



# THE CHIEF NEWSLETTER

— THE CLEARINGHOUSE FOR INVENTORIES AND EMISSION FACTORS —

***This May Be Your LAST ISSUE!*** See page 11 for details.

## UNECE TASK FORCE ON EMISSION INVENTORIES

The Task Force On Emission Inventories, chartered under the United Nations Economic Commission For Europe (UNECE), met in Regensburg, Germany, May 31 through June 3. J. David Mobley, Chief of the Emission Inventory Branch, represented the Environmental Protection Agency (EPA). The meeting was attended by 85 people representing 22 countries and 6 international organizations.

The meeting was led very effectively by Harald Dovland of Norway and Gordon McInnes of the European Environment Agency. The primary purpose of the meeting was to review the status of the *Guidebook For Developing Emission Inventories In The UNECE*. The review, as well as the preparation of the Guidebook, was accomplished by nine expert panels which addressed the following topics: strategic overview; volatile organic compounds; persistent organic compounds and heavy metals; ammonia; mobile sources; power plants and industrial sources; marine sources; verification; and emission projections.

Long-term action items for the Verification Expert Panel intended to redraft the Verification Chapter of the Guidebook by the end of the summer and to finalize both it and the companion report by the end of the year. In addition to definition issues, another activity will be to review and evaluate the various qualitative indicators of uncertainty and to propose one or more indicators for use in the Guidebook. The EPA concept on the Data Attributes Rating System was received with some interest but also with concern about its complexity.

The Projections Expert Panel was incorporated into the Task Force for the first time at this meeting. This blend should be beneficial to all parties, as the activities between the group are closely linked under the UNECE. However, the emission inventory community tends to be technology-based, whereas the projections community tends to be based on economic indicators. The complexity and necessity of dealing with both approaches were recognized, which should facilitate resolution.

The Organization For Economic Cooperation And Development (OECD) and the Intergovernmental Panel On Climate Control (IPCC) have issued a workbook series on Greenhouse Gas Emission Inventories. Harmonizing UNECE and OECD/IPCC approaches will be a major difficulty over the next year. Since EPA has significant input and influence in both groups, it is assumed that our procedures and results will be compatible, but this issue is likely to grow bigger and bigger in the future as EPA, UNECE, and IPCC methods are all refined simultaneously.

The next meeting is tentatively scheduled for Oslo, Norway the week of June 12, 1995, in hopes of completing the Guidebook and other Task Force activities. Overall, the meeting was productive and has proven that this cooperative effort in devising guidelines for emission inventories is worthwhile both to the Europeans and to the United States.

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# PUBLIC/PRIVATE PARTNERSHIPS — A NEW WAY OF DOING BUSINESS

Historically, AP-42 emission factors have been developed almost completely within EPA. This development can best be characterized as an information scavenging process. Individuals responsible for AP-42 emission factor development would keep track of EPA emission testing activities. The data generated would then be massaged into a form that allowed for the generation of an emission factor.

In most cases, an emission factor for a source category was developed following the development of a New Source Performance Standard or a National Emission Standard For Hazardous Air Pollutants for that source category. Other activities which led to factor development included research and development of improved emissions control equipment. There was a good possibility that the test data which were gathered was biased toward the better controlled facilities, or at least toward those facilities which controlled their emission most effectively. Also, the interval between the emission tests and when the revised factor was developed could exceed five years. In a few cases, even after standard development activity, there was no usable emissions information with which to develop scientifically based emission factors. This was because the supporting information for the compliance method for the standard had been visible emissions, an equipment standard, or some other non-emissions based protocol.

In some cases, EPA undertook a test program specifically to develop emission factors. For the most part, such were exceptions since these test programs consume a lot of resources (personnel time and agency money). As an exception, much of the particulate size distribution in the current AP-42 is because of this type of test program. More recently, such a specific program was undertaken for the development of emission factors for a number of sources in the wood products industry. Emission factors for a broad range of pollutants from this industry will soon be appearing in AP-42.

For a number of reasons, the climate between industry and government is changing. The 1990 *Clean Air Act Amendments* (CAAA) have changed the landscape such that high or low emission estimations can have adverse effects on industry. A complete review and update of AP-42, required by the CAAA periodically, precipitates the need for continuous evaluation and improvement of the new and existing factors in AP-42.

This improved climate between EPA and industry has led to a number of partnerships with a primary goal being the development of good scientifically based information. This new information becomes the basis of better emission factors, which are trusted by both the members of industry and members of federal, state and local air pollution control agencies. There are already several examples of successful public/private partnerships which have produced new and substantially revised AP-42 sections for source categories.

