleton, Paul Henry, Michal de la Cruz)**

**Survey ID: 146                      Respondent Type: State Agency**

Yes

Not sure if management would support involvement.

---

**Texas Commission on Environmental Quality, Houston Regional Office (Diana Sullivan, Dick Flannery, Matthew Kolodney, Claudio Galli, Manuel Bautista, Billie Zaporteza, Enayat Zareian, Kiranmai Valluri, Mohammed Bajwa, Henry Iyamu, Robert Buchanan, Vicky Wang, Jeanette Schwartz, Vivek Kim, Rickey Wilson, Nadia Hameid, Kesha Ragin, La Juan Julian, Sherri Gregg, Wayne Strickler, Ruth Cleveland, Cedric Flemming, Regina Speights, Angela Robinson, and Mukhtar Malik)**

**Survey ID: 145                      Respondent Type: State Agency**

No

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**Texas Commission on Environmental Quality, Mobile Emissions Group (Steve Anderson, Diane Preusse, Bertie Fernando, Melinda Torres, Greg Lauderdale, Karla Hardison)**

**Survey ID: 143                      Respondent Type: State Agency**

NA

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**9. Would you consider more direct involvement in an effort to improve emissions factors or in developing appropriate alternatives to emissions quantification by emissions factors? If so, what level of involvement would that be?**

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**Vermont Department of Environmental Conservation (Doug Elliott)**

**Survey ID:** 112      **Respondent Type:** State Agency

Yes

I would be interested in following the process, but little time is currently available for such work.

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**Washington Department of Ecology (Beth Stipek)**

**Survey ID:** 100      **Respondent Type:** State Agency

Yes

DOE is a small one. Resources are limited, which is the main hindrance to invest a lot of time for emission factors development. However, if we can contribute any of our experience, we will. We also would like to be informed of the development. We appreciate your efforts and we comment the E.F. group and everyone involved.

---

**Wisconsin Department of Natural Resources Bureau of Air Management (Susan Linderm, Mike Ross, Bob Eckdale, Corey Carter, Roger Fritz, Pat Kirsop, Ralph Patterson, Andy Seeber, Colin Duffy, Phillip Spranger)**

**Survey ID:** 138      **Respondent Type:** State agency

Yes

They would like to work on a better source test data delivery system for state data. They currently participate in the EIIP. They would like to have a state workshop for emissions factors development.

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# Areas of Emissions Factor Program Needing Improvement

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**EPA Clean Air Markets Division (CAMD), Bryan Bloomer, Matthew Boze, Ruben Deza, Leif Hockstad, Travis Johnson, Manuel Oliva, John Schakenbach**

**Survey ID: 16                      Respondent Type: EPA**

Need better process for updating AP-42 (more formal and accessible)  
Should include resources from other organizations (e.g. OTAQ, SCAQMD)  
Want a comprehensive, searchable database of EFs

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**EPA NE Regional Office permitting group (Susan Lancey, Brendan McCahill, Steve Rapp)**

**Survey ID: 11                      Respondent Type: EPA**

EF developed by regional offices should be investigated and utilized by EPA  
EF development process needs to be more transparent  
EF development process should include more stakeholders  
need evidence levels for EF data quality, especially for VOC emissions and area sources

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**EPA Office of Enforcement and Compliance Assurance (OECA) (Charlie Garlow, Rich Biondi, Mamie Miller, Scott Throwe, Mario Jorquera)**

**Survey ID: 14                      Respondent Type: EPA**

Need an incentive for the program office to limit use of EFs for site-specific applicability and compliance purposes

---

**EPA Region 6 Air Permits Staff (Tom Diggs, Guy Donaldson, Bonnie Braganz, Daron Page)**

**Survey ID: 43                      Respondent Type: EPA**

thinks EPA should shift resources from EF to better measurement

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**EPA Region 6 Air Toxics Staff (Ruben Casso, Carrie Paige)**

**Survey ID: 42                      Respondent Type: EPA**

having difficulty taking HAP pollution reductions credit for work done to reduce criteria pollutants due to gaps in AP-42 relating HAPs to criteria pollutants

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# Areas of Emissions Factor Program Needing Improvement

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## **EPA Region I representative (Al Hicks)**

**Survey ID:** 12                      **Respondent Type:** EPA

need process to develop EFs from compliance test data  
need confidence values for EFs for test methods and field applications  
need standardized process for incorporating emissions testing data into Efs

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## **EPA Region VI RCRA Staff (Jeff Yurk)**

**Survey ID:** 28                      **Respondent Type:** EPA

Would like to see the format of AP-42 change so that other programs can use the data

---

## **EPA/OAQPS, Air Quality Strategies and Standards Division (AQSSD), Ozone Policy and Strategies Group (OPSG) (Tom Helms, Tom Rosendahl, Bill Johnson, David Sanders)**

**Survey ID:** 9                        **Respondent Type:** EPA

OAQPS's priorities should be put toward projects that will reduce emissions rather than developing new or revised emission factors

---

## **EPA/OAQPS, Emission Standards Division (ESD) (Sally Shaver, Penny Lassiter)**

**Survey ID:** 18                      **Respondent Type:** EPA

Need data quality information  
Need an open, visible, and less cumbersome process for EF development and update

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## **EPA/OAQPS, Emissions Monitoring and Analysis Division (EMAD), Air Quality Modeling Group (AQMG) (Madeleine Strum, Brian Timin, Joe Touma, Ellen Baldrige)**

**Survey ID:** 25                      **Respondent Type:** EPA

group thought the EF to be made or updated should be prioritized based on risk or emissions  
need explicit standards for the development of EF

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# Areas of Emissions Factor Program Needing Improvement

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**EPA/OAQPS, Emissions Monitoring and Analysis Division (EMAD), Air Quality Modeling Group (AQMG) (Madeleine Strum and Joe Touma)**

**Survey ID: 29                      Respondent Type: EPA**

need standards for developing emission factors

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**Region 10 and Washington Department of Ecology (Madonna Narvaez, Maynard Okereke, Herman Wong, Emad Shahin, Paul Boys, Don Dossett, Lester Keel, Rindy Ramos, Beth Stipek)**

**Survey ID: 30                      Respondent Type: EPA**

Would like links to other EFs, such as those used in Europe  
EPA needs to get source test information from the states, for example for "F class" turbines

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**US EPA Region 5 (Michael Rizzo, Farro Assadi, Genevieve D'Amico, Rafiu Dania, Mary Tyson, Loretta Lehrmann, Regina Charles, Brent Marable, Bill McDowell)**

**Survey ID: 41                      Respondent Type: EPA**

testing data for MACT development didn't get incorporated into AP-42  
they think EPA needs to re-examine the purpose of AP-42 and whether or not to recognize other emissions factors that are available  
centralizing EF in one database would be a mistake and too complex, would ignore variability and is not sound science

---

**Department of Defense**

**Survey ID: 2                      Respondent Type: Federal Agency**

confidence levels needed for Efs

---

**American Coke and Coal Chemicals Institute and National Oilseed Processors Association (David Ailor)**

**Survey ID: 1                      Respondent Type: Industry**

Process for revising and adding new EF takes far too long  
Need more transparent process for issue resolution  
Since caveats are not usually looked at, more care should be taken with draft EF on the TTN  
Every page of AP-42 should state that site-specific emissions data are preferable to category-wide averages

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# Areas of Emissions Factor Program Needing Improvement

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**Bridgewater Group Inc. (consulting firm) (Candice Hatch)**

**Survey ID: 21                      Respondent Type: Industry**

A quick method for updating and faster approvals to modifications is needed for AP-42

---

**DOD Environmental Contractors (Drek Newton [Navy], Paul Josephson [Army], Scott Cummings [Army], Steve Rasmussen [Air Force])**

**Survey ID: 26                      Respondent Type: Industry**

EPA needs to address uncertainty and apply confidence levels in implementing emissions factors need concise, standardized format for AP-42 modeling compared with emissions testing indicate that modeling data are biased low

