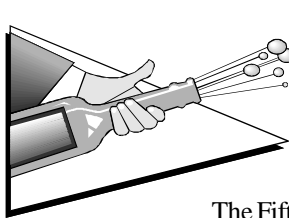


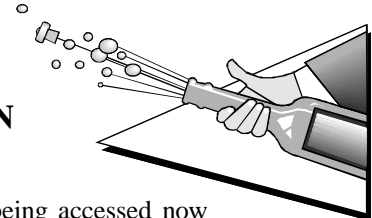


# THE CHIEF NEWSLETTER

— THE CLEARINGHOUSE FOR INVENTORIES AND EMISSION FACTORS —



## THE LONG-AWAITED FIFTH EDITION



The Fifth Edition of the EPA's all time "best seller" is now available. The 2,050-page *Compilation Of Air Pollutant Emission Factors, Vol. I: Stationary Point And Area Sources*, AP-42, comes after months of work incorporating, revising and expanding all previous editions and supplements of a document series older than the Agency itself. This series is so familiar in air pollution work that it is usually called just AP-42, its document number. It is a valuable technical resource for inventorying air pollutant emissions, developing control regulations, and other source assessment activities. Its wide array of users includes federal, state and local agencies; business and industry; and engineering consultants, lawyers, and academics.

A paper copy of this book can be ordered from the Government Printing Office (GPO), Box 371954, Pittsburgh, PA 15250-7954, Stock no. 055-000-00500-1, \$56.00 total. Foreign orders add 25%. Telephone orders to (202) 512-1800, fax orders to (202) 512-2250.

*CHIEF Newsletter* readers know that this document has been on our *CHIEF* bulletin board system (BBS) for some weeks, and during this time it has set new records for downloads, averaging 3,700 per week! It is by far the most popular item on the Office Of Air Quality Planning And Standards (OAQPS) Technology Transfer Network (TTN). AP-42 is also available from our quick-response automated facsimile ma-

chine, the *Fax CHIEF*, (being accessed now about 250 times per week!). To register for the *CHIEF* BBS, phone through your modem (919) 541-5742. To use the *Fax CHIEF* device, phone through your fax handset (919) 541-5626 or -0548. For assistance, call the *Info CHIEF* help desk, (919) 541-5285.

AP-42 is available from GPO on a compact disc (CD-ROM), *Air CHIEF*, with other air pollution control guidance and data bases, at the above address/phone numbers, Stock no. 055-000-00501-0, \$18.00 total. Foreign orders add 25%.

The Emission Factor And Inventory Group (EFIG), in OAQPS, develops and maintains the AP-42 series and other useful emission estimation tools. Although the *Compilation Of Air Pollutant Emission Factors* has been in use for about 30 years, it has been especially important in meeting requirements of the *1990 Clean Air Act Amendments* and the *1986 Emergency Planning And Community Right-To-Know Act*.

The compilation provides detailed information on hundreds of processes that produce criteria, toxic, or greenhouse pollutants. For all these activities, from gasoline tankers, steel mills, and forest fires to potato chip frying and dry cleaners, AP-42 tabulates emission factors, which are representative values used to estimate the quantities of pollutants those processes will release into the air. AP-42 contains over 10,000 such factors, with references and factor quality ratings.

## ADOPT-A-FACTOR UPDATE

It made it! A \$4.5 million budget item for section 105 Grants to the states made it through the process and will be included in the FY 96 grant negotiations. States will share in this "pot" of funds according to a fairly standard allocation process and will be provided these funds on the basis of their agreement, need, abilities, etc. to develop emission factors that they need. We envision states pooling their funds, getting assistance from their academic institutions, contractors, etc., to undertake testing and/or emission factor development for sources where there is a high priority and need. Ideally, a few "centers of excellence" could be established in three or four areas of the country to focus on development of factors, with the grant funds being channeled to them for this work by the states in those areas. Additional guidance and information of this program will be coming from the EPA Headquarters and from Regional Offices, in the next several weeks. Keep tuned to the *CHIEF* BBS for any late developments. The success of the program in the first year may be essential to continuing the work as the "strings" to these monies will likely loosen in FY97 and beyond with "block grants" (or "performance partnerships" as they may be called).

