United States
Environmental Protection
Agency

Air Risk Information Support Center
Research Triangle Park, NC 27711

EPA 450/3-89-32
September 1989

Air

EPA

AIR RISK INFORMATION SUPPORT CENTER

Status Report
February 1988 - June 1989

Air RISC

INFORMATION SUPPORT CENTER

AIR RISK INFORMATION SUPPORT CENTER

STATUS REPORT

FEBRUARY 1988 - JUNE 1989

PREPARED FOR

AIR RISK INFORMATION SUPPORT CENTER

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Background

The Air Risk Information Support Center (Air RISC) was initiated in early 1988 as a new EPA-sponsored technology transfer effort which would focus on providing assistance to State and local environmental agencies and to EPA Regional Offices in the areas of health, risk, and exposure assessment for toxic air pollutants. Provision of technical assistance to the State and local agencies is the key to the greater regulatory role for these agencies as envisioned in the EPA's National Air Toxics Strategy announced in 1985. Because there is an increased emphasis on control of toxic air pollutants as a shared responsibility between EPA and the State and local agencies, EPA has responded by developing new programs to provide such technical information and expertise. The Control Technology Center (CTC) and the National Air Toxics Information Clearinghouse (NATICH) are examples of other technical assistance programs involved in air pollution control.

Although public promotion of the Air RISC did not begin until mid-1988, and contractual arrangements in support of the Air RISC hotline were not in place until mid-1988, the initiation of Air RISC dates to February 1988. In February 1988, the first meeting of the Air RISC Steering Committee took place. Also in February 1988, requests for assistance to Air RISC began to be recorded and maintained in permanent records. This Status Report on Air RISC activities covers the period from February 1988 through June 1989. Its intended audience is the Air RISC Steering Committee, the Office of Air Quality Planning and Standards (OAQPS), the Office of Health and Environmental Assessment (OHEA), the Center for Environmental Research Information, the other participanting EPA offices (Health Effects Research Laboratory and the EPA Library at Research Triangle Park), the State and Territorial Air Pollution Program Administrators (STAPPA), and the Association of Local Air Pollution Control Officials (ALAPCO).

Organization of Air RISC

The Air RISC was initiated by the Pollutant Assessment Branch (PAB), OAQPS, and the Environmental Criteria and Assessment Office-Research Triangle Park (ECAO-RTP), OHEA, and in cooperation with STAPPA/ALAPCO, in order to formalize and expand the assistance to State and local air pollution control agency personnel that had previously been provided on an ad hoc basis by EPA staff. Air RISC adopted an organizational structure analogous to that used by the CTC. This involved establishing a Steering Committee composed of five voting members from the OHEA, six voting members from the OAQPS and one voting member from the Center for Environmental Research Information (CERI). One advisory member each from the Health Effects Research Laboratory, STAPPA/ALAPCO, EPA Regional Offices and the EPA Library also sit on the Steering Committee. A chairperson and chairperson-elect are appointed and the Chair rotates between OAQPS and OHEA on a fiscal year basis.

The Steering Committee met for the first time in February 1988. The committee meets on a monthly basis to discuss policy and budgetary matters, as

well as future projects to be undertaken by Air RISC. Its purpose is to provide oversight and direction for the program. Details of the operating procedures of Air RISC are included in Appendix 1 as adopted by the Steering Committee. The first meetings were held in the Research Triangle Park area. By late summer, the committee agreed to hold the meetings via a monthly conference call. In February 1989, the Committee held an all-day session in order to review and plan for the coming year.

In addition to the Steering Committee's operating protocol, several other operating guidelines have been adopted by the Steering Committee. Recognizing the importance of coordination within EPA, a set of guidelines were drafted concerning Regional Office Coordination. These procedures require that the Regional Offices be represented by an advisory member on the Air RISC Steering Committee and that the Regional air toxics contact be copied on all written responses to Air RISC questions. If it is determined that a person calling the Air RISC Hotline with a request has also contacted the Regional Office, Air RISC will coordinate its response with the Regional Office. In addition, the Regional Coordination procedures require that Air RISC send a quarterly report tabulating all requests for assistance from each Region to the Regional Office. The Air RISC Regional Office coordinating procedures are included in Appendix 2.

Minutes of all meetings are prepared and distributed to Steering Committee members, management of the EPA Offices involved, Regional Air Toxics staff, Regional Office of Research and Development staff, representatives of the Air Toxics Subcommittee of STAPPA/ALAPCO, the Chairpersons of the CTC, and other interested offices within EPA.

The Air RISC program develops support materials to aid the health risk assessment process of State and local agencies and EPA Regional Offices on a very broad range of risk assessment topics. As requests for assistance come in or ideas for technology assistance are developed, the Air RISC Steering Committee reviews the level of assistance needed and develops guidance or assistance projects. Therefore, an important topic that has been the subject of much discussion among Steering Committee members is the review of Air RISC products. Recognizing that both scientific credibility and timeliness are critical to the Air RISC service, it was considered important to develop a mechanism for review of Air RISC products that ensured the former without compromising the latter. Thus, a general guideline for determining the extent of review needed was developed, and a subcommittee was established to provide oversight of the review process. These procedures provide essential review and quality control for Air RISC written responses and are included in Appendices 3 and 4.

During the early planning and implementation of Air RISC, a meeting was held with the Air Toxics Subcommittee of STAPPA/ALAPCO to obtain feedback from the intended clients of Air RISC during the planning phases. At that meeting, discussion of the types of questions that could be expected from State and local agencies helped to clarify the role that Air RISC could play. The Air RISC staff continues to meet regularly (about twice a year) with the

STAPPA/ALAPCO Air Toxics Subcommittee; the same subcommittee advises the CTC and NATICH. The purpose of these meetings is both to update the subcommittee on Air RISC activities and to obtain feedback on future Air RISC projects.

In preparation for the implementation of Air RISC, four all-day staff development workshops were held in the spring of 1988. The purpose of these workshops was to provide information needed by staff who would be involved in Air RISC, to explain the concepts of various technical assistance programs within EPA, to promote awareness of other EPA information resources, and to learn about Personal and Federal Liability in answering questions in the context of this service. The programs were well-attended; reports summarizing each of the workshops are available.

Steering Committee Members

The members of the Air RISC Steering Committee as originally formed change with time due to various reasons. The names of the original committee members and those currently serving are listed below:

February 1988	June 1989
Karen Blanchard, Chair	Winona Victery, Chair
Winona Victery, Chair-elect	Daniel Guth, Chair-elect
Robert Schell, OAQPS	Robert Kellam, OAQPS
John Crenshaw, OAQPS	William Harnett, OAQPS
Michael Trutna/Martha Keating, OAQPS	Michael Trutna/Martha Keating, OAQPS
Michael Dutzetzina, OAQPS	Melissa McCullough, OAQPS
Robert Kellam, OAQPS	Karen Blanchard, OAQPS
William Ewald, ECAO-RTP	William Ewald, ECAO-RTP
Cindy Sonnich-Mullin, ECAO-CIN	Cindy Sonich-Mullen, ECAO-CIN
Richard Walentowicz, EAG	Richard Walentowicz, EAG
Charles Ris, CAG	Charles Ris, HHAG
Doug Williams, CERI	Doug Williams, CERI
Advisory	
Joseph Elder, HERL	Joseph Elder, HERL
Elizabeth Smith, EPA Library	Elizabeth Smith, EPA Library
Joann Held, NJ Dept. of Env.	Joann Held, NJ Dept. of Env.
Margaret McDonough, Region I	Fran Dougherty, Reg. III

Announcement of Air RISC

When the Air RISC service was first offered for use to State and local agencies and Regional Offices, its availability was promoted by word of mouth only to allow Air RISC staff to test draft procedures, demand, and capability for quick response. Increased effort to promote Air RISC was undertaken

beginning in mid-1988 which included written articles, brochures, and presentations. The following activities have been used to promote Air RISC:

- Brochures produced and mailed to State and local Agencies — July 1988
- Article in NATICH Newsletter announcing Air RISC — July 1988
- Letter to State/local Air Directors — September 1988
- Articles on Air RISC in NATICH Newsletters — November 1988, December 1988
- Presentations at National and local chapters of Society for Risk Analysis — November 1988, December 1988
- Letters to State/local Air Directors on Workshops — February 1989
- Presentation to National Technical Guidance Workgroup and Superfund Air Contacts — February 1989
  - Denver — March 1989
  - Baltimore — April 1989
- Air RISC Workshops on Risk Assessment & Risk Communication — May-June 1989
  - Raleigh
  - Wisconsin
  - California
- Paper presented at AWMA Annual Meeting — June 1989

Each of these presentations has introduced the Air RISC to additional potential clients and these activities have led to a fairly constant level of use of Air RISC by the intended clients over much of the first year of Air RISC operation.