---

**Huntsman Oil (Peter Houston)**

**Survey ID: 37                      Respondent Type: Industry**

EPA should be able to provide incentives to get better data to be used in the AP-42 program

---

**National Oilseed Processors Association (participants include Ag Processing Inc.; Ajax, Archer Daniels Midland; Cargill; Corn Refiners Association, National Cotton Council; Shaw, Pittman, Potts and Trowbridge**

**Survey ID: 10                      Respondent Type: Industry**

EFs that each regional office has developed should be investigated and used by EPA

---

**NEDA/CARP (Todd Rollefson)**

**Survey ID: 15                      Respondent Type: Industry**

need to update continuously  
Need to provide more critical insight into emissions variability  
Affected sources should have input in the process of EF development  
Need process to reduce time lag between data collection and EF improvement

---

# Areas of Emissions Factor Program Needing Improvement

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**Proctor and Gamble, El Paso Corporation, ExxonMobil, Dow Chemical, Clean Air Implementation Project**

**Survey ID: 8                      Respondent Type: Industry**

Need process for incorporating new data needs improvement to make remissions and new inclusions quicker and easier  
Include test method information and how they affect the EF in background info  
EFs are averages and permitting authorities do not want emissions from one source at any one time above the industry average  
statistically supported and useable EF data quality values needed for all EFs ( in addition to current ranking categories)  
statistical analyses should be included in EF, so that site-specific emissions limits can be based on the EF

---

**Reliant Energy, Air Resources Permitting and Compliance Group for Texas and Illinois Plants (Joe Araiza)**

**Survey ID: 24                      Respondent Type: Industry**

need to be able to find old AP-42 EFs to recreate earlier emissions estimates in some cases  
would like to easily see background information an EF is based on, and also the individual source tests if possible used in the development of the EF

---

**Taconite Mining Industry Representatives (Nancy Smith, Sarrah Mattila, Dave Skolasinski)**

**Survey ID: 40                      Respondent Type: Industry**

Need to update and correct holes in data, such as fugitive EF  
EF that overestimate emissions put their industry at a disadvantage when trying to compete in a world market  
Need more EFs in general for them because it costs much more to apply for permits when modeling studies and consultant fees are required

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# Areas of Emissions Factor Program Needing Improvement

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**TRC (consulting firm) (Steve Eitelman, Mark Hultman, Gary Hunt, Howard Schiff, Ray Topazio, Al Wilder)**

**Survey ID:** 7                      **Respondent Type:** Industry

Need procedure for using simplified PTE/applicability determination for initial analysis  
Include API data in studies used to update factors  
Include more activity rates in EFs to represent operating conditions  
could provide incentives to industry for providing data, such as giving relief from enforcement liabilities while conducting testing  
guidance on EF ratings is ignored by permitting authorities

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**Coke Oven Environmental Task Force (white paper prepared by Allen Dittenhoefer of Enviroplan Consulting)**

**Survey ID:** 32                      **Respondent Type:** Planning and Environmental Organizations

Need greater stakeholder involvement in process  
Need firmer schedule for EPA response and issue resolution  
EFs as they are now should not be used to establish short term (e.g. 1 hour) emission limits  
Draft, non-peer reviewed EF should not be posted, as they are sometimes misused by regulatory agencies  
Need alternative emission quantification procedures  
Need improved process for expanding and revising AP-42  
Need improved issue resolution process with more stakeholder involvement and greater EPA accountability  
AP-42 needs a statement on every page that states that site-specific emission data are preferable to category-wide average emission factors for regulatory applicability and permit applications

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## **NESCAUM**

**Survey ID:** 5                      **Respondent Type:** Planning and Environmental Organizations

Address new controls - current EFs are generally out-of-date  
More attention needed for abnormal operating conditions (startup/shutdown/malfunction)  
pay more attention to filling blanks in EF before improving existing Efs  
AP-42 process should be transparent

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# Areas of Emissions Factor Program Needing Improvement

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several environmental advocacy groups (Sierra Club, Earth Justice, NRDC, National Environmental Trust, Frederick Law, Galveston and Houston Association for Smog Control)

**Survey ID:** 4                      **Respondent Type:** Planning and Environmental Organizations

EPA should verify EFs by obtaining testing data from industry and permitting authorities and update the Efs  
use test data from Title V program to improve Efs

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**WESTAR (in Portland, OR) (Bob Lebens)**

**Survey ID:** 20                      **Respondent Type:** Planning and Environmental Organizations

A BACT -type of clearinghouse for all the data would be helpful

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## Guidance Needed

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**EPA Clean Air Markets Division (CAMD), Bryan Bloomer, Matthew Boze, Ruben Deza, Leif Hockstad, Travis Johnson, Manuel Oliva, John Schakenbach**

**Survey ID: 16                      Respondent Type: EPA**

Need guidance for what to do when EFs and AP-42 are not appropriate

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**EPA Office of Enforcement and Compliance Assurance (OECA) (Charlie Garlow, Rich Biondi, Mamie Miller, Scott Throwe, Mario Jorquera)**

**Survey ID: 14                      Respondent Type: EPA**

Need guidance for quantifying emissions from individual processes when EFs are not appropriate to use  
Guidance for what to do when there are no EFs for a process or particular source category emphasizing the source owner's responsibility to measure emissions and document reported annual emissions value with testing

EFs should not be used to demonstrate compliance

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**EPA/Climate Protection Partnerships Division (CPPD)**

**Survey ID: 17                      Respondent Type: EPA**

Need guidance for tools to use when EFs and AP-42 are not appropriate  
Guidance for test methods to use when data are not available

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**EPA/OAQPS, Emission Standards Division (ESD) (Sally Shaver, Penny Lassiter)**

**Survey ID: 18                      Respondent Type: EPA**

Guidance on how to regard applicability if an EF is revised downward (how to deal with the "once in, always in" policy)

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**EPA/OAQPS, Information Transfer and Program Integration Division (ITPID), Integrated Implementation Group (IIG)**

**Survey ID: 23                      Respondent Type: EPA**

Guidance for Netting Analysis could be updated to add the ability to use EFs in addition to emissions testing

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## Guidance Needed

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**Region 10 and Washington Department of Ecology (Madonna Narvaez, Maynard Okereke, Herman Wong, Emad Shahin, Paul Boys, Don Dossett, Lester Keel, Rindy Ramos, Beth Stipek)**

**Survey ID: 30                      Respondent Type: EPA**

When to use EFs vs other data

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**US EPA Region 5 (Michael Rizzo, Farro Assadi, Genevieve D'Amico, Rafiu Dania, Mary Tyson, Loretta Lehrmann, Regina Charles, Brent Marable, Bill McDowell)**

**Survey ID: 41                      Respondent Type: EPA**

OAQPS should clarify how the EF should be used for inventories, they think states are using EF differently in the absence of guidance from EPA in their use they think the inventory development system is not detailed so getting activity data, fuel use, and other information is difficult, which leads to problems in consistency, and reviewing, justifying, defending the inventories

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**Department of Defense**

**Survey ID: 2                      Respondent Type: Federal Agency**

Guidance on other data not included in AP-42 that would be appropriate to use, beside site-specific data Clarify position on suitability/use of AP-42 for setting permit limits -- If an emission factor is not suitable for permitting, guidance is needed that states that the emission factor should never be used to set permit limits

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**American Coke and Coal Chemicals Institute and National Oilseed Processors Association (David Ailor)**

**Survey ID: 1                      Respondent Type: Industry**

Guidance for alternatives to using EFs for site-specific applications  
Guidance on test methods to use when data aren't available  
Guidance on how to use QA/QC data in site-specific applicability determinations  
Guidance on when not using AP-42 is appropriate

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**NEDA/CARP (Todd Rollefson)**

**Survey ID: 15                      Respondent Type: Industry**

Need guidance on how to interpret permit limits and compliance if an AP-42 EF changes  
Need standardized procedure for source to use to collect data to be used with the EF

