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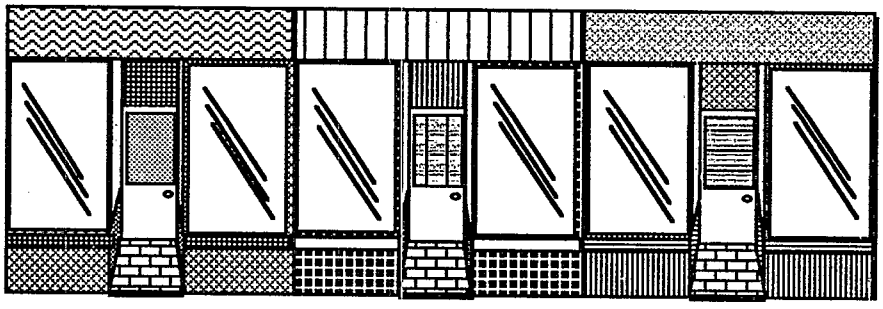
The Clean Air Act Amendments of 1990



A Guide for Small Businesses

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Part One

THE NEW CLEAN AIR ACT AND SMALL BUSINESS

A. INTRODUCTION

1. Overview: On November 15, 1990, President Bush signed into law the Clean Air Act Amendments of 1990. Among other provisions, the Act places new federal controls on small sources of air pollution that ultimately may affect hundreds of thousands of small American businesses. The specific requirements affecting small business owners and operators will most often depend on how badly their local air is polluted, and the kinds and quantities of pollutants their business puts into the air.

The decision by the U.S. Congress to extend federal clean air controls to small businesses evolved from numerous studies. These studies concluded that several of the nation's most serious air quality problems could not be solved without setting additional controls on motor vehicles and large industrial sources, and establishing new federal controls on smaller sources that pollute the air. The smaller sources of air pollution are often small businesses. (Appendix A lists the kinds of businesses that are likely to be affected by one or more provisions of this new Act.)

Section 507 of the Clean Air Act Amendments is especially important to small business. This requires all state governments to establish *Small Business Technical and Environmental Compliance Assistance Programs* to help small businesses contend with several new air pollution control responsibilities.

Although specific regulations are still evolving, this *Guide* is designed to provide small businesses, small business associations, and other interested persons with a broad overview of the Act's major requirements, and the effects these are likely to have on the small business community.

- **Part I** includes general material on air pollution, and five of the Act's major objectives that will affect small businesses.

- **Part II** details six major provisions of the Act that most directly affect the small business community.

- **Part III** highlights the various state assistance programs that will be developed to help small businesses comply with the Act.

2. Immediate Help and Information for Small Businesses: Small businesses and the associations that represent them can get additional information about the new Act from state and federal authorities.

State and Territorial Air Pollution Agencies: Appendix B lists the mailing address and telephone number of each State or territorial air pollution control agency. These agencies will be able to provide more specific information about the requirements of the Act for small businesses under their jurisdiction.

EPA Small Business Ombudsman: EPA's Office of Small and Disadvantaged Business Utilization has a team of professionals who have had years of experience representing the interests and concerns of the small business community within the Agency. They will provide details of emerging federal programs and regulations under the Act that are especially important to small businesses.

Writing Address	*Telephone Numbers*
Small Business Ombudsman U.S. Environmental Protection Agency 401 M Street SW (A-149 C) Washington, D.C. 20460	**National Hotline:** (1-800-368-5888) **Washington, D.C. and Virginia:** (703) 305-5938 **FAX Number:** (703)305-6462

EPA Technical Support Centers and Hotlines: Small businesses affected by new federal clean air requirements will also be able to obtain specific information and assistance from EPA's Technical Support Centers and from certain telephone "hotlines" that the Agency maintains. Appendix C describes the services these Centers and Hotlines provide.

B. AIR POLLUTION IN BRIEF

1. Federal and State Responsibilities: Air pollution is one of the nation's principal health and environmental concerns. Most air pollution comes either from *stationary sources* such as factories, power plants and smelters, or from *mobile sources* that include cars, buses, planes, trucks, and trains. Air pollution had already reached dangerous levels in many areas when the first major federal Clean Air Act became law in 1970. Major amendments to strengthen the Act were added in 1977, and again in 1990.

The Clean Air Act gives EPA authority to set national ambient air quality standards for protecting public health and the environment from pollutants in the outside air. *Primary standards* set limits to protect public health, including the health of people particularly sensitive to air pollution such as young children, the elderly, and those with asthma. *Secondary standards* set limits to protect plants, wildlife, building materials, and cultural monuments.

While EPA sets standards and national regulations for controlling air pollution, it is state governments that manage most of the specific programs for achieving these standards. *State implementation plans (SIPs)* are legally enforceable documents that state governments develop to identify their sources of air pollution, and to determine what reductions they must make to meet the federal air quality standards. Based on these determinations, measures are developed to achieve the necessary reductions.

2. Types of Air Pollutants: Under the new Clean Air Act, small businesses will be affected by controls on three types of air pollution.

-Primary Urban Pollutants: EPA already has set standards for six primary (so-called "criteria") pollutants which are generally discharged in large quantities by a wide variety of sources in urban and other areas of the country. The six pollutants are: *ground level ozone* or *"smog," * carbon monoxide, particulate matter, nitrogen dioxide, sulfur dioxide,* and *lead.* None are thought to be carcinogenic, but exposure to high and even moderate levels for varying periods of time contributes to respiratory diseases, heart ailments, and blood or circulatory problems. Exposure can be particularly harmful to people with existing lung and heart disease, the elderly, and the very young. Control measures for ground level ozone (smog) will have particularly significant effects on many small businesses.

-Toxic Air Pollutants: Toxic air pollutants include chemicals that are known to cause, or that are suspected of causing, cancer and other serious health effects such as birth defects and gene mutations. The new Act distinguishes between toxic air pollutants that enter the air from routine emissions, and hazardous substances that are especially dangerous when accidentally released into the air.

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* Ground level ozone (smog) is a different problem than stratospheric ozone depletion. For a description of the latter, see page 4.

•*Routine Emissions:* EPA is responsible for regulating the routine (generally daily) emissions of toxic air pollutants under the *National Emission Standards for Hazardous Air Pollutants (NESHAP)* program. About half of all air toxics emissions come from cars and other mobile sources while the other half is emitted by large and small stationary sources. The new Act regulates both of these broad sources, but it is the stationary source controls that are of most direct concern to small businesses. The Act requires EPA to set toxic air pollution standards for specific industry activities. EPA has identified several of these including dry cleaning, sterilization, solvent degreasing, and many other industries such as chemical manufacturing, storage, and transport industries. (For a complete list, see Appendix F.)

• *Accidental Releases:* EPA is required to establish a list of 100 or more hazardous substances that are particularly hazardous to human health and the environment when inadvertently released into the air by an unanticipated or uncontrolled event. Facilities that use these substances over established quantities will be required to prepare risk management plans and comply with additional prevention regulations.

-Ozone Depleters: A third type of air pollutant regulated by the Act includes the emissions of substances that deplete the upper (stratospheric) ozone layer. This depletion exposes life on earth to very harmful ultraviolet radiation. Facilities that repair and maintain air conditioning equipment are a major source for these emissions.

C. KEY OBJECTIVES OF THE NEW CLEAN AIR ACT

Significant reductions of many forms of air pollution have been achieved since the first major Clean Air Act became law in 1970. Despite such progress, serious unresolved health and environmental problems from air pollution remain in many areas of the country. Although the Clean Air Act requires significant additional controls from large businesses (including chemical manufacturers, oil companies, automobile manufacturers, and utilities), reductions from smaller businesses are required as well.

Congress recognized that the new Act would affect small businesses in several ways, but also acknowledged that the overwhelming majority of business owners would want to comply with the new requirements if they knew how. Several objectives in the Act particularly affect the nation's small business community.

1. Broaden State Government Oversight and Management: State governments will oversee, manage, and enforce most of the clean air programs required by the new Act once EPA approves their plans. When EPA approves a state program under the Act, almost all of the subsequent interaction between small businesses and government on that measure will be with state or municipal agencies.

