



THE CHIEF NEWSLETTER

— THE CLEARINGHOUSE FOR INVENTORIES AND EMISSION FACTORS —



EPA-AWMA EMISSION INVENTORY CONFERENCE

by J. David Mobley, Conference Co-Chair



The fifth annual U. S. Environmental Protection Agency-Air And Waste Management Association (EPA-AWMA) Emission Inventory Conference was held October 11-13, 1995 in Research Triangle Park, North Carolina. The Conference was dedicated to the memory of Thomas F. Lahre of EPA and Robin Jones of Midwest Research Institute, both of whom had made significant contributions to emission inventory work during their careers, had contributed to past EPA-AWMA emission inventory conferences, and had planned to participate in this year's conference. They will be missed.

The conference was a grand success, based on hallway conversations and exit polling of attendees. There were about 300 people at the conference, with 250 present for each of the luncheon and keynote talks. Attendees were about 20% EPA, 25% state agencies, 20% contractors, 15% foreign, and 5% each from academia, local agencies, industry, and other federal agencies. EPA budget constraints kept away EPA personnel from Regional Offices, Office Of Mobile Sources, and Washington, DC, and they were missed. However, a highlight of the Conference was approximately 40 attendees representing 12 countries including Australia, Austria, Canada, Denmark, Germany, Israel, Korea, Mexico, the Netherlands, Norway, Thailand, and the United Kingdom. This diversity provided an interesting mix of differing experience and perspective on emission inventory issues and reflected the global importance of emission inventory activities.

The keynote address was given by John S. Seitz, Director of EPA's Office Of Air Quality Planning And Standards (OAQPS). The luncheon talks were by Linda Rimer of the North Carolina Department Of The Environment, Health, And Natural Resources, and by Tom Helms of EPA's Ozone Policy And Strategies Group. All three emphasized the critical role of emission inventories in developing cost-effective control strategies. In this regard, the importance of timely access to data by policy makers, the need for quality data — including good emission factors — and the difficulty of meeting these challenges, especially during times of tight budgets, was a main point acknowledged by each speaker. However, perhaps the

most gratifying point made was the assurance to the emission inventory community of the importance of their work.

The Wrap-up Panel discussions were a good overview of conference highlights and also identified the challenges of the future. Panel moderator Bill Hunt, Director of OAQPS's Emissions, Monitoring, And Analysis Division (EMAD), cited the key challenges of improved data management, enhanced partnerships, improved quality assurance, and further development of interrelationships among emission inventories, monitoring, and modeling. These themes were echoed by most of the other panelists, as well as most of the audience. The emission inventory efforts of the Ozone Transport Commission in the Northeast, the Ozone Transport Assessment Group for the Eastern United States, and the Emission Inventory Improvement Program were cited as very positive developments in data management and partnership activity. Whereas progress was also noted in quality assurance, it was generally acknowledged that much was still needed in this area. The desirability for uncertainty estimates was mentioned numerous times, and more pressure in this area seems likely.

Other noted comments included the desire for greater participation from industry, not only at the conference itself but also in emission factor and inventory development. Activities also seem to be shifting toward greater emphasis on particulate matter (PM-10 and PM-2.5) and on air toxic emission inventories. Better coordination of the disparate efforts from various EPA, state, local, industry, and academic organizations was noted as being especially needed. More focus on data analysis — rather than data collection — was recommended. In this regard, the need for uncertainty analysis of emission estimates was again emphasized, as were the interrelationships of ambient monitoring, air quality modeling, and emission inventory data. The possibility of a "shoot-out" among the candidate emission estimation and data management software tools on the market seemed to attract considerable interest.

The Emission Inventory Improvement Program (EIIP) was a popular topic throughout the conference and in the Wrap-up

(Cont'd. on p. 2)

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Panel discussion. It was characterized as in the “teenager” mode, not yet mature, difficult to deal with at times, but with lots of potential. Products are now becoming available in draft form and interested parties from state/local agencies and industry were solicited to review and develop these products further.

