EPA-454/R-94-022

PUBLIC PARTICIPATION PROCEDURES

FOR EPA'S EMISSION ESTIMATION GUIDANCE MATERIALS

Office of Air Quality Planning and Standards
Office of Air and Radiation
U.S. Environmental Protection Agency
Research Triangle Park, NC 27711

May 1997

This report has been reviewed by the Office of Air Quality Planning and Standards, U.S. Environmental Protection Agency, and has been approved for publication as received from the contractor. Approval does not signify that the contents necessarily reflect the views and policies of the Agency, neither does mention of trade names or commercial products constitute endorsement or recommendation for use.

EPA-454/R-94-022

PUBLIC PARTICIPATION PROCEDURES

for

EPA'S EMISSIONS ESTIMATION GUIDANCE MATERIALS

Introduction and Purpose

The purpose of this report is to document and publicize the public participation procedures which the U.S. Environmental Protection Agency (EPA) will follow for the submittal, evaluation, and revision or addition of air pollutant emission factors and other emission estimation techniques. The procedures provide the public with the opportunity to participate in the establishment of emission factors and techniques both by the submittal of new material and by the evaluation of that material via a public review process. These procedures are required by Section 130 of the Clean Air Act of 1990. Revisions or additions submitted and evaluated per these procedures and subsequently accepted by EPA will be incorporated into EPA's publication "Compilation of Air Pollutant Emission Factors", Volume I, Stationary Sources, or Volume II, Mobile Sources (AP-42), and its' associated databases.

Background

EPA has compiled results from various emissions testing programs for over 25 years in AP-42. The results are most often presented as the mass of emissions expected per unit of process throughput. These quotients are generally referred to as emission factors, and they are often useful for estimating emissions from processes similar to those tested. Such estimates are most appropriately used to develop the area-wide emission inventories used for air quality modeling and control strategy development. In addition to AP-42, EPA has distributed a number of guidance documents, memoranda and computer databases containing emission factors, some of which do not appear in AP-42. Examples of these materials are "Procedures for the Preparation of Emission Inventories for Carbon Monoxide and Precursors of Ozone" (EPA-450/4-91-016), "Locating and Estimating Air Emissions from Sources of Styrene" (EPA-454/R-93-011), the Factor Information Retrieval database system (FIRE), the Volatile Organic Compound (VOC)/Particulate Matter (PM) Speciation Data System (Speciate), the MOBILE5 model, and various memoranda on estimating emissions from particular area source categories issued by the Emissions Inventory Branch.

For several years EPA has solicited comments on draft sections of AP-42 and other emissions estimation guidance from trade associations, environmental organizations, State and local air pollution agencies, and individual industry experts. EPA has also worked cooperatively with several trade associations to gather data in support of emission factor development. Both of these types of interactions are expected to continue in the future using the procedures described herein. These procedures extend the opportunity to participate in the development and evaluation of the EPA's emission factor guidance materials to any member of the public.

The Clean Air Act Amendments of 1990 renewed and strengthened national efforts to reduce air pollution. In particular, Title I of the Amendments addressed the continuing problem of high ambient ozone levels in many areas of the U.S., resulting in their designation as "ozone non-attainment areas". The Amendments require comprehensive emission inventories and control strategies to reduce ambient ozone concentrations. Much of the emission inventory data on which control strategies are developed are based on

emission factors. Therefore, it is critical that these factors be accurate and current. The 1990 Amendments recognized this and made provisions to ensure that timely and accurate data are used.

Section 804 of the 1990 Amendments addressed the revision process for emission factors by adding Section 130 to Part A of Title I of the Act. Section 130 states:

> "Within 6 months after enactment of the Clean Air Act Amendments of 1990, and at least every 3 years thereafter, the Administrator shall review and, if necessary, revise, the methods (emission factors) used for the purposes of this Act to estimate the quantity of emissions of carbon monoxide, volatile organic compounds, and oxides of nitrogen from sources of such air pollutants (including area and mobile sources).
>
> "In addition, the Administrator shall establish emission factors for sources for which no such methods have previously been established by the Administrator. The Administrator shall permit any person to demonstrate improved emissions estimating techniques, and following approval of such techniques, the Administrator shall authorize the use of such techniques. Any such technique may be approved only after appropriate public participation. Until the Administrator has completed the revision required by this section, nothing in this section shall be construed to affect the validity of emission factors established by the Administrator before the date of the enactment of the Clean Air Act Amendments of 1990."