2. Utilize Market Forces and Principles: The Act also will harness "market forces" in the work of cleaning up the nation's air, and encourage the use of several other flexible options to help business comply fully with all regulations while minimizing costs. Where possible, EPA will encourage the use of innovative economic incentives. These include alternative control measures such as allowing companies or facilities to "trade" emissions, or to set up a so-called "bubble" where a company or a facility has discretion to vary emissions reductions from sources within the bubble to achieve a certain overall reduction.

In many cases, too, EPA will not dictate the specific kinds of controls that companies must apply, but will set performance standards and let industry find the most efficient and cost-effective ways of meeting them. This should encourage industry to develop new technologies and products that are tailored to meet specific business and industrial circumstances.

3. Encourage New Technologies and Pollution Prevention: New emission standards will encourage many companies to go one step beyond controlling pollutants after they are produced to eliminating or sharply reducing their production altogether. *Pollution prevention technologies* are being applied successfully by the business community to solve hazardous waste and water pollution problems, and it should be useful for dealing with air pollution as well. Many companies have found that costs for installing and operating new technologies are frequently offset by reduced costs for chemicals or other substances used in production, and by lower monthly charges for water, energy, and waste disposal.

"New technologies" often do not just involve equipment or machinery. Many of the most successful ones are process changes that substitute non-toxic materials for toxic ones, or which reduce pollution by curtailing certain steps in the production process. Pollution prevention can be sound in an economic sense and good for the environment as well.

4. Strengthen Enforcement Provisions: The new Amendments include strong enforcement provisions with both civil and criminal sanctions for companies that violate the law. Citizens can sue companies that are in violation of the law, and they can sue EPA or state governments if they fail to enforce the new Act's provisions. The criminal sanctions will apply only to companies that knowingly violate the law. Also, criminal violations have been upgraded from misdemeanors to felonies.

5. Provide Assistance to Small Businesses: A fifth major objective of the Act that is of particular concern to small businesses is contained in Section 507 of the amended Act which requires state governments to develop specified assistance programs to help small companies comply with the Act's relevant provisions. As part of this commitment, state governments can help small businesses identify the most appropriate and cost-effective technologies to use in complying with the Act's requirements through the *Small Business Technical and Environmental Compliance Assistance Programs*. These assistance programs are described in Part III.

D. BUSINESS OPPORTUNITIES

Recently, a study was conducted for the EPA by ICF Resources Inc. and the Wall Street investment firm of Smith Barney, Harris Upham & Company Inc. to examine the business opportunities that will be created by the 1990 Clean Air Act. While there will be offsetting costs in other industries, this report clearly illustrates that dollars spent by American industry to clean the air will stimulate sectors of the American economy by generating significant new revenues, creating tens of thousands of jobs, and enhancing profitability.

For example, revenues in the air pollution control industry are projected to jump dramatically, by an average of $4 to $6 billion annually in the next three years, and $7 to $9 billion annually in the five years following that. This represents a $50-$70 billion cumulative increase in revenues by the year 2000.

In addition, by the year 2000, it is projected that an increase in labor demand will create the equivalent of 20,000 - 40,000 new jobs in the design, engineering, manufacture, and construction of stationary source equipment alone.

The report highlights a number of case studies illustrating how domestic industry is already responding to the business opportunities in the new Act. For example, a small Rhode Island firm has developed marketable technology to convert diesel buses and trucks to compressed natural gas (CNG), and has contracted with Providence, RI to convert 35 of that city's buses from diesel to CNG.

Increased business opportunities such as this will be available to traditional air pollution control markets. These include the control equipment manufacturing industry (e.g., scrubbers and incinerators), the air pollution monitoring industry, architectural and engineering firms, and the construction industry.

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Part Two

CLEAN AIR PROGRAMS AFFECTING SMALL BUSINESSES

The Clean Air Act Amendments of 1990 contain several new requirements that are of particular concern to small businesses. These include measures to:

- Lower emissions from small industrial and service companies that contribute to ground level ozone pollution (smog);
- Reduce automotive emissions by establishing tailpipe inspection and maintenance programs for motor vehicles, and by expediting the development of clean automotive fuels and new motor vehicles that emit very little pollution;
- Sharply curb emissions of 189 toxic air pollutants from hundreds of industries;
- Prevent or minimize the risks from the accidental release of 100 or more very hazardous chemicals into the air;
- Recycle and phase out the production and use of products and substances that deplete the Earth's upper ozone layer; and
- Require many sources affected by the Act to document their air pollution control obligations in a 5 year operating permit.

A. GROUND LEVEL OZONE (SMOG)

1. Problems of Ground Level Ozone Pollution: Ground level ozone, commonly referred to as "smog," is the single most serious air quality challenge for most urban areas. When the Clean Air Act Amendments of 1990 were passed, six out of every ten Americans were living in an area of the country where, to varying degrees, ozone levels exceeded EPA's air quality standards. This far exceeds the number in problem areas for any other primary urban pollutant.

Ground level ozone is a complex problem that is difficult to control in part because it is not emitted directly by specific sources. It forms in the air when there are chemical reactions between two other pollutants -- nitrogen oxides (NOx) and volatile organic compounds (VOCs) -- in the presence of heat and sunlight. Hotter temperatures can accelerate the formation of ozone. **

** Ozone at ground level is a major health and environmental problem, but is a beneficial substance in the stratosphere (6 to 30 miles above the Earth) where it shields the earth from the sun's harmful ultraviolet radiation. Several of the Act's programs will reduce ground level ozone, while others will help to preserve ozone in the stratosphere where it is being depleted by certain man-made chemicals. Section E describes measures in the new Act to protect upper layer ozone.

2. Key Effects on Small Businesses: A primary way to reduce ozone (smog) levels below current levels is to control the extent to which smal sources emit *volatile organic compounds (VOCs)* or *nitrogen oxides (NOx).* Many are small businesses such as auto body painting and repair companies, print shops, bakeries, various painting, surface coating or degreasing operations, and gasoline service stations that release vapors from refueling automobiles.

3. Consumer Product Controls: The Act also calls on EPA to regulate emissions from consumer products that contribute to the formation of ground level ozone. This may affect small businesses that use those products to produce goods or services. EPA must conduct a study before it controls these items, but affected products could include household items such as cleaners and disinfectants, spray paints, garden chemicals, hairsprays, and architectural coatings.

4. Five Classifications of Nonattainment for Ozone (Smog): The new Act's requirements place more than 90 urban areas with ozone problems into one of five classifications. (See Table A on next page.) These classifications range from the least polluted (marginal) and progress upward through moderate, serious, and severe, to the most seriously polluted (extreme). (See Appendix D for a list of the cities and counties in each classification.) The more heavily polluted an area is, the more stringent the controls that are required under the Act.***

5. Controls on Existing Major Stationary Sources of Ozone (Smog) Causing Pollutants: Under the Act, certain emission limits may apply to a business defined as a "major source. " As seen in Table A, a "major source" will vary from 10 tons a year in the most heavily polluted areas to 100 tons a year in less polluted areas which still are not meeting standards for ozone pollution. The more serious the ozone problem, the more likely it is that small businesses will be required to install pollution control equipment or take other steps to reduce their emissions.

6. Controlling New Sources of Pollution that Form Ozone (Smog): To counter the effects of growth on air quality, the new Act sets even more stringent requirements for a new source of ozone pollution in nonattainment areas than it does for existing sources. A *"New Source Review "* permit may be required for the construction of certain "major sources," including constructing a new facility, expanding an existing one, or adding new machinery that increases emissions of ozone forming substances.

***There are many areas in the United States where levels of other pollutants, particularly carbon monoxide and particulate matter, exceed EPA's air quality standards. There will also be some instances where controls for these and other primary pollutants affect small sources of air pollution (e.g., residential woodstoves). It is anticipated that, on the whole, relatively few small businesses should be directly affected by control measures for these air pollutants.