In summary, the conference was very successful, and its exhibits, poster sessions, mixer, breaks, and evenings provided many opportunities for informal discussions about emission inventory, emission factor, and data management activities. From the theme of the meeting, “Programs And Progress”, one could conclude that emission inventory pro-

grams are quite diverse and are advancing on many fronts, nationally and internationally. It was apparent that significant progress has been made, and that this has been a good year for progress on programs. Nevertheless, important issues remain to be addressed, a serious challenge given the budget outlook.

The sixth annual conference is targeted for September 3-6, 1996 in New Orleans, and the seventh annual conference is planned for October 27-31, 1997 in Research Triangle Park. Given the successes of this forum, please make plans to attend and present relevant information as well as to benefit from discussions and presentations. ✍

TRENDS REPORT IS NOW AVAILABLE

The Emission Factor And Inventory Group (EFIG) has recently published the *National Air Pollutant Emission Trends, 1900-1994*, EPA-454/R-95-011, October 1995. The report contains extensive information on criteria air pollutant emission estimates from anthropogenic sources in the United States for the years 1900 through 1994, along with coverage of biogenics, global warming gases, air toxics, and international emissions.

Additions And Improvements

This year, EFIG has added comparisons of historical emission trends to economic and related activities. Included is a general discussion of important historical air pollution regulatory efforts and significant control milestones, along with the likely impact of these controls on emission levels. These discussions, along with extensive graphs comparing emissions to the gross national product, fuel use, gasoline prices, and other data, are included in Chapter 3 of the report.

Several methodological improvements were made this year's report. Methods for estimating forest fires were updated by including state data from 11 western states, through the Grand Canyon Visibility Transport Commission (see Chapter 6). Other improvements include obtaining USDA/Forest Service inventories of particulate matter and prescribed burning, using the Office Of Mobile Source's *PART5* particulate model for the years 1970 through 1994, incorporating results from EPA's Residential Wood Burning Model for the years 1985 through 1994, and developing continuous uncontrolled particle size distribution data for source categories. In

addition, 1990 biogenic VOC and NO_x emissions were calculated using the newly developed Biogenic Emissions Inventory System — Version 2 (BEIS2). Because of the availability of more recent field measurements, this newer version of BEIS tends to produce higher annual fluxes of isoprene and NO_x than the earlier version (see Chapter 9).

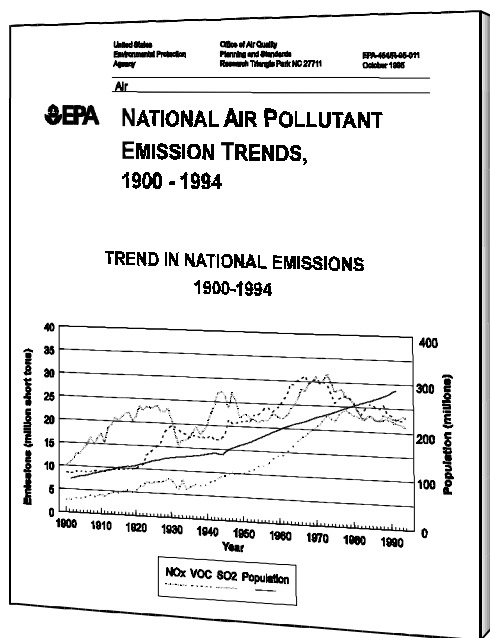
1994 Emission Estimates

Increases seen in emission estimates over last year's totals

can be attributed to economic growth, but the high number of western forest fires also contributed to larger totals for carbon monoxide, volatile organic compounds, and PM-10. Sulfur dioxide estimates were down about 2% from 1993 and are expected to continue downward through Clean Air Act mandated programs. Nitrogen oxides saw about a 2% increase for the same time period but are expected to decrease over the next 20 years because of increased controls expected on utilities and mobile sources.

Next year's report will include 1990 emission estimates directly from approximately 50% of the states, with subsequent years' data derived with growth factors. Eventually, the report will be based on actual state data for all years beyond 1990. EFIG will also be looking at more accurate methods for calculating fugitive dust emission estimates.