## Hot Mix Asphalt

In 1991, the Emission Inventory Branch (EIB) began discussions with members of the National Asphalt Pavement Association (NAPA) concerning the development of revised emission factors for certain groups of pollutants believed to be emitted from Hot Mix Asphalt Plants (previously called Asphalt Concrete Plants). Criteria pollutants included CO, SO<sub>2</sub>, NO<sub>x</sub>, hydrocarbons, and the condensible and PM-10 portions of particulate matter. Hazardous air pollutants (HAPs) included polycyclic aromatic hydrocarbons, formaldehyde, benzene, toluene, xylene, and ethyl benzene. The technical committee of NAPA met often with EPA's Emission Factor And Methodologies Section (EFMS) to discuss both the pollutants to be quantified and the facilities to be tested for these pollutants. As a result, nine facilities were selected for emission testing. Two facilities were tested by EFMS for a more comprehensive range of pollutants, and seven facilities were tested by NAPA for a more focused list of pollutants. EFMS evaluated all of the test reports and compiled the information into a revised AP-42 section, with a background report. The section draft was made available to NAPA and others for review. NAPA provided comments on the section's descriptions of facility types and as a result, the entire process description was rewritten to give a clearer, more extensive picture of the variety among the processes used in this industry. The new AP-42 section has been placed on the *CHIEF* Bulletin Board System (BBS) and it will be included in the first supplement of the AP-42 Fifth Edition. Almost 200 emission factors are included in the 25-page section covering three process types, multiple control technology, and many criteria and noncriteria pollutants. Contrast this to the fewer than 30 emission factors in the previous 18-page section that it replaced.

## Stone

Also in 1991, we renewed discussions with the National Stone Association concerning the estimates of PM, PM-10 and TSP emission factors for the Crushed Stone Processing industry. The industry was concerned that data used in the past to estimate crushed stone processing emissions were derived from atypical processes using old and now questionable test methods. Meetings were held to discuss collecting emission information with refined testing procedures, and at facilities that truly represented the industry. A series of test programs was designed to quantify emissions from crushing, screening, and conveyor transfer points. EFMS sponsored and paid for four emission tests and NSA sponsored eight emission tests with EPA oversight and **quality assurance**. The tests covered the crushing of granite and limestone (the two major rock types processed), the screening of these two rock types and the conveyor transfer points. The twelve

(Cont. on p. 3)

# CONSOLIDATED EMISSION REPORTING RULE

EPA issued two drafts of a Consolidated Emissions Reporting Rule (CERR) in October 1993 and January 1994. This rule incorporated the requirements for three emissions reporting programs into a single rule. The three programs are emission statements, the periodic emission inventory, and the annual statewide emissions reporting requirement.

Comments on the drafts indicated that the reviewers felt EPA was requiring too much information to support EPA's emissions data needs. EPA management decided the rule should be revised to reflect more closely EPA's needs and uses for emissions information.

In response, the Agency is developing an options paper with several alternatives for reporting emissions information. The options are tied directly to several key programs that EPA identified as primary users of emissions data. These programs include policy analysis, review of the National Ambient Air Quality Standards, air quality modeling, and response to questions to EPA.

Four or five emissions data reporting options are being identified to support the Agency's emissions information needs. The variables in the different options include reporting frequency (e. g., annual, every 3 years, every 6 years), point source cutoffs, amount of supporting emissions information (such as control efficiency, stack information, operating schedule, etc.), reporting level (e. g., SCC, plant, or county), type of pollutant (criteria and/or toxic), and geographic coverage (nonattainment and/or attainment areas).

These emissions data reporting alternatives will be incorporated into the options paper, which will then be reviewed within EPA and distributed for comment to groups outside the Agency such as the work group, the Standing Air And Emissions Work Group (SAEWG), the State And Territorial Air Pollution Program Administrators/Association Of Local Air Pollution Control Officials (STAAPA/ALAPCO), the Emission Inventory Improvement Program (EIIP), etc. The option that best meets EPA's need for emissions information, with modifications to accommodate reviewers' concerns, will be incorporated into a revised draft of the rule. The target date for the draft CERR is Summer 1995.



(Cont. from p. 2)

tests were analyzed and a revised final AP-42 section was placed on the *CHIEF* BBS in June and will appear in the Fifth Edition. There are now about 30 emission factors in this revised section compared to the four factors that were in its' predecessor. We are continuing discussions to develop more emission data on material transfer (pile formation), haul roads and other crushing and screening operations.

## Bricks

In 1992, we met with the brick manufacturing industry about their concerns over the AP-42 emission factors for fluoride from kilns and particulate from raw material processing. EPA was also concerned with the lack of PM-10 emission factors, since it appeared that this source category might be a significant source of total particulate in PM-10 nonattainment areas. Testing priorities were determined, and EFMS then sponsored three comprehensive test programs at facilities representing the major kiln types used in the industry. The industry sponsored eight additional tests for hydrogen fluoride emissions and developed a methodology to perform a mass balance on fluoride to produce conservative estimates of hydrogen fluoride emissions. The emission tests are being assembled for further evaluation and development of a revised AP-42 section, expected to be available for the first supplement to the Fifth Edition of AP-42.