Assistance Provided by Air RISC

The Air RISC is patterned after the CTC in that three levels of assistance are available:

- Hotline
- Detailed Technical Assistance
- General Technical Guidance

The Air RISC provides support for a wide range of activities. This support includes, but is not limited to, the following:

1. providing health and risk assessment information for chemicals being evaluated in the permit review process;

2. ensuring telephone access to EPA experts as an initial quick response to individual problems;

3. providing review of and/or consultation on site-specific risk assessments or urban air toxics evaluation; and

4. providing guidance on current methods available to conduct health, exposure, and risk analyses.

Hotline

The primary purpose of the Air RISC Hotline is to provide an initial quick response based upon available health and exposure information available through the expertise of EPA staff, EPA resources (documents, databases, and other means) and its contractors. The Hotline can put the requestor in direct contact with experts in a variety of areas or identify other appropriate information resources.

The Air RISC Hotline telephone number is: (919) 541-0888 or (FTS) 629-0888. The Hotline operates Monday through Thursday from 8:00 a.m. to 5:00 p.m. and Friday from 8:00 a.m. to 4:00 p.m. Anyone on the staff of a State or local air pollution control agency or in an EPA Regional Office can call the Hotline to request assistance.

The telephone line is staffed by EPA staff either in the PAB, OAQPS or in the ECAO-RTP. The person receiving the call answers with his/her expertise or determines who best can handle the question and transfers the responsibility to another staff person. Most calls can be handled this way, others may be referred to the other contributing offices, to the Health Effects Research Laboratory scientists, to the Office of Toxic Substances, or some other Agency program if appropriate. The Air RISC and the CTC have developed guidelines for coordination of Hotline requests.

Technical Assistance and Guidance

In some cases, an in-depth evaluation and/or retrieval of information may be more appropriate than a rapid response. In this case a detailed technical assistance project may be initiated. Consideration is given to resource availability and the length of time required to respond to the request. Detailed technical assistance projects have included the following:

a. assistance in understanding exposure and risk assessment methodologies,

b. review and interpretation of toxicological literature,

c. review of site-specific exposure assessments, risk assessments or both for adequacy of methods used and related interpretation features.

General technical guidance offered by Air RISC addresses topics involving health, exposure, and risk assessment issues that appear to have broad national interest. These topics may be identified from information requested by State and local agency staff through the Hotline or by input from EPA staff or the Air RISC and the CTC Steering Committee.

Air RISC Activity

Requests for assistance include calls to the Air RISC Hotline as well as calls directly to staff members that are documented. Although calls are considered to be Air RISC calls only if they are from State, local, or Regional Office personnel and concern health, exposure, or risk assessment of air toxics, calls to the Hotline from other sources or on other topics are also documented. Calls received are logged in by the receiver; information is stored in a data base developed by ECAO-RTP specifically for recording technical assistance. This data base is stored on personal computers at PAB and ECAO-RTP. An example of the Technical Assistance Response Program screen is included in Appendix 6.

For the period covered by this Status Report, the information on all calls logged in during the period of February 1988 to June 1989 were collected and tallied for type of agency (State, local, Regional, Federal or other), by States, by regions, by pollutant, by subject matter, by response time, etc. The total number of calls logged in for this period was 662.

Figure 1 depicts the number of Air RISC calls per month over the first 16 months. An average of 41 calls each month have been documented.

The origin of Air RISC calls is depicted in Figure 2. State agencies constitute 54 percent, EPA Regional offices make up 21 percent, with local agencies having 14 percent. The remaining calls come from Federal agencies (5 percent) and from other sources (6 percent). Thus, 89 percent of these Air RISC calls originate from the intended client community. Many other calls from private citizens or Federal government are received and handled but are not documented as Air RISC unless received on the Air RISC Hotline number.

At the completion of each call, the responders enter the estimated time spent handling the response. The average time spent responding to Air RISC calls is greatest for calls received from State agencies (2.0 hours/call) followed by local agencies (0.95 hour/call) and Regional Offices (0.94 hour/call). The median time spent in responding to calls was 0.5 hours and 38 percent of the calls required less than 20 minutes of Air RISC staff time for the response. Time spent has ranged from 0.1 hour to over 100 hours. Ninety percent of calls required 2.0 hours or less.

An important measure of the value of the Air RISC service is the extent of usage of the service by its intended clients. Figure 3 shows the distribution of State agencies that have made requests of Air RISC. A total

