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Environmental
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Agency

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Washington DC 20460

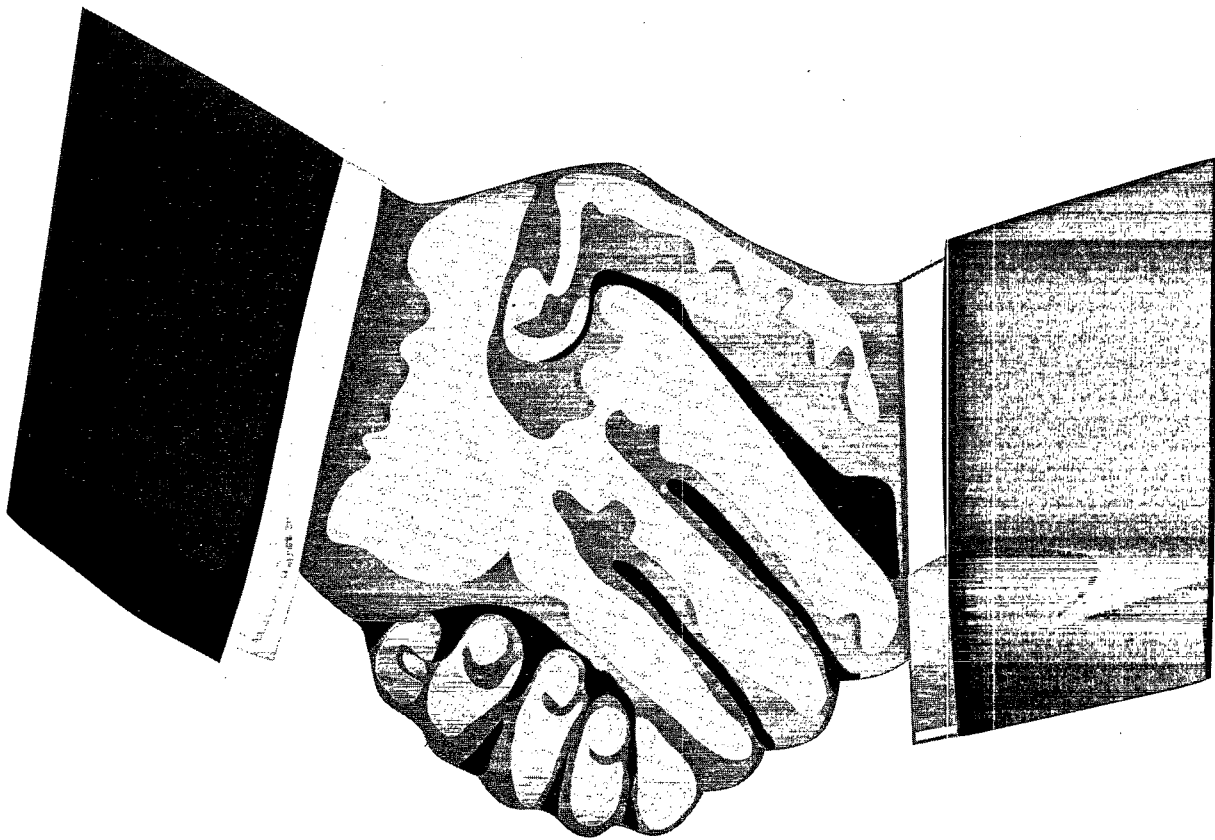
Air and Energy
Engineering
Research Laboratory
Research Triangle Park NC 27711