## INFO CHIEF'S MOST FREQUENTLY ASKED QUESTIONS

Here are some hot topics with information on each.

**Q: What is the latest hard copy of the AIRS SCC listing, and how can I get it?**

A: Good timing! This information is in the new *FIRE Version 5.0 Source Classification Codes And Emission Factor Listing For Criteria Air Pollutants*, EPA-454/R-95-012, August 1995. Paper copies of this book will be available, and it will be on the *CHIEF* BBS, very shortly, perhaps by the time you read this.

If you need to get only SCCs without the emission factors, you can search directly on the *CHIEF* BBS by selecting "SCC Lists" (letter "Q") from the main menu and then typing in a keyword phrase. This is a quick and easy way to get the SCC that you need. You can also search by SCC to find the SCC name associated with it. In addition, under this same section, there is a downloadable list of SCCs and SCC names which may be imported into a database or word-processing program and then printed out.

**Q: I thought the Fifth Edition of AP-42 was supposed to be completely revised, but there are sections that are listed as "not yet available" on Fax CHIEF and "work in progress" on the CHIEF BBS. When will these sections be available to the public?**

A: These sections of AP-42 are either undergoing major revision or will be brand new sections added to the document. Section numbers have been reserved and these sections will appear in the AP-42 supplements which are generally published annually. The first Fifth Edition supplement is expected to be available by January 1995, but not all of these "in progress" sections will appear in the first supplement. Contact *Info CHIEF* if you have questions regarding the status of any particular "in progress" AP-42 section.

**Q: When will the *Locating & Estimating (L & E)* document for dioxins and furans be available? How can I get it?**

A: *Locating & Estimating Air Emissions From Sources Of Dioxins And Furans* is currently available in *draft* form on the *CHIEF* BBS under the "AP-42/EF Guidance" menu item. The final document should be available in October. However, during this review process, some discrepancies in the data have been found and some changes will occur. Please remember that any document in draft form on the *CHIEF* BBS is *not final* and therefore the information contained in it is subject to change.

Other new or revised L & E documents that are set to be available before the end of 1995 include L & Es on Lead, Polycyclic Organic Matter, 1,3-Butadiene, and Benzene.

The *Info CHIEF* help desk phone number is (919) 541-5285.

— *More Q & A's in the next issue!*—

### RUSSIAN INVENTORY IN VOLGOGRAD GOING WELL

Richard Billings and Lucy Adams of Radian Corporation have just returned from a trip to Volgograd, Russia, where they have been working with their subcontractor Agroproject to develop area source and point source inventories for a selected area of Volgograd. This effort is being supported by EFIG through funding from the U. S. Agency For International Development, as part of the Russian Air Management Project (RAMP). As this pilot effort progresses in Volgograd, the results will be validated and evaluated by the National Institute in St. Petersburg for use throughout the Russian Federation. Discussions have been held with them and they are also serving as a subcontractor to Radian for this effort. Tom Pace, Jim Southerland and David Misenheimer of EFIG have been involved in the planning, execution and management of this effort.

### 1990 SIP EMISSION INVENTORIES ON CD-ROM

EFIG is currently coordinating with state and local agencies to record the documentation and data files for the 1990 O<sub>3</sub> and CO State Implementation Plan (SIP) Emission Inventories on Compact Disc-Read Only Memory (CD-ROM). This effort will allow EPA staff to locate specific information in the inventories easily and quickly for planning and tracking activities and to duplicate the inventories easily and quickly for public use upon request. Once the information is satisfactorily recorded onto CD-ROM, the numerous hard copy reports that make up the inventory documentation can then be eliminated.