Copies of the report can be obtained several ways. The executive summary and county emission density maps can be downloaded from the Internet at <http://www.epa.gov/oar/oarhome.html>. Hard copies of the report can be obtained through the *Info CHIEF* help desk, (919) 541-5285, from the EPA Library, (919) 541-2777, or for a fee, from the National Technical Information Service, (800) 553-6847. ✍



SURFACE COAL MINE STUDY REPORTS

EFIG has recently published four reports on the development and completion of the surface coal mine study required by Section 234 of the *Clean Air Act Amendments Of 1990* (CAAA). This section required EPA to “analyze the accuracy of such model and emission factors and make revisions as may be necessary to eliminate any significant over-prediction of air quality effect of fugitive particulate emissions from such sources”. In response to this requirement, field and wind tunnel studies were done over a period of two sampling seasons to probe the quality of factors and model used. As a result of these studies, several improvements in the model have been proposed.

EFIG was responsible for determining what emission factor improvement work could be done within the available resources, and then for managing a program to collect data and to revise emission factors based on these data. The major portion of the emission factor improvement field work was completed in Fall 1992. Four reports were developed over the life of the project and are now available. These reports document the review of existing surface coal mining emission factors at the time of the passage of the CAAA and describe test plan development, the plan itself, and the results of the actual field work performed.

The surface coal mining section of AP-42 does not yet reflect the data developed during these studies, but work is under way to revise AP-42 to reflect the improvements. A draft revision to the section is expected to be on the *CHIEF* BBS for comment early in FY 96, and comments will be solicited on that draft.

Copies of the four reports, *Review Of Surface Coal Mining Emission Factors*, EPA-454-R-95-007 (NTIS # PB95-226403), *Development Of A Plan For A Surface Coal Mine Study*, EPA-454/R-95-008 (NTIS # PB95-221453), *Surface Coal Mine Study Plan*, EPA-454/R-95-009 (NTIS # PB95-231403), and *Surface Coal Mine Emission Factor Field Study*, EPA-454/R-95-010 (NTIS # PB95-239240), are available for a fee from the National Technical Information Service (NTIS), (800) 553-6847. For further information on how to obtain these reports, contact *Info CHIEF*, (919) 541-5285. For information on the modeling aspects of these studies, contact Joe Touma at EPA, MD-14, Research Triangle Park, NC 27711, (919) 541-5381. ✍

SECTION 105 GRANTS EMISSION FACTOR INITIATIVE (ADOPT-A-FACTOR)

The Emission Factor Initiative, or “Adopt-A-Factor” program has been funded for FY 96 (pending definition of the final agency budget) at \$4.5 million, to go to the EPA Regional Offices for allocation to individual states. This funding was provided in response to an EFIG initiative and is intended to give states specific resources to undertake to improve the emission factors used in inventories, permits and other emission characterization needs.

The rationale for the program (with ideas on how it may be implemented by individual regions and states) was the subject of a discussion paper presented at the recent Standing Air Emissions Work Group (SAEWG) meeting in San Antonio, TX. The discussion paper has since been distributed to Regional emission inventory coordinators and is on the *CHIEF* BBS. The paper may be further distributed to various state and local individuals. It encourages efforts that can be accomplished jointly with other states and organizations, and it stresses the need to coordinate with EFIG to avoid redundancy, assure procedural compatibilities, and allow for maximum information sharing. To get a copy of the paper, please download from the *CHIEF* BBS. If you have questions or suggestions, call Jim Southerland, (919) 541-5523, or e-mail to southerland.jim@epamail.epa.gov. ✍

@ epamail.epa.gov. ✍



NEWS FROM CANADA



Although the 1990 emission inventory of criteria air contaminants was just recently completed, **Environment Canada**, in collaboration with the Provincial Ministries Of The Environment And Energy, is now preparing itself for the compilation of the 1995 inventory. A new national data base system that will integrate emissions information, trends & forecasts, for criteria contaminants, greenhouse gases, and toxic releases, is being developed to support this update.

Emission summaries for criteria air contaminants, greenhouse gases, and the 178 substances collected under the National Pollutant Release Inventory (NPRI), can be viewed and downloaded from the Pollution Data Branch Internet site at www.doe.ca/pdb/doe.html.