Figure 1. Air RISC Calls
Feb. 88 – June 89

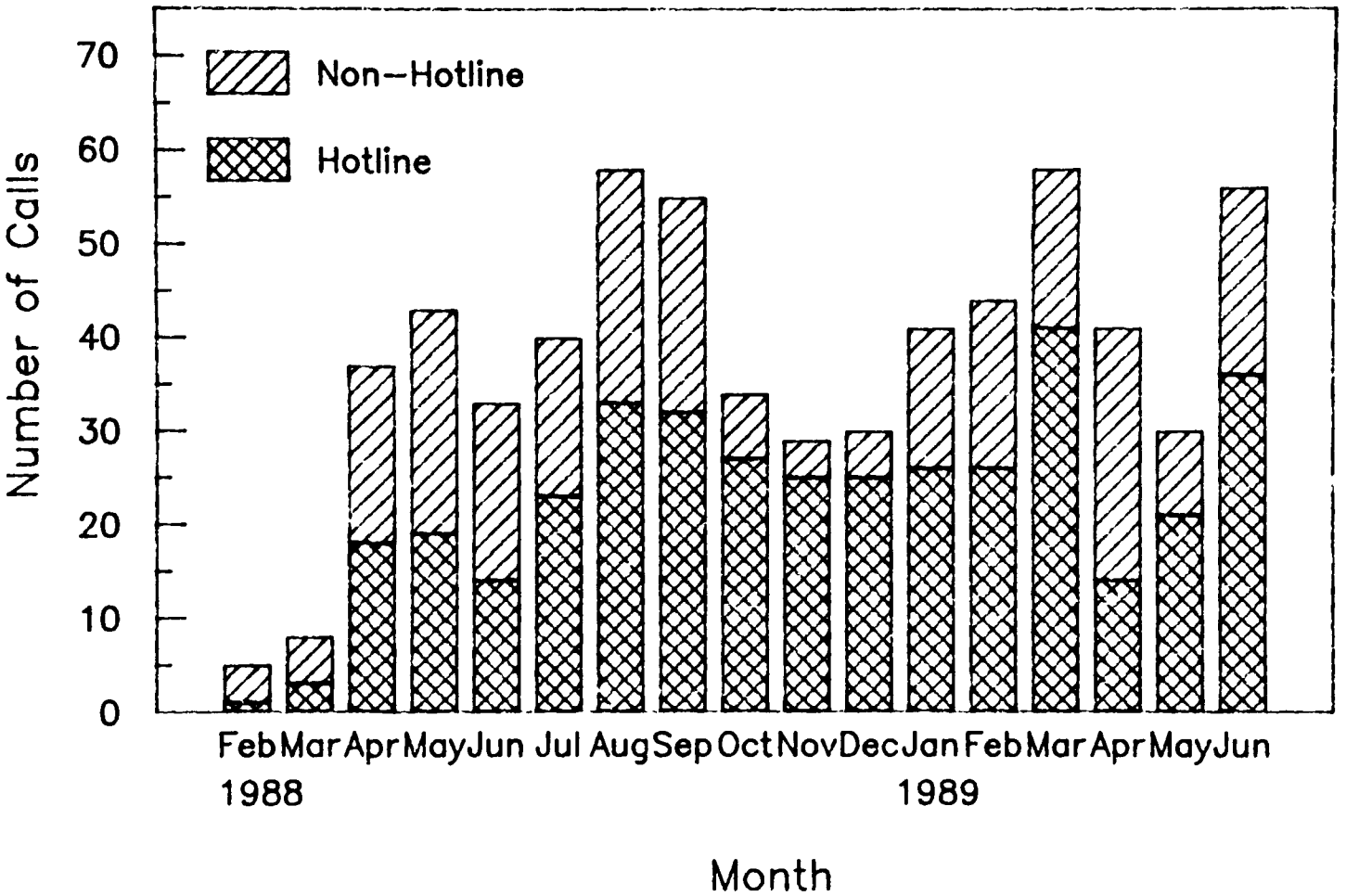


Figure 2. Origin of Air RISC Calls Feb. 88 – June 89

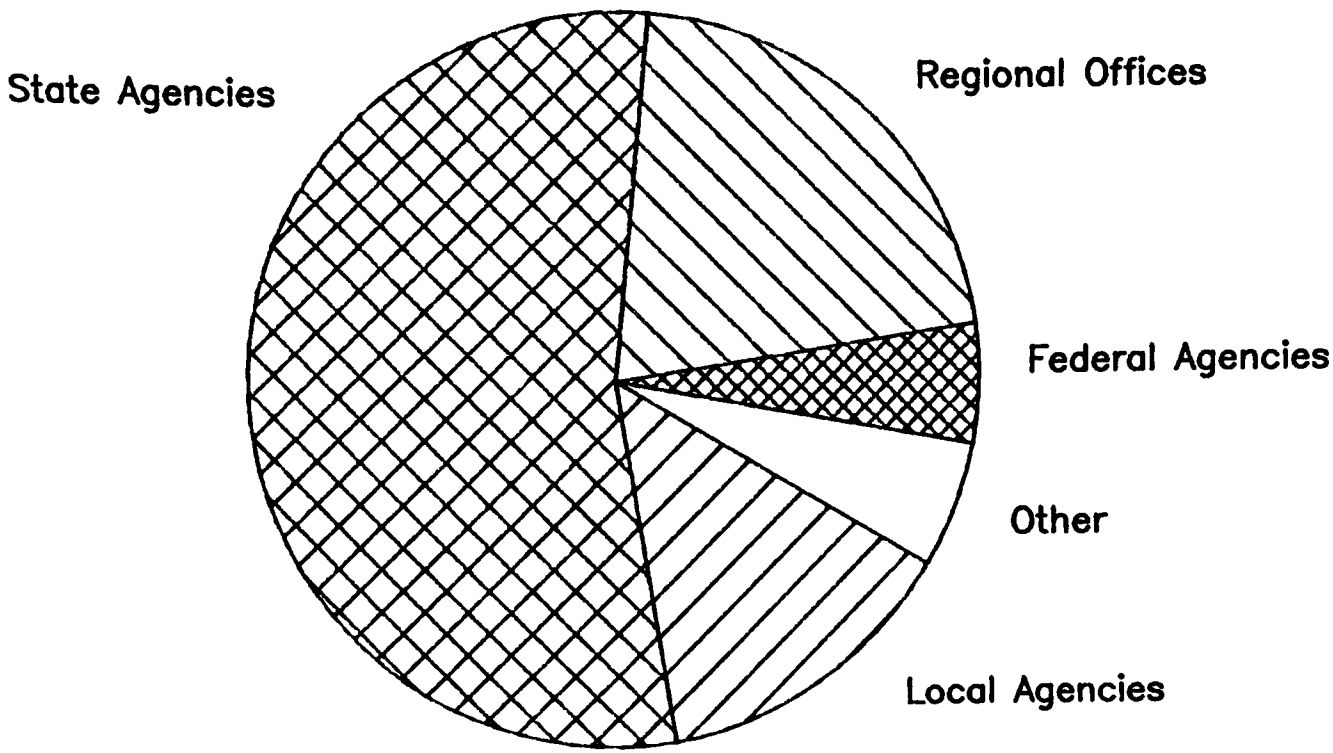
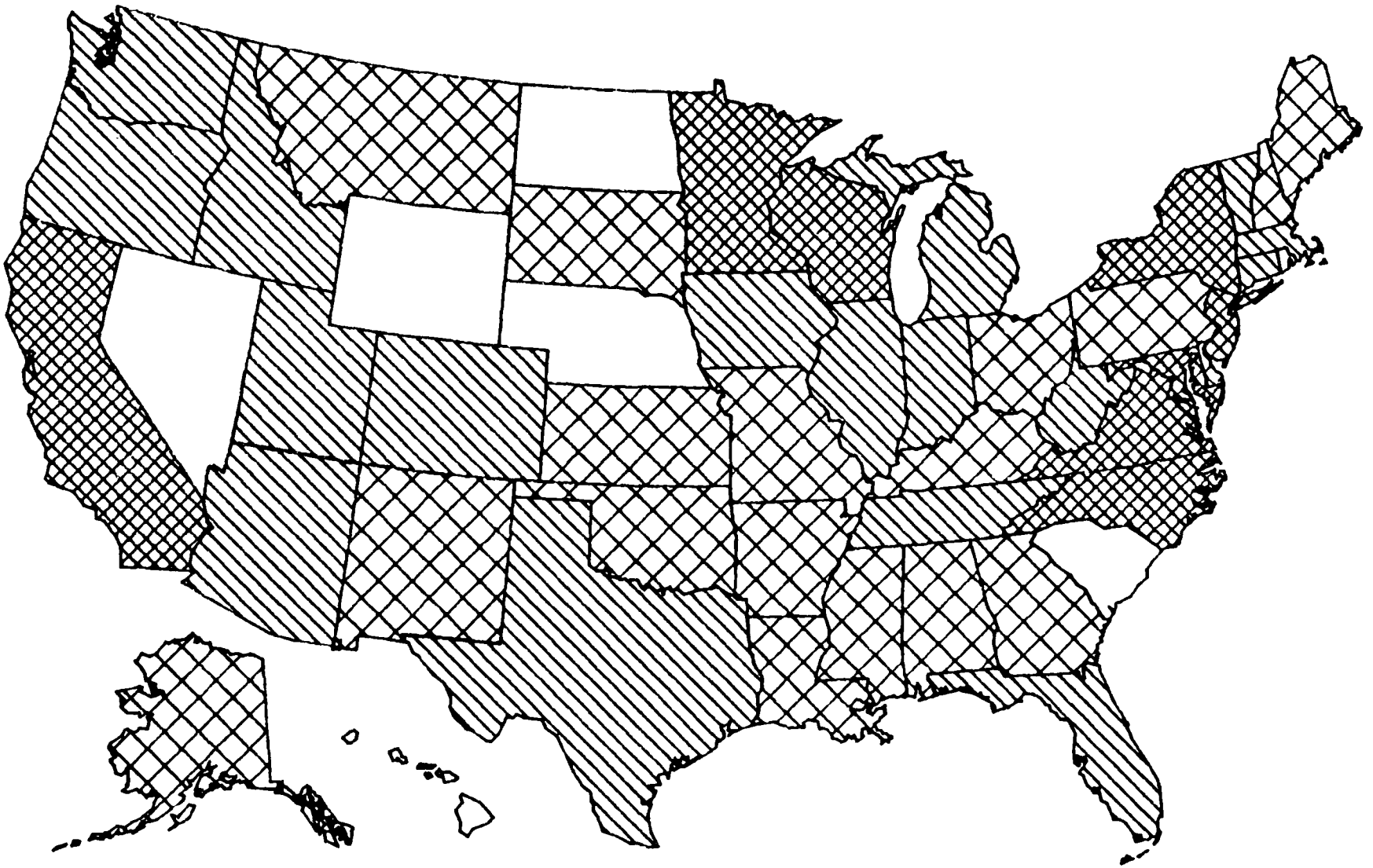


Figure 3. Air RISC Calls From State Agencies



of 65 different State agencies (mostly environmental regulatory and public health agencies) from 44 States have received assistance from Air RISC. Eight States have made more than 10 requests and 17 States have made 5 to 10 requests. It appears that Air RISC has successfully reached this segment of its intended clients, based on the number and distribution of calls.