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## Guidance Needed

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### **Proctor and Gamble, El Paso Corporation, ExxonMobil, Dow Chemical, Clean Air Implementation Project**

**Survey ID:** 8                      **Respondent Type:** Industry

Guidance on using alternatives to AP-42

Guidance on whether and how to use EFs for applications other than emissions inventories

Guidance needed for small sources that can be applied at a low cost

If guidance allows use of EFs in setting limits or for compliance, guidance must be consistent since changing an EF will change a source's compliance status after a permit is issued

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### **TRC (consulting firm) (Steve Eitelman, Mark Hultman, Gary Hunt, Howard Schiff, Ray Topazio, Al Wilder)**

**Survey ID:** 7                      **Respondent Type:** Industry

Guidance for applying QA/QC values - maybe separate guidance for using EFs in inventories and for using EF in permitting and compliance

Provide guidance and criteria for using data from industry-derived testing

Guidance to address limited data support and process variability, with data quality values specific to process, fuel type, and raw materials

Provide guidance on how to use EFs that are closely related to the methods used

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### **Bay Area Air Quality Management District, CA (Peter Hess, Bill Guy, Joe Slamovich, Charles McClure)**

**Survey ID:** 134                      **Respondent Type:** Local agency

Emissions factor ranges set up diametric opposition between the regulated source and the agency, as the source selects the low end of the range and the agency would rather use the upper end of the range. In addition, there appeared to be less acceptance of different emissions factors for different purposes than this statement presents.

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### **Lane County Regional Air Pollution Authority (Max Hueftle, Robert Koster, Drew Johnson)**

**Survey ID:** 102                      **Respondent Type:** Local Agency

ODEQ has developed guidance on the testing frequency to verify E.Fs (General comments).

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### **South Coast Air Quality Management District, California**

**Survey ID:** 136                      **Respondent Type:** Local agency

Would like to see "Chief Newsletter" contained in an electronic format (currently discontinued). California has a similar version.

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# Guidance Needed

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## NESCAUM

**Survey ID:** 5                      **Respondent Type:** Planning and Environmental Organizations

Guidance on applying EF uncertainty factors for inventories  
Guidance on MH3 EFs for soils to specific applications (e.g. Road dust)  
Guidance on using EFs in building inventories  
Guidance on how to apply quality values  
AP-42 process should be transparent

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**several environmental advocacy groups (Sierra Club, Earth Justice, NRDC, National Environmental Trust, Frederick Law, Galveston and Houston Association for Smog Control**

**Survey ID:** 4                      **Respondent Type:** Planning and Environmental Organizations

EPA needs to direct states to follow through on directive to supplement emissions inventories with Title V program data  
Guidance for the public on understanding process for establishing permit limits, demonstrating compliance, and emissions quantification procedures so they may make informed comments  
Guidance on when EFs should and shouldn't be used  
Guidance on when it is appropriate to base or enforce permit limits with EFs  
Guidance on quantifying site-specific emissions for reporting purposes, esp w/respect to determining baseline emissions for NSR/PSD determinations

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## STAPPA/ALAPCO

**Survey ID:** 3                      **Respondent Type:** Planning and Environmental Organizations

Guidance on converting from PM10 , total PM, or other measurement values to PMfine would be helpful

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## Guidance Needed

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**State of South Carolina (Bob Betterton), City of Philadelphia (Haley Comer), EPA Region III (Helene Drago), State of Delaware (David Fees), Allegheny County (Marty Hochhauser), State of Pennsylvania (John Hulsberg), City of Philadelphia (Henry Kim), State of North Carolina (Jim Southerland), State of Minnesota (Chun Yi Wu)**

**Survey ID:** 117                      **Respondent Type:** State & Local Agencies in Region 3, 4 and 8

Very difficult for state or local agencies to order emissions tests to fill gaps in AP-42. Guidance from EPA either in new EF or in procedures for filling gaps would help. AMAD oversight of EF development necessary for consistency purposes. EPA/AP-42 ombudsman would be great help.

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**State of New Hampshire (Mike Fitzgerald, Sonny Strickland, and Dave Heasley), EPA Region 1 (Bob McConnell), State of Massachusetts (Ken Satell), State of Maine (Doug Schell), State of Vermont (Bart Sponoeller),**

**Survey ID:** 120                      **Respondent Type:** State & Local Agencies, EPA Region 1

Need to coordinate guidance for inventory development with inventory development schedule.

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### **Texas Commission on Environmental Quality**

**Survey ID:** 147                      **Respondent Type:** State Agency

They do not think that there would be a significant problem with having a different emissions factor (for different purposes) or a range for the emissions factors, if there were adequate guidance on their uses. They implied that they were already using some different emissions factors for different purposes and that they had developed some guidance to help the users.

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**Texas Commission on Environmental Quality, Emissions Inventory Division (Russ Nettles, Kevin Cauble, Kathy Pendleton, Paul Henry, Michal de la Cruz)**

**Survey ID:** 146                      **Respondent Type:** State Agency

They do not think that there would be a significant problem with having a different value for different purposes if there were guidance for the use of the different values. They implied that they were already using some different values for different purposes and that they had developed some guidance to help the users.

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## General Notes and Comments

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**EPA Region 9 (Stan Tong, John Kim)**

**Survey ID:** 132                      **Respondent Type:** EPA

Fugitive PM data is a problem and will continue to be a problem.

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**United States Forest Service - Seattle Office (Sue Ferguson, Susan O'Neill)**

**Survey ID:** 111                      **Respondent Type:** Federal Agency

In the future, plans to develop models to predict the impact of pollution coming onto Federal lands. Use point source information and emissions factors. Need emissions factors for HAPs such as turpenes, isoprene, VOCVs, Nox, SO2, organic carbon, and elemental carbon from forest fires. USFS uses AP-42 factors adjusted by Colin Hardy at the Missoula Lab.

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**USDA**

**Survey ID:** 6                              **Respondent Type:** Federal Agency

This is in response to a survey of what emissions factors are needed. Respondents included state, local, or tribal environmental department staff, university researchers, industry or agricultural representatives, federal agency staff, environmentalists, and citizens.

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**Reliant Energy, Air Resources Permitting and Compliance Group for Texas and Illinois Plants (Joe Araiza)**

**Survey ID:** 24                              **Respondent Type:** Industry

when they believe the use of an EF puts them into a regulatory program, they do testing to remove themselves from the program

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## General Notes and Comments

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### **Taconite Mining Industry Representatives (Nancy Smith, Sarrah Mattila, Dave Skolasinski)**

**Survey ID:** 40                      **Respondent Type:** Industry

they think it would cost \$140,000 to develop fugitive emission factors specific to their industry

have had to use consultants to figure out which EF from AP-42 to use when the SCC codes don't match their process

worried that States might not use new EF because they tend to use only the most stringent ones available

they are worried about having more environmental concerns while having to compete in a world market and a steel products tariff

worried about how regional haze programs will affect their industry

there are problems with modeling: PM10 below 20 ft above ground, emissions in winter dust from surface mining ( which may actually be 100 ft below the surface), and model to monitor comparison of road dust don't match up

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### **Texas Petrochemicals (Max Jones, John Yoars, Chris Hendricks, Mike Wieczorek)**

**Survey ID:** 38                      **Respondent Type:** Industry

plant was built in 1942 and still have boilers built in that year, but they are being forced to replace them they are working on how to better measure fugitives and cooling towers, currently use the El Paso Method for measuring cooling tower emissions, which is an operating permit condition

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### **Air Management Division of the Environmental Protection Commission, Hillsborough County (Tampa), Florida**

**Survey ID:** 128                      **Respondent Type:** Local agency

When developing emissions factors, please take into account start-up, shutdowns, or malfunctions, which may represent 2 to 5% of annual operation. Capture efficiency: EPA assumes 100% capture. We want EPA to develop capture efficiencies or assumptions for calculating capture efficiencies. Develop PM emissions factors for material handling operations such as coal and scrap.