ENVIRONMENT CANADA CONTACTS

Subject	Contacts	Telephone
Pollution Data Branch	Ron Solman, Chief	(819) 997-8545
Criteria Air Pollutants	Marc Deslauriers	(819) 994-3069
Greenhouse Gases	Art Jaques	(819) 994-3098
Air Toxics (NPRI)	François Lavallé	(819) 994-4073
Ambient Air Quality		
Monitoring	Tom Furmanczyk	(819) 994-3128
Informatics/Sytems	David Allingham	(819) 953-1557
Emission Forecasting	Libby Greenwood	(819) 953-1659

INFO CHIEF's MOST FREQUENTLY ASKED QUESTIONS

Some hot topics, with information on each.

Q: I just received my new *Air CHIEF* CD-ROM, version 4.0. When I installed and tried to open the file for the first time, I got the error message, "Unable to start Folio Server, error creating file %s". Does this mean that my CD-ROM is corrupt?

A: No, this does not mean that the CD-ROM is corrupt. This error message will appear on certain types of computer system or configurations — but never fear! There is a relatively simple solution. All you need to do is create a "TEMP" directory under your hard drive directory. This means that, if your hard drive is "C:", then type "MD C:\TEMP" at the *Microsoft Disk Operating System*® (MS-DOS) prompt or create this directory in your *Windows*® File Manager. Next, edit the "AUTOEXEC.BAT" (or "CONFIG.SYS") file so that there is a line that reads "SET TEMP=C:\TEMP". If the configuration already sets the TEMP directory under the WINDOWS or DOS subdirectory, you must remove the subdirectory from the statement. Then reboot your computer for these changes to take effect, and the *Air CHIEF* viewer should then work properly.

Q: I have heard that there is a new version of *FIRE* available. Is this a *Windows*® version?

A: We have just released *FIRE* version 5.1, but it is not in *Windows*® format. It is now available on the *CHIEF* BBS under menu item "F" ("AP-42 / EF Guidance") and then under menu item "5" ("FIRE Software System"). This is primarily a software update with added interface features and improvements, and is not compatible with existing user modules. Only two emission factors have changed since the 5.0 release. Installation of *FIRE* version 5.1 software will overwrite any earlier software version **and** any earlier Criteria and Toxic Distribution modules. While this will not overwrite any earlier user-created modules, those older modules are not compatible and cannot be accessed with the new version 5.1 software. Therefore, you may wish to save any existing user modules along with the older version of the software elsewhere before installing *FIRE* Version 5.1.

The *Air CHIEF* CD-ROM includes the *FIRE* version 5.0 infobase, which does operate under *Microsoft Windows*®, therefore it's possible to obtain *FIRE* data using the *Windows*® platform.

Q: I have heard that there is supposed to be a new version of *TANKS* for *Windows*® available soon. Is this true, and if so, when will it be available?

A: We plan to come out with a new version, *TANKS3*, sometime in early 1996, but it will not require *Microsoft Windows*® to function. We have chosen to remain with the MS-DOS format instead. The new version of *TANKS* will contain many new features, including:

- multiple data directories and merge data directories
- the ability to copy partial or full tank data without having to create a profile
- the program will automatically perform a data quality check on start-up and will automatically pack the data bases on exit, which should help prevent indexing problems
- users can add, view/edit, delete, and print information for deck fittings and rim seals
- about 70 chemicals have been added to the chemical data base

Stay tuned to the *CHIEF* BBS Alerts and the *CHIEF Newsletter* for announcements about the appearance of *TANKS3* on the *CHIEF* BBS.

Q: I have tried to use *Fax CHIEF* to obtain AP-42 Chapter 7 on Liquid Storage Tanks, but when I dialed in the document number, it kept saying that it was an "invalid entry". How can I get a copy of that chapter?

A: The document number for Chapter 7 of AP-42 has changed because we have divided it into four parts because of its length. If you do not have the most current document index, then you are using the wrong document number to order this section, and you will receive the "invalid entry" message. Whenever you use the *Fax CHIEF*, it's a good idea to order the Document Index (document number "1" or "000001"), because we update it every time we make any changes in the contents or structure of the *Fax CHIEF* service. If you encounter this sort of problem again, try to correct the situation simply by getting the new Document Index before having to call *Info CHIEF*. However, if you still need help, give us a call and we will be more than happy to assist you.