Data and text for the inventories will be included in a "point and click" Windows format on CD-ROM, using the *Folio Bound VIEWS*<sup>®</sup> software. Native files (files in their original word processing, spreadsheet, graphics, or ASCII formats) will also be included on the discs. The initial release of available inventories on CD-ROM is expected in October of 1995.

## 1995 REPORT TO CONGRESS ON THE “NATIONAL ANNUAL INDUSTRIAL SULFUR DIOXIDE EMISSION TRENDS”

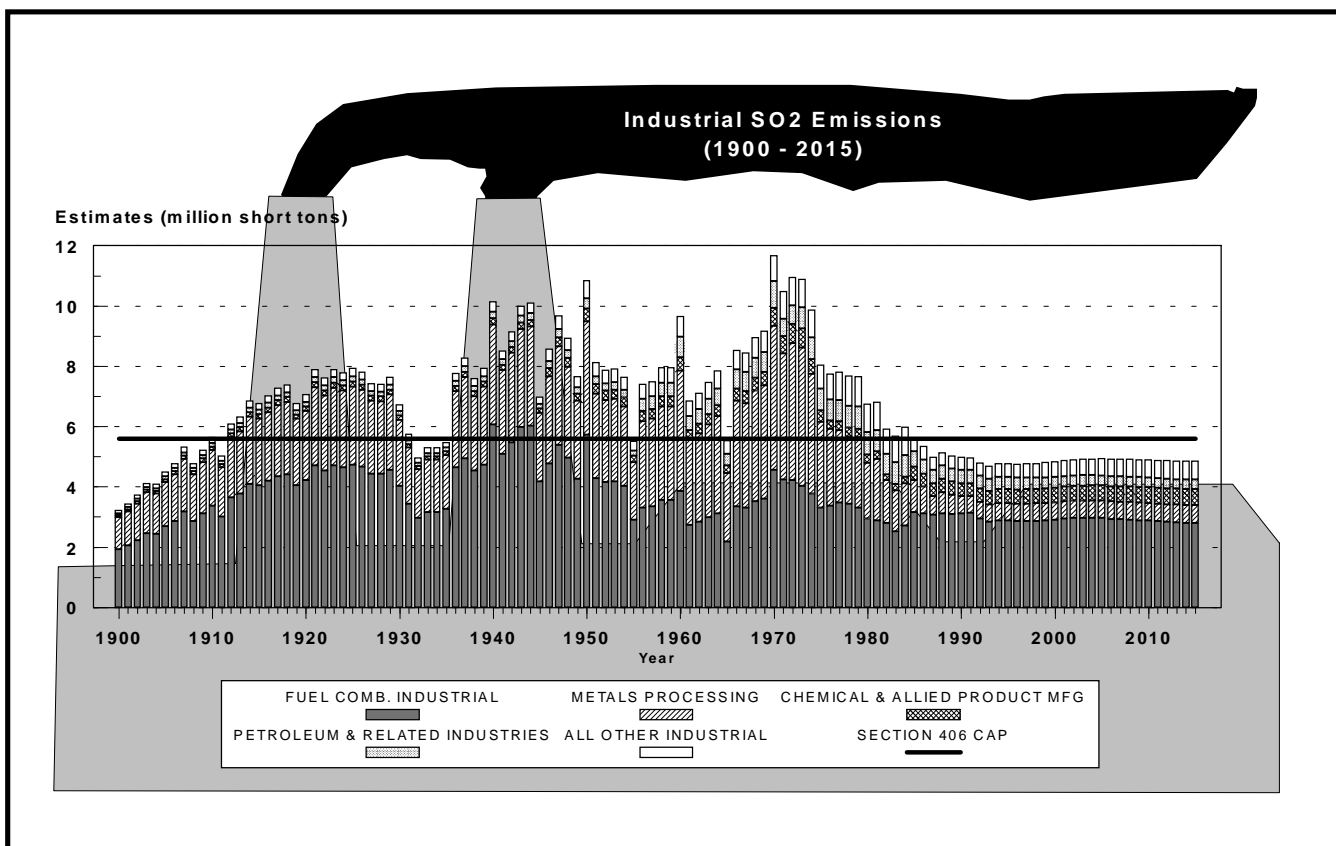
A Report To Congress on national annual industrial sulfur dioxide (SO<sub>2</sub>) emission trends was released in June. This report is the first in a series entitled “National Annual Industrial Sulfur Dioxide Emission Trends, 1995-2015,” to be published every 5 years beginning in 1995. This report is required under Title IV, section 406, 42 USC 7651(note), of the 1990 Clean Air Act Amendments (CAAA).