Among other things, the affected company must limit emissions of the new source to the *Lowest Achievable Emission Rate (LAER)* that is technically possible for that type of source. It must also reduce or "*offset*" a certain amount of emissions from existing stationary sources of ozone in the area by more than the amount that will be generated by the new source. These offsets can be obtained from sources owned by the company or from other businesses. The offset amount increases with the severity of the ozone problem in the nonattainment area. (See Table A, right-hand column.) For example, if a new source locating in a "serious" nonattainment area (where the new source offset ratio is 1.30 to 1) is going to emit 100 tons per year of volatile organic compounds, it must reduce emissions from other existing sources in the area by 130 tons. New sources cannot allow for any increase of pollutants that cause ozone in badly polluted areas; the approval process must, in fact, guarantee that there will be a net reduction as a result of the offset provision.

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TABLE A

CLASSIFICATIONS FOR OZONE (SMOG) IN NONATTAINMENT AREAS****

Classification	Major Source Volatile Organic Compounds and Nitrogen Dioxide	Attainment Deadline	New Source Offset
Marginal	100 tons/year	1993	1.10 to 1
Moderate	100 tons/year	1996	1.15 to 1
Serious	50 tons/year	1999	1.30 to 1
Severe	25 tons/year	2005-2007	1.30 to 1
Extreme	10 tons/year	2010	1.50 to 1

- The "major source" tonnage sizes in this table applies only to emissions of ground level ozone precursors. Much smaller sources (in terms of tonnage emitted) can be defined as "major sources" for toxic air pollutants. (See Section C .)

- There are exceptions to the classifications noted above. The Act requires that all sources emitting 50 tons or more of ozone forming pollutants a year be treated as "major sources" in an area of the country known as the *Ozone Transport Region.* This includes all parts of Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont, and the D.C. Metropolitan Area which covers the District of Columbia and Northern Virginia. Many states require controls for smaller sources of ozone-causing pollutants than provided for in the new Act.

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****For a list of specific areas, see Appendix D.

7. Ground Level Ozone -- Key Dates or Deadlines for Small Businesses: These dates vary depending on the nonattainment classification of the area in which a source is located. (A list of nonattainment areas is included in Appendix D.)

B. MOTOR VEHICLE CONTROLS

1. The Growth of Motor Vehicle Travel: A second provision of the new Act affecting small businesses involves several of the programs to reduce motor vehicle emissions. The United States has established the most stringent controls on motor vehicles of any nation, but nearly half of the pollutants that go into the air come from cars, trucks, buses, and other forms of motorized transportation. The growth of motor vehicle travel in recent decades is the primary reason for this continuing air pollution problem. Travel more than doubled between 1970 and 1990, and is projected to double again by the end of the century.

2. Key Effects on Small Businesses: Most motor vehicle controls will fall on the petroleum industry or the manufacturers of motor vehicles. Private service stations, however, may be affected by three major provisions. They are: (1) vehicle emission inspection/maintenance (I/M) programs; (2) so-called "Stage II" controls to reduce gasoline vapors during refueling; and (3) new requirements affecting the availability and sale of *reformulated gasoline,* and other cleaner burning fuels. In addition to these controls, small businesses that own or operate fleet vehicles may be required to purchase vehicles that emit lower levels of pollutants than those used by the general public. Section E describes controls on emissions of chlorofluorocarbons from motor vehicle air conditioning systems that adversely affect the upper ozone layer.

3. Vehicle Emission Inspection and Maintenance (I/M) Programs: Emission inspection and maintenance (I/M) programs test the tailpipe emissions of most registered vehicles and require repairs for those that do not meet established emissions standards. Some changes are in the offing for most private garages that currently conduct I/M programs, and for those that will be operating new programs in the future.

So-called "Basic" I/M programs will be established in moderate ozone nonattainment areas, while more stringent "Enhanced" I/M programs will be required in serious, severe, and extreme ozone nonattainment areas. (See Appendix D for the list of the cities and counties in each ozone nonattainment classification.) Enhanced I/M programs also must be established in metropolitan areas having a population greater than 100,000 in those northeastern states that comprise the Ozone Transport Region.

States needing a basic I/M program may choose to license private garages to do the emissions testing. These garages will then assume the costs for purchasing emissions testing equipment, and for training people to operate and manage their programs. Private garage operators who are already licensed to perform basic I/M programs may face an even greater challenge if their area needs an enhanced program. These garages will likely have to upgrade their testing equipment and improve their administrative procedures and maintenance skills in order to repair vehicles that fail the more rigorous standards of an enhanced program.

4. Gasoline Vapor Recovery (Stage II Controls): Gasoline service stations in extreme, severe, serious, and moderate ozone nonattainment areas (see Appendix C) will also be required to install special equipment and nozzles on fuel pumps to prevent the release of vapors of *volatile organic compounds* into the air. These control measures (or programs obtaining equivalent emissions reductions) are also required in all areas of those states in the northeastern United States included in the Ozone Transport Region. (See footnote 2 of Table A on page 9.)

These so called *Stage II controls* will be required for facilities that sell more than 10,000 gallons of gasoline each month, and for small business marketers that sell 50,000 gallons or more. New facilities must install Stage II controls within six months after a state adopts rules for the program, while existing facilities which pump an average of a 100,000 gallons or more each month must install them within one year. All other affected facilities must comply within two years.

5. Clean Fuels Programs: Private service stations that are retailers for gasoline and other motor fuels will also be affected by the Act's *New Fuels Program*. The sale of low polluting "reformulated gasoline" will be required in areas with the worst air pollution problems. Enforcement controls will be at the retail level, as well as at the distributor and refinery levels. Compliance and enforcement programs will affect small businesses in the same way that current fuel programs do.

6. Controls on Fleet Vehicle Owners and Operators: A percentage of new vehicles purchased for centrally fueled fleets of 10 or more vehicles in heavily polluted urban areas must meet tough new emission standards near the end of this century. This is required under the Act as part of a broader program to speed the development of clean burning fuels, or state-of-the-art cars and trucks. Small businesses own or operate many of these fleet vehicles, particularly taxis, vans, and delivery or service trucks.

7. Motor Vehicle Controls -- Key Dates or Deadlines for Small Businesses:

• EPA will issue regulations for states to use in establishing **basic and enhanced emission inspection/maintenance (I/M) programs** by December, 1992.

• EPA issued technical guidance on **Stage II vapor recovery** programs in December, 1991. States must develop **Stage II rules** by November, 1992. New facilities have six months after state rules are announced to install equipment while sources pumping 100,000 gallons or more a month must do so 1 year after the state rules are established. All other affected facilities must install equipment within 2 years of the date the state program is enacted.

• **Fleet vehicle controls** for 22 designated urban areas will start to take effect in 1998.

C. TOXIC AIR POLLUTANTS

1. Health Effects of Toxic Air Pollutants: Toxic air pollutants are chemicals that are known to or suspected of causing cancer or other serious health effects, including damage to the respiratory or nervous systems, birth defects, and reproductive effects. Some can cause death or serious injury if accidentally released in large amounts. Air toxics include metals, other particles, and certain vapors from fuels and other sources.

2. Performance Standards for Toxic Air Pollutants: The Act directs EPA to set standards requiring companies to sharply reduce "routine " emissions of toxic air pollutants. EPA will do so by setting *performance standards* based on the best demonstrated controls and practices for each regulated industry.

Toxic Air Pollutants and Affected Industries: The Act lists 189 toxic air pollutants that must be controlled. EPA is required to establish and phase in specific performance standards for all of the industries that emit one or more of these pollutants in significant quantities. (See Appendix E for a list of the 189 regulated air toxic pollutants, and Appendix F for a an initial list of 174 specific industrial sources that will be regulated .)

Tight Controls and Flexible Options: In most cases, EPA will establish performance standards (e.g., pounds per hour) for emissions of toxic air pollutants. Performance standards will allow the affected industries the needed flexibility to devise the most cost-effective means of reducing air toxic emissions and still meet the goals of the Act.