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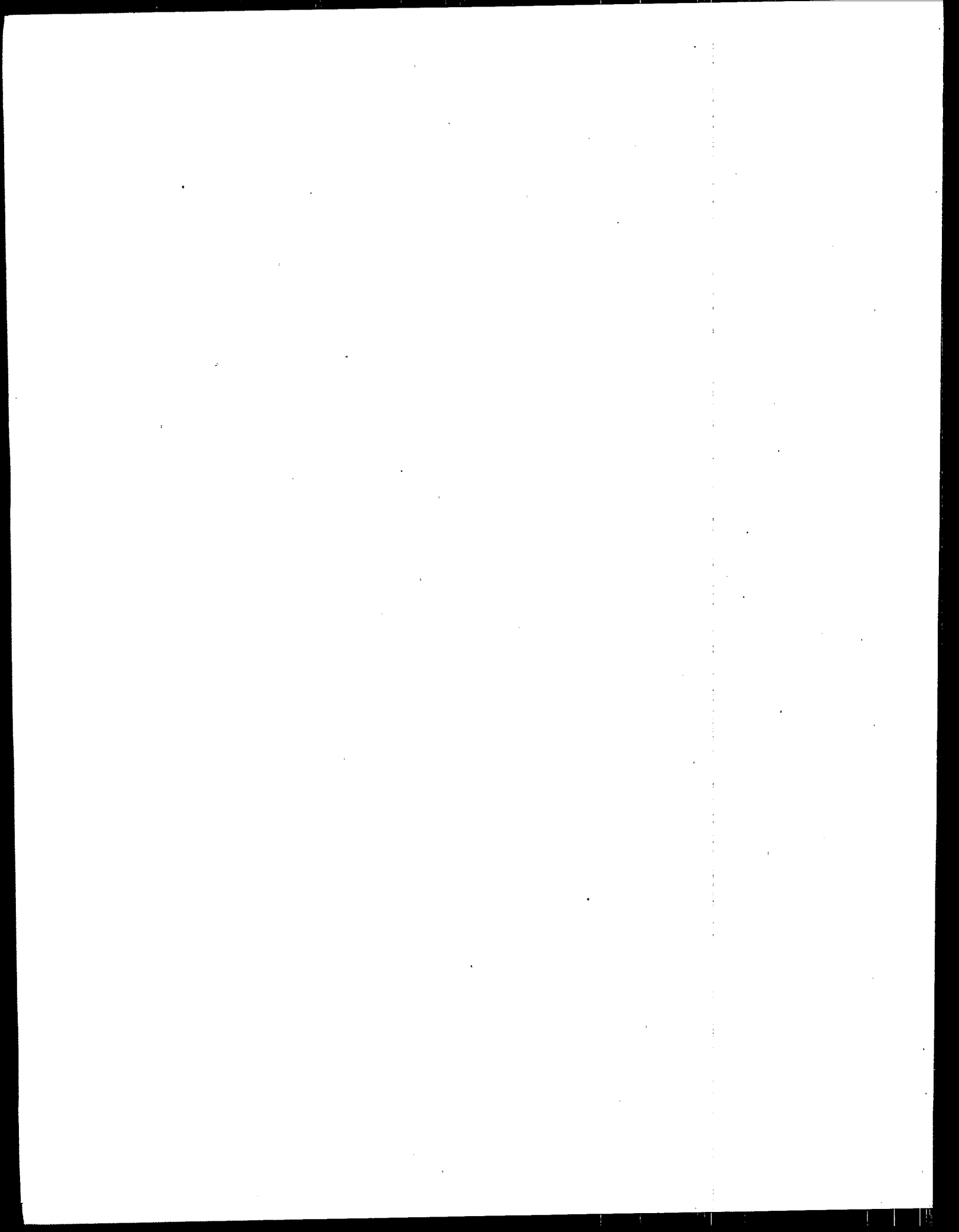
May 1995



Control Technology Center



Improved Technology for Environmental Protection



Improved Technology for Environmental Protection

Introduction

The Control Technology Center (CTC) is the U.S. Environmental Protection Agency's (EPA's) primary air pollution emissions reduction assistance program. The CTC provides technical assistance, technology transfer information, and technical expertise to the various federal, state, and local government agencies and to the Nation's business community. It also responds to technical assistance requests from foreign governments and organizations. In the 7 years since its formation, the CTC has become one of the most widely recognized and respected technical assistance programs in EPA and the federal government.

Background

In June 1985, EPA announced a strategy to reduce public exposure to toxic air pollutants in the ambient air. The strategy called for state and local authorities to take on additional regulatory responsibilities, with EPA providing technical assistance to support their efforts. As a result of the shift in responsibility, the EPA's Air and Energy Engineering Research Laboratory (AEERL) and the Office of Air Quality Planning and Standards (OAQPS) developed and implemented an innovative technology transfer and assistance program—the Control Technology Center. The CTC was originally established to provide technical assistance on toxic and volatile organic compound (VOC) emissions control issues to state and local government agencies. However, the program was expanded in 1991 to fulfill the mandates of the 1990 Clean Air Act Amendments (CAAAAs). Titles III and V of the CAAAs mandated that the Agency provide technical assistance to the Nation's business community in all areas of air pollution control. Fortunately, the CTC had the nucleus of a program available to provide technical assistance that could satisfy the requirements of the mandate. The CTC program was officially expanded in 1991 to provide technical assistance and expertise to both government and private clients. Control technology assistance can be provided on a broad range of topics including criteria and non-criteria pollutants, hazardous air pollutant emissions, pollution prevention, process engineering, and air pollution control engineering. Both AEERL and OAQPS conduct programs in these areas and have the technical and human resources to respond to questions about these topics.