Figure 4 depicts requests from local agencies. Calls have been received by Air RISC from 52 different local agencies in a total of 25 States. Very few (7) of these agencies have made more than two requests. It may be necessary to determine reasons for this. Perhaps it may be due to a small number of local agencies with large air toxics problems, or local agencies may be a segment of the Air RISC client base that has not been effectively reached.

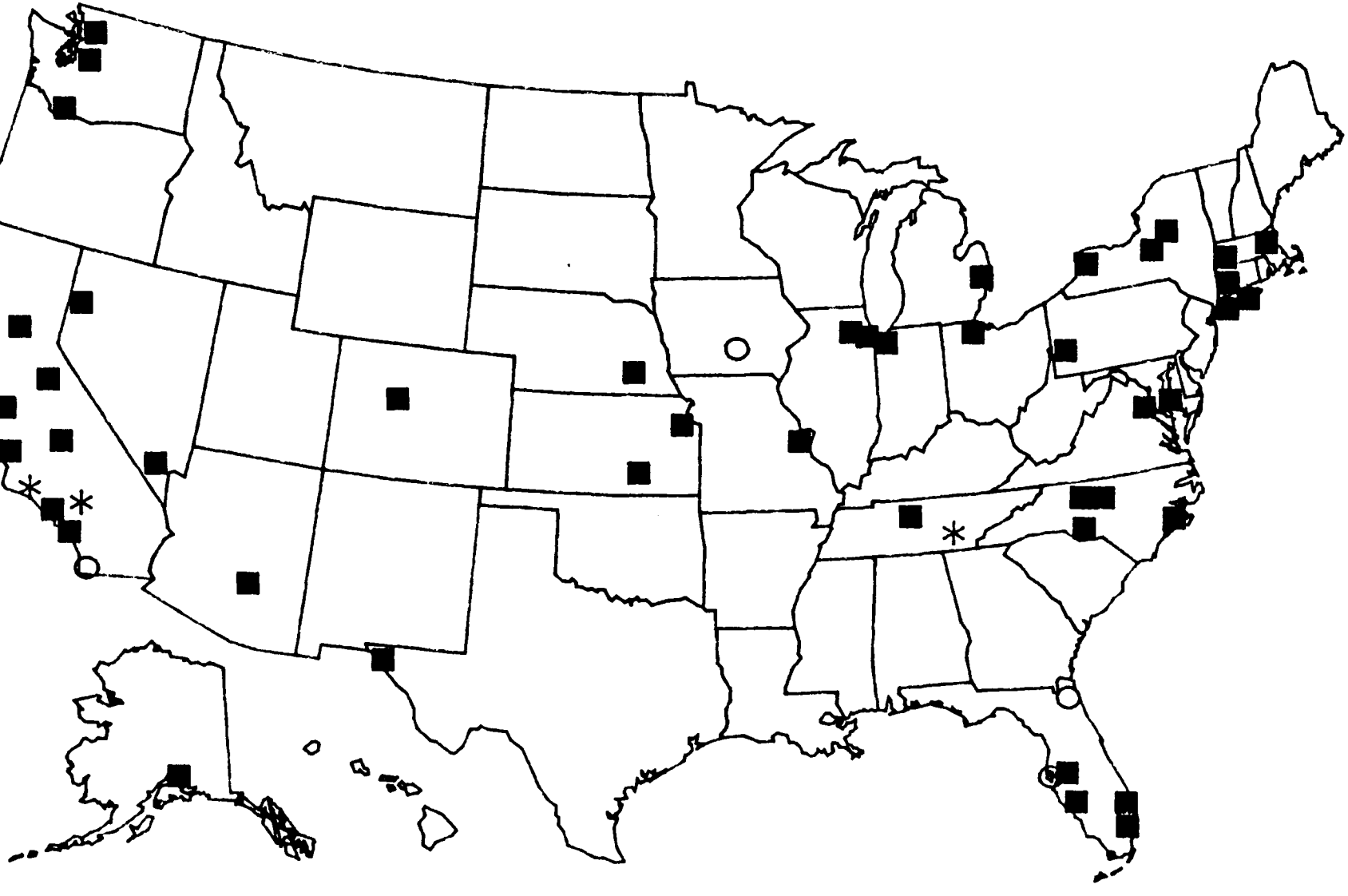
Requests from the EPA Regional Offices are shown in Table 1. The number of calls from individual regions range from 2 in Region VII to 26 in Region V. This disparity suggests that the Regional Offices have not been consistently reached or that the Regional Offices have the expertise to solve their air toxics problems.

Table 2 lists pollutants about which questions were asked, as well as the number of calls received about the pollutant. This list does not reflect the actual extent of information requested in the Air RISC calls since many requests were for information on more than one pollutant. In these cases, the pollutants are listed individually in the data base but only the first chemical listed is summarized in this Table. It is clear, however, from the table that the range of pollutants about which information is being requested is very large. Approximately 120 individual chemicals have been encountered in the current log of Air RISC calls, about half of which have had a single request concerning them. A large fraction of the calls involve questions regarding complex mixtures of chemicals.

TABLE 1. Use of Air RISC by EPA Regional Offices, February 1988 Through June 1989

Region	Number of Calls
I	11
II	8
III	18
IV	6
V	42
VI	12
VII	6
VIII	14
IX	7
X	15

Figure 4. Air RISC Calls From Local Agencies



Number of Calls Received, Feb. 88 – Feb. 89

■ 1 – 2 ○ 3 – 5 * over 5

TABLE 2. Distribution of Air RISC Calls by Pollutant[1]
February 1988 through June 1989

Pollutant	Number of Calls
Dioxin	27
Asbestos	18
Benzene	17
Styrene	16
Formaldehyde	14
Methylene Chloride	13
Chromium	13
Hydrogen Sulfide	11
Arsenic	10
Mineral Fibers	10
Hydrogen Chloride	9
Perchloroethylene	8
Chloroform	8
Lead	7
Fiberglass	7
PCBs	7
Chloropyrofos	6
Trichloroethylene	6
Mercury	5
Metals	5
Ethylene Oxide	5
Toluene	5
Ammonia	5
Methyl Chloroform	4
Gasoline	4
Toluene diisocyanate	4
Asphalt	4
Benzo(a)pyrene	4
Creosote	4
CFC	4
Methanol	4
Isocyanates	4
Boron and and Compounds	3
Coal	3
Nickel	3
Triethylamine	3
Arsine	3
Cadmium	3
Chlorine	3
Furans	3
Beryllium	2
Dimethyl Formamide	2

[1]Many questions refer to several pollutants. Only the first chemical listed in entered in the table.

TABLE 2. Distribution of Air RISC Calls by Pollutant[2] February 1988 through June 1989 (Continued)

Pollutant	Number of Calls
Nitrobenzene	2
Particulate Matter	2
Xylene	2
Butadiene	2
Carbon Disulfide	2
Chlorobenzene	2
Ethylene Dichloride	2
Fly Ash	2
Methyl Bromide	2
Phosgene	2
PAH	2
Combustion Products	2
Hexachlorobutadiene	2
Chemicals with a single entry	63
General questions	88
Questions regarding complex mixtures	167

Table 3 provides a listing of the distribution of subject areas of the calls for this reporting period. Some of the topics included are within the scope of health risk assessment while other subjects are listed by type of source, industry, or process. For some calls, both of these pieces of information are available, but for most, only one or the other is available. The subject is listed by source type first whenever that information is available. Many calls are recorded under the general categories such as health effects, unit risk estimates, documents, or regulatory status. Over 100 different source types have been listed, most with only one or a few requests.