3. Key Effects on Small Businesses: The Act requires EPA to establish emissions standards for "categories" of affected sources. The standards apply for all "major sources" and, in some cases, for smaller so-called "area sources." A small business can be either a "major source," an "area source," or be completely unaffected by the air toxic requirements. The distinction relates only to how much of one or more toxic pollutants a business emits into the air. The actual size of a company, the volume of goods and services it produces, and the number of people it employs do not necessarily correlate with how much air pollution it generates.

Small businesses that may be affected by the toxic air provisions include dry cleaners, gasoline stations, printers, auto body repair shops, metal finishers, surface coating and painting operations, and certain small manufacturers. Others are solvent degreasing operations and firms that manufacture, store, and transport various chemicals. Tens of thousands of these and other kinds of businesses will be controlled either as "major sources" or smaller "area sources."

4. Major Sources: Any source (i.e., a contiguous area under common control) of toxic air pollution that emits 10 tons per year of any of the listed air toxics, or a combination of 25 tons or more, will be regulated as a major source of toxic air pollution. Over the next 10 years, all of these sources will be required to install the best proven air pollution control technologies for their particular industry.

5. Lesser Quantity Major Sources: The Act also gives EPA the discretion to regulate certain other sources as "major sources" even though they emit less than the 10/25 ton limit figure. Lesser quantities (meaning less than the 10 or 25 ton per year definitions in the Act), can be set for pollutants which are highly toxic to human health or the environment. If EPA sets a lesser quantity limit for a particular industrial group, all sources within that group that emit more than the established limit, will be classified as major sources.

6. MACT Controls: EPA will establish and phase in performance standards for each industry (source category) based on what is termed *Maximum Achievable Control Technology (MACT).* All "major sources" will be subject to these MACT controls which are designed to significantly reduce emissions from air toxics over the next decade. In most cases, meeting the MACT standard will be sufficient, but in cases where the remaining risks to public health and the environment are high, additional controls may be required. Any additional risk based controls will not affect businesses for at least 10 to 20 years since the Act provides for an eight year period between the time a source meets the MACT standard and the time additional controls would be imposed.

7. Incentives for Early Reductions of Air Toxics: The Act allows any source (including a small business) to obtain a six-year extension from full compliance with MACT if it reduces air toxic emissions by 90-95 percent before an applicable MACT standard is proposed. This may be a strong inducement to small businesses because it is often easier and cheaper to reduce the bulk of a source's excess emissions than it is that last fraction needed to achieve a specific limitation. For small companies that need to reduce any of the listed pollutants, early reduction could avoid hours of paperwork and other administrative work.

8. Area Sources: Many small businesses will also be affected by controls on "area sources" of toxic air pollutants. These smaller sources emit less than 10 tons per year of a single air toxic, or less than 25 tons per year of a combination of air toxics. Congress has given EPA discretion over whether to regulate categories of these sources; it is likely that several will eventually be subject to controls. Most area source emissions are small, but the collective volume can be hazardous in densely developed areas where large numbers of such facilities are packed tightly into urban neighborhoods and industrial areas. The Act requires EPA to determine within 5 years which area sources pose the greatest health risk. Once these particular sources have been identified, they must be regulated.

Controls for these smaller sources may be as stringent as the MACT type controls for major sources but more flexible measures called *Generally Available Control Technologies (GACT)* will be used in some cases.

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TABLE B

SOURCE CATEGORY SIZES AND CHARACTERISTICS FOR TOXIC AIR POLLUTANTS

Source Title	Requirements	General Source Description
MAJOR SOURCES	MACT required	Sources emitting 10 tons or more of a listed pollutant, 25 tons or more of a combination of listed pollutants; or any combination of lesser quantity major sources defined by EPA.
AREA SOURCES	MACT or GACT required	Less than 10 tons of most listed pollutants or 25 tons of any combination.

MACT = Maximum Achievable Control Technology
GACT = Generally Available Control Technology

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9. Toxic Air Pollutants -- Key Dates or Deadlines for Small Businesses: Over the next 10 years, EPA will publish "MACT" standards for all the categories of sources on a phased Congressionally mandated schedule. **Drycleaners** (in late 1992) and **synthetic organic chemical manufacturers** (in 1993) will be among the first industries for which standards will be set.

• EPA proposed regulations for the **early reduction program** in June, 1991 and will issue final regulations in September, 1992.

• In July, 1992, EPA published an initial list of **174 source categories** that will be subject to major controls for toxic air pollutants. During 1993, EPA will publish a schedule indicating when these categories will be regulated.

• An EPA study to identify and control those **area sources** posing the greatest health risk must be developed and published by November, 1995.

D. PREVENTING THE ACCIDENTAL RELEASE OF HAZARDOUS CHEMICALS

1. Accidental Release Provisions: In addition to regulating the routine emissions of air toxics, the Act also requires companies to develop procedures for preventing the inadvertent release of *hazardous substances* into the air through fire, explosion, or other kind of accident. Provisions in the new Act require all companies that use hazardous substances in any way to identify such hazards, to design and maintain a safe plant, and to minimize the consequences of an accidental chemical release.

EPA studies have shown that smaller businesses are usually less aware of good accident prevention practices for hazardous chemicals than are large companies. Regulations in the Act will help ensure that businesses of all sizes reduce the number and severity of chemical accidents. EPA will provide assistance to help them do so. For several years, EPA has been providing information and support to businesses on methods of preventing accidental releases and on related procedures for safe operations. The Agency will provide similar kinds of support relevant to the new Act's requirements.

2. List of Specific Chemicals: During 1992, EPA will publish a list of at least 100 hazardous substances for which the accidental prevention regulations will apply. When accidentally released, these chemicals are known to cause (or are reasonably thought to cause) death, injury, and serious adverse human health or environmental effects. Threshold quantities will be established for each of these hazardous substances based on a set of criteria determined by EPA. The Act specifically preselected 16 chemicals for EPA to include.

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TABLE C

16 PRESELECTED HAZARDOUS SUBSTANCES

Chrlorine	Anhydrous Ammonia	Methyl Chloride
Ethylene Oxide	Vinyl Chloride	Methyl Isocyanate
Hydrogen cyanide	Ammonia	Hydrogen sulfide
Toluene Diisocyanate	Phosgene	Bromine
Anhydrous hydrogen chloride	Hydrogen fluoride	Anhydrous sulfur dioxide
	Sulfur Trioxide	

This prospective list should not be confused with the 189 toxic air pollutants described in Section C that are specifically listed in the new Act. Some chemicals will ultimately be included on both listings, but these are distinct lists that serve different purposes. Not all hazardous substances that are particularly vulnerable to accidental release are highly toxic, and not all highly toxic air pollutants are as likely to be involved in a dangerous accidental release as some less toxic substances could be.

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3. Risk Management Plans: The Act requires companies that use any of these chemicals above specified threshold quantities to prepare a risk management plan. EPA will detail these requirements as the regulations develop, but the Act requires that each company's plan include a hazard assessment, a prevention program, and an emergency response program. The information will complement much of what business and industry have already given to state and local governments, and to other groups under the *Emergency Planning and Community Right-to-Know Act*, (Title III of the *Superfund Amendments and Reauthorization Act of 1986)*. That information includes the identity of chemicals, the location and quantity stored, and annual routine emissions. Companies must register their plans with EPA and their state government, submit them to state and local emergency planning agencies, and make them available for public review.

4. OSHA Workplace Chemical Process Safety Management Standard: Closely related to the accidental release provisions is the Act's requirement for the Occupational Safety and Health Administration (OSHA) to publish a standard covering *chemical process safety management* for "highly hazardous chemicals" in the workplace.

This OSHA standard, which was published in February, 1992, includes requirements for safety information on chemicals and processes, workplace hazard assessments, periodic audits, standard operating procedures, training maintenance systems, pre-startup safety reviews, accident investigations, and emergency response programs.

5. Key Effects on Small Businesses: The kinds and quantities of specific hazardous substances that a company uses rather than its size will dictate what measures it must take to comply with the provisions for preventing accidental chemical releases. As part of a risk management program, small businesses will have to identify these hazards, assess the likelihood of accidental releases, and evaluate the consequences of such releases. Prevention programs, including training and maintenance, also will have to be established, and emergency response plans developed. Systems must be established by each facility to investigate accidents and near accidents, and to develop an emergency response plan should an accidental release occur.