The Problem

Government agencies and the business community have a constant need for technical and regulatory information to understand and address the constantly changing environmental regulatory and technology needs. With-

out an immediate source of technical information and expertise, it is difficult for the various state regulating agencies to develop viable regulations to achieve environmental goals on the schedules mandated by the CAAAs. The business community also requires similar technical and regulatory information to enable it to develop emissions control strategies for compliance with pollution control requirements. Titles III and V of the CAAAs mandated that EPA establish a program to provide technical assistance to the newly established state small business technical assistance agencies and to businesses that must meet the requirements of the CAAAs.

The U.S. industrial base is made up of numerous and diverse installations and processes. The vast majority of industrial installations in the United States require some form of pollution abatement. Their diversity in size, processes, and discharge makes it necessary for them to use a broad range of pollution abatement strategies and technical solutions to meet the requirements of the CAAAs. Many of the smaller operations do not have the technical staff and expertise to identify and develop viable pollution control alternatives for their unique pollution problems. Until the new state small business assistance programs become fully operational, there will be a continuing void in technology transfer information applicable to air pollution control. Finally, many of the various state agencies lack the technical resources to develop viable regulations for the broad range of industrial operations and processes.

The CTC Program

The CTC merges the resources and expertise of the sponsoring offices into a program with the capability to respond to most technical assistance requests. The CTC uses the technical resources of the sponsoring offices to provide a broad range of technical and regulatory assistance to respond to most assistance requests that might be received from its clients. The CTC program is structured to respond by one of the following three methods:

- Provides immediate responses to relatively simple technical and regulatory questions by means of a telephone HOTLINE operated by CTC engineers and scientists
- Provides engineering assistance at the client's facility for those problems requiring a detailed analysis of the pollution problem to resolve technical assistance requests
- Conducts general technical guidance studies initiated from the apparent prevalence of technical questions on a given pollution topic



The scope of the CTC services gives it a unique capability to address a broad range of emissions control regulatory and technical issues.

The CTC takes full advantage of the electronic technology transfer media via the CTC Bulletin Board System (BBS). The CTC BBS provides direct technical consultation using its engineering staff or technical staffers from the sponsoring offices. The CTC also operates and maintains the Reasonably Achievable Control Technology/Best Available Control Technology/Lowest Achievable Emission Rate (RACT/BACT/LAER) Clearinghouse Information System, better known as the BACT/LAER Information System (BLIS) bulletin board. The BLIS assists pollution control personnel in making technology determinations. The database contains more than 2,800 determinations from 49 state and three territorial agencies. These systems provide the CTC with the ability to receive or respond to technical requests 24 hours per day. They provide for technical information transfer, including the text of CTC-developed reports and software systems. During fiscal year 1993, the CTC bulletin board and associated bulletin boards under the umbrella of the CTC were accessed more than 20,000 times.



The CTC operates and maintains the BLIS bulletin board for assistance with technology determinations.

Unique aspects of the CTC program are its ability to conduct technical assistance and guidance studies in the laboratory and at the clients facility and to develop software tools. Although these studies are typically outside the traditional research areas, they address issues important to the various agencies and industries for development of emissions regulations and industrial air pollution control strategies. These studies result in detailed technical reports addressing unresolved technical and regulatory issues using available data and information. Since the establishment of the CTC, more than 100 technical assistance and technical guidance studies have been

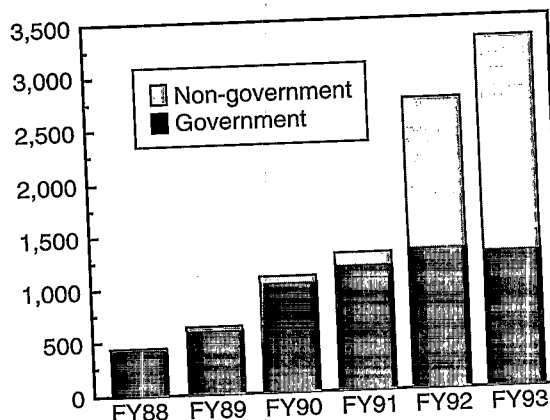
completed. In fiscal year 1993, more than 7,500 individual copies of these documents and software systems were provided to CTC clientele.

The CTC is the focal point for coordination of efforts among the four assistance centers for EPA's federal Small Business Assistance Program. The program provides technical assistance and support to the CAAA-mandated state small business technical assistance programs when the expertise and technical capability are not available within the state programs.