Section 406 of the Act requires the Administrator to transmit to the Congress a report containing an inventory of national annual industrial sulfur dioxide emissions for all years for which data are available, as well as the likely trend in such emissions over the following 20-year period. Industrial source is defined in Title IV of the Act to be a unit that does not serve a generator that produces electricity, a unit other than a utility unit, or a process source, which is any source that emits SO<sub>2</sub> as the result of the production or manufacturing process and not as the result of any type of fuel combustion. The report shall also contain estimates of the actual emission reduction each year resulting from promulgation of the diesel fuel desulfurization regulations under section 211(i).

Section 406 also provides that whenever the required inventory indicates that SO<sub>2</sub> emissions from industrial sources, including units subject to section 405(g)(6) of the CAAA, may reasonably be expected to reach levels greater than 5.60 million tons per year, the Administrator shall take such actions under the CAAA as may be appropriate to ensure that such emissions do not exceed 5.60 million tons per year. Such actions may include the promulgation of new and revised standards of performance for new sources, including units subject to section 405(g)(6) of the CAAA, under section 111(b) of the CAAA, as well as promulgation of standards of performance for existing sources, including units subject to section 405(g)(5) of the CAAA.

This document reports an estimated 15 percent *decrease* from the 5.6 million ton cap over the period 1985 to the present, and it projects approximately a 2 percent increase for the 20-year period between 1995 and 2015 (from 4.77 to 4.86 million tons). This analysis demonstrates that the 5.6 million ton cap for industrial sources of SO<sub>2</sub> will not be violated through 2015, thus no further regulatory action is needed.

The following chart chronicles the trends from 1990 to 2010. For copies of this report, contact the National Technical Information Service, (800) 553-6847, or *Info CHIEF* at (919) 541-5285.



## EMISSION INVENTORY IMPROVEMENT PROGRAM

At its September 1991 semiannual meeting, the joint EPA/STAPPA/ALAPCO/SAEWG group requested that EPA pursue a program to improve and refine the emission inventory preparation process. The resulting program, the Emission Inventory Improvement Program (EIIP), is a cooperative effort among state and local agencies, industry, and EPA to improve estimates of emissions from various sources. The effort, funded by state and local agencies, began in 1993. EIIP is organized into a steering committee and seven working committees. Each working committee, comprising state and local agency members, industry association representatives, and EPA, is developing standard procedures for estimating emissions.

Based on experiences gained during compilation of the 1990 inventory, it was recognized that interpretation of existing procedures and guidance allowed too much variation in most aspects of data compilation (e. g., formats and data accuracy). This leeway in selecting approaches led to the use of data sets of unknown quality and varying degrees of completeness in making decisions. Deficiencies and inconsistencies in present compilation processes emphasize the need for developing and implementing more uniform and systematic approaches to collecting and reporting data.

The EIIP effort to develop standard procedures supports this goal. EIIP (defined as the development and use of standard procedures for collecting, calculating, storing, and reporting of emissions data) has been designed to increase the likelihood that acceptable quality emission inventory data will result. These data will be made available to state and local agencies, the regulated community, the public, and EPA. The use of

EIIP procedures will promote consistency in these activities among the emission inventory reporting groups.

The overall intent of the EIIP is to provide cost-effective, reliable inventories by improving the quality of collected emission data and by providing for uniform reporting of this information. The effort is to develop a systematic mechanism for compiling emission inventories patterned after successes achieved by similar national programs.