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## General Notes and Comments

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**City of Houston (Arturo Blanco, Daniel Hoyt)**

**Survey ID:** 139      **Respondent Type:** Local agency

Used the El Paso test method to quantify the VOC emissions from cooling towers and will be collecting this data on a continuing basis as required in the proposed Houston/Galveston SIP. Are interested in the conduct of several LDAR programs that are proposed to be implemented. They are beginning to expand their oversight of source testing programs and would like better information on what is required to provide oversight of source tests (on sight observation, QA evaluation, etc.). Would like to have "tools" that would help them to review and observe source tests and monitoring. Some of their concerns include quantifying emissions from cooling towers at the controlled and uncontrolled levels. They understand that the AP-42 emission factors are very unreliable. They believe that there should be a significant amount of data to revisit the uncontrolled VOC emission factors as a result of cooling tower testing using the El Paso test method that is being required by the proposed TCEQ SIP. The Emissions factor program is overdue for reevaluation. However, EPA should consider the capabilities, abilities, and workload of State/local agencies. They are concerned that grandfathered sources will have to install 10-year-old BACT. They currently review permits and do not write them. They review the emissions factors. They believe ship loading has considerable emissions, but are not tightly controlled.

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**Lane County Regional Air Pollution Authority (Max Hueftle, Robert Koster, Drew Johnson)**

**Survey ID:** 102      **Respondent Type:** Local Agency

Could have 2 sets of E.Fs: (1) a static set of emissions factors based on a lot of data and (2) another newer, less scrutinized set of emissions factors and/or source testing data. Users could then choose between established E.Fs and newer data/emissions factors. Would like more "A" and "B" and less "E" and "F" E.Fs. "A" and "B" are more defensible. Has source test info for veneer dryers. Find that there is less certainty for HAP and VOC E.Fs. Would like to see EPA acknowledge that there are other sources of E.Fs. Believe that TANKS, SPECIATE, the wastewater software, and landfill software all need to be updated. Need for E.Fs for wood products' facilities use of alternative fuels such as biodiesel (General Comments).

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## General Notes and Comments

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**Port of Portland Authority - Portland International Airport, Oregon  
(Steve Mrazek).**

**Survey ID: 103                      Respondent Type: Local Agency**

There is a FAA initiative regarding aircraft HAPs. Nationally, there have been a lot of complaints from people regarding airports, but there are few emissions factors for commercial aircraft. The "initiative" is a provision in the FAA Reauthorization Bill currently being considered by the Congress. The initiative is endorsed by the trade association Airports Council International -- North America, FAA and NASA among others. The initiative would provide funding and direct technical resources to conducting aircraft emissions tests for HAPs. The data would be made available and used for SIPs, conformity, human health risk assessments, NEPA, indirect source permits, etc. Other comments include (1) EPA should work with FAA to come up with better emissions factors; (2) Airport NEPA requirements, what data should be used for these kinds of reports? (3) How do they come up with a "smoke" number? There are no appropriate particulate monitors. Can the visible indicator be converted to a mass discharge rate? (4) They can't do an adequate health risk analysis without better emissions factors; (5) NATA relies on one test for jet aircraft and 1990 automobile data for piston-engines aircraft (Spicer Tests). (6) NATA says all airports are "hot spots;" (7) Fuel has changed since the Spicer Tests.

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**Puget Sound Clean Air Agency, Washington (Kwame Agyei, Steve Van Slyke, John Anderson, and David Kircher)**

**Survey ID: 110                      Respondent Type: Local Agency**

Would like emissions factors for commercial sea vessel low-sulfur diesel emissions. Like the Clean School Bus Initiative. Need emissions factors for aircraft and ocean-going vessels. Uncomfortable with AP-42 forest fires' emissions factors. USFS is developing new emissions factors. For point sources with wood-fired boilers, combined existing emissions factors with plywood composite emissions factors. Stated that EPA takes good information and jams it into others subcategories. Don't like EPA Regions questioning their use of emissions factors. Residential wood burning activity data needed, as well as emissions factors for "manufactured logs" which is the direction they are pushing wood burners. Emissions factors for indoor burning were based on old estimates, and the one PSCAA has developed are based on activity information. More information is needed about heavy metals in natural gas.

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**South Coast Air Quality Management District, California**

**Survey ID: 136                      Respondent Type: Local agency**

They could use emission factors for landfill combustion number for toxics, digester gas numbers.

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## General Notes and Comments

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### Region 4, State of Georgia, State of Florida

**Survey ID:** 118      **Respondent Type:** State & Local Agencies, Region 4

(1) EF "Betterness" is less important than the national consistency that AP-42 provides. (2) AP-42 is used as a central clearinghouse and frequent changes to the numbers is a hassle (for example, to those sending out disks to all permit applicants), (3) Each MACT standard (and NSPS, perhaps) should have a specific procedure, instructions, and a set of approved Efs for States to use in estimating emissions from each MACT source category. This does not now exist and would be greatly welcomed. (4) Explore the use of simple surrogates in providing PM2.5 emissions factors. (5) Background documents, error bounds, and other information on emissions factors are extensively accessed and used by State and local agencies to make their own decisions. Keep that accessibility. (6) AP-42 emissions factors are referenced in 30 years' worth of Federal and State/local regulations, permits, and fee charges. Even if EPA walked away from AP-42, the program would continue to function and live on in the State/local agencies for decades. (7) Collecting source tests into a central repository for access and use by State and local agencies. The same result would be gotten if we collaborated on a specified format that such tests could be entered by State/local agencies from their own databases into read-only public servers which could be accessed by others as needed for information. Do the format, not the data collection! (8) Better instructions, disclaimers, protocols, and the like would be welcomed.

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### California Air Resources Board (Chris Nguyen, Keith Rosecrantz, Pat Gaffney)

**Survey ID:** 135      **Respondent Type:** State agency

Their wish list regarding AP-42 includes a chapter on burn rates with various fuels such as tires, tools and other items for toxics and particulates, more toxics emissions factors, integrated and speciated databases, addition of age of data in AP-42.

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### Florida Department of Environmental Protection (Bruce Mitchell)

**Survey ID:** 148      **Respondent Type:** State Agency

As a suggestion for improving AP-42, it is recommended that for every new regulation promulgated by the EPA, there be a corresponding new source category in AP-42 and associated emissions factors for the pollutant(s) regulated.

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## General Notes and Comments

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**Michigan Department of Environmental Quality (John Schroeder, Scott Edic, Dennis McGeen, Rick Dalebout)**

**Survey ID:** 137                      **Respondent Type:** State Agency

Currently applying emissions factors to hundreds of sources. Trying to automate the emissions inventory development process, but there is no consistency in FIRE. There are emissions factors' gaps and no throughput standards. The consistency of the units used in AP-42 is a problem as well. They would also like to see AP-42 kept current; review of the emissions factors periodically. Obtaining good activity data is also a problem. There is a need to match SCC with the emissions factors' tables and units. Models generally under predict VOCs. Where is the shortfall? They are preparing their Stage II emissions inventory, but there are no data such as RVP, and assumed temperatures are being used. They need a better way to select RVP. Evaporative emissions are lower because lower RVPs are selected. States should provide RVP, temperature, and emission results, but NEI format does not provide for these. Area source emissions factors were developed for urban counties and may not apply to rural counties. They asked how to prioritize emission mass by uncertainty. HAP emissions factors, such as mercury for electric arc furnaces, are lacking. They would like FIRE to include text files of background information in FIRE. Emissions inventory folks do not get the AP-42 CDs.