## Fiberglass & Mineral Wool

In 1992, another example of production partnership occurred when the North American Insulation Manufacturers Association (NAIMA), representing the Wool Fiberglass and Mineral Wool source categories, were concerned about the age of emission factors in AP-42, given that their industry had undergone changes in technology. They were also concerned about the tests that supported the formaldehyde factors, because of issues raised over the old test method. In addition, this industry was one of the first selected for regulatory development under Title III of the CAAA. Our discussions with this industry focused on not only pollutants to be quantified but also test methods and control technology suitable to the best controlled facilities. EPA sponsored three tests to characterize mineral wool manufacturing and wool fiberglass manufacturing, and the industry sponsored six focused tests on both typical facilities and facilities with the better control technology. The test data will be available to EPA for emission factor development over the next year.

Other industries with which EPA is working include petroleum refining, oil and gas production, plastics manufacturing, rubber production, wood products, several food and agricultural categories, among others. These examples illustrate what good can happen when industry and government work together to obtain unbiased scientifically based information on emissions. EPA is developing a public participation plan (see p. 5) that includes general guidance to industry and state and local agencies, providing information upon which emission factors can be developed or revised.

# WHAT CAN THE CHIEF BULLETIN BOARD DO FOR ME?

Using a modem for the first time can be somewhat vexatious, if not intimidating, but your effort can lead to astonishing sources of information. The **CHIEF** Bulletin Board System (BBS) contains a good variety of resources available to anyone with a modem, a phone line, and some communication software.

## Here's what you can get:

### 1. Documents:

- AP-42 in draft form, final version, and even background reports.
- L & E (*Locating And Estimating Air Emissions From Sources Of . . .*) documents. Currently, there are L & E documents for Mercury, MEK, Toluene, Xylene, etc. waiting for you to download and print.
- Inventory guidance memos and documents
- Office Of Research And Development documents
- The **CHIEF Newsletter** (current and previous copies)
- Many others

### 2. Software:

- Calculation programs: **TANKS**, **SIMS**, and **PM-10**.
- **FIRE** (Factor Information Retrieval System) This is a software program you may download and install on your computer. It allows you to determine SCCs and retrieve toxic and criteria emission factors related to those codes.
- **Mobile4 & 5**
- Many others

3. **E-mail:** You may communicate privately or publicly with anyone else who is registered on the Transfer Technology Network (TTN). Public messages have been used to locate material, get help with programs, and clarify information. These files may also be transferred to another user.

4. **Upcoming events and errata:** Keep informed about emission-related events and changes made to AP-42 after publication.

## Here's how you get it:

1. Dial (919) 541-5742 from your communication package. (Before this step you will need to set your software to communicate with our software. This involves setting the parameters to 8-1-N, full duplex, with modem speeds up to 14.4 baud. You will also need to check which protocols your software can use.)

2. Choose "R" to register, as soon as you have the opportunity. Even though this is a public service bulletin board (your only charges are for telecommunication lines), you are considered a "guest" until you register and will be allowed only 30 minutes on line.

3. Take the time to browse the utilities on the main menu.

4. Choose "T" to get to the bulletin board areas. Notice that the **CHIEF** BBS is only one of many related boards.

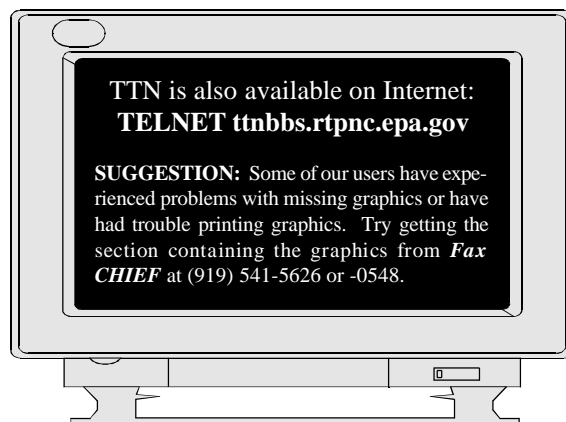
5. Choose "D" to get to the **CHIEF** BBS. You will encounter a series of "Alerts" concerning news about **CHIEF** before getting to the main **CHIEF** BBS menu.