EIIP has made significant progress since its inception in 1993. Standardized procedures have been developed for point and area sources. Final drafts for many of the documents are available for external review, and the new biogenic model has been documented and inputs described. A comprehensive QA/QC document is also in preparation. Additionally, a core data model is being developed to facilitate data exchange between all members of the inventory community. The model will describe data elements and their relationship to each other. This model, the resulting data formats, and the use of electronic data transfer will all enable easy exchange of data.

EIIP is always seeking qualified reviewers to examine draft documents for accuracy and consistency. These drafts can be obtained from the authors or can be downloaded from *CHIEF* BBS.

It is the vision of EIIP that all governmental agencies and all industries will adopt EIIP procedures for collecting and reporting emissions data. As the draft procedures are completed, reviewed, and approved by EIIP, everyone is encouraged to begin using the procedures.

(See accompanying article on page 5.)

## OMS ISSUES UPDATED REPORT ON MOBILE SOURCE ESTIMATION

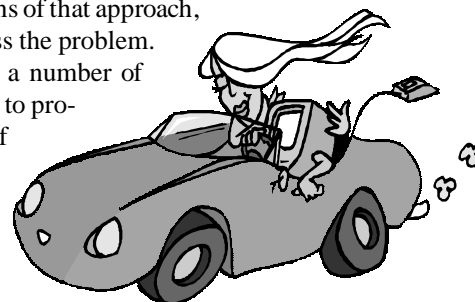
EPA's Office Of Mobile Sources (OMS) has issued *Highway Vehicle Emission Estimates -- II*, May 1995, in response to concerns that highway vehicle emission factor models, such as EPA's *MOBILE* series, were underestimating emissions. Tunnel studies, roadside measurements, and ambient concentration analyses have provided "suggestive but not definitive" evidence that existing emission factor models and inventory development procedures have led to understatement of the actual total emissions contribution of highway vehicles.

This publication continues the correction efforts begun in the companion book of July 1992, *Highway Vehicle Emission Estimates*.

OMS has been aware that several parts of existing practice needed improvement. Some of these were dealt with in 1993 in the *MOBILE5a* modeling program, while others will take longer to address. The two publications discuss the Agency's pre-1990 approach to estimating vehicle emissions, the known limitations of that approach, other possibly contributing issues, and what EPA has done and will do to address the problem.

*Highway Vehicle Emission Estimates -- II* provides new information on a number of problems dealing with emission factors and inventory procedures. It is intended to provide an overview of the subject and to facilitate discussion. It is not a statement of EPA policy.

Copies of the paper are available from, and comments welcomed by, Terry Newell (AQAB), EPA Office Of Mobile Sources, National Vehicle And Fuels Emission Laboratory, 2565 Plymouth Road, Ann Arbor, MI 48105. This issue paper is also on the OMS portion of the OAQPS TTN.



## EIIP DATA MODEL

(Information on the Emission Inventory Improvement Program - its mission, its scope, and its membership - can be found on the CHIEF BBS, under the EIIP Section. Also available are monthly progress reports from each subcommittee. See the general EIIP article on page 4.)

The EIIP Data Management Committee is developing a data model that will result in a standard data format for exchanging emission inventory data. The data model is being constructed based on input provided by the EIIP, point, area, mobile, biogenic, and quality assurance subcommittees.

The approach taken with the EIIP data model includes some provision for flexible data entities and attributes, thereby making the model amenable to updates in an efficient, timely, and cost-effective manner. It is expected that this approach will fit well with state/local users who convert to the data format from relational databases. The data model is being developed in three phases. The current Phase 1 will result in a core data model and data format that are adequate for use in regional modeling and that will facilitate transfer of those data from state/local agencies to EPA, or among state/local agencies. Phase 2 is to further enhance the core model to include data from program areas that overlap the emission inventory area, such as Title 5 permits, Title 3 toxics, and compliance related data. Some Phase 2 input is occurring concurrently with Phase 1. Phase 3 is envisioned to enhance the core model to reflect a more complete and integrated transfer of emissions inventory data from facilities to state/local agencies. State and local agency support/direction will be emphasized and confirmed through STAPPA/ALAPCO before completing Phase 2 and before starting Phase 3.