As seen, the 1990 Amendments reinforced the role of public participation in the emission factor development process. Anyone in the public is allowed to submit data to establish new emission factors, revise existing emission factors, or demonstrate improved emissions estimating techniques. (For purposes of this discussion, EPA is considering emission factors, emissions estimating techniques, and methods of estimating as interchangeable terms.) The EPA is to evaluate these data and, if found acceptable, approve their use. Any approvals of new or revised emission factors, whether originating from EPA or the public, can occur only after the public has had sufficient opportunity to review and comment.

Scope and Limitations

These procedures allow anyone to submit for review emission estimating techniques for any air pollutants emitted by any stationary point or area source or mobile source, regardless of whether or not the source is currently addressed by either Volume of AP-42. The procedures can be used to request revisions to existing factors or to establish emission factors for sources not yet addressed by EPA. Information may be submitted at any time and may address any aspect of AP-42 or any other EPA emissions estimating materials.

Although Section 130 requires these procedures to be established only for carbon monoxide (CO), oxides of nitrogen (NO_x), and volatile organic compounds (VOC), EPA intends to follow the same general procedures to address any criteria, toxic, or other air pollutant, although not necessarily under the same priority.

These procedures are **not** a means for individual facilities to obtain EPA approval of a site-specific emission factor or to determine the appropriateness of applying a published EPA factor to a specific facility. EPA does not approve site-specific factors or judge the appropriateness of its factors for specific facilities. The responsibility for such decisions continues to be that of the State or local regulating authority, as well as the facility operators themselves.

EPA's published emission factors are intended to provide an affordable method of estimating emissions

where no better data are available. They are best used to characterize the total emissions loading of a large geographic area containing many individual facilities. Therefore, these factors attempt to represent a typical or average facility or process in a given industry. EPA recognizes that other methods of obtaining emissions estimates may be more accurate than industry-average emission factors, and encourages the use of better methods whenever the source and/or the State or local regulating authority is able to support those methods. Methods which may provide more accurate estimates when properly applied include continuous emissions monitors (CEMs), source testing, material balances, and engineering calculations. (See Introduction to AP-42 for further details.)

Procedures for Submittal and Evaluation of Techniques

1. A request for revision or addition of an emissions estimating technique or any other aspect of AP-42 or other emissions estimation guidance should be submitted in writing to EPA at the following address:

   Leader, Emission Factor and Inventories Group
   MD-14
   USEPA
   Research Triangle Park, NC 27711

   The section Initial EPA Review for Completeness and Applicability contains a list of the items that must be addressed by a request in order for it to be considered complete and widely applicable. The section EPA Review for Technical Acceptability contains the criteria that EPA will use to evaluate whether the request is technically acceptable. The requestor should be familiar with the material in both of these sections and should ensure that their request addresses all items.

2. EPA will perform a first-step review of the request for completeness and applicability using the criteria given in the section Initial EPA Review for Completeness and Applicability. The requestor should be familiar with the items listed in that section and should ensure that their request addresses all required items. The emission source for which information is submitted should be non-unique and the emission estimation technique should be widely applicable to similar sources in order to be considered further by EPA. EPA will inform the requestor of its evaluation of completeness and applicability within 30 days of receipt of the request.* If the request is deemed complete and applicable, EPA will place a notice to the public describing the requested revision(s) on the Clearinghouse for Inventories and Emission Factors (CHIEF) area of the Office of Air Quality Planning and Standards' (OAQPS) Technology Transfer Network (TTN) bulletin board system. This notice will identify the existing public review group members to receive EPA's initial recommendation, and it will solicit additional members. (See Procedures for Participating as a Public Reviewer). If deemed incomplete or not widely applicable by EPA, the requestor may amend and resubmit the request.

3. After finding the request complete and applicable, EPA will begin an internal review for technical acceptability. Appendix B describes the criteria that EPA will use to evaluate the proposed revisions for acceptability. Requestors should be familiar with the criteria in EPA Review for Technical Acceptability and should evaluate their own request before submittal to ensure that all criteria are adequately addressed. EPA may have to prioritize requests for technical review if a large number are received at one time. Priority will be established based upon the guidelines given in the section Factors for Prioritizing Technical Reviews.