More Q & As in the next issue!

Call Info CHIEF, (919) 541-5285, if you have questions!

THE 1995 AWMA EMISSION INVENTORY CONFERENCE: PARTICIPANTS GIVE THEIR PERSPECTIVE

"The Emission Inventory: Programs And Progress" international conference, in Research Triangle Park, NC, was a big success, attracting attendees from federal, state and local agencies, industry and consulting firms, and others. We asked some attendees to give us opinions on this year's emission inventory conference, and we received some enthusiastic responses and suggestions.

The presentations seemed very well done this year. I was especially interested in the paper, "Economic, Demographic, And Regulatory Influences On Historic Trends", by Nizich, Chappell and Bollman because it contained a success story for EPA regulations (the effect of regulations on monitored levels of Pb [lead]). We need to hear more of these success stories. . . . All of the panelists helped to remind us of the challenge of pursuing quality in our data results, and, in general, putting the data that we do have to better use. But, William Barnard, from Pechan and Associates, in his comments about information management systems software positively galvanized me. His suggestion that AWMA and EPA organize a "software shoot-out" to compare the available software and their various functionalities and rate them, is, I think, an excellent suggestion. It's difficult for all the state and local agencies to have on hand the requisite expertise to make informed comparisons and evaluations of these products. — *Mike Fishburn (TNRCC)*

The joint theme of the conference, "Programs And Progress", reflected well the scope of many of the papers. Better and more detailed inventories (especially with respect to uncertainties and temporal/spatial allocation), rather than innovative technologies and methodologies, showed the maturing of emission inventories. In-depth presentations of fugitive dust as the major source of PM-10 in the U.S. were especially interesting to me because of my experience in this area. — *Mary Ann Grelinger (MRI)*

It was a chance for the community to share views and is a forum that should be considered for the future. The technical seminars that I attended were very good. I would encourage the conference to try to get papers that go beyond plug and chug uses of existing regulatory data sets and models, and that deal with critical issues of methodology (e. g., how to report variation in emissions, precision and accuracy of test methods, interpretation of data, data transfer, etc.). — *Anonymous*

It was interesting to get a picture [of] how the emission inventories are managed and [are] pulled into policy decisions. However, the information about EIIP progress and some of the computer software presentations were the only places that I felt that industry was a part of the target audience. As always, the most useful and enjoyable part of the conference was meeting folks from all different areas and exchanging information face to face in a very informal way. — *Donna Bust, (Naval Facilities, EFA-NW)*

Overall, the conference was excellent. . . . I would like to see a single, separate session next year devoted to PM — possibly subdivided into monitoring, modeling and actual inventory issues. . . . My only negative was the overwhelming amount of time devoted to mobile emission inventories — I would be more careful in future conferences to prevent a single issue from dominating. — *Bob Wayland (SAIC)*

I was most impressed by the variety of materials presented during the Emission Conference. It is amazing what is being accomplished. There were many presentations on studies to help develop emissions estimates and many ways to quality assure and use the data. . . . My most memorable experience, however, was a discussion with individuals from Canada, Austria and Australia. [They expressed to me] that whether I accepted it or not, the US EPA was an international leader in environmental protection. . . . [and they were] amazed with how well our states work with the US EPA and share information. . . . This experience has given me a better appreciation of what US EPA has accomplished and our international influence. — *Ellen Baldrige (US EPA)*

Mike Fishburn summed up his impression of the 1995 AWMA Emission Inventory Conference this way:

I left the conference feeling energized and recommitted to another year of emissions inventory work. I was re-convinced [that] week, with the help of my fellow professionals, that what we are doing in Emissions Inventory is interesting, meaningful, and worthwhile. I hope that I can return next year.

The *CHIEF Newsletter* staff would like to thank all the respondents who gave us their input. We hope that next year's emission inventory conference in New Orleans will prove to be as successful as this one was. See you there! ✍

EIIP: WHAT IT IS . . . AND WHAT IT ISN'T

The Emission Inventory Improvement Program (EIIP), begun in 1993, is sponsored and funded by the State And Territorial Air Pollution Program Administrators (STAPPA) and the Association Of Local Air Pollution Control Officers (ALAPCO), with committee membership from state and local agencies, industry, and EPA. The goal of the EIIP program is to obtain cost-effective, reliable inventories by improving the quality of emissions data and by developing systems for collecting, calculating, storing, and reporting these data.