6. As an example, download the installation file for the **FIRE** program.

- Choose "F" for "AP-42/E F Guidance"
- Choose "5" for "FIRE"
- Choose "d" for "download"
- Type "Install.bat" when asked for the file name.
- Choose a protocol. (This is why you need to know ahead of time which one your software can use). Hint: use ZMODEM if you can, because it is the fastest available on the **CHIEF** BBS.

f. The screen will display the message "Awaiting start signal". At this point you are on your own. The "start signal" comes from you or your software. If you are using Windows or a program with pull-down menus, you need to find something that resembles "receive binary file". This usually resides in a menu called "Transfers". If you are using a "command-type" program you will probably need to consult your documentation. Some common "start signals" are the "Page down" key; simultaneously pressing the Ctrl key with some other key; the F10 key; Sometimes software (such as Crosstalk™) presents a "command line" at the bottom of the page with hints. You may be required to type something like "RX C:\Windows\Fireinst.bat", which means "Receive the file indicated using the XMODEM protocol, put it in my Windows directory and call it 'Fireinst.bat'".

7. Call **Info CHIEF** Help Desk, (919) 541-4565. We can help with several communication packages. (Your best help may come from the person who had your computer before you!) Another source of information about the TTN bulletin boards and how to use them is the TTN Help Desk (919) 541-5384.



## SOURCE CLASSIFICATION CODES

Source Classification Codes (SCC) have long been used by EPA as a way of categorizing air pollutant emission source types. Emission factors provided in AP-42 and in *AIRS* are tied to an 8-digit SCC and its accompanying description, and emission inventories are often summarized by combinations of SCCs. The only SCCs accepted by the *AIRS* mainframe are those which appear on the *AIRS* SCC look-up table. Until recently, a user's only access to an up-to-date listing of the SCCs was through the *AIRS* mainframe. Now, however, the list for point sources (*AIRS AFS*) is available via the *CHIEF* BBS by choosing <Q> from the main *CHIEF* menu. Also, the list can be downloaded in ASCII or dBase™ format for use in PC or mainframe software. The list can also be conveniently searched on line by typing in a text or numeric string. At this time, only the numeric code, its associated description, and the standard *AIRS* throughput measurement units for the code are available in the file.

The EPA default emission factors associated with the SCCs are not currently included in the on line look-up file, but they are available elsewhere on the BBS as part of the *FIRE* PC data base system. Another "questioning" tool has been placed on the *CHIEF* BBS in the upper right quadrant under menu item "Q." The user may select to query the list on line or download the files in either of two formats: "DBF", for inclusion in a data base program or "TXT", for importing in a word processing program. Three-, six- and eight-digit SCC lists are available.

EPA adds new SCCs to the system regularly at the request of users, and is currently considering a proposal from the Emission Inventory Improvement Program (EIIP) to revamp the system. Check item <Q> on the *CHIEF* BBS for recent news and proposals, and send any comments to Ron Ryan via the *CHIEF* BBS e-mail, via phone at (919) 541-4330, or via mail at US EPA, MD-14, RTP, NC.

## EDUCATED BUT ERRONEOUS GUESSES

The new introduction to AP-42 discusses some of the limitations of emission factor applications. Emission estimate fallibility and the consequences of misuse were covered in a report in the August 1994 *Pollution Engineering* magazine. One company used estimates which later proved by testing to be greatly in error and this ended up costing the company \$1.2 Million. Be careful in your choice of emission estimation methods and factors, if that is the route you take. In many critical situations, it may be less expensive in the long run to test under the appropriate conditions, methods, and procedures from the start.

## LOW-COST GPS RECEIVERS

The cost of hand-held Global Positioning System (GPS) receivers has dropped considerably over the past two years, according to the June 20, 1994 issue of *Federal Computer Week*. Units that sold for \$1,000 and up just a year ago, and \$2,000 or more two years ago, are now being offered at the \$400 to \$500 price range from at least three manufacturers.

GPS receivers access positioning and location information broadcast by a fleet of 24 Defense Department satellites. These units are used by many industries and agencies to locate emission sources for permit and inventory purposes. While this information may be useful to many agencies and industries, EPA does not endorse or recommend specific equipment.

Today's receivers not only cost less, but they weigh half as much and require less power than earlier systems. The Trailblazer® GPS receiver, produced by Magellan System Corporation, is reported soon to be available at a price of about \$400. Lowrance Electronics Inc. sells the AccuNav Sport® for \$499, and they also plan to introduce an even more powerful unit with a moving map display for less than \$500. Industry sources indicate that Garmin Industries Inc. is expected to introduce a hand-held GPS receiver with a moving map display for under \$400.

## PUBLIC PARTICIPATION

Section 130 of the 1990 *Clean Air Act Amendments* requires the EPA to allow any person to demonstrate improved emissions estimating techniques, and to authorize their use upon approval and after appropriate public participation. This summer, EPA drafted a document entitled *Public Participation Procedures For Emissions Estimation Guidance Materials* available for comment via our *CHIEF* BBS and our *Fax CHIEF* service. The comment period has now ended, and the final *Procedures* will be made available shortly by the same sources.