4. EPA will issue its initial recommendation to accept or reject the submitted revisions within 90 days of

beginning the technical review.* This initial recommendation will be described in a second notice to the public on the CHIEF bulletin board. The request (including items 1 through 12 of the section Initial EPA Review for Completeness and Applicability) and the initial recommendation will be sent to the public review group, including anyone who has been added to the group during the 90-day technical review period. (See Procedures for Participating as a Public Reviewer). Detailed test reports (item 13 of the section Initial EPA Review for Completeness and Applicability) will not ordinarily be sent to the public review group. They will be sent to individual reviewers upon request, and thus, they must be non-confidential.

5. Members of the public review group will submit their individual review comments to EPA within 90 days of receipt of the review package. Public reviewers should review the material for the same attributes addressed by EPA (see EPA Review for Technical Acceptability).

6. EPA will consider the review comments and issue a final decision via a third notice on the CHIEF bulletin board within 30 days.* The final decision notice will summarize the comments and describe any changes made to the initial recommendation. EPA's acceptance or rejection of any or all public reviewer's comments are final. Any changes or additions to the estimation guidance are considered "authorized" as of the date of the final notice. These changes will be reflected in the next possible update to AP-42, FIRE, guidance documents or memos.

* Deadlines for review may be extended based upon the volume and complexity of the material and other considerations. All time frames given in terms of Calendar Days, not Business or Working Days.

Procedures for Participating as a Public Reviewer

In addition to the opportunity to submit information on new or revised estimation techniques, the public may also participate by reviewing EPA's initial recommendations of whether to add or revise techniques through a public review process. Individuals may request to be on the public review group for one or more sections. Such requests should be made to EPA in writing at the address given above in item 1 of Procedures for Submitting and Evaluating Techniques. These requests may also be made via the CHIEF area of the OAQPS TTN bulletin board system. The request must identify the specific sections of AP-42 that the person is interested in reviewing.

EPA has established a list of contacts for each AP-42 section from previous and ongoing efforts to revise AP-42. This list is currently used as the starting point for developing a list of interested reviewers for draft sections. A draft section is typically sent for review to about a dozen individuals representing trade associations, environmental groups, State and local air agencies, and individual companies. EPA will use this established list as the initial public review group for complete requests submitted per these procedures. This initial public review group list will be publicized on the CHIEF area of the TTN bulletin board system as part of the notice that a request has been deemed complete and applicable. (See item #3 above.) Individuals requesting membership before the date of the initial recommendation will be sent the public review package and will be added to that section's public review group list for any future updates.

Reviewers can have their names removed from the list by contacting EPA in writing or via the CHIEF area of the TTN at the address given above in item 1 of Procedures for Submitting and Evaluating Techniques. Reviewers may also be removed from the list by EPA if they do not respond to a public review package. A "no comment" response will be sufficient to show continuing interest in order to keep the reviewer on the review list for future revisions. EPA invites and encourages any member of the public to participate in the development of

improved emissions estimation techniques according to these procedures.

Initial EPA Review for Completeness and Applicability

EPA encourages the submission of any data (including industry/process descriptions, diagrams, etc.) that a submitter believes may be useful in the Agency's ongoing effort to review and revise the emission factor information presented in AP-42. Each submittal will be carefully evaluated according to the criteria and will be adopted for publication where appropriate.

In evaluating proposed emission estimation techniques from the public, EPA will conduct a two-step internal review prior to an external public review. The first step of the internal review is to ensure that all of the necessary information to conduct an evaluation has been submitted, and that the proposed technique is widely applicable to similar sources. The second step is the actual evaluation of the technique for technical acceptability. The result of the second step of the internal EPA review is an "Initial Recommendation" to accept or reject the proposed revisions. The Initial Recommendation and supporting materials are then reviewed by a public review group before a final decision is made.

This section describes the minimum information that must be submitted for EPA to perform the first step of internal review for completeness and applicability. EPA will not begin the second step of internal review for technical acceptability until the material has passed the first step review. The criteria EPA will use for the second step technical evaluation are given in the section EPA Review for Technical Acceptability. Listed below are the items that EPA will review for the first step completeness and applicability review. The submitter should insure that their proposal adequately addresses all of the following items in order to receive further consideration.