The Phase 1 core data model is scheduled for external distribution and review in August. That external review will focus on the larger EIIP community (which most likely includes everybody reading this article) to validate that the coverage is adequate to conduct regional modeling and that the resulting data format is practical as a standard for exchanging emissions data within the community. Anyone who would like to be involved in this valuable peer review, please consult the EIIP section of the *CHIEF* BBS during August for a notice of its availability and the review logistics.

Numerous state, local, and industrial EIIP representatives are to be commended for their participation and perseverance in making this data model happen. There are the typical "rough spots" that come with trying to get work done by committee, but the strength of the project appears founded in the participants' unified motivation and their belief that improvements in data transfer can be demonstrated and recommended for the benefit of the emission inventory community. The EIIP Steering Committee, which is representative of the STAPPA/ALAPCO emissions inventory work group, plans to launch a campaign to inform the inventory community of the recommended data format, of data transfer techniques, and other EIIP advancements in the EIIP. In support of this momentum, the FY96 distribution of section 105 grant funds to the regions includes allocation for an emission inventory data delivery project. These are funds intended to improve the sharing of emissions inventory data among states and EPA, with STAPPA/ALAPCO providing guidance and direction through EIIP and focusing on EIIP data sharing objectives and techniques.

### SEITZ PRESENTED WITH PERSONALIZED COPY OF FIFTH EDITION

Recently, John Seitz, OAQPS Director, was presented with his own autographed copy of the Fifth Edition of the *Compilation of Air Pollutant Emission Factors*, AP-42. He was astonished at the sheer volume of the 2,050-page document and expressed his appreciation for all the work that it represents. The Fifth Edition is available on the *CHIEF* BBS (and has been the major source of activity on the OAQPS Technology Transfer Network for several weeks), on the *Fax CHIEF*, and in paper from the Government Printing Office (GPO) for \$56.00. It will also be part of the new version 4.0 *Air CHIEF* CD-ROM, to be available from GPO in August for \$18.00. Call GPO, (202) 512-1800, to order or *Info CHIEF*, (919) 541-5285, for more information.

### SURFACE COAL MINE STUDY REPORT PRINTED

Four reports related to the development and completion of the surface coal mine study required by Section 234 of the Clean Air Act have recently been printed. The fourth, and major, report is on the field studies for emission factor development, which took place in Wyoming over several months. Although this report contains preliminary revised emission factors, the emission factors from the study will not be final until validation of the factors and modeling work are validated. We continue to work with the mining interests and others to refine the results. A work assignment with Midwest Research Institute is currently active to finalize these factors in the form of an AP-42 section revision, hoped for by the end of September of this year. Jim Southerland is the work assignment manager for this effort.



## OTC ESTABLISHES 1990 NO<sub>x</sub> BASELINE INVENTORY

On September 27, 1994, the 13 states composing the Ozone Transport Commission (OTC) created the foundation for a region-wide market-based program of NO<sub>x</sub> emissions trading by agreeing to control NO<sub>x</sub> emissions from those boilers and other indirect heat exchangers with a maximum gross heat input rate of at least 250 million BTU per hour. Since NO<sub>x</sub> reductions will be calculated as a percent decrease from a baseline year (1990), the first step for meeting the national standard for Ozone is to establish an accurate baseline NO<sub>x</sub> emission inventory for the period of May - September 1990. Emissions for this period have been compiled and will be used as a basis for emission reduction targeting and trading. OTC produced a procedures document in December of 1994 that described the process for completing the inventory, including quality assurance, calculation of five-month emissions, selection of emission factors, and determining exceptional circumstances (an exceptional circumstances data base was developed in 1990 to cover atypical operations).