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**Minnesota Air Pollution Control Authority , Air Permitting Group (Peggy Bartz, Steve Gorg)**

**Survey ID:** 141                      **Respondent Type:** State agency

The State of Minnesota has 3,000 to 4,000 sources that require air permits. Of these, about 90% of the permits have emissions factors and emissions information derived from emissions factors. They require source testing from some sources, but not many. Few of these sources are PSD sources. It is difficult for them to require source testing. They were upset when section 10.2 and 10.3 were pulled. They sometimes derive emissions factors from forest service data or local university studies. They have a Plant-wide Applicability Limit (PAL) application.

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## General Notes and Comments

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### **Minnesota Pollution Control Authority, Emissions Inventory Group (Paul Kim)**

**Survey ID:** 140                      **Respondent Type:** State agency

Paul provided a copy of the Minnesota Rule for Emissions Inventories which is more than most states have. He believes we need to work closer with the RPOs on emissions factors development. He believes we need to develop Animal Feeding Operations emissions factors. He was frustrated with the 2002 Emissions Inventory requiring PM2.5 and ammonia data when there are little source test data and no emissions factors. He also said it would be very helpful for updates to be comprehensive, so emissions inventory staff would not need to look through older editions of AP-42 for some emissions factors. FIRE has not been updated when AP-42 has been updated. Both need to be updated at the same time. He thinks direct links from AP-42 to actual emissions factors developed by Europe, TCEQ, CARB, etc. would be helpful. He would not want to wade through a lot of their data to find these emissions factors, though.

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### **Minnesota Pollution Control Authority, Permitting Supervisors (Carolina Schmitt, Don Smith)**

**Survey ID:** 142                      **Respondent Type:** State agency

There are no emissions factors for waste combustors of animal carcasses. This is a problem for natural disasters; in other words, after a large flood where many animals die, how do they account for emissions from a waste incinerator? They say the level of scrutiny of monitoring, recordkeeping, and reporting is a function of the quality of emissions factors used in the permit.

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### **Oregon Department of Environmental Quality (Greg Aldrich, Eric Blischke, Gregg Lande)**

**Survey ID:** 108                      **Respondent Type:** State Agency

Gregg Lande works with water quality and is managing an effort to develop a TMDL for mercury in the Willamette River. Eric works on cross-program issues and is leading an effort to develop and Oregon mercury Initiative. Have identified the Willamette River as a source of concern.

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### **Oregon Department of Environmental Quality (Sarah Armitage, MaryAnn Fitzgerald, Ryan Ross, Svetlana Lazare, Gregg Lande, Jerry Ebersole, Christ Swab, Jeffrey Stocum, Jerry Preston, Phil Allen, Annette, Corey Chang)**

**Survey ID:** 109                      **Respondent Type:** State Agency

Met with both staff and managers. Heard both nitty gritty specific problems and broad-based issues where policy is based on emissions factors or lack thereof.

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## General Notes and Comments

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### Texas Commission on Environmental Quality

Survey ID: 147

Respondent Type: State Agency

AP-42 is great for big picture view but not good for plant- or process-specific emissions estimates. Have lots of problems quantifying the emissions from cooling towers, flares, and fugitives. They are requiring source testing instead of emissions quantification from emissions factors for sources in Houston, especially from sources with highly reactive VOCs such as butene and butadiene. They have lots of issues with the cooling tower emissions factors, both controlled and uncontrolled. They say the drift factor is not taken into consideration in the emissions factors. They also say that there are chlorine, chloroform, hydrochloride, and PM10 emissions at cooling towers with no emissions factors for these pollutants. They specifically mentioned that flares, cooling towers, fugitive equipment leaks, and wastewater emissions estimating techniques need improvement. They think that the flares emission factor needs to include speciation profiles. They also said that there are no emissions factors for coal slag piles. They also said that they need emissions factors for material handling such as steel mills, cement plants, and rock crushers. They estimate that about 30% of the emissions estimation of VOCs are based upon the use of AP-42. They also estimate that for about 50% of the facilities in their permit system, AP-42 is used in some part of the calculations to assemble the facilities emissions. TCEQ is requiring speciation of the VOC emissions to improve their ability to model ozone formation. However, there is little if any information on the speciation of VOC emissions in AP-42. There was some discussion about the variability in emissions factors. They would like to have "error bounds," "standard deviation," or ranges of emissions factors, as this would help them in several programs. They think that there needs to be better VOC species profiles for Internal Combustion engines, external combustion processes, coal (lignite, sub-bituminous and petroleum coke) combustion and cement kilns, especially older facilities. They think that fugitive emissions (PM and VOC) are under-reported for a variety of reasons. They would like to have emission factor information that is more representative of typical operations and more explicit guidance on when methods that are better than emission factors should be used.

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## General Notes and Comments

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**Texas Commission on Environmental Quality, Air Permits (Randy Hamilton, Bob Mann, John Smith, Vincent Meiller)**

**Survey ID:** 144                      **Respondent Type:** State Agency

They believe the test method for particulates is not good and does not give accurate results. They believe the back half information should be included. They mentioned that they tested natural gas systems and found that they didn't need monitoring for particulate matter. They also referenced the cooling tower study. They have lots of source test data for power plants. They tested lean burn engines for the Beaumont Average Emission Study. They believe that there is probably information/data from 900 stack tests in the Houston TCEQ regional office which they think could be sent to EPA. We discussed a standard information submittal form to provide data to EPA. There are currently some legal reasons why they cannot accept electronic reports. They discussed the CCEDS (Central Computerized Environmental Data System) and how our efforts should coincide with CCEDS, but the system is not set and up to the capability to handle the details of the emissions testing program. We also discussed problems with wafer and chip manufacturing emissions factors and how general emissions factors are not appropriate for subcategories. They stated that there are some industrial areas where the manufacturing technology changes faster than the ability of the source testing capability to quantify emissions. AP-42 was used to develop the baseline for the Houston Cap and Trade Program.

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# General Notes and Comments

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**Texas Commission on Environmental Quality, Emissions Inventory  
Division (Russ Nettles, Kevin Cauble, Kathy Pendleton, Paul Henry,  
Michal de la Cruz)**

**Survey ID:** 146                      **Respondent Type:** State Agency

AP-42 is used primarily as a reality check for other "better" methods to estimate emissions. For all of the Texas major industrial point sources, sent out questionnaires. They have concerns about emissions factors for fugitives, so they have established ad hoc teams to study the problem. They have concerns about the VOC emissions factors for loading/unloading, tanks, and fugitives. They have developed a permit guidance document for the TCEQ that is the equivalent of AP-42. They use facility identification numbers (FIN) and half use AP-42. Almost all of the 2000 accounts use AP-42. For VOC, about 30% of the emissions are based on the use of AP-42. For about 50% of the facilities in their permit system, AP-42 is used in some part of the calculations to assemble the facilities emissions. They need better emissions factors to speciate VOCs from non-attainment areas, especially for combustion sources. For coal combustion, modelers ask for better emissions estimates. They would like AP-42 to provide error bounds. TCEQ is requiring speciation of the VOC emissions to improve their ability to model ozone formation. However, there is little if any information on the speciation of VOC emissions in AP-42. Would like to have "error bounds", "standard deviations" or ranges of emission factors, as this would help them in several programs. They think that there needs to be better VOC species profiles for Internal Combustion engines, external combustion processes, coal (lignite, sub-bituminous and petroleum coke) combustion, and cement kilns (especially older facilities). They think that fugitive emissions (PM and VOC) are under reported for a variety of reasons. They would like to have emissions factor information that is more representative of typical operations and more explicit guidance on when methods that are better than emissions factors should be used. They also believe waste water emissions are under reported and that there is a lot of uncertainty with calculating the water emissions. There are also inadequacies with Method 21 measurements. They also believe that VOC emissions factors and speciation information for flares, heat exchangers, and cooling towers are inadequate. Industry does not provide the information for flare flow rates, which is problematic for emissions inventories. They are using the El Paso method, which is driven by permit requirements. They believe that EPA should set up a protocol for source testing, so that qualitative data will be collected. They would also like a higher rated emissions factor for HAPs, especially formaldehyde, from internal and external combustion engines. They would also like to get VOC speciation information, such as ammonia and hydrogen fluoride, for coal-fired power plants, cement kilns, and older grandfathered kilns. They have stack sampling information for RCRA cement kilns. There was also some discussion on fugitives from leaks and LDAR studies. They believe that the emissions factors for fugitives do not account for pressure within the system.