Program Impact

During the 7 years of the CTC's existence, it has become one of the most recognized and authoritative of EPA's technology assistance programs. The program has been featured in numerous technical and trade journals as an authoritative source of environmental technology transfer and assistance information and data. Each year since its formation, it has increased the quantity as well as the quality of services provided to the public. In 1993, the number of requests for CTC services expanded to more than 30,000.

The CTC's impact can be measured, in part, by the continued expansion of its client base and use of its services and technical products. As indicated by the number of HOTLINE calls received during fiscal year 1993, CTC has experienced a 650 percent increase in demand for technical assistance from both government and non-government requestors compared to its first full year of operation. The following chart shows the dramatic increase in requests for technical assistance and represents the dramatic increase in the scope of support provided by the CTC to the public.



The CTC's HOTLINE assistance program has expanded significantly during the past 6 years of operation.

Accomplishments/Impacts

The CTC is unique among technology assistance programs in its ability to conduct on-site technical and research support for its clients. Many technical issues impacting the development of regulatory programs do not fall within the traditional research and development plans of the Agency. Thus, the CTC program is designed to conduct non-traditional technical and research studies that support state and local agencies and businesses in developing regulatory and compliance agendas and pollution control strategies. Studies are requested and defined by the various state and local government agencies. Others are identified by CTC management and are based on technical assistance requests on specific topics during HOTLINE calls and other technical assistance communications. Since the initiation of the CTC in 1987, it has completed more than 100 technical studies to support its technical assistance mandate. Many of these studies and reports have become authoritative sources in the subject areas. Descriptions of some these studies follow.

In addition to technical studies, the CTC has developed software systems that are internationally recognized analytical or decision tools. They are being used by academia; by state, local, and foreign government agencies to assist in regulatory and compliance programs; and by industry to develop air pollution compliance strategies.

Asphalt Emissions

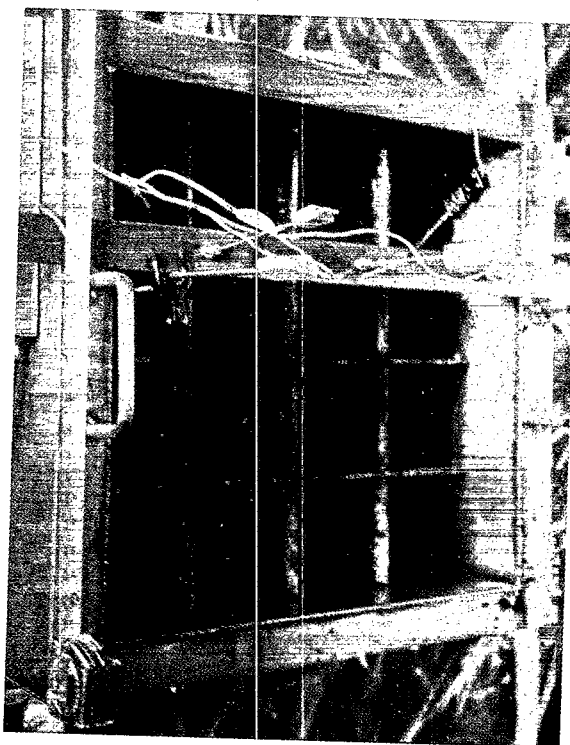
The CTC completed emissions studies to characterize the emissions from asphalt heating processes in anticipation of future state request of information on these sources. These studies have become nationally recognized references on the nature and characteristics of emissions from asphalt melting processes.

Styrene Emissions

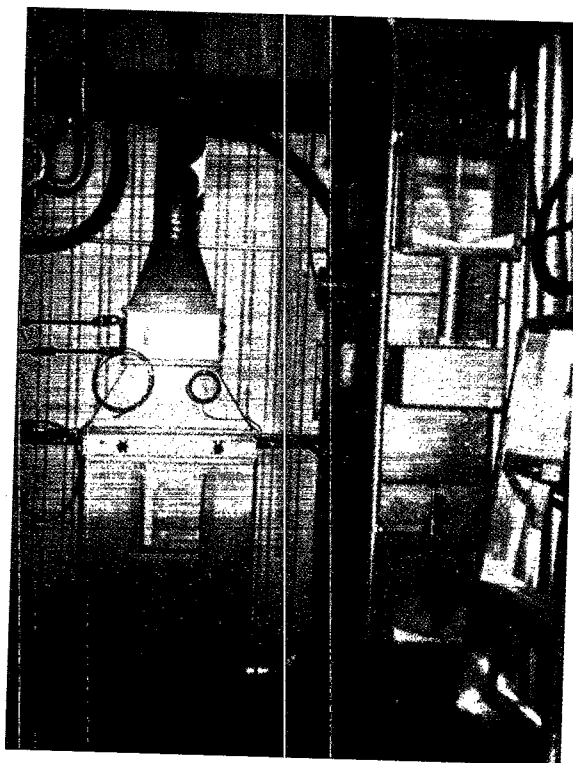
The CTC identifies and evaluates new technology transfer opportunities that have the potential to solve emissions problems such as the polymer adsorption technology for styrene emissions. The results of these studies have been used by various agencies to promote options for compliance with styrene regulatory programs.