As drafted, *Procedures* describes how the public can participate in the development of emissions estimation guidance both by submitting data for review and by reviewing materials submitted by others. In addition to revisions to EPA's venerable *Compilation Of Air Pollutant Emission Factors* (AP-42), the *Procedures* would allow the public a means to propose revisions to the *SPECIATE* and *FIRE* data bases and to various emission estimation guidance memoranda and documents. Information could be submitted for new or revised factors for any air pollutant.

Look for the final *Procedures* on the *CHIEF* BBS this Fall. We look forward to receiving your proposals on the *CHIEF* BBS for improved emissions estimations and to publicizing them for use by others.

# INFO CHIEF'S MOST FREQUENTLY ASKED QUESTIONS

Here are some hot topics with information on each.

## AP-42 SECTIONS

**Q: Is the AP-42 section that I downloaded from the "Proposed 5th Edition" menu on the CHIEF BBS marked "DRAFT" really "final"?**

A: Anything found in the "Proposed Fifth Edition" menu is final. Also, any other new and revised sections becoming "final" will appear in the menu item "Final Sections Not Published". Anything in the "Draft Sections Under Review" is truly a draft. The purpose of the draft menu items is to solicit your comments on those AP-42 sections being revised. Please note that the Fifth Edition consists of extensive revision in section numbers and editorial format.

**Q: If I find an emission factor in AP-42 that differs from one in FIRE, which should I use?**

A: Ideally, we make them agree, but if there is a conflict, AP-42 generally takes precedence. However, there may be L & E updates or FIRE releases which take precedence because they are dated later than the AP-42 section in question. If you find a disagreement in the factors, call or write the Emission Inventory Branch.

**Q: If the section I need was revised in Supplement F, can I just order that supplement from GPO and have all I need?**

A: Usually, that strategy is successful, but in some cases the "revision" may have been a minor editorial correction, possibly to only a few pages, in which case you may not get the entire section. A call to *Info CHIEF* can help determine how to proceed. Also, you can check the CHIEF BBS or *Fax CHIEF* to be sure as they always have the latest information.

## VOICE MAIL

**Q: When I call Info CHIEF, I always get voice mail. Do you have a direct line?**

A: We get dozens of calls each day, so please leave us a message. Although we are staffed from 7:30 until 5:30 Eastern time, we have a small staff that stay busy helping each of you with your individual requests. Leaving a short message regarding the nature of your problem often allows us to return your call and leave possible solutions on *your* voice mail.

## TANKS

**Q: I am using TANKS2 to estimate emissions from a large number of tanks. Is there some way I can copy the data from one tank to another?**

A: The TANKS2 program allows you to create a "profile" which contains all the identical data. You may then retrieve the saved file and add the remaining data such as tank ID, throughput, etc.

## MODEMS

**Q: I would like to use the CHIEF BBS to download several files, but my modem speed is 2400 baud and it would take forever.**

A: We are only too aware of this problem. The cost of a very fast (14.4) fax/modem is under \$150. Which will soon be paid for in long distance savings if not in personnel hours. Using *WINDOWS Terminal*<sup>®</sup> or similar communication packages allows you to use the ZMODEM protocol to considerably decrease your on line time.

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

— More Q & A in the next issue! —

## MARTINEZ RETIRES

Emerico (Marty) Martinez has retired. He was Chief of the Inventory Guidance And Evaluation Section of EIB since its formation and was instrumental in the planning for the Branch, which was formed to support the enhanced role of emission inventories after the *1990 Clean Air Act Amendments*. Marty was intimately involved in the emission inventory and factor area since 1977. Before then, he was a meteorologist assigned to EPA from the National Oceanic And Atmospheric Administration (NOAA) where he served for a number of years.

Marty has roots in Texas and California. In a significant assignment just before his retirement, he made use of his Spanish-speaking abilities while on a six-month detail in Mexico City, assisting the authorities there in establishing an emission inventory program.

Marty is married to Angie and lives in Raleigh, NC. He recently was on a personal high with the delivery of his first grandchild. He will be using his free time (if there is such a thing) to do some consulting work and to sharpen up his tennis game. We will miss Marty, but we wish him the best in his new endeavors.

It has been a long while. Since I last wrote an article for the newsletter, I have been on a successful and enjoyable rotation with the state of North Carolina's Air Quality Section, and on a three-week working journey to Volgograd, Russia, and the Fifth Edition of AP-42 has moved a lot closer to publication. Many thanks to Bill Lamason, who shepherded the priorities here at EFMS while I was away. Bill did a great job!