6. Accidental Releases -- Key Dates or Deadlines for Small Businesses: OSHA issued the **chemical process safety management standard** on February 24, 1992. Before the end of 1992, EPA plans to publish proposed regulations on the **list** and **threshold levels** of hazardous substances, as well as the requirements for the **risk management plans**. The final rule for the **list** and **thresholds** will be published by EPA no later than November, 1992, while that for the **risk management plans** must be published by November, 1993.

E. UPPER OZONE LAYER PROTECTION

1. The Challenge of Global Ozone Depletion: The Act requires the phase-out of chemicals that deplete the upper (stratospheric) ozone layer which protects the earth from harmful ultraviolet (UV-B) radiation. Scientific studies have concluded that chlorofluorocarbons (CFCs) and other chemicals are causing depletion of the ozone layer, allowing increased levels of UV-B to reach the Earth's surface. These chemicals generally do not break down in the lower atmosphere, but rise to the upper atmosphere, where some are persistent there for a century or more. It is now recognized that unchecked depletion of the ozone layer would be a devastating blow to public health and the environment.

Increased exposure to ultraviolet radiation can be associated with potential increases in skin cancer, increased cataract cases, suppresion of the human immune response system, and environmental damage. Depletion also could disrupt world food supplies by reducing crop yields. A depleted ozone layer is a threat to all forms of life on the planet.

More than 70 nations already have agreed to phase out production and importation of ozone-depleting substances over the next several decades. The Act translates this nation's commitment to those international accords into federal law, and goes further to limit the uses and emissions of ozone-depleting substances.

The specific controls will restrict production of ozone-depleting chemicals, and regulate their use, emissions, and disposal. The Act requires EPA to decide what chemicals companies must stop making and to review all proposed substitute chemicals for their effects on ozone depletion. EPA will undertake a major research and development program with other agencies and the private sector to find safe and acceptable substitutes for these chemicals.

2. Classes of Chemicals: The Act has divided all known ozone depleting substances into two classes.

-Class I substances:: These chemicals do the most damage to the ozone layer. They include 15 kinds of *chlorofluorocarbons (CFCs)* as well as *halons, carbon tetrachloride* , and *methyl chloroform.* Almost all Class I substances will be controlled, recycled, and otherwise regulated through the 1990's, and phased out completely by the year 2000. The one exception is *methyl chloroform* which is scheduled for phase out by the year 2002. In February, 1992, President Bush called for the acceleration of the phase-out schedule for the production of these substances to December 31, 1995. The Agency is considering exemptions for servicing of existing equipment and essential uses.

-Class II substances:: These are known collectively as *hydrochlorofluorocarbons (HCFCs),* and do less damage to the ozone layer. Several are the only known substitutes for Class I substances once these are phased out by the year 2000. HCFCs will be phased out by 2030.

3. Key Effects on Small Businesses: The effects will fall most heavily on those companies that use these substances to produce or repair a product. Secondary effects will be felt by those that purchase goods or machinery which contain or are manufactured with these substances. Scores of producers and thousands of service companies use these substances to manufacture, overhaul, and repair air conditioners, refrigerators, and several other products. Auto repair shops are subject to the earliest and most stringent controls because car air conditioners are the single largest source of CFC emissions. Small businesses will be affected by several interim measures during the early to mid-1990's requiring them to recycle and to otherwise reduce emissions of these substances.

-Recycling and Emission Reductions: These will require that all ozone depleting emissions from all kinds of refrigeration be reduced to the lowest level possible through recycling, recovery, and other controls by mid-1992. These requirements will be extended to all other uses of Class I and Class II substances by November, 1995.

-Motor Vehicle Air Conditioner Certification: This is a major initiative requiring all firms that sell or repair car air conditioners to purchase certified equipment for recycling CFC emissions by January, 1992. Technicians who use this recycling equipment must be certified. Certification programs are available through several trade associations and non-profit organizations.

-Nonessential Products: The Act requires that EPA identify and ban entirely the use of Class I substances in nonessential products by late 1992, and that the ban be extended to Class II substances beginning in 1994.

-Warning Labels: By mid-1992, small businesses, along with other affected industries, must place warning labels on all containers of Class I substances, and all products containing or manufactured with Class I substances. Labels will also eventually be required on products that contain or are manufactured with Class II substances.

4. Ozone Layer Protection -- Key Dates or Deadlines for Small Businesses: Several interim measures for reducing Class I and Class II substances will occur in the early 1990's prior to phase-out after the turn of the century.

• Regulations for **motor vehicle air conditioner recycling** took effect on August 13, 1992, while the provision that prohibits the **venting of refrigerants** in other sectors took effect on July 1, 1992.

• Regulations for **warning labels** on Class I substances take effect on May 15, 1993 while provisions **banning the nonessential use of CFCs** and other Class I substances begin on November 15, 1992.

• Complete **phase-out of production of CFCs, methyl chloroform,** and most other **Class I substances** will take effect by the end of 1995 under the accelerated schedule. Currently, rules have been promulgated which phase out the production and importation of CFCs, halons, and carbon tetrachloride by the year 2000 (2002 for methyl chloroform). The Agency is reviewing the need to control some **HCFCs** with relatively high ozone depletion potential.

F. FEDERAL OPERATING PERMITS PROGRAM

1. Precedents for Permitting Small Air Pollution Sources: The Clean Air Act Amendments of 1990 establish a comprehensive federal operating permit program for certain businesses and other facilities (referred to here as "sources") that emit air pollution. The purpose of an operating permit is to include in one document all of the requirements concerning air emissions that apply to a plant that is subject to the program.

The Act requires EPA to issue rules which set forth the minimum requirements for state permit programs. More than 40 states currently administer and enforce some form of operating permit program, and most of these already issue permits to smaller sources of air pollution. In preparing the federal program, EPA drew upon the experience gained from many existing state and local permit programs, and sought to build on these programs in order to minimize disruption.

2. Benefits of a Permit Program: EPA issued regulations for state operating permit programs on June 25, 1992. In doing so, the Agency took into account the need for businesses to have flexibility to respond to changing market conditions. The permit program should be beneficial in several respects. It will provide regulated sources with greater certainty about their obligations under the Act. It will help state and local agencies as well as EPA to enforce the Act, track compliance, and evaluate progress in meeting air quality goals. The program will also raise money for state agencies. States are required to charge fees to support state permit programs, including aspects of the small business assistance program. States are given the flexibility to adjust fees to take into account the limited resources of small businesses.

3. Key Effects on Small Businesses: EPA's operating permit rule includes a variety of features to minimize the impact of the program on small businesses. Generally, any "major source" of air pollution, and any smaller source that is subject to a federal air regulation under the Act, will have to obtain an air permit from a state agency in coming years as a condition for continued operation. All of a source's obligations under the Act will be placed into one permit document that has a maximum term of five years. The owners of all permitted sources will be required to file periodic reports identifying the extent to which they have complied with all obligations under the Act.

The EPA rule specifically addresses three major permit related concerns of small business by:

(1) Permanently exempting from all permit requirements two classes of sources that involve asbestos demolition/renovation operations, and woodstoves.

(2) Deferring permit requirements for certain smaller sources (those not defined as major) until EPA issues a rule determining how to structure the program for such sources. EPA intends to issue this rule in the late 1990's. *****

(3) Providing for the use of so-called " general permits" for certain types of similar (usually very small) sources of air pollution. Sources that qualify for such permits may meet the requirements by filing a simplified application or letter, a process that would ease considerably the administrative burden on small businesses and governments alike.

4. Procedures for Operational Flexibility and Prompt Modifications: EPA's rules for state permit programs include provisions allowing companies to make certain operating changes without an extensive and time consuming administrative process. For example, businesses can include in their permit applications a request that the permit take into consideration different operating scenarios that they anticipate they may need to meet future market demands. Once these scenarios are approved in the permit, a business has the flexibility to make changes and to increase emissions consistent with the approved permit terms, without notifying the permitting authority. The business needs only to keep a record of the changes.