The 13 OTC states faced much work to do in a very tight time frame (the final inventory was due March 1, 1995) and no central authority in a loose group of 13 states. Facing these constraints, EPA's strategy was to provide structure to the process and facilitate the task by

- (1) making EPA technical expertise available to the OTC states to expedite the development of the baseline inventory,
- (2) coordinating weekly conference calls among EPA and the states,
- (3) communicating quickly, frequently, and freely along the way with states, industry, and the environmental community (using the OAQPS TTN and overnight mail),
- (4) facilitating data quality assurance by assimilating and sorting state data bases quickly, and
- (5) letting the states make decisions.

The commission voted on June 13, 1995, to accept the final baseline inventory and to forward it to EPA for approval. This inventory is not perfect, but it is an agreed-upon (by both industry and states) starting point on which the NO<sub>x</sub> emission reductions can be calculated.

The *CHIEF* BBS contains the QA document describing the criteria for accepting and quality assuring the data, the OTC NO<sub>x</sub> baseline inventory (in a data base format), and a spreadsheet summary of the NO<sub>x</sub> inventory.

For more information on this topic, contact Roy Huntley, of EFIG, (919) 541-1060.

## EMISSION ESTIMATION TOOLS COURSE IN SAN ANTONIO

Anne Pope and Jim Southerland (EPA) and Angela Andrews (Lockheed Martin) presented a one-day course to 18 students at the Air & Waste Management Association's (AWMA) annual meeting in San Antonio on June 16. About one third of the students were from state and local agencies, while the remainder were primarily from industry, academia and consulting firms. Foreign attendees included individuals from Mexico, South Africa and Taiwan. Most of the course time was spent working on the *FIRE* data base on a prototype of the *Air CHIEF* CD-ROM, version 4.0. This opportunity allowed students to have hands-on experience with these systems and other emission estimation tools from EFIG. A similar presentation is planned for the Emission Inventory Conference this October 10-13 at Research Triangle Park, NC. If interested in attending, either respond to the AWMA flyer when it is mailed in July or contact AWMA at (412) 232-3444.

## NEW INTERNATIONAL GUIDANCE ON GREENHOUSE GAS INVENTORIES ISSUED

The Intergovernmental Panel On Climate Change (IPCC) has issued a three-volume final guidance on greenhouse gas inventories. The requirement for a greenhouse gas inventory was agreed to by about 150 countries at June 1992 summit in Riode Janeiro. Volume 1 consists of the reporting instructions, Volume 2 is a workbook, with emission estimation methodology, and Volume 3 is the reference manual. The U. S. Greenhouse Gas Inventory is being prepared by EPA's Office Of Policy, Planning And Evaluation. The approved emission estimation methodology is aimed at countries without sophisticated emission inventory programs in place, although other countries may use them. These documents are currently available in English and are being translated into French, Spanish, and Russian. Plans include future translations into Chinese and Arabic. Copies of the guidance material may be obtained by contacting IPCC WGI Technical Support Unit, The Hadley Centre, Meteorological Office, London Road, Bracknell RG12 2SY, United Kingdom.





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### CORRECTING OUR CORRECTIONS!

In the Spring 1995 *CHIEF Newsletter*, we made a correction in the spelling of the Region X contact name, Rindy Ramos, but the area code was misprinted. Rindy Ramos's real phone number is (206) 553-6510. We apologize for the mistake.



The CHIEF Newsletter is produced quarterly by the Emission Factor And Inventory Group, Emissions Monitoring And Analysis Division, of EPA's Office Of Air Quality Planning And Standards. Its purpose is to enhance communication within the emission factor and inventory community by providing new and useful information and by allowing for the exchange of information between and among its readers. Comments on the Newsletter and articles for inclusion in it are welcome and should be directed to Emission Factor And Inventory Group (MD-14), US EPA, Research Triangle Park, NC 27711; telephone (919) 541-5493.

The contents of The CHIEF Newsletter do not necessarily reflect the views and policies of the Agency, neither does the mention of trade names or commercial products constitute endorsement or recommendation for use.

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