The AP-42 Fifth Edition is currently undergoing complete reformatting and editing before going to print. Several new sections will be included. All sections that are revised in this new edition are available on the **CHIEF** BBS in the "proposed" file. The editing will change the appearance of some of these sections, but their emission factors should not change unless they were typographical errors. The Fifth Edition work is to be completed in October and should be ready for distribution on paper in December. Also, both our **Air CHIEF** CD-ROM and **FIRE**, our emission factor data base, will be updated with the same new and revised material. These will be released in the same time frame, or maybe a little sooner. We already have a backlog of new and revised sections for the first supplement to the Fifth Edition; so please consult the **CHIEF** BBS or **Fax CHIEF** for these.

Be sure to note that there is a greatly expanded Introduction to AP-42 with much further elaboration on the recommendations for and the limitations on emission factors, pollutant definitions, and other topics. The Introduction would be worthwhile reading for even the most experienced user. Also, please note that we are in the process of finalizing our Public Participation Plan, required by the **Clean Air Act** which spells out a means for "outsiders" to propose and to have us adopt and recommend emission factors which we did not develop or initiate.

Our client "family" continues to grow and to demand more of our tools and other products. We have a steady pace of about 4000 sign-on events on **CHIEF** each month, 400 fax operations on **Fax CHIEF** (until it broke — IT IS FIXED and RUNNING NOW!), and an ever increasing number of calls to the **Info CHIEF** information line and our technical staff. Data to be used in permitting continue to be highly sought after, requiring a lot of staff time for proper response. Public/Private partnership opportunities continue to arise, in which we could work with emitters to monitor testing and to devise better emission factors. However, EFMS has lost positions that won't be replaced and may be further disrupted by the impending reorganization of OAQPS. We (and perhaps new leadership) hope to come up with ways to do more with less, but we are going to need your patience and assistance. Do not be surprised if some of our activities and services get revamped or fall by the wayside entirely. Please be "proactive", and let us know what we are doing that is of most assistance to you and what we do that you could best do without.

Our distribution on this newsletter has grown to nearly 6,000 copies. While we wish to serve all of our legitimate clients in the best way possible, we need to determine that our mail key is reflective of folks who have current interests and those who are not satisfactorily served by reading it from the **CHIEF** BBS. Please note that, if you do not respond and return the mail key update sheet, we will assume that you are no longer interested in the newsletter or are served satisfactorily by the electronic route. By striking the unnecessary addresses from the list, we hope to save a tree.

— **Jim Southerland**

Chief, Emission Factor And Methodology Section



The CHIEF Newsletter is produced quarterly by the Emission Inventory Branch, Technical Support 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 Inventory Branch (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.



## RELEASE OF FIRE VERSION 3.0

The 1994 version of **FIRE** (Factor Information Retrieval System) has been released. **FIRE** contains EPA's unique rated criteria and toxic air emission estimation factors, with easy access to criteria air pollutant emission factors from AP-42 and hazardous air pollutant (HAP) emission factors derived from source tests, **XATEF** (the Crosswalk/Air Toxic Emission Factor data base management system, and the literature. **FIRE** contains only the best available emission factors, reviewed and rated by EPA.

**FIRE** is a user-friendly, menu-driven system with a user-interface patterned after **Microsoft® Windows™**. The emission factor data in **FIRE** are organized in modules. The program is designed to operate on one module of data at a time, but the features of the program allow one to browse, edit, print or export data contained in a selected data module. The two main modules of data distributed with the system are EPA rated emission factors: one module for criteria pollutants and one for HAPs. Users can also create a module of emission factors they have collected themselves, or a module of factors specified for a selected set of pollutants or sources. Users can browse through the records in the data base or choose specific emission factors by using filters.

An important feature of **FIRE** is the user's ability of users to enter his or her own factors into the distribution system and submit their data to EPA for evaluation and inclusion in the repository system. Once in the repository system, the data will be evaluated by EPA toward revising EIB. This feature is

very important to the goal of improving emission factors. Without new source test data, EPA is rated factors in the distribution system. Users can submit data through the **CHIEF** BBS or by mailing diskettes to hampered in such time-sensitive activities as permit preparation and evaluation, and submission of emission inventories required under the 1990 **Clean Air Act Amendments**. It is vital that EPA receive data from other agencies, trade association, industry, and elsewhere if we are to develop more accurate emission factors.

**FIRE** requires an **IBM® PC** or compatible with a **Microsoft Disk Operating System™ (MS DOS)**, Version 3.3 or later, and a **VGA color monitor**. **MS DOS 5.0** or later and a mouse are recommended. Users' PCs should have at least **520 KB** of available random access memory (RAM), and the hard disk should have at least **10 MB** of available disk storage space. The user's manual is included on the diskette.