Toward this goal, EIIP has license to be involved in most areas related to the emission inventory process. However, decisions made by the EIIP Steering Committee and its Working Committees have considerably narrowed the scope of the program. The decisions to limit the program have been based on the amount of resources available, on existing programs already addressing various inventory issues, and on the expertise available on the various Working Committees.

EIIP has chosen to take advantage of existing information. It is not equipped to perform or sponsor research. EIIP assembles all available information pertaining to estimating emissions from a particular source category (e. g., boilers). A committee then chooses the most appropriate procedures, standardizes their presentation, and describes the circumstances under which it is appropriate to use each choice. Users select which methods to use, based on particular circumstances and on the ultimate use of the data. If a research need is identified, a request will be made on appropriate research organization.

EIIP does not develop new emission factors, neither will EIIP documents replace AP-42 (see related article, page 7). EIIP relies on emission factors developed by other groups and made available in AP-42. Users of EIIP documents are referred to the appropriate section(s) of AP-42 for selecting emission factors or for detailed process information.

EIIP is developing a process for exchanging emissions data among various user groups (e. g., state to state, state to EPA, state/EPA to the public). EIIP is not developing a data management system. EIIP data format and transfer protocol will be independent of the sending or receiving group's data management system. An organization providing emissions data to another group will convert its data to a standard format and then make the file available for public access. The receiving organization will convert from the standard format to its system format and will use data as if generated internally. These procedures will allow each group to continue using its own data management system and will require only that a converter be built to change to and from the standard transfer format.

EIIP will provide standardization and predictability to the inventory process, while allowing an organization to meet its needs in the most cost-effective manner. By selecting EIIP procedures, group-to-group consistency will be enhanced. Adopting the EIIP data format and transfer protocol will expedite movement of data from location to location and will simplify data processing. For more information, contact Steve Bromberg, (919) 541-1000. ✍

RAMP EMISSION INVENTORY UPDATE

The Russian Air Management Project (RAMP) is making great progress in the emission inventory area. Radian Corporation has work assignments to work cooperatively with Russian officials to develop an area source and point source inventory for a selected study area in Volgograd and then to compare methods and results used there and the United States. The next step is working with Russian Federation authorities to determine if any of the methods used in the U. S. are valid and compatible for use by them in their national inventory efforts. Radian is being assisted in the Volgograd portions of the effort by Institute Agroproject, in Volgograd, and at the national level by the Scientific Research Institute For Atmospheric Air Protection, in St. Petersburg. Both institutes are serving as Radian subcontractors and are "privatized" institutions that were previously part of the government structure; thus, cooperation with local government officials in Volgograd and with the Ministry officials in Moscow has been very good.

Jim Southerland, the EPA work assignment manager for the inventory work, has coordinated closely with the Russians. He and Radian representatives have reviewed the first draft of the area source work in St. Petersburg and have discussed steps for assisting the Russians in adopting appropriate U. S. methods and factors to improve Russian efforts, which are now being considered in the Duma (legislative body). Work is expected to continue at least through next summer, as some potential verification sampling by Radian cannot be completed until the warmer season. Some reports from the area and point source work done in Volgograd are expected before the end of the calendar year. These report results are to be compatible, and in consonance, with work on "low cost measures" being done in Volgograd by Science Application International Corporation and others. Other aspects of air quality management being studied and discussed as part of the overall RAMP program. For more information, contact Jim Southerland, (919) 541-5523. ✍



DOES EIIP REPLACE AP-42?

No! Documents produced by EIIP do *not*, and are not intended to, replace the *Compilation Of Air Pollutant Emission Factors*, AP-42. The documents are complementary.

Upon reading, one should see little similarity between the two documents. While both contain small amounts of overlapping material, they are written for different purposes and for different primary audiences. The EIIP document presents a brief overview of the process to be inventoried and then describes input variables needed to estimate emissions. There is a major section devoted to calculations. The EIIP Procedures documents provide guidance on estimating emissions.