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## General Notes and Comments

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**Texas Commission on Environmental Quality, Houston Regional Office (Diana Sullivan, Dick Flannery, Matthew Kolodney, Claudio Galli, Manuel Bautista, Billie Zaporteza, Enayat Zareian, Kiranmai Valluri, Mohammed Bajwa, Henry Iyamu, Robert Buchanan, Vicky Wang, Jeanette Schwartz, Vivek Kim, Rickey Wilson, Nadia Hameid, Kesha Ragin, La Juan Julian, Sherri Gregg, Wayne Strickler, Ruth Cleveland, Cedric Flemming, Regina Speights, Angela Robinson, and Mukhtar Malik)**

**Survey ID: 145                      Respondent Type: State Agency**

Had comments about hydrogen sulfide emissions. Apparently, the hydrogen sulfide emissions decrease as the process increases. They don't use emissions factors very much for enforcement, as the emissions factors are often in units such as pounds/hour. They are requiring a lot of CEMS and stack testing instead of using emissions factors. Emissions factors for flares are not good. Though throughput to the flare often doesn't go all the way up to the flare tip. There are no emissions factors for "emission events" such as malfunctions. Emissions factors do not account for wear and tear. For example, at an acid plant, the corrosion reduces the efficiency of the abatement equipment. Other factors affecting the efficiency of the abatement equipment include age, time, temperature, life expectancy, etc. There should be a degradation factor in emissions factors. There is no good emissions factor for ammonia slip. Emissions factors are important for the smaller industries because they can't afford CEMS or a lot of stack testing. They are going to start permitting grandfathered sources. There were also some comments about barge loading and saturated vapor concentration and nitrogen blanket for tanks.

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## General Notes and Comments

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**Texas Commission on Environmental Quality, Mobile Emissions Group (Steve Anderson, Diane Preusse, Bertie Fernando, Melinda Torres, Greg Lauderdale, Karla Hardison)**

**Survey ID:** 143      **Respondent Type:** State Agency

Gaps exist in emissions factors that they would like filled. Need emissions factors (average numbers would be OK) for fugitives and components that have emissions of light and heavy ends and liquids. They are seeking 75% for the Houston area project. For piping components, they are concerned with which emissions factor to use. Want emissions factors for oil and gas transport from wells. In East Texas, there are many old pipelines with maintenance issues. They would like to have "error bounds", "standard deviations", or ranges of emissions factors as this would help them in several programs. They specifically mentioned flares, cooling towers, fugitive equipment leaks and wastewater emissions estimates need improvement. They think that the flares emission factors needs to include speciation profiles. They do not think that a cooling tower VOC emission factor would be appropriate at this time. They want a tool to help estimate emissions for VOCs that percolate through the soil. They find that the VOC speciation emissions factors are typically old. They are not adequate for architectural coatings and other surface coatings. In these cases, they use the CARB speciation profiles. They are looking for temporal (time of day, day of the week, what month, etc.) and spatial allocation of emissions. They want to know who is the contact for activity data. They also asked if there is a website for activity data. SIP demands that they know how to derive the emissions for emissions inventories. Where the EPA emissions factors come from leave something to be desired. There are emissions factors for engines greater than 500 horsepower; there are no emissions factors for smaller engines and compressors. They have emissions estimates that some smaller engines emit as much as 100 tons/day. They need better emissions factors for small engines. They use the gas production emissions factors as surrogates. They use ERG's off-shore emissions factors. For ammonia emissions factors for CAFOS, they use the Department of Agriculture factors. They find activity data for CAFOs are difficult to obtain. They have 5 farm profiles, but little information from waste handling at CAFOS. They have issues with emissions factors for pesticides and herbicides. For example, the methyl bromide emission factor in EIIP has an erroneous emissions factors. They don't account for VOC component or the chemical degradation. Specifically, they want a VOC emissions factor for pesticide and herbicide production. They work with Agriculture Extension Services and COGSSs. They sometimes have difficulty finding emissions factors or data because they are not on all websites, or they are not clearly linked to all websites. Gasoline Delivery emissions factors are too old. They would like AP-42 modernized to provide other types of data. For example, links to new emissions factors would be helpful. TCEQ bought surface coatings emissions factors. The consumer products VOC emissions factor is old. The National Institute of Fertilizers tracks fertilizer sales and gives data to state. The State funded a gas speciation study. There is no clear connection between EIIP which is dynamic and flexible versus AP-42, which is static. Incorporate EIIP efforts into AP-42. Landfill emissions of VOCs emissions factors are out-of-date. The offshore oil and gas production emissions factors were developed in 1999 but need to be updated. A different travel demand model is needed that allocates oil and gas emissions from recreational non-road engines. Need a non-road model based on surface area. Non-road engines have other unclassified categories which are unclear. The road dust emissions factor does not characterize the vehicle dust well. The vehicle speed is not a factor. They use European emissions factors for ship emissions. There are few emissions factors for vehicles that

## General Notes and Comments

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transport materials from ships to warehouses. Believe region-specific emissions factors are needed to account for humidity.

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**Wisconsin Department of Natural Resources Bureau of Air Management (Susan Linderm, Mike Ross, Bob Eckdale, Corey Carter, Roger Fritz, Pat Kirsop, Ralph Patterson, Andy Seeber, Colin Duffy, Phillip Spranger)**

**Survey ID:** 138      **Respondent Type:** State agency

Staff provided a wealth of information, including a copy of the interview questions with answers. They also provided 2 copies of "Nonmetallic Mining Air Emissions Guidance for the Development of the 1998 Air Emissions Inventory" which is a negotiated agreement between industry and the Bureau on how the emissions inventory for these facilities would be developed. It includes what algorithms to use, etc. OAQPS was involved. A specific limestone emissions factor for these kinds of facilities is still needed. They also provided two copies of the "Hot Mix Asphalt Plant Air Emission Inventory Guidance" which is similar to the negotiated agreement between the Bureau and industry. Wisconsin has 1,900 to 2,000 permitted sources. They all report at the same time, and the Bureau has 3 months to verify data and send back to sources. They have to certify data by June 30. They also provided copies of a letter to and a response from EPA regarding a cooperative venture in collecting TRI data in conjunction with emissions inventory development. We did not cooperate with them at this time, but we need to look into this further now. They want to provide all data in electronic format and at the same time (i.e., emissions inventory and TRI data), but they do not want to provide a lot of data EPA will never use. Have had to cut back on stack testing and stack test observations due to budget restrictions. Still try to review all stack test plans. They have the Wisconsin Air Compliance Database which contains stack test information. It is an Oracle database, and they send information to Region 5 (Stephanie Valentine). They want to develop an electronic delivery system that could be similar to the RACT/BACT/LAER Clearinghouse. They have a lot of information on wood process facilities, including boilers with wood combustion, but not electronic format. They have a state rule that says the highest emissions threshold should be used for potential to emit (PTE) instead of average control, so emissions factors are important for calculating PTE. This is especially true for benzene and formaldehyde. High numbers or ranges in AP-42 are helpful. The Wisconsin emissions reporting rule has 500 pollutants, so it depends a lot on industry calculations, which are very dependent on emissions factors. Because there are few HAP emissions factors, they depend on mass balance and MSDS sheets. They require reporting of ammonia and Pm<sub>fine</sub>. They cannot find emissions factors for most HAPs in MACT sources (i.e., POTW MACT). The Boat Manufacturing MACT has a disclaimer not to use its emissions factors. They sometimes have an issue with the units we use in AP-42. These units are sometimes not commonly used units. They are frustrated with some emissions factors being in FIRE and others not in FIRE, but in AP-42. EPA is not consistent. NIF process is arcane. They brought up the ethanol plant issue too. More info in AP-42 on photochemical reactivity would be helpful.