The next version of **FIRE** (1995) will be available in a **Windows™** format and will be the last year that DOS files will be available on the **CHIEF** BBS for **FIRE**. No further enhancements will be made to the DOS executable files during the coming year. After the **Windows®** upgrade for **FIRE** is distributed in 1995, **Info CHIEF** will support only the **Windows®** version. **FIRE** is available on the **Air CHIEF** CD-ROM and the **CHIEF** BBS, as well as from the National Technical Information Service (NTIS) at (800) 553-6847.

### Personnel Notes...

Bryan Fricke has joined the Emission Factor And Methodologies Section for a few months under the co-op student hiring program. He will be working under the direction of Ron Ryan investigating ways to improve the consistency of the Source Classification Code assignment process.

Bryan has a Bachelor's degree in Business Administration from the University Of North Carolina in Chapel Hill, and he is pursuing an environmental and civil engineering degree from NC State University. In the century-old rivalry between these universities, he confesses lingering loyalties to the sky-blue Tar Heels. Kernersville, NC is Bryan's home town, amidst the Triad of Greensboro, Winston-Salem and High Point.

Other than work and school, Bryan enjoys music in several forms. He's learning piano and guitar, and he likes to sing, recently with the Varsity Men's Glee Club at NC State. His listening proclivities are mostly orchestral and classical in nature. Watching Carolina football and basketball are fun for Bryan, as is a good one-to-one conversation over a good meal. He looks forward to meeting many people during his term with EPA.





## RAPIDS TOXICS INVENTORY DEVELOPMENT

The eight Great Lakes States, under sponsorship from the Great Lakes Commission (GLC) and EPA, are designing a data management system that will assist in developing and tracking air toxic emission inventories for a twelve-county region near Southwest Lake Michigan. This system is known as Regional Air Pollutant Inventory Development System (RAPIDS) and is designed to help the states implement the procedures outlined in a common methods protocol for preparing their respective portions of the inventory. Each state will prepare its portion of the regional inventory and will also perform quality assurance on their emission estimates before adding to the regional inventory. RAPIDS is based on a data model which provides flexibility in the types and volume of data that can be stored. The data model breaks down into

related modules organized for individual access through the user interface.

RAPIDS is a relational data management system which uses an **Oracle 7™** back-end data base as the regional repository located at EPA's Great Lakes National Program Office (GLNPO). The state air agencies are using GLIN Internet access to provide information to the RAPIDS repository, which will be accessible on line to regional, government, or academic researchers. This approach to regional data sharing is expected to form the basis for comprehensive analysis of the complex ecosystem in the Great Lakes region.

For more information on RAPIDS, contact Pranas Pranckevicius at EPA GLNPO in Chicago, phone (312) 353-3437 or fax (312) 353-2018.

## STATUS OF 1990 BASE YEAR EMISSION INVENTORY DATA IN AIRS

The CAAA of 1990 requires that state and local agencies with ozone and/or carbon monoxide (CO) nonattainment areas prepare and submit emission inventories for base year 1990. The final O<sub>3</sub> and CO base year inventories were due to the Environmental Protection Agency (EPA) on November 15, 1992. The inventory components expected are point, area, mobile, and biogenic (for O<sub>3</sub> areas) source data and documentation, and the computerized data submittals to the Aerometric Information Retrieval System (AIRS). Many States are still responding to review comments received by EPA and from public hearings, and as a result, may be preparing revised final inventories for submittal with the final State Implementation Plans (SIP) due by November 15, 1994.

The EIB prepares a quarterly Data Comparison Report that summarizes the emission inventory data submitted by the states in hard copy to those data which the states have entered into AIRS. The purpose of the Data Comparison Report is to emission data submitted in hard copy find reports that do not match emissions reported to AIRS. A copy of the latest report is available on the **CHIEF** BBS in the File Transfer section under "Emission Inventory Guidance". A lot of data have been entered into AIRS but for many states there are large differences between the data in AIRS and those that have been submitted in hard copy. In addition, the data that does reside in AIRS are largely inaccessible, because the states are

not releasing them for approval and access. This has created an awkward situation for both EPA and those states that had anticipated using the base year inventory data by now.

The CAAA require many states to perform urban scale modeling analyses to demonstrate that proposed control strategies are sufficient to attain the National Ambient Air Quality Standard (NAAQS) for ozone. EPA compiles a National Inventory to use in the Regional Oxidant Model (ROM) to provide boundary conditions regarding the pollution transport into the states urban modeling domains. As part of its basic role in modeling for attainment demonstrations, the Agency's National Inventory will also be used to analyze regulatory policy to ensure progress in pollution reduction as well as to assess the possible effects of changing the NAAQS for ozone, standard now under review.

To ensure that the National Inventory contains the best and most recent emission data available, it should incorporate the states approved 1990 emissions inventory data for nonattainment areas. Continued progress by State and local agencies in entering their emissions inventory data into AIRS can help the inventory process in the many ways described above and will also result in providing an **accessible** data base for the 1990 O<sub>3</sub>/CO SIP inventories.