[2]Many questions refer to several pollutants. Only the first chemical listed in entered in the table.

TABLE 3. Distribution of Air RISC Calls by Subject February 1988 - June 1989

Subject	Number of Calls
Health Effects	86
EPA Documents	47
Unit Risks	46
Cancer Risk Assessment	39
Regulatory Status	30
Inhalation RfD	25
Risk Assessment	23
Hazardous Waste	18
Ambient Air Guidelines	17
Burning (Misc. Substances)	17
Air RISC	17
Indoor Air	16
Municipal Waste Combustion	15
Superfund Site	13
Air Toxics Programs	13
Exposure Assessment	10
Hospital Waste Incinerator	8
Risk Communication	7
Source Identification	7
Ambient Monitoring	6
Treated Wood	6
Pulp and Paper	5
SARA 313	4
Waferboard Mfg.	4
Coking Operations	4
Gasoline Marketing	4
Emissions Inventory	4
Painting	4
Pollutant Prioritization/MHAPPS	4
EPA Project Status	4
Atmospheric Fate	3
Asphalt Production and Use	3
Electroplating	3
Coal and Oil Combustion	3
Sand Blasting	3
Mining	3
NATICH	3
Publicly Owned Treatment Works	3
State Program Information	3
Tire Burning	3
Toxic Equivalency	3
Sterilizers	3
Air Quality Trends	2
Electronics	2
Epidemiology	2

TABLE 3. Distribution of Air RISC Calls by Subject February 1988-_ June 1989 (Continued)

Subject	Number of Calls
Landfill Emissions	2
List of Carcinogens	2
Cooling Towers	2
Welding	2
Woodsmoke	2
Treshold Limit Values	2
Emission Factors	2
Gold Processing	2
Odor Thresholds	2
Waxman Press Release	2
Dry Cleaning/Degreasing	2
Subjects with a single entry	105

Table 4 lists the projects that have been initiated using the quick response Hotline support mechanism. This mechanism allows for the use of contractor support for projects requiring a two or three week turn around and is used when EPA staff are not available to do the research or review needed for a quick response. This mechanism has been a vital tool for the Air RISC Hotline and has allowed for quality and timeliness in responses in some cases that would not otherwise have been possible.

TABLE 4. List of Projects Using Quick Response Hotline Support Contractors

Project
Review of Draft Health Impact Protocol from Incineration - Quincy, MA
Comparison of Upper Bound Confidence Limit and Maximum Likelihood Estimate
Review of Carbon Disulfide Document for Virginia
Review of Aluminum Facility Exposure Assessment
Hexachlorobutadiene - Health Effects
Triethylamine - Health Effects
Coal Dust - Health Effects
Butyl Cellusolve - Health Effects
Review of Aluminum Facility Health/Risk Assessment Plan
Review of Toxicity of Alkanes and Alkenes - for MA DEQE

TABLE 4. List of Projects Using Quick Response Hotline Support Contractors (Continued)

Carcinogenicity Data for List of Chemicals for Kentucky Air Toxics Program
Review of Risk Assessment Work Plan for Point Source for Chattanooga-Hamilton County
Review of Exposure Assessment Portion of Gasoline Document
Review of NH Method for Deriving Ambient Air Guidelines
Summaries of Toxicity Data for 7 Chemicals for Oregon State Agency

Air RISC Data Base

The data base is used both as a means to store information and as a source of information. Extensive use of the data base has been made by Air RISC staff in responding to requests when a similar request had been received previously. The data base is also used as a management tool for reviewing and reporting on the status of the calls to Air RISC, the clients using Air RISC, the subject of the calls, and the time spent by EPA staff on Air RISC activities. During the period covered by this report, February 1988 through June 1989, 662 calls were entered into the Air RISC data base. A more detailed description of the development and capabilities of the Air RISC Data Base is included in Appendix 5.

As the number of records grow in the data base, there are many interesting and important issues in health, exposure and risk assessment entered in the database. A few questions have suggested the need for compilation of information on certain sources (e.g., tire burning, asphalt fumes). Some have resulted in collaborative efforts within the Agency to provide information to a State involved in regulating a specific site (air emissions of carbon disulfide from a rayon manufacturing facility) and developing and verifying a Inhalation Reference Dose for the pollutant. Some have raised questions that led to research efforts that are involving scientists in the AEERL and HERL (burning of and mutagenicity testing of agricultural black plastic, determination of combustion products of tire burning). Frequently, projects can be coordinated with the CTC resulting in a better overall effort (characterization of emissions followed by exposure modelling and then estimation of risk from complex sources). Certainly, the database could provide guidance for evaluation of areas of particular concern to the State, local and Regional air toxics staff. This is an area for future investigation and followup as staff time and resources permit.

Information transfer between OHEA and OAQPS has been done via diskette, although ECAO has attempted to provide a dedicated PC linked to OAQPS via modem. Because the staff at OAQPS do not all have PC's at their desks, this is awkward and needs improvement. Data entry consistency is a continuing

is awkward and needs improvement. Data entry consistency is a continuing problem and requires almost constant monitoring of the data base records. Efforts are currently underway to improve data transfer capability so that both OAQPS and OHEA staffs will have access to a complete and current file of Air RISC calls.

Technical Assistance Projects

The following section provides a brief summary and status report of completed and ongoing technical assistance projects as of the end of June 1989.

Mutagenicity of Agricultural Plastics Burning

Status: Complete

Summary: A cooperative project between the CTC and Air RISC was initiated as a result of a request from the State of Florida's Department of Environmental Regulation to CTC on emissions and health effects from burning of agricultural black plastic. The CTC funded test burns, emission sampling, and simulation of two modes of burning. The Air RISC funded the evaluation of the mutagenicity of the emissions in the Ames Test. No mutagenic activity was observed in whole vapor or vapor/particulate emissions, but concentrated organic extracts of the particulate sample were moderately mutagenic. The mutagenic activity was approximately equal, on an activity per unit heat production basis, to the mutagenic activity of emissions from residential wood burning which had been studied previously.

Product: Publication of peer-reviewed journal article.

Health Effects of Tire Burning

Status: Ongoing.

Summary: Several calls have been received by Air RISC regarding health effect of tire burning emissions and by CTC regarding characterization of emissions from tire burning. A cooperative project between CTC and Air RISC was initiated to study the emissions from tire burning and health effects related to the emissions. The CTC project involves performing a test burn and emissions sampling. The Air RISC contractor will review the health effects associated with the chemicals identified as emissions from open tire burning.

Projected Products: CTC Document on characterization of the fumes; Air RISC Document on exposure modeling and toxicity information.

Health Effects of Asphalt Fumes

Status: Ongoing

Summary: Several requests have been received for health-related information on emissions from production and various uses of asphalt. The principal

concern seems to be odor rather than any long-term health effect. The Air RISC initiated a project to review the health effects of asphalt fumes. The CTC has assisted in the initial phase of the project by providing currently available information on asphalt production and use emissions. Since the data are limited, additional emissions data may be needed. Health effects of chemicals emitted from asphalt production and use will be reviewed and summarized.

Projected Product: Publication of document on findings.

Steel Mill Health Effects

Status: Ongoing

Summary: The Region VIII office requested support from Air RISC in performing a risk assessment on a steel mill in Utah. The CTC also participated by performing a project on characterizing emissions from integrated steel mills. A draft document outlining the steel making process, the emissions produced in each phase, and the cancer and noncancer health effects of these emissions has been received from the contractor and is undergoing revisions.

Projected Product: Publication of health assessment information.