In addition, the rule establishes a process by which a business can make so-called "minor" changes to its permit for certain limited increases in emissions not allowed for in the permit. In these cases, the business must notify the state permitting authority which, in turn, notifies EPA and any neighboring state affected by the change. EPA will have 45 days to review and, if necessary, object to the permit modification. The State must act on the modification within 90 days of receiving the notice. The affected business can make the change before EPA or the State have reviewed the request, although it would do so at its own risk, pending the outcome of the review process.

***** Please refer to Table A on page 9 for a size description of "major sources" of volatile organic compounds and nitrogen dioxide, and to page 13 for the description of" major sources" of toxic air pollution. For specific details, affected small businesses should contact their state air pollution control agency which is listed in Appendix B, or their State Small Business Technical and Environmental Compliance Assistance Program which is described in Part III.

5. Review Procedures for Significant Changes: Certain so-called "significant" permit modifications will be subject to a more extensive permit review process by the State, EPA, neighboring states, and by the public. These modifications include significant changes to any monitoring requirement a source might have or to certain large increases in pollution. Most existing state operating permit or new source review programs already require such a review process for permit modifications.

6. Federal Operating Permits Program -- Key Dates or Deadlines for Small Businesses:

• EPA regulations for the **State Operating Permit programs** were signed on June 25, 1992, and were published in the **Federal Register** on July 21, 1992.

• Each State must submit a **state permit program** to EPA by November 15, 1993; EPA must approve or disapprove all of these state programs within 12 months. If disapproved, the State has an additional 180 days to amend its program.

• All sources subject to the permit program must submit a **complete permit application** to the State within 12 months of the effective date that EPA approved the relevant state program. The State may set an earlier date if necessary.

• Each State must issue the **first round of permits** for **existing "major sources"** within three years after EPA approval of the state permitting authority.

• Those businesses defined as "nonmajor sources" will not be required to obtain a permit under the federal program until the late 1990's.

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Part Three

STATE SMALL BUSINESS ASSISTANCE PROGRAMS

A. OVERVIEW

The first two parts of this *Guide* describe the nature and challenges of air pollution, and detail six major provisions of the new Act that will most directly affect the small business community. The range of businesses affected by them is so diverse, however, that it is impractical to tailor this *Guide* to individual industries, or to anticipate all the difficulties that companies may face when trying to comply with the Act's requirements.

1. Small Business Special Needs: Congress recognized the particular problems that many small businesses would have in dealing with the Act's complex requirements. A typical small business employs fewer than 50 people, and is the only business operated by the owner. It is the corner drycleaner, the "mom and pop" bakery, the auto body repair shop, gasoline service station, the machine, tool and dye company, or one of a host of other local business establishments. Many have been in the same family and neighborhood for generations. (See Appendix A for a list of businesses typically affected by air pollution control measures.)

Air pollution control regulation may seem very complex to many small businesses. Many may not be able to afford to hire lawyers or environmental specialists to interpret and comply with all the requirements they may be responsible for in the new Act. Most may be hard pressed to inform themselves about the most basic requirements and deadlines of the control programs that will affect them, let alone the more complicated issuesthey are going to have to address to control air emissions, such as:

- The types of pollutants their company emits that are subject to the Act's requirements;
- The methods they can use to estimate emissions for a permit application;
- The types of control technologies that are best and least costly for controlling a specific production process or chemical substance they use to make goods and services; and
- Process or substance substitutes they can use to prevent or reduce emissions.

2. State Lead for Providing Small Business Assistance: The Act gives each state government the lead in developing and implementing a *Small Business Technical and Environmental Compliance Assistance Program* as part of legally enforceable state implementation plans.

3. The Act's Definition of a Small Business: The Act establishes certain criteria that a company must meet to qualify for assistance as a small business. It must be a small business as defined in the *Small Business Act* which generally means that it is an independently owned and operated concern that is not dominant in its field. The business must be owned by a person who employs 100 or fewer individuals, and it cannot be a *major stationary source* of either a primary urban (so-called "criteria") pollutant or toxic air pollutant as described in Part II. It cannot, in fact, emit 50 tons or more of a single pollutant a year, or more than 75 tons of all regulated pollutants. State governments can modify some of these requirements provided that the particular source does not emit more than 100 tons a year of all regulated pollutants.

4. Federal Oversight and Support: EPA will be providing several forms of guidance and assistance to these state assistance programs for the full duration of the Act.

-Federal Guidelines: EPA published final guidelines for states to draw upon to develop their assistance programs. The Agency must approve each state compliance and assistance program to ensure that it meets the Act's requirements.

-Oversight and Monitoring: The EPA Ombudsman in the Office of Small and Disadvantaged Business Utilization will oversee and monitor all state assistance programs and make periodic reports to Congress on each state's progress. Among other things, the EPA Ombudsman will determine how well the state programs are working and make sure that the information and assistance the states provide is understandable to the layman.

-Technical Assistance and Research: EPA will share information and research that it has developed nationally with each state assistance and compliance program. States will be able to receive technical assistance through several EPA Centers and Hotlines. These Centers and Hotlines will provide a broad range of assistance including information concerning the Clean Air Act requirements, control technology data, pollution prevention methods and alternatives, emission measurement methods, air pollution monitoring devices, and prevention of accidental releases of toxic chemicals into the environment. A listing of these Centers and Hotlines (including their areas of expertise and telephone numbers), is included in Appendix C.

B. COMPONENTS OF AN OVERALL STATE ASSISTANCE PROGRAM

By November, 1992, each state must develop a plan for implementing a *Small Business Stationary Source Technical and Environmental Compliance Assistance Program.* Congress envisioned that these programs would be in place before small businesses begin to feel the direct effects or deadlines of the Act.

Each state program is expected to include three components: (1) appointment of a state small business ombudsman; (2) establishment of a comprehensive small business assistance program; and (3) appointment of a seven-member state compliance advisory panel.

1. State Ombudsman: The first component is the *State Ombudsman* who will act as the small business community's representative in matters that affect it under the Act. Other responsibilities of the State Ombudsman could be to:

- Review and provide comments and recommendations to EPA and state/local air pollution control authorities regarding the development and implement of regulations that impact small businesses;
- Help disseminate information about upcoming air regulations, control requirements, and other pertinent matters to small businesses;
- Refer small businesses to the appropriate specialists in state government and elsewhere for help with particular needs (e.g., available control technologies and operating permit requirements); and
- Conduct studies to evaluate the effects of the Act on state and local economies, and on small businesses generally.

2. Small Business Assistance Program (SBAP): The second component of the overall state program is the *Small Business Assistance Program (SBAP)* which will be a technical and administrative support component within the state government. The SBAP staff should have access to air quality experts, technically proficient engineers, scientists and managers, and environmental specialists who will provide support and technical assistance needed by small businesses to comply with the Act's requirements. Related responsibilities include:

- Informing businesses of all requirements in the Act that apply to them, and the dates these requirements will apply;
- Helping small businesses deal with specific technical, administrative and compliance problems;

- Disseminating up-to-date information about the Act to the small business community, including easy to understand public information materials; and

- Referring small businesses to environmental auditors who can evaluate how effective a company's work practices, monitoring procedures, and record keeping are for complying with applicable clean air requirements.

3. State Compliance Advisory Panel: The third component of the overall state assistance program will consist of a seven member *state compliance advisory panel* in each state for determining the overall effectiveness of the state SBAP. Four of these members must be small business owners or representatives selected by the state legislature; the governor of each state will select two other members to represent the "general public." The seventh member will be chosen by the head of the state agency responsible for issuing operating permits.

The state compliance advisory panels will review and render advisory opinions on the effectiveness of the state SBAP, and make periodic progress reports to EPA's Small Business Ombudsman concerning compliance of the small business program with other permitnent federal regulations. The compliance advisory panels must also make certain that information affecting small business is written in a style that is clear and understandable.

4. Key Dates or Deadlines for Small Businesses:

- By November 15, 1992 all states must submit to EPA plans for establishing a **Small Business Assistance Program.** EPA guidelines recommend that each State establish its **Ombudsman** and **Compliance Advisory Panel** so they can assist in establishing the Small Business Assistance Program.