1. Submitter's Name, Mailing Address, and Phone

2. Contact Name, Address, and Phone (if different from Submitter)

3. AP-42 section, guidance document, or database affected

4. Description of emission source affected
   (Include SCC codes if available and process flow chart if applicable)

5. Estimated number of facilities affected

6. Estimated total emissions affected

7. Description of proposed change or addition. Identify whether an estimation technique, process description, both, or other change or addition is being proposed. Also identify which of the following cases the request addresses:

   a. A change to an existing estimation technique or factor without alteration of the source description. (e.g., "The NOx emission factor for Wall-fired Utility boilers burning subbituminous coal should be changed from 21 to 17 based on new source tests".)
   b. An estimation technique or factor for one or more new source descriptions resulting from a finer division of an existing source description to distinguish alternative processes. (e.g., "The NOx emission factor for Wall-fired Utility boilers burning subbituminous coal should

be subdivided to distinguish single-wall fired from double wall-fired boilers, based on an analysis of existing source tests which shows a significant difference in emission rates between the two.")

c. An estimation technique or factors for a finer level of resolution of an existing source description and its technique or factor. (e.g., "The VOC emission factor for a complete fabric printing operation should be subdivided into individual processes so that emissions from dryers can be estimated and controlled separately.")
d. An estimation technique for a source not currently addressed by EPA.

8. New or marked-up text of the proposed revision to AP-42, guidance document, or database citation, which clearly shows where the existing text is affected.

9. Brief description of the type and source of data or analyses supporting the request. Material balances and other analyses will be considered. If revision to an existing factor is proposed, the description should include the data supporting the current factor as well as any new data being submitted. If submittal is for Case a (see item 7 above), describe why the current factor is inadequate and why the submitted data should be considered superior to data supporting current factor. If submittal is for Cases b or c, describe why the more detailed source description is required, and why emissions are different. In all cases, describe the extent of the data available or the analyses done to develop the factor or estimation technique.

10. Estimate of the range or uncertainty of the estimation technique.

11. Describe what effect(s) the proposed change might have on your facility (e.g., it will affect the fee the company pays, it will affect the regulation applicable to the source, etc.).

12. Any significant issues associated with the request (e.g., no standard test method exists, test method used is different from that used for the existing factor, definition of pollutant is unclear).

13. All data and analyses necessary to support the request, including test reports, material balance logs, data evaluations, etc.

14. If test data are submitted:
    a. Is the point tested clearly identified?
    b. Were process parameters monitored and recorded?
    c. Were process parameters within normal ranges?
    d. Are upsets and deviations described and explained?
    e. Are the test methods and procedures described?
    f. Are the methods compatible with approved EPA methods?
    g. Is there enough detail for EPA to validate the procedures?
    h. Are deviations from the normal procedures identified?
    i. Are original raw data and field data sheets included?
    j. Are QA/QC procedures described?

EPA Review for Technical Acceptability

The second step of the review begins once all of the information has been received from the submitter.

The submitter is encouraged to review the following information carefully in order to understand the manner in which submitted information will be evaluated and the criteria used by EPA to determine whether changes to the AP-42 are warranted. The submitter should also be familiar with the guidelines issued by EPA for preparation and quality rating of emission factors ("Technical Procedures for Developing AP-42 Emission Factors and Preparing AP-42 Sections", EPA-454/B-93-050, and any subsequent revisions).

It might be useful to first outline the type of test data that is not considered acceptable in making revisions to AP-42 emission factors. This will help the submitter avoid proposing unacceptable emission estimation techniques. The following data generally are excluded from consideration:

1. Test data or averages reported in units that cannot be converted to appropriate reporting units.

2. Test series for which the test method is not described or is incompatible with existing EPA approved methods.

3. Test series on controlled emissions for which the control device is not specified or is insufficiently described.

4. Test series in which it is not stated whether the measured emissions were controlled or uncontrolled.

5. Test series in which the process is not clearly identified and described.

6. Test data for which the QA/QC procedures are not clearly defined and documented.

Parties with data to submit should screen the data to ensure that they satisfy these basic requirements.

EPA's guidelines are intended to ensure consistency in the reporting of emission factors for AP-42. However, the background information and data for each source category will vary with respect to volume and soundness. For this reason, the Agency exercises a certain degree of flexibility in evaluating the submitted emissions data. In the case of existing factors based on limited data, a small amount of new data may be sufficient to prompt a revision to the emission factors. Where extensive data were available to support the factors initially, more new data would likely be needed to support a change in the factors.

Each source test that passes preliminary EPA approval is assigned a rating. A rating system is needed because some data might be used when little other information is available, but would be excluded if sufficient high-quality data were already available. The current version of "Technical Procedures for Developing AP-42 Emission Factors and Preparing AP-42 Sections" should be consulted for the details of the source test rating criteria.