Technical Guidance Projects

Glossary

Status: Complete

Summary: A Glossary of Terms Related to Health, Exposure, and Risk Assessment for toxic air pollutants was prepared by an Air RISC contractor with substantial input from the Steering Committee. The Glossary is intended as a resource tool for State and local air pollution control agencies and EPA Regional Offices.

Product: Document; distributed to attendees at the Air RISC workshops. Additional requests for distribution will be filled by Air RISC.

Directory

Status: Ongoing

Summary: A Directory of Information Resources Related to Health, Exposure, and Risk Assessment of Air Toxics was prepared under contract with Air RISC. The directory is intended to assist State, local and Regional Office personnel in finding appropriate sources of information on these topics. The directory lists 23 information sources, both within and outside of EPA, which are designed to provide information on specific topics. Many offices within EPA that are involved in health, exposure, or risk assessment are also listed.

The publication of the directory has been delayed by several major reorganizations that have occurred in EPA offices. The directory is ready for printing.

Product: Document, containing resources for use by State and local air agencies.

Air RISC Workshops on Risk Assessment and Risk Communication

Status: Complete

Summary: The Air RISC has offered a 3-day workshop on risk assessment and risk communication for State and local air pollution control agency personnel. The workshops were held in three locations, as follows: May 23-25 in Raleigh, North Carolina; May 30-June 1 in the Chicago, Illinois, area; and June 13-15 in the San Francisco, California, area.

Since the 1987 National Air Toxics Workshops, the Agency has received many requests from State and local officials for additional training and information on these subjects. As part of the Agency's mission to support State and local air pollution control programs and personnel, the workshop on risk assessment and risk communication provided the most recent Agency approaches and information on important topics in these areas.

The objective of the workshop was to provide training in risk assessment and risk communication to state and local personnel and to meet the needs of people with various levels of expertise in these areas. The workshops provided sessions on health and exposure assessment for staff involved in many aspects of risk assessment or risk communication. For some topics in toxicology and risk assessment, concurrent sessions were held. One session provided an overview of toxicology and risk assessment for staff new to or not directly involved in evaluation of health effects. Experienced participants received lectures on pulmonary toxicology, inhalation reference dose methodology, non-cancer risk assessment, pharmacokinetics, and new concepts in cancer risk assessment. Exposure assessment lectures and discussions of the toxicology and risk assessment of chemical mixtures were presented to a joint session. A course in risk communication (initially developed by the Office of Policy, Planning and Evaluation and modified by Air RISC for State and local air agencies) was then taught in smaller group format. A combination of presentations, discussions, videotaped segments, and case studies illustrated important concepts in risk communication, including public involvement, explanation of technical issues, risk perception, conducting public meetings and dealing with the media. Attendees participated in a case study which applied material developed in the risk assessment sessions to risk communication tasks.

In preparation for the workshops, Air RISC sent announcements to State and local Air Directors, prepared and distributed about 1,200 brochures, and printed an article in the NATICH Newsletter. The draft agenda for the workshops was reviewed by the Air RISC Steering Committee and by STAPPA and ALAPCO representatives before being finalized. Logistics and preparation of

course material were coordinated with EPA and contractor staff. EPA speakers were provided from OAQPS, OHEA-DC, ECAO-RTP, and ECAO-Cinc, as well as two contractor speakers.

The workshops were attended by 161 people representing 27 different State agencies from 24 States, and 29 different local agencies, as well as EPA Regional and Headquarters Offices. Course surveys indicated a high level of satisfaction and particular interest in the risk communication portion of the course.

Odor Thresholds

Status: Ongoing

Summary: A project has been initiated by Air RISC to characterize several hundred toxic air pollutants with regard to odor detection threshold, sensory irritation, and critical target organ. Such information is envisioned as useful in relating the presence of odor or sensory irritation to the likelihood of serious pulmonary damage or damage to other organs in acute exposure situation.

Quantitative Risk Assessment Principles and Procedures: Descriptive Guidance

Status: Ongoing

Summary: A project was approved by the Steering Committee and is being defined which would provide guidance to state and local air pollution officials in performing a site-specific risk assessment for point sources.

Various quantitative risk assessment methodologies commonly used by EPA to evaluate potential carcinogenic and noncarcinogenic risks associated with air pollution will be outlined. Techniques used by State and local agencies may also be included, if possible. This will be referenced to a list of existing guidance documents, indicating areas of conflict. Issues that remain unresolved will be presented, and options and resources for completing the report will be listed.

State Assistance Risk Communication

Status: Ongoing

Summary: This project has been broken into two parts: (1) the public education materials and (2) the public participation manual.

In response to a request from a State agency, this project has been approved by the Steering Committee and is being planned. The project will provide guidance to agencies for including risk communication and public involvement as part of air toxics programs.

Air RISC Budget

The Air RISC budget summary for FY 1988 is shown in Table 5. A substantial amount of the money allocated for the Quick Response Hotline support was left unspent at the end of the fiscal year. This resulted from the delay in getting the Air RISC publicity started, and delay in getting these work assignments in place. With the exception of 3K, these work assignments were extended into FY 1989. The FY 1989 budget as of the end of June 1989 is summarized in Table 6.

TABLE 5. Air RISC Budget for FY 1988

Available Funds

OAQPS	70K
OHEA	40K
Total	110K

Expenditures

Project	Allocated	Spent	Carry Over to FY 89
Quick Response/Hotline Support	58,000	20,000	35,000*
Technical Assistance Projects			
Agricultural Plastic	5,000	5,000	
Tire Burning	10,500	0	10,000
Technical Guidance Projects			
Glossary and Directory	16,000	17,000	
Air RISC Administrative/Development			
Data base program	7,000	7,000	
Staff Development Workshops	15,000	17,500	
Meeting Minutes	500	500	
	112,000	64,000	45,000

*3K not carried over.

TABLE 6. Air RISC Budget for FY 1989

Available Funds

OAQPS	120,000
OHEA	50,000
FY 1988 Carry Over	45,000
Total	215,000

Projected Expenditures

Project	Amount
Hotline	
Quick Response/Hotline support	47,200
Technical Assistance	
Tire Burning	12,500
Asphalt Fumes	15,000
Steel Mill	10,000
Technical Guidance	
Workshops	58,000
Odor Thresholds	10,000
Site-specific Air Toxics Risk Assessment	20,000
Directory	4,000
Risk Communication	20,000
Air RISC Administration	
Data Base	6,000
Meeting Minutes	11,300
	214,000

Future Plans

After its 16 months of operation, informal feedback suggests the Air RISC is a useful mechanism for providing technical assistance to State and local agencies and EPA Regional Offices on a wide range of topics. Several areas in need of further development in the coming year are discussed below.

Promotion of the Air RISC service will continue through the existing means, and additional regular efforts are needed. Local agencies do not appear to have been sufficiently well informed of the availability of Air RISC assistance. Some Regional Offices also have made little use of Air RISC.

Improvements in the Air RISC data base are needed in order to increase its usefulness, both as a method of record keeping and as a source of information. For record keeping purposes, the data base requires some modifications, such as the use of a unique tracking number for each call, the need for and completion of Regional Office coordination, and whether the record is an Air RISC call (for records on the ECAO Technical Assistance Response Program (TARP) data base which includes other calls as well). For information purposes, the data base program needs improved searching capability. Improvement in the accessibility of the data base to all participating staff could be obtained if a single central data base was used and employed a Wide Area Network link, so that all staff in OAQPS and ECAO-RTP would work in a current single data base, rather than the duplicate data bases in OHEA and OAQPS. This is not possible with current level of computer support. Development of the procedures and programming to allow access to a central data base will continue.

Selection of topics for Technical Assistance Projects has been difficult during the first year. The majority of Air RISC requests can be answered in a short time and do not require extensive resources. Of those that would benefit from a more in-depth response, the requestors often cannot wait the necessary time for the response. The result is that relatively few individual calls are an appropriate basis for a Technical Assistance Project. An improved process for selection of Technical Assistance projects may include more outreach programs to inform the client community that this service is available and improved early review of the calls to identify potential projects.