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APPENDIX A

TYPES OF BUSINESSES SUBJECT TO AIR POLLUTION CONTROLS

This is a general list of the typical kinds of smaller type businesses that will be affected by one or more of the air pollution control programs under the 1990 Clean Air Act Amendments. All small businesses should consult their state pollution control agency (see Appendix B) for more specific details about the controls that will be required in their area.

Agricultural Chemical Applicators
Asphalt Manufacturers
Asphalt Applicators
Auto Body Shops
Bakeries
Distilleries
Dry Cleaners
Founderies
FurnitureManufacturers
Furniture Repairs
Gasoline Service Stations
General Contractors
Hospitals
Laboratories
Lawnmower Repair Shops
Lumber Mills
Metal Finishers
Newspapers
Pest Control Operators
Photo Finishing Laboratories
Printing Shops
Refrigerator/Air Conditioning Service and Repair
Tar Paving Applicators
Textile Mills
Wood Finishers

APPENDIX B

STATE AND TERRITORIAL AIR POLLUTION CONTROL AGENCIES

Alabama Dept. of Environmental Management
Air Division
1751 Cong. Dickenson Drive
Montgomery AL 36130
(205) 271-7861

Alaska Dept. of Environmental Conservation
Air Quality Management Section
P.O Box 0
Juneau AK 99811-1800
(907) 465-5100

American Samoa
Environmental Quality Commission
Governor's Office
Pago Pago Am. Samoa 96799
011-(684) 633-4116

Arizona Dept. of Enviornmental Quality
Office of Air Quality
P.O. Box 600
Phoeniz AZ 85001-0600
(602) 257-2308

Arkansas Dept. of Pollution Control and Ecology
Air Division
8001 National Drive, P.O. Box 9583
Little Rock AR 72209
(501) 562-7444

Secretary of Environmental Affairs
California Air Resources Board
P.O. Box 2815
Sacramento CA 95812
(916) 445-4383

Colorado Dept. of Health
Air Pollution Control Division
4210 E 11th Avenue
Denver CO 80220
(303) 331-8500

Connecticut Dept. of Environmental Protection
Bureau of Air Management
165 Capitol Avenue
Hartford CT 06106
(203) 566-2506

Dept. of Nat. Resources and Envrnmntl. Control
Division of Air and Waste Management
89 Kings Highway, P.O. Box 1401
Dover DE 19903
(302) 739-4791

Dist. of Columbia Dept. Cons. and Reg. Affairs
Air Quality Control and Monitoring Branch
2100 Martin Luther King Ave, SE
Washington DC 20020
(202) 404-1120

Florida Dept. of Environmental Regulation
Air Resources Management
2600 Blair Stone Road
Tallahassee FL 32399-2400
(904) 488-1344

Georgia Dept. of Natural Resources
Air Resources Branch
205 Butler Street, SE
Atlanta GA 30344
(404) 656-6900

Guam Environmental Protection Agency
Complex Unit D-107
130 Rojas Street
Harmon Guam 96911
011-(671) 646-8863

Hawaii State Dept. of Health
Laboratories Div. Air Surveillance-Analysis Branch
1270 Queen Emma St, Suite 900
Honolulu HI 96813
(808) 586-4019

Idaho Division of Environmental Quality
Air Quality Bureau
1410 North Hilton
Boise ID 83706
(208) 334-5898

Illinois Environmental Protection Agency
Division of Air Pollution Control
2200 Churchill Road, P.O. Box 19276
Springfield IL 62794-9276
(217) 782-7326

Indiana Dept. of Environmental Management
Office of Air Management
105 S. Meridian Street, P.O. Box 6015
Indianapolis IN 46206-6015
(317) 232-8384

Iowa Dept. of Natural Resources
Air Quality Section
Henry A. Wallace Building, 900 E. Grand St.
Des Moines IA 50319
(515) 281-8852

Kansas Dept. of Health and Environment
Bureau of Air and Waste Management
Forbes Field, Building 740
Topeka KS 66620
(913) 296-1593

Kentucky Dept. for Environmental Protection
Division for Air Quality
316 St. Clair Mall
Frankfort KY 40601
(502) 564-3382

Louisiana Dept. of Environmental Quality
Office of Air Quality and Radiation Protection
Air Quality Division, P.O. Box 82135
Baton Rouge LA 70884-2135
(504) 765-0110

Maine Dept. of Environmental Protection
Bureau of Air Quality Control
State House, Station 17
Augusta ME 04333
(207) 289-2437

Maryland Dept. of the Environment
Air Management Administration
2500 Broening Highway
Baltimore MD 21224
(301) 631-3255

Massachusetts Dept. of Environmental Protection
Division of Air Quality Control
One Winter Street, 8th Floor
Boston MA 02108
(617) 292-5593

Michigan Dept. of Natural Resources
Air Quality Division
P.O. Box 30028
Lansing MI 48909
(517) 373-7023

Minnesota Pollution Control Agency
Air Quality Division
520 Lafayette Road
Saint Paul MN 55155
(612) 296-7331

Mississippi Dept. of Environmental Quality
Air Division, Office of Pollution Control
P.O. Box 10385
Jackson MS 39289
(601) 961-5171

Missouri Dept. of Natural Resources
Division of Env. Quality, Air Pollution Control
P.O. Box 176
Jefferson City MO 65102
(314) 751-4817

Montana Dept. of Health and Envirnmtl. Science
Air Quality Bureau
Cogswell Building, Room A116
Helena MT 59620
(406) 444-3454

Nebraska Dept. of Environmental Control
Air Quality Division
P.O. Box 98922
Lincoln NE 68509-8922
(402) 471-2189

Nevada Division of Environmental Protection
Bureau of Air Quality
123 West Nye Lane
Carson City NV 89710
(702) 687-5065

New Hampshire Air Resources Division
Air Resources Division
64 N. Main Street, Box 2033
Concord NH 03301
(603) 271-1370

New Jersey Dept. of Environmental Protection
Div. of Environmental Quality, Air Program
401 East State Street
Trenton NJ 08625
(609) 292-6710

New Mexico Environmental Department
Air Quality Division, Env. Prot. Div.
P.O. Box 26110
Santa Fe NM 87502
(505) 827-0070

New York Dept. of Environmental Conservation
Division of Air Resources
50 Wolf Road
Albany NY 12223-3250
(518) 457-7230

North Carolina Dept. of Environment, Health, and Natural Resources, Air Quality Section
P.O.Box 27687
Raleigh NC 27611-7687
(919) 733-3340

North Dakota State Dept. of Health
Division of Environmental Engineering
1200 Missouri Avenue
Bismarck ND 58502-5520
(701) 221-5188

Ohio Enviornmental Protection Agency
Division of Air Pollution Control
1800 WaterMark Drive
Columbus OH 43266-0149
(614) 644-2270

Oklahoma State Dept. of Health
Air Quality Service
1000 Northeast 10th Street, P.O. Box 53551
Oklahoma City OK 73152
(405) 271-5220

Oregon Dept. of Environmental Quality
Air Quality Control Division
811 SW 6th Avenue, 11th Fl.
Portland OR 97204
(503) 229-5287

Pennsylvania Dept. of Environmental Resources
Bureau of Air Quality Control
101 South Second St. P.O. Box 2357
Harrisburg PA 17105-2357
(717) 7879702

Puerto Rico Environmental Quality Board
Edificio Banco National Plaza
431 Ave. Ponce DeLeon
Hato Rey PR 00917
(809) 767-8071

Rhode Island Dept. of Envrnmntl. Mgmt.
Division of Air and Hazardous Materials
291 Promenade St.
Providence RI 02908-5767
(401) 277-2808

South Carolina Dept. of Health and Env. Control
Bureau of Air Quality Control
2600 Bull Street
Columbia SC 29201
(803) 734-4750

South Dakota Dept. of Environment and
Nat. Resources, Point Source Program
523 East Capitol Avenue
Pierre SD 57501
(605) 773-3153