Hazardous Air Pollutant Program

The Hazardous Air Pollutant Program (HAP-PRO) software system was developed under the sponsorship of the CTC to assist government agency permit engineers and



CTC asphalt research.



CTC evaluation of polymer adsorption technology for styrene emissions control.

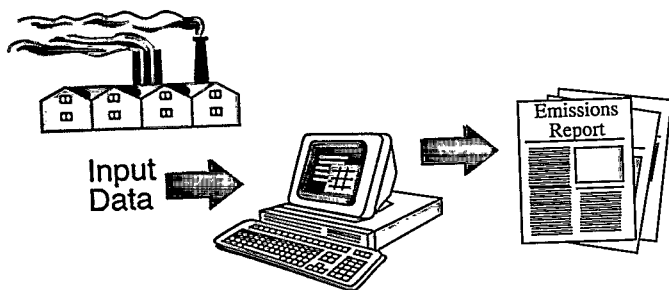
Industry operators in defining cost-effective and efficient air pollution control requirements and strategies. The software calculates the capital and operating costs for six volatile organic compound (VOC) and three particulate control systems. The software and its companion document, the HAP Manual, have been distributed to state agencies where it is the primary analytical tool for permit application evaluation.

Landfill Air Emissions Estimation Model Program

The Landfill Air Emissions Estimation Model is a computer program for state and local agencies to use as a tool for estimating landfill emissions. It will also assist landfill owners and operators in responding to the requirements resulting from new federal regulations for municipal solid waste landfills. The system is based on a first-order decay equation that uses site-specific characteristics such as the landfill's age, the volume of refuse in place, and the total capacity of the site. Based on the site-specific characteristics provided to the system, it is capable of estimating the gas generation rate of the site.

Solvent Alternatives Guide

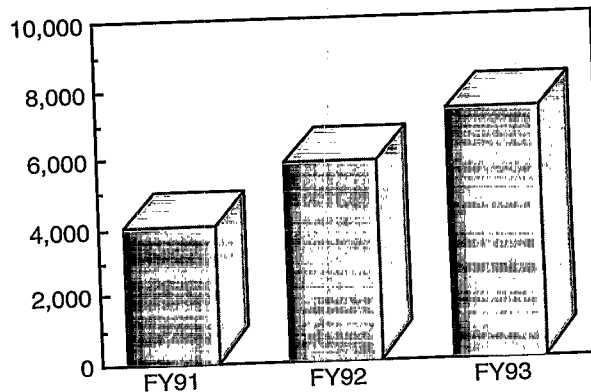
The SAGE program distributed by the CTC provides recommendations to industry for the elimination of ozone depleting solvents used in surface cleaning. More than 2,000 copies of the SAGE system have been distributed.



The CTC develops or authorizes the release of software systems to assist in the development of various programs and strategies.

CTC Publications

Since CTC's formation, requests for CTC documents have continued to grow, as demonstrated in the following chart. More than 17,270 CTC documents have been distributed since 1991.



The CTC's publications distribution program continues to grow.

Future Plans

During the last 3 years, requests for CTC technical assistance, guidance, and services have increased dramatically. The CTC has expanded its capability to respond to assistance requests through the addition of staff and electronic aids for dissemination of technical information. It is also incorporating pollution prevention information by electronically affiliating with pollution prevention technology centers and other government centers. Finally, subject to available resources, the CTC is planning to expand its technology evaluation capability to an even broader range of pollution control options.

For additional information on the CTC and its programs contact:

Charles H. Darvin
 U.S. Environmental Protection Agency
 Air and Energy Engineering Research Laboratory
 Research Triangle Park, NC 27711
 Phone: (919) 541-7633, Fax: (919) 541-0361

Robert J. Blaszcak
 U.S. Environmental Protection Agency
 Office of Air Quality Planning and Standards
 Research Triangle Park, NC 27711
 Phone: (919) 541-5432, Fax: (919) 541-0242