An evaluation of the service provided to State and local agencies and Regional Offices (both in terms of the quality of the assistance provided and the results in terms of air toxics regulation and risk reduction) should be initiated and documented. Staff members who respond to Air RISC requests know that the assistance provided is appreciated and often plays an important role in a State or local regulatory decision, but a systematic evaluation has not yet been attempted. An evaluation of the quality of Air RISC assistance will be made in the next year, either by a follow-up on selected calls or by a survey of Air RISC clients. It is more difficult to assess the impact of Air RISC assistance on actual environmental risk or on risk reduction. The purpose of Air RISC is to assist State and local agencies whose primary job is air

pollution control. Results would ideally be demonstrable in terms of emission reductions from specific sources or in terms of implementation of regulatory programs which will protect the public health. Although it is unlikely that the majority of calls could be clearly linked to results measured in these terms, a significant number of calls were specifically related to such regulatory actions being taken by State or local agencies. A follow-up of selected calls might provide an indication of whether Air RISC assistance has produced such results and a review of this kind will be initiated in the next year.

Acknowledgments

Although many people have contributed to the success of Air RISC, foremost among them is Karen Blanchard, without whose work and direction the idea may not have become a reality. The development and continuing operation of Air RISC owes a great deal to the current Chair of the Steering Committee, Winona Victery. The staffs of the two lead offices, the Environmental Criteria and Assessment Office and the Pollutant Assessment Branch, who have responded to requests for assistance and assisted with other Air RISC projects have contributed greatly to the development of Air RISC and it is their continuing high quality assistance to requestors that is the basis of the success of Air RISC. Acknowledgement is also made to the participation by the members of the Steering Committee, Robert Kellam, Drs. Lester Grant and Judith Graham for providing the direction and advice that has made the Air RISC a success after only one year.

Appendix 1

Air RISC Steering Committee Operating Protocol

Air RISC STEERING COMMITTEE

OPERATING PROTOCOL

1. The Air Risk Information Support Center (Air RISC) is a cooperative effort between OAR and ORD, with OAQPS and ECAO (RTP) having lead responsibility for coordinating Air RISC activities.

2. The Air RISC will be managed by a Steering Committee composed of personnel from OAQPS and OHEA with:

- 6 voting members from OAQPS
  (5 from ESD, 1 from AQMD)
- 5 voting members from OHEA
  (2 from ECAO (RTP), 1 from ECAO (CIN), 1 from CAG/REAG, 1 from EAG)
- 1 voting member from CERI
- 1 advisory member from HERL
- 1 advisory member from S/L agencies
- 1 advisory member from Regional Offices
- 1 advisory member from EPA library

3. The Steering Committee will have a Chairperson and a Chairperson-elect. Committee Chairs will be rotated between ESD/OAQPS and OHEA/ECAO on a fiscal year basis. The Chairperson and Chairperson-elect will conduct Steering Committee meetings, help implement decisions made by the Steering Committee, and coordinate Air RISC work within their respective organizations to ensure that the goals of the Steering Committee are carried out effectively.

4. The Chairperson and Chairperson-elect will be responsible for the knowing the status of projects in their respective organizations and coordinating to ensure that each project is within the technical, budget, and schedule guidelines established by the Steering Committee.

5. Contract funds programmed for the Air RISC by OAQPS and OHEA will be pooled as a Air RISC budget. The Steering Committee will have full responsibility for determining the use of contractor funds available to the Air RISC. (S&E funds and FTEs are not included in the pooled resources.)

6. All HOTLINE calls are considered Air RISC calls. The decision to refer other requests to the Air RISC will be made by the EPA organizational units receiving the request. Selection of projects for funding by the Air RISC will be on a priority basis considering the following factors and their relative importance (either high or medium).

High:
- o Needs identified by State and local agencies (as opposed to our perception of their needs)
- o Urgency of the problem as perceived by the State or local agency
- o Availability of the expertise necessary to provide a useful product

Medium:
- o Breadth of applicability of the product to air toxics problems
- o Investment of resources compared to the value of the product
- o Cost of the project compared to the funds available
- o Relationship of the work to other ongoing projects in the Agency (e.g. potential to "piggyback" on or extend work of other projects)

7. For projects less than $10,000 the Chairperson and Chairperson-elect will make the decisions regarding selection of projects. These projects may be implemented by a team or by an individual at the discretion of the Chairperson and Chairperson-elect.

- o The lead organization for the project will be designated by the Chairperson and Chairperson-elect. The line managers of the organizations involved will be responsible for recommending the appropriate personnel. The Chairperson and Chairperson-elect will assist the lead organization in selecting the appropriate personnel and must concur with the selection.

- o The Chairperson and Chairperson-elect will provide technical, budget, and schedule guidance. The line managers are responsible for meeting the guidelines established and ensuring the quality of work performed for the Air RISC.

- o The Chairperson and Chairperson-elect may concur on additional project costs not to exceed a total project cost of $12,000. Overruns causing a project of $10,000 or less to exceed a total cost of $12,000 must be referred to the Steering Committee.

8. Projects greater than $10,000 will be selected by concurrence of the Steering Committee. These projects will be implemented by a team composed of personnel from at least two of the participating organizations.

- o Line managers of the lead organization designated by the Steering Committee will be responsible for recommending a team leader. Team members will be selected by the respective line managers of the participating organization. The Chairperson and Chairperson-elect will assist the participating organizations in selecting the appropriate personnel.

- o Teams will be approved with the concurrence of the Steering Committee.

- The Steering Committee will provide technical, budget, and schedule guidance. The line managers are responsible for meeting the guidelines established by the Steering Committee and ensuring the quality of work performed for the Air RISC.

- The Chairperson and Chairperson-elect may concur on additional project costs of up to 20% of the original estimated cost. Overruns exceeding 20% of the approved cost must be referred to the Steering Committee.

9. Reports issued by the Air RISC will have the concurrence of all groups involved in conducting the work.

10. The Steering Committee will establish a system of communications to insure that the Steering Committee, project personnel, and managers of all participants in Air RISC related work are kept informed of the activities of the Air RISC. As a part of this system, the Chairperson and Chairperson-elect will prepare frequent status reports for the projects for which their respective organization has lead responsibility.

11. Modifications to these operating procedures may be proposed by any member of the Steering Committee. Approval of modification will be by a two-thirds majority of the members present at the next regularly scheduled meeting immediately following the one at which the proposal was introduced.

Appendix 2

Air RISC Regional Office Coordination Procedures

AIR RISC

REGIONAL OFFICE COORDINATION PROCEDURES

1. The Air Toxics Contact in the appropriate Regional office will be copied on written responses (except where the requestor simply asked for copies of documents).

2. Hotline calls will be screened to determine whether the Regional Office has been contacted already. If the Region has been contacted, staff will ascertain with whom. Where appropriate, the Air RISC staff will then call the Regional Office person named and discuss the planned response. The objective is threefold: (1) to coordinate with and inform the Regional Office, (2) to minimize the likelihood of giving conflicting or contradictory responses, and (3) to reduce duplication of effort. The Air RISC staff will attempt to ascertain if a request concerns a sensitive issue that should involve Regional Office awareness or input.

3. Regional Offices will receive quarterly reports tabulating requests for assistance received. These will be sorted by State within each Region.

4. Any requests that can be determined to be related to Superfund sites will be coordinated with Regional offices before responses are given.

5. The Regional Office Air Toxics Contacts will be the people with whom Air RISC staff will coordinate responses, if no other

Regional office person is identified.

6. Region III will be lead Region, i.e., Fran Dougherty, to represent the other Regional Offices. As such, Fran should seek input from other Regional Offices on matters pertaining to Air RISC, where appropriate.

7. The lead Region will be asked to review any guidance documents that are prepared. This person will determine whether review from other Regional offices is needed, and if so, coordinate the review. In cases where technical assistance reports are issued for specific sites, the Regional Office air toxic contact will be given the opportunity to review documents.