The emission factors presented in AP-42 generally represent single-value statistical averages determined by engineering judgement to be representative of the available data for a specific source category operation. These results are reduced to a single value representing any of various statistical parameters, including arithmetic mean and median. In the ideal case, a large number of A-rated source tests representing a cross-section of the industry would be reduced to a single value which serves as the emission factor. However, if the number of A-rated tests is so limited that the inclusion of lower-rated tests would improve the robustness of the emission factor, then the lower-rated test data are included in the compilation of the average value, which would then receive an appropriately lower emission factor quality rating.

Normally, emission factors are grouped in tables representing source operations or related groups of operations within a source category. The reliability of these factors is indicated by an overall rating factor ranging from A (excellent) to E (poor). These ratings take into account the type and amount of data from which the factors were calculated. As in the case of the source test ratings, the current version of "Technical Procedures for Developing AP-42 Emission Factors and Preparing AP-42 Sections" should be consulted for the details of the emission factor rating process.

Factors for Prioritizing Technical Reviews

In the event that EPA does not have adequate resources to evaluate all submitted materials, the following criteria will be used to determine the priority for material to be reviewed.

1. Estimating techniques for sources for which EPA does not currently have a technique will receive top priority, unless the estimated magnitude of emissions for the source category is judged insignificant by EPA.

2. Estimating techniques for significant sources which currently have D, E, or Unrated emission factors will receive next priority.

3. Estimating techniques for sources with an existing emission factor which has not been revised to represent newer process technology or test methods will receive third priority.

4. Sources categories for which the total national impact is greater will receive higher priority than lesser impact categories. Consideration of national impact will take into account the magnitude of emissions nationwide, the concentration of emission sources, and the toxicity of the pollutants to be estimated. A large difference between two requests in total impacts may be sufficient to overcome the priorities established by items 1, 2, and 3, above.

5. Source categories which are being or will shortly be considered by EPA for regulation will receive lower priority, to avoid duplication of the detailed review to be done as part of the regulatory process.

Internal Procedures

1. The EFIG Group Leader receives the request, logs it in, and assigns a lead reviewer. The lead reviewer will usually be the person responsible for the affected chapter or section of AP-42.

COMPLETE BY DAY 5

2. The lead reviewer checks the submitted material for completeness. If the request is complete the lead reviewer will place the first notice ("Complete request for Section X.XX has been received") on the CHIEF Bulletin Board and will assemble an internal technical review panel. The first notice should also identify the members of the existing public review group and solicit additional members. If the request is incomplete the lead reviewer will inform the submitter of such. The lead reviewer should place the first notice on the bulletin board OR notify the submitter that the request is incomplete or not applicable OR notify the submitter that an extension of the first step review time is necessary within 30 days of EPA's receipt of the request.

COMPLETE BY DAY 35

3. The internal technical review panel should be assembled as soon as possible, since the 90-day clock for their review begins with the placing of the first notice on CHIEF. The panel should consist of the lead reviewer and the EFIG Group Leader, as a minimum. A representative of ESD should be added if a MACT source category may be affected. A representative of IGES should be added if the request concerns an area source estimation method or otherwise significantly impacts inventory totals. A representative of EMB should be added if the submittal includes any significant stack testing issues. Representatives of AQMD or any other relevant groups may be added as deemed necessary by the lead reviewer.

   The lead reviewer is responsible for making the initial recommendation of whether to accept or reject the submitted material, after considering input from all technical review panel members. This determination should be shared with the panel members at least a week before the recommendation is to be placed on the bulletin board, to allow for resolution of any objections from panel members. The lead reviewer should place the Initial Recommendation (second notice), whether yea or nay, on the CHIEF Bulletin Board within 90 days of the date of the Completeness determination (first notice).

COMPLETE BY DAY 125

4. The lead reviewer will add anyone to the public review group who has submitted such a request by the date of the Initial Recommendation, and will mail copies of the review package to the group immediately after the second notice is placed.

COMPLETE BY DAY 126

5. The lead reviewer should receive comments from the external public review group within 90 days of mailing the review packages out. This should allow for at least 75 days of review after allowing for transit and distribution times.

COMPLETE BY DAY 216

6. The lead reviewer should summarize the public review group's comments and place the Final Decision (third notice) on the bulletin board within 30 days. The lead reviewer will also ensure that AP-42, FIRE, or other affected materials are appropriately revised. The lead reviewer will also ensure that public group reviewers who did not respond to the mailing are removed from the public group reviewer list for that AP-42 section.

COMPLETE BY DAY 246

Note: All time frames given in terms of Calendar Days, not Business or Working Days.