# WORKBOOK FOR GREENHOUSE GAS EMISSION ESTIMATES

In 1992, EPA's Climate Change Division (State And Local Outreach Program) prepared a workbook to assist states in estimating greenhouse gas (GHG) emissions for inventory purposes. The original workbook is being revised to include the latest information from the Intergovernmental Panel On Climate Change (IPCC) meetings of this summer. It complements the activities under way in states as a result of both the 1990 CAAA and the President's Climate Change Action Plan. The revised workbook is expected to be completed by Fall 1994.

The workbook is divided into two major sections. The first recommends a methodology for calculating emissions from a particular source (e. g., methane from landfills or carbon dioxide from fossil fuel combustion). The second contains chapters that provide more detailed information on the recommended methodology, as well as on alternative methods

for estimating emissions. The workbook covers major gases (CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O) as well as suggested data sources.

This workbook is part of the Outreach Program's "tool box" for states interested in determining baseline GHG emissions, identifying the vulnerabilities from climate change, and developing mitigation and adaptation policies. Several states have completed their inventories and are entering the policy analysis phase of the program. Other states are conducting demonstration projects designed to reduce GHG emissions. The Outreach Program provides limited financial assistance to states to complete the inventories, action plans, and demonstration projects.

Both hard and electronic copies of the workbook are available. Contact *Info CHIEF*, (919) 541-5285 for more information. To learn more about the State And Local Outreach Program, contact Katherine Sibold at (202) 260-4314.

## EIB PUBLICATIONS

The Emission Inventory Branch (EIB) produces many guidance and resource publications geared toward industries, state and local agencies, and academic researchers. EIB publishes general emission inventory guidance documents, as well as documents covering specific air pollutants such as ozone, carbon monoxide, PM-10, and air toxics. The *Locating And Estimating* (L & E) series compiles available information on the emission of specific toxic substances to assist groups in inventorying these emissions. Some of the substances which L & E documents address are: Toluene, Methyl Chloroform, Cyanide, Styrene, Benzene, Mercury and Mercury Compounds, and many more. EIB also produces several factor and inventory software products for IBM<sup>®</sup> or compatible PCs which can be used to assist in the emission inventory and factoring processes.

Many of these publications are available from the *Info CHIEF* help desk at (919) 541-5285 while others are available from the Government Printing Office (GPO) or the National Technical Information Service (NTIS). A list of EIB publications can be obtained from the *CHIEF* BBS at (919) 541-5742 or *Fax CHIEF* at (919) 541-0548 or -5626.

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## UPCOMING PUBLICATIONS AND PRODUCTS FROM EIB

*FIRE* data base, Version 3.0 — Fall 1994

*Air CHIEF* CD, Version 4.0 — November 1994

AP-42, Fifth Edition — December 1994

*TANKS* for *Windows*<sup>®</sup>, Version 3.0 — Summer 1995

## A&WMA WORKSHOPS

The Air And Waste Management Association (A&WMA), in cooperation with EIB, is sponsoring an ongoing series of workshops on preparing emission estimates. A&WMA faculty will present information on (1) reporting emission estimates to meet regulatory requirements, (2) uses of the data for permitting strategies, and (3) compliance and business planning. The workshops will help affected operations meet regulatory requirements on content and timeliness, achieving better quality emission inventories, and increasing consistency in emission inventories.

Upcoming workshops are in: Atlanta, December 5-6, 1994; Dallas, February 13-14, 1995; Denver; January 9-10, 1995; and Chicago; March 6-7, 1995. Subsequent workshops in this series will be announced in the calendar portion of future *CHIEF Newsletters*. For more information, call the A&WMA meeting registrar at (412) 232-3444, ext. 3142.

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## YOUR OPINIONS COUNT!

As always, we want your thoughts and ideas on this newsletter. Use the comment space on the next page — and more, if needed — to join the discussion of some issues and aspects being discussed here at the *CHIEF*.

1. Copies of the *CHIEF Newsletter* are always on the *CHIEF* BBS and on the *Fax CHIEF*. We often wonder if some readers would be satisfied with electronic access only, so that we could remove them from our mailing list and save trees (paper, printing, postage, etc.).
2. What articles are/would be most helpful to our readers? Which have been most helpful in the past?
3. What are the five source categories you would most like to see added to AP-42, in order of need?
4. What new emission estimation tools would you most like for us to develop and produce, in order of need?
5. In this time of limited resources and reorganizations, which tools that we now offer you and which factor development efforts now under way (*CHIEF*, *FIRE*, *TANKS*, AP-42, Permit Data Support, etc.) are the **MOST IMPORTANT** to you? Which are the **LEAST USEFUL**?

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