The AP-42 section contains more process description detail. It includes a complete reference section and only briefly discusses required calculations. An analogy to comparing the two documents would be equating *DOS For Dummies* and the *MS DOS Manual*. *DOS For Dummies* is written so that the user can make the computer work. The *DOS Manual* is for those who want to understand the details of both how and why the computer works. Similarly, the EIIP document provides details on how, and what to do, to make an emission estimate. AP-42 provides process information in greater detail for the person requiring such knowledge.

The EIIP document provides a selection of methods for making emission estimates and says what data are needed to make the estimates and where needed information is found. AP-42 is the current source of emission factors (referenced by the EIIP documents) and is also a companion reference for those who want a fuller description of a particular process.

It has been suggested that the two documents should be combined. Such an action would diminish the usefulness of each. Placing EIIP procedures in AP-42 would defeat the purpose of providing simple, straightforward instructions. Rather than getting brief, concise help on how to make an emission estimate, a user would be faced with the "world's knowledge" on a particular source. As technology allows, though, the two documents may become electronically linked (providing the user with the best of both).

Combining the two would also diminish the usefulness of AP-42. Now it is considered a complete reference for emission factors. Adding calculations and other miscellaneous information would detract from its main mission and would make it more difficult to keep current.

Each document fills a requirement in the inventory community. The overlap in process descriptions is positive in the sense that it bridges the two sources of information. ✍

FIRE 5.0 SOURCE CLASSIFICATION CODE LIST

The *FIRE Version 5.0 Source Classification Code And Emission Factor Listing For Criteria Air Pollutants*, EPA-454/R-95-012, is now available. This report provides Source Classification Codes (SCC) and uncontrolled emission factors from the EPA's Factor Information Retrieval (*FIRE*) System, Version 5.0, July 1995, for use in the estimation, storage, and retrieval of point source data on air emissions. Codes and factors are presented for the seven criteria pollutants. This document updates and replaces the March 1990 *AIRS Facility Subsystem Source Classification Codes And Emission Factor Listing For Criteria Air Pollutants*, EPA-450/4-90-003. The main goal of this document is to assist state air pollution emission inventory personnel preparing air emissions data for submission to EPA, as required by Part 40 of the *Code Of Federal Regulations*.

The *FIRE* version 5.0 factors, for the most part, are taken directly from the AP-42 Fifth Edition. In certain cases, however, they may be based on the similarity of a process to one for which emission information does exist. Factors presented in the document are uncontrolled, unless the SCC description specifies otherwise. For both controlled and uncontrolled sources, the user is encouraged to use any valid site-specific data before using the average emission factors presented in the document. For a controlled facility, it is hoped that a source test or a control efficiency estimate would be available.

The SCC list used in this report is up to date and is compatible with the point source codes used in EPA's *AIRS Facility Subsystem* as of June 1995. The *AIRS Facility Subsystem* is to be periodically updated using the *FIRE* emission factors, and new SCCs are also added (without emission factors) as needed. Periodic updates of both the *FIRE* emission factors and the SCC list will be on the *CHIEF* BBS as part of the *FIRE* data base updates. To make comments, suggestions, or queries regarding the report, contact Ron Ryan, (919) 541-4330. ✍

RECENT LOSSES

We regretfully report that Robin Barker Jones, 32, of Midwest Research Institute passed away on July 27. Robin's family has established a scholarship in her honor at North Carolina State University, administered by Thomas Worth, P. O. Box 5281, Greensboro, NC 27435. Robin was the project leader for the development of, and technical support for, the *TANKS* data base. Robin will be greatly missed professionally and personally, and our sympathies go to her surviving family members.

We also sadly note the sudden passing, on Aug. 19th, of Tom Lahre, 48, a long time OAQPS colleague known to many readers of this Newsletter. Tom gave a score of years to the Agency in several important positions, including staffing AP-42 and launching the *Locating And Estimating* series of toxic pollutant documents. Our sympathies go to his widow, Linda, and to their daughter, Kirsten. ✍



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Emission Factor And Inventory Group

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