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**Appendix D: Case Study Description for Development of Implementation  
Materials for the Paper and Other Web Coating NESHAP**

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## DEVELOPMENT OF IMPLEMENTATION MATERIALS FOR THE PAPER AND OTHER WEB COATING NESHAP

### **Brief Description of Overall Project:**

The Program Implementation and Review Group (PIRG) of OAQPS's Information Transfer and Program Integration Division (ITPID) was charged with developing implementation materials for the Paper and Other Web Coating (POWC) NESHAP. This regulation was proposed on September 13, 2000 (65 FR 55332) and promulgated on December 4, 2002 (67 FR 72341). The purposes of the implementation materials were to improve understanding of the rule and to facilitate compliance. These tools were designed to be useful for both the affected facilities and state and local agencies tasked with enforcing the rule. More details regarding this effort may be found at <http://www.epa.gov/ttn/atw/powc/powcplan.html>

**Primary Contact:** Ingrid Ward (541-0300) [ward.ingrid@epa.gov](mailto:ward.ingrid@epa.gov)

### **Description of Stakeholder Engagement Activities:**

This entire effort was conducted in conjunction with stakeholders. The project was started by convening potential stakeholders and asking them what types of implementation tools were needed and whether they would be willing to be involved in the development of these tools. The stakeholders involved in the process included OAQPS and Regional Office staff, state and local agency representatives, and industrial trade organization and industry representatives. This effort is now in its third year.

This first step taken was to identify and contact potential partners for this effort. A list of potential partners was compiled from groups that participated in the rule

development efforts, as well as others that were known to be affected by the rule. In addition, PIRG developed a brochure that explained partnership opportunities for this and other implementation efforts (see Attachment). This brochure was distributed at conferences and other events where potential partners for the POWC implementation effort may have been present.

**Openess and Honesty** between EPA and the POWC partners in this effort were critical.

**Establishing clear boundaries** was very important for this effort from the beginning. Some partners were not pleased with aspects of the regulation, but It was made clear that this was not a forum to change the regulation.

Anyone that responded to this brochure was added to the list of partners.

After the list was compiled from the brochure and other contacts, a mass email was sent introducing the project and asking for volunteers, followed by a series of conference calls where the project was

explained again. These calls also served as brainstorming sessions to discuss what types of implementation materials were most needed, as well as how the partnering process would work. In both the introductory email and conference call, industry trade organizations were involved

but not representatives of individual companies. During this initial phase of the project, partners continued to be added and some dropped out. The core group of partners was pretty well established by about the 3<sup>rd</sup> or 4<sup>th</sup> call.

The next step was a face-to-face “information exchange” with the partners. For this meeting, the participants were expanded to include representatives of individual companies subject to the POWC NESHAP, along with trade organizations and state and local agencies. There were approximately 50 individuals that attended this two-day information exchange, which was held in 2001 at the Sheraton Imperial Hotel on Emperor Boulevard in Durham.

The primary purposes of the initial information exchange were to develop and prioritize a list of implementation tools needed for the POWC NESHAP and to get people to volunteer to create tools. This exchange proved to be quite successful, largely due to the time and effort spent in planning prior to the meeting.

The information exchange was a success in large part due to **up-front planning**. This included developing an agenda, identifying the target audience, and obtaining professional facilitation support.

Following is an overview of some of the most important aspects of this planning.

*The right people.* A big question that had to be answered was who should be invited to the information exchange. From industry, the possibilities ranged from attorneys and corporate executives to production staff. State and local agencies could have sent anyone from directors to inspectors. Therefore, it was very important to identify the target audience, as an audience that varied greatly in perspectives and needs would have resulted in difficulties focusing on the needed tools. A result of the conference calls leading up to the exchange was that the focus of most of the tools would be on the people that would be responsible for the day to day compliance with the rule (i.e., individuals at the “shop level”). Therefore, the target audience for the information exchange were individuals with these responsibilities.

*The agenda.* Considerable time was spent developing an agenda to ensure that the information exchange was focused and efficient in the use of time. A draft agenda was developed by the PIRG hosts for the event, with help of the professional facilitator (see below), and then discussed with the groups and individuals that had been active in the conference calls.

*The facilitator.* Professional facilitation was used for this initial information exchange. These facilitators were instrumental in helping develop the agenda, in ensuring that it was followed, and in keeping the discussion focused so that the goals of each part of the agenda could be met.

The partners left this initial information exchange having volunteered to develop specific implementation tools. Overall, there were 25 tools identified, and a lead was identified for developing 23 of them.

Most of the stakeholder engagement following the first information exchange focused on keeping up-to-date on the status of the tools being developed, and on providing comments on draft tools (The group developed and agreed upon a review process that was followed for each tool). There were regularly-scheduled conference calls. In addition, there have been two more information exchanges. In 2002, valuable time was spent defining tools, assigning tool development leads and discussing the tool development review process. The participants at the 2003 information exchange spent time focusing on tools that were already in draft form and finalizing those for upload onto the website for use by the public. It is estimated that the tool development efforts for this project will be complete by June 2004, which means the 2003 information exchange was the third and final formal one. Both the second and third information exchanges were led by PIRG staff and no professional facilitators were used.

Since partners were responsible for actually developing tools, their involvement was largely ensured. However, PIRG has taken several steps throughout the process to keep the partners interested and involved. Generally, this was done by encouragement and recognition. There were general public relations benefits for the industrial trade organizations to be recognized as working with the EPA on this effort. Some specific ways these organizations were recognized included:

- ❑ Attending industry meetings and conferences and publicly pointing out the value added of the participation of their group in the process.
- ❑ Presenting certificates of appreciation and acknowledgment at information exchanges.
- ❑ Using the logos of all organizations on each and every tool developed through this effort (see below).

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**Credits:** This document was made possible through the efforts of the POWC Implementation Tool Development Partnership effort, an effort to bring together the regulated and regulatory community. It was through a group effort that this document was developed. The logo of the partner who was the lead for this tool is listed first below. To see a description of our partners or to get more information about the partnership effort, see <http://www.epa.gov/ttn/atw/powc/powcpg.html>



New York State Department of  
Environmental Conservation



**Costs of Stakeholder Engagement:**

There will be 23 tools developed from this process, and the EPA will have served as the lead for only 5 of them. It would have certainly been easier and likely faster for PIRG to follow what has been the traditional approach of hiring a contractor to develop an implementation document. However, this collaborative effort probably led to tools that are more targeted and focused for the people that are on the “front lines” of complying with, and implementing, this NESHAP.

PIRG estimates that the average cost of developing a comprehensive implementation document for a NESHAP to be around \$50,000 (assuming that the effort is done by a contractor). There was contractor involvement in this effort, but the total contractor costs were only around \$20,000. Therefore, based on contract dollars alone, there was a savings of around \$30,000. This does not take into account the additional time required of EPA staff, as the EPA staff full time equivalent (FTE) cost was considerably higher than for a traditional contractor-drafted document. It was estimated that the EPA lead spent almost half of her time on this effort. In addition, the non-cost related benefits such as improved working relationships with the partners and more targeted tools must also be considered.

In general, there was support from ITPID management for this effort. There was never any difficulty in securing the needed funds, and the increased amount of EPA staff time that was needed was not questioned. Management also actively participated in the effort at times. For example, Bob Kellam (ITPID Associate Director) presented certificates to partners at one of the information exchanges.

**Summary:**

This was an extensive multi-year stakeholder engagement effort that resulted in a series of tools to assist the regulated industry and state and local agencies in implementing the POWC NESHAP. Through a collaborative effort, these stakeholders not only were engaged in identifying tools but actually volunteered to develop tools. There are numerous lessons to be learned in setting up a team of partners, planning and conducting large meetings, and in keeping stakeholders active and involved.