Appendix 3

Review of Air RISC Outputs

10/16/88

REVIEW OF Air RISC OUTPUTS

A risk assessment and risk management review is both obligatory for some types of outputs because of organization policy as well as desirable from the aspect of quality control for the integrity of Air RISC. The procedures adopted by the Air RISC steering committee can be rigid or flexible, with a flexible approach seemingly more advantageous, albeit within a framework.

The framework shown below lays identifies types of Air RISC products, review levels and guiding principles.

Types of Products

1. Providing off-the-shelf (existing) information and/or explanations of same or offering technical guidance about how to do something that is highly specific to one OAQPS or OHEA office.

2. Preparation of updated risk characterizations (eg assessment base already exists and some new data exists which needs to be accounted for). Also the offering of technical guidance on subjects where another office has expertise or experience.

3. Preparation of a 1st time risk characterization (eg no existing assessment basis). Also the offering of technical guidance which is of full spectrum and would lead to a multi-office follow up action.

4. Preparation of generic Air RISC technical guidance or material to be used in training.

5. Funding recommendations - small

6. Funding recommendations - large

7. Operational and administrative matters pertaining to the daily functioning of Air RISC.

Principles of Operation

a. The selection of the review path rests with the lead office who is handling the specific output. Steering committee members to initially monitor the situation for a while (J. Graham, C. Ris, R. Walentowiz, C. Mullin, B. Kellum)

b. The standard time period for a review shall be kept simple in that 5 working days shall be set aside for mailing and other communication actions and a 10 working day period set aside for staff review. A TOTAL OF 3 WEEKS from start to finish - NOMINALLY.

c. In those cases where staff are just not available or the review task has complexity where more time is needed, this information is passed on to the lead office where discussion about the situation takes place and appropriate adjustments to our plan are made.

d. The client should be contacted early on and told what is happening with his request and what the circumstances are regarding the completion of the staff work, a review of same, and target timing for the ultimate final product. (Presumably such a status call would be made anyway to the client, so the intent here is to be sure and mention the review aspect). The client may push to have a preliminary copy of the Air RISC output; honoring such a request is at the discretion of the lead office, HOWEVER, a do not quote or cite label shall be placed on every page if a Air RISC review is to take place.

e. The Air RISC documents should contain a disclaimer, perhaps, somewhat unique to the frequently used ones, to note that since a comprehensive Agency review has not likely been conducted...that the findings in this document does not necessarily represent Agency policy etc,etc.

f. Realizing that a select few of the Air RISC outputs will have characteristics that warrant an administrative policy review (eg sign-off from OHEA Director, or AA-ORD, or OAR counterparts), Air RISC will make provisions for such. An example would be the Kaiser AL activity in Region 10 where the Region and Kaiser may be the first to try inovative cancer risk modeling for PAH's in order to establish air permit levels. This case has two features which qualify for the admin-policy sign-off,(1) the innovative risk modeling, and (2) PAH specific levels.

Scope of Review

REVIEW LEVEL >>	None	Limited (1 office)	Moderate (all disci related)	Full (all)	POLICY
PRODUCT TYPE VV					
Off-the-shelf	X				
Update		X	(FYI)		X ?
New				X	X ?
Generic				X	
Funding-small		X*			
Funding -large				X*	
Administrative				X	

* as already agreed to by Steering Committee

? a judgement call
disc = discipline, ie. all health assessment groups
ar.

Appendix 4

Clearance Monitoring Committee of Written Air RISC Responses

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Environmental Criteria and Assessment Office (MD-52)
Research Triangle Park, North Carolina 27711

DATE: October 25, 1988

SUBJECT: Clearance Monitoring Committee of Written Air RISC

FROM: Judith A. Graham, Ph.D.,D.ATS
Associate Director, ECAO/RTP (MD-52)

TO: Addressees

As agreed to by the Air RISC Steering Committee, we will constitute a committee to monitor clearance procedures that were agreed to by the Steering Committee (C.Ris recommendations, as modified). Although it is necessary that Air RISC products be cleared promptly if clients are to be served, it is equally necessary that management be assured that the process meets the intent of EPA clearance procedures. Therefore, we will monitor the process for 3-6 months and report our findings to the Steering Committee and our respective managements.

We will observe the following procedures:

1. As described in the Air RISC Clearance Procedures, the lead organization creating the product shall decide on the appropriate clearance pathway and begin processing.

2. At the same time processing begins, the lead organization will forward one copy of the product to each member of the monitoring committee by E-mail or FAX, with the following coversheet:

   Name of contact person
   Name of lead organization
   Name of requestor
   Organization of requestor
   A brief description of the request
   Date response needed from Clearance Monitoring Committee
   (Note: A minimum of three days)

3. Members of the Clearance Monitoring Committee will review the decision on the pathway chosen and review the product for general quality and policy issues, assuming that quality and policy will receive more vigorous attention by the lead organization.

4. Members of the Clearance Monitoring Committee will comment to Judy Graham (if unavailable, to Charlie Ris) no later than one working day before the response is needed as indicated on the coversheet. If a member does not comment by this time, his/her concurrence will be assumed.

5. Judy Graham (Charlie Ris) will make a record of the comments and forward them to the contact person named on the coversheet.

6. In the event that the lead organization makes major changes in the product as a result of the clearance, Judy Graham (Charlie Ris) will review these vis-a-vis the comments of the Clearance Monitoring Committee.

Addressees:

Charlie Ris
Richard Walentowicz
Cindy Sonich-Mullin
Robert Kellum

cc: Air RISC Steering Committee

Appendix 5

Air RISC Data Base

Air RISC Data Base

Development and Description of Capabilities:

The idea for tracking calls and requests for assistance was generated early in the Air RISC program. The CTC had been logging in calls on a multipart form which was distributed to the responder, completed, and returned to the coordinator. It was emphasized in one of the EPA Information Resources Workshops (described below), that the Office of General Council urged EPA employees performing this type of one-on-one assistance to keep contemporaneous records due to the availability of personal computers within ECAO-RTP, this office took the lead in developing a program which would serve to keep records of information in a systematic way. The TARP is Clipper program which is dBase III-compatible. It has been developed, improved, and has documentation written by ECAO staff along with contractual support. Mailing labels and simple reports can be generated by any user. For example, all requests for the new Inhalation Reference Dose Methodology Document have been logged into TARP and will be mailed out to requestors when available. Labels for the Air RISC Workshop announcement were printed and then affixed for mailing to people who had used the Hotline or reached another EPA contact.

The data base in ECAO and OAQPS first existed in records stored in individual computers until ECAO-RTP went to a Local Area Network (which permits sharing of information, transferring of calls, and transmission to other offices by e-mail). ECAO logs in all requests for technology assistance, for criteria and air toxics, as well as indoor air, combinations of toxics and criteria pollutants. This office receives and logs in calls from all sources (private individuals, firms, international requests). Information on the ECAO Air RISC calls has been transferred monthly by providing a diskette to PAB. This is combined with the PAB calls to generate the official Air RISC data base, which exists at OAQPS. ECAO-RTP receives monthly diskettes from PAB, which are then stored in a separate data base file for use as reference by ECAO scientists.

Appendix 6

Technical Assistance Response Program Screen

[v1.24]

EPA TECHNICAL ASSISTANCE RESPONSE PROGRAM

Date of Request: 02/05/88 Time: 16:48 Received by: W. Victery

Requestor Name: Bill MacClarence — Phone No.: (907) 563-6529
Affiliation: Alaska Dept. of Environ. Cons. — Extension:
Address: 3601 C St., Suite 1350 — Type: State Hotline? Y
Address:
City: Anchorage — State: AK Zip: 99503-
Country: — Region 10/Seattle, WA

Subject: fertilizer plant emissions
Pollutant(s): #T Urea, ammonia and degradation product

Completion Date: 03/20/88 Hours: 30.0 Completed by: W. Victery

Record No. 1 [WVICTERY]

Edit Inquiry Response Search Print Transfer Report Utilities
Purge, Reindex, Pack, Sort.