The PIRG Group Leader polled the partners and received very positive feedback on this process. Following are a few examples of the comments received:

- *The model for working together is great. It is good that there is a willingness to let industry fund some of the work. It gives industry the opportunity to put language in the documents that are more readily understood by the people who have to comply with the regulations.*
- *Putting in the work hours up front by all the partners will save time later.*
- *The partnership was an environment to effectively offer criticisms, solutions, and find common sense ways of problem solving.*
- *This is the only such effort that I am aware of. There are another gazillion MACTs where we don't get information until after the fact. It's good to get a voice in early in the process on what is needed.*
- *This was absolutely worth the time I spent working on it. What is coming out will be especially helpful to State inspectors.*

## Questions & Answers

### Q: What are implementation tools?

A: Implementation tools are products that are developed in a plain-language format that help you better understand the requirements of a specific rule. They include things like a rule overview, flow-diagrams, and inspection checklists.

### Q: Can I participate in the process and what's in it for me?

A: Yes, you can participate. EPA wants to establish implementation partnerships for each of the new surface coating rules. Partners work with EPA to help determine the need for tools and help design and develop tools. Your participation in the process helps ensure that tools are developed that meet your needs, as well as other stakeholders.

### Q: How long does participation last?

A: You can participate for any length of time. EPA's goal is to finalize any tools that are developed at least one year prior to the compliance date of the rule. After that date, the formal implementation tool development process ends, unless additional needs are identified.

### Q: What if I don't want to participate?

A: That's OK. We still want to keep you informed of what's going on and will post information on our implementation efforts on the rules air toxic website.

#### EPA's Air Toxics Website

One-stop shopping for air toxics information ...

[www.epa.gov/ttn/uatw](http://www.epa.gov/ttn/uatw) ...

|                                  |                             |
|----------------------------------|-----------------------------|
| Auto & Light Duty Truck          | ... /auto/autopg.html       |
| Fabric Printing, Coating, Dyeing | ... /fabric/fabricpg.html   |
| Large Appliances                 | ... /lapp/lapppg.html       |
| Metal Can                        | ... /mcan/mcanpg.html       |
| Metal Coil                       | ... /mcoil/mcoilpg.html     |
| Metal Furniture                  | ... /mfurn/mfurnpg.html     |
| Misc. Metal Parts                | ... /misc/miscpg.html       |
| Paper & Other Web                | ... /powc/powcpg.html       |
| Plastic Parts                    | ... /plastic/plasticpg.html |
| Wood Building Products           | ... /wblgdg/wblgdpg.html    |

\* Note: Not all website addresses may be active as of this publication

|                    |                         |
|--------------------|-------------------------|
| Aerospace          | ... /aerosp/aeropg.html |
| General Provisions | ... /gp/gppg.html       |



**And you ...**

Establishing partnerships that make the difference.

Office of Air Quality Planning and Standards (MD-12)  
Research Triangle Park, NC 27711  
Official Business  
Penalty for Private Use \$300

United States  
Environmental Protection Agency

United States February 2001  
Environmental Protection Agency  
[www.epa.gov/ttn/uatw/powc/partner.pdf](http://www.epa.gov/ttn/uatw/powc/partner.pdf)

Office of Air Quality Planning & Standards (MD-12)



# Implementation Activities for the New Surface Coating MACTs - An Overview and Partnership Opportunities



## Getting the most out of Implementation by knowing what's out there ....

Within the next two years, EPA's Office of Air



Quality Planning and Standards (OAQPS) will publish 10 new Maximum Control Technology (MACT) standards that regulate air toxics emissions from the surface coating operations listed in Table 1.

To help industry and regulators prepare for the implementation phase that comes after these new rules are promulgated (finalized), EPA is in the process of determining what types of **implementation tools** are needed for each new coating MACT.

## How can I participate?



EPA would like to establish **partnerships** with State and local air pollution control agencies, Tribes, industry, and trade associations

to help work on identifying and developing implementation tools.

Our goal is to work with interested parties to develop tools that help industry, as well as State, local and Tribal regulators, gain a better understanding of the requirements under a specific rule.

**Partnerships are voluntary and flexible** - you decide how much (or how little) you'd like to participate in the process. EPA needs partners

**Table 1**— New Surface Coating MACTs & Website Address\*

|                                    |  |
|------------------------------------|--|
| Auto & Light Duty Truck            | <a href="http://www.epa.gov/ttn/uatw/auto/autopg.html">www.epa.gov/ttn/uatw/auto/autopg.html</a>             |
| Fabric, Printing, Coating & Dyeing | <a href="http://www.epa.gov/ttn/uatw/fabric/fabricpg.html">www.epa.gov/ttn/uatw/fabric/fabricpg.html</a>     |
| Large Appliances                   | <a href="http://www.epa.gov/ttn/uatw/lapp/lapplpg.html">www.epa.gov/ttn/uatw/lapp/lapplpg.html</a>           |
| Metal Can                          | <a href="http://www.epa.gov/ttn/uatw/mcan/mcanpg.html">www.epa.gov/ttn/uatw/mcan/mcanpg.html</a>             |
| Metal Coil                         | <a href="http://www.epa.gov/ttn/uatw/mcoil/mcoilpg.html">www.epa.gov/ttn/uatw/mcoil/mcoilpg.html</a>         |
| Metal Furniture                    | <a href="http://www.epa.gov/ttn/uatw/mfurn/mfurnpg.html">www.epa.gov/ttn/uatw/mfurn/mfurnpg.html</a>         |
| Misc. Metal Parts                  | <a href="http://www.epa.gov/ttn/uatw/misc/miscpg.html">www.epa.gov/ttn/uatw/misc/miscpg.html</a>             |
| Paper & Other Web                  | <a href="http://www.epa.gov/ttn/uatw/powc/powcpg.html">www.epa.gov/ttn/uatw/powc/powcpg.html</a>             |
| Plastic Parts                      | <a href="http://www.epa.gov/ttn/uatw/plastic/plasticpg.html">www.epa.gov/ttn/uatw/plastic/plasticpg.html</a> |
| Wood Building Products             | <a href="http://www.epa.gov/ttn/uatw/wbldg/wbldgpg.html">www.epa.gov/ttn/uatw/wbldg/wbldgpg.html</a>         |

\* not all website addresses may be active as of this publication

for a variety of tasks including: help in determining the need for tools; assist with drafting of individual tools; review of tools after they're developed; and, distribution of tools once they become final. If you're interested in participating, contact Ingrid Ward at (919) 541-0300 or [ward.ingrid@epa.gov](mailto:ward.ingrid@epa.gov)

## What if I don't want to participate in a partnership, can I still get information?

Yes. You can keep abreast of what types of implementation activities we have planned by periodically checking the MACT Implementation Plan.

**Implementation Plans** for whichever rule you're interested in can be viewed by going to the EPA website for that rule. Plans will be developed for each new coating MACT and will tell you:

- **what** we're planning for that rule
- **who** we're partnering with to develop tools
- **when** we expect tools to be available for use<sup>1</sup>

<sup>1</sup>EPA's goal is to finalize most tools at least one year prior to the compliance date.

## What types of tools will be developed?

The types of tools that will be developed for each rule will vary based on what's needed and resources available.

With help from stakeholders and partners, we'll look at each rule and determine which tools will be developed. We'll identify these tools in the rule's Implementation Plan.



EPA is already planning an **overview brochure** for each of these MACTs, but more is needed. With help from interested parties, we could develop a variety of

tools that have been used successfully in the past, including:

- Rule overview
- Compliance options flow diagrams
- Reporting timelines
- Inspection checklists
- Example recordkeeping & reporting forms
- Q&A documents

## Where can I go if I have questions?

If you have any questions about these implementation efforts, or want to participate in an implementation partnership for these rules, contact:

**Ingrid Ward**  
US EPA (MD-12)  
RTP, NC 27711  
Phone: 919-541-0300  
[ward.ingrid@epa.gov](mailto:ward.ingrid@epa.gov)