Tennessee Dept. of Environment and Conservation
Division of Air Pollution Control
701 Broadway
Nashville TN 37243-1531
(615) 741-3931

State of Texas
Texas Air Control Board
12124 Park 35 Circle
Austin TX 78753
(512) 908-1000

Utah Dept. of Environmental Quality
Division of Air Quality
1950 West North Temple
Salt Lake City UT 84114-4820
(801) 536-4000

Vermont Agency of Natural Resources
Air Pollution Control Division
103 S. Main Street, Building 3 South
Waterbury VT 05676
(802) 244-8731

Virgin Islands Dept. Planning/Nat. Resources
Div. of Environmental Protection
Watergut Homes 1118 Christiansted
St. Croix VI 00820-5065
(809) 773-0565

State of Virginia
Department of Air Pollution Control
P.O. Box 10089
Richmond VA 23240
(804) 786-2378

Washington State
Department of Ecology
P.O. Box 47600
Olympia WA 98504-7600
(206) 459-6632

State of West Virginia
Air Pollution Control Commission
1558 Washington St. East
Charleston WV 25311
(304) 348-2275

Wisconsin Dept. of Natural Resources
Bureau of Air Management
Box 7921
Madison WI 53707
(608)-266-7718

Wyoming Dept. of Environmental Quality
Air Quality Division
122 W. 25th Street
Cheyenne WY 82002
(307) 777-7391

APPENDIX C

EPA TECHNICAL SUPPORT CENTERS AND HOTLINES

EPA's technical support centers and telephone "hotlines" (listed below) are expanding their services to provide support to state and local air pollution control agencies as they develop and carry out the small business assistance programs described in Part III of this Guide. Small businesses may also contact any of these centers for specific information and for technical assistance on those Clean Air Act requirements that will affect them. These evolving information and assistance programs will help small businesses understand and comply with the requirements of the Act in areas that include: (1) control technology data; (2) pollution prevention methods and alternatives; (3) emission measurement methods; (4) air pollution monitoring devices; and (5) preventing the accidental releases of toxic chemicals into the environment.

SERVICE CENTER - HOTLINE	SUBJECTS AND SERVICES
--EPA Control Technology Center **(919) 541-0800**	• General assistance and information on the Clean Air Act • Federal air pollution standards • Air pollution control technologies
--Emission Measurement Technical Information Center **(919) 541-1060**	• Air emissions testing methods • Emission monitoring guidance • Federal testing and monitoring requirements
--Emergency Planning and Community Right-to-Know Information Hotline **(1-800) 535-0202**	• Accidental chemical release prevention • Hazardous chemical emergency planning • Toxic Release Inventory Assistance
--Office of Pollution Prevention ***(1) Technical Assistance*** **(703) 821-4800** ***(2) RCRA Superfund Hotline*** **(800) 424-9346**	• Pollution Prevention methods • Summaries of state programs, case studies, waste minimization assessments

-- ***Stratospheric Ozone Information Hotline*** **(1-800)296-1996**	• General information on stratospheric ozone depletion and its protection • Consultation on ozone protecton regulations and requirements under the 1990 Amendments, including - Production phase-out and controls; - Servicing of motor vehicle air conditioners; - Recycling and emissions reduction; - Technician and equipment certification; - Ban of non-essential uses; and product labelling.
Technology Transfer Network (Clean *Air Act Computer Bulletin Board)* 919-541-5742	• Recent EPA rules, EPA guidance documents and updates of EPA activities.

APPENDIX D

OZONE NONATTAINMENT AREAS

This is an alphabetical list of areas in each of the five nonattainment classifications for ozone. Most include large to mid-sized metropolitan areas that are denoted here in bold-faced type by the major city in the area. Small businesses should contact their State Air Pollution Control Agency (see Appendix B) to determine the specific geographic boundaries of the area in which they are located.

EXTREME	SEVERE	SERIOUS	MODERATE	MARGINAL
1 Area *Attainment Deadline* **November 2010**	9 Areas *Attainment Deadline* **November 2007**	12 Areas *Attainment Deadline* **November 1999**	33 Areas *Attainment Deadline* **November 1996**	41 Areas *Attainment Deadline* **November 1993**
Los Angeles- South Coast Basin, CA	**Chicago**-Gary-Lake County, IL-IN **Houston**-Galveston-Brazoria, TX **Milwaukee**-Racine, WI **New York,** Nor. N.J.-Long Is, NY, NJ, CT **Southeast Desert** Modified AQMA, *Attainment Deadl* **November 2005** **Baltimore,** **Philadelphia**-Wilm.-Trent, PA-NJ-DE- **San Diego,** CA **Ventura Co,** CA	**Atlanta,** GA **Baton Rouge,** LA **Beaumont**-Port Arthur, TX **Boston**-Lawr.-Worc.-(E. Mass.), MA-NH **El Paso,** TX **Greater Connecticut** **Portsmouth**-Dover-Rochester, N.H. **Providence** (includes all of Rhode Island), RI **Sacramento,** CA **San Joaquin Val.,** CA **Springfield** (Western Massachusetts), MA **Washington, D.C.** DC-MD-VA	**Atlantic City,** NJ **Charleston,** WV **Charlotte**-Gastonia, NC **Cincinnati**-Hamilton, OH-KY **Cleveland**-Akron-Lorain, OH **Dallas**-Ft. Worth, TX **Dayton**-Springfield, OH **Detroit**-Ann Arbor, MI **Grand Rapids,** MI **Greensboro**-Winston Salem-H. Point, NC **Huntington**-Ashland, WV-KY **Kewaunee Co,** WI **Knox-Lincoln Co,** ME **Lewiston-Auburn,** ME **Louisville,** KY-IN **Manitowoc Co,** WI **Miami**-Fort Lauderdale-West Palm Beach, FL **Monterey Bay,** CA **Muskegon,** MI. **Nashville,** TN **Parkersburg,** WV **Phoenix,** AZ **Pittsburgh**-Beaver Valley, PA **Portland,** ME **Raleigh-Durham,** NC **Reading,** PA **Richmond**-Petersbg., VA **Salt Lake City,** UT **San Francisco**-Bay Area, CA **Santa Barbara**-Santa Mar-Lompoc, CA **Saint Louis,** MO-IL **Sheboygan,** WI **Toledo,** OH	**Albany,** Schenectady-Troy, NY **Allentown**-Easton-Bethlehem, PA -NJ **Altoona,** PA **Birmingham,** AL **Buffalo**-Niagara Falls, NY **Canton,** OH **Cherokee Co,** SC **Columbus,** OH **Door Co,** WI **Edmonson Co,** KY **Erie,** PA **Essex Co** (Whiteface Mtn), NY **Evansville,** IN **Greenbrier Co,** WV **Hancock & Waldo Cos,** ME **Harrisburg**-Lebanon-Carlisle, PA **Indianapolis,** IN **Jefferson Co,** NY **Jersey Co,** IL **Johnstown,** PA **Kent & Queen Anne's Cos,** MD **Knoxville,** TN **Lake Charles,** LA **Lancaster,** PA **Lexington-**Fayette, KY **Manchester,** NH **Memphis,** TN **Norfolk**-Vir. Beach-Newport News, VA **Owensboro,** KY **Paducah,** KY **Portland**-Vancouver AQMA, OR-WA **Poughkeepsie,** NY **Reno,** NV **Scranton**-Wilkes Barre, PA **Seattle**-Tacoma, WA **Smyth Co,** VA **South Bend**-Elk.,IN **Sussex Co,** DE **Tampa,** St. Pt, Clr, FL **Walworth Co,** WI **York,** PA **Youngstown**-Warren-Sharon, OH-PA

APPENDIX E

LISTED AIR TOXICS

The routine emissions of the 189 toxic air pollutants described in Section C are listed below along with their respective Chemical Abstract Service (CAS) number. The 189 chemicals or chemical groups must be controlled under the Clean Air Act Amendments of 1990, and other chemicals may be added to this list in the future.

AIR TOXIC and CAS Number
Acetaldehyde, 75070
Acetamide, 60355
Acetonitrile, 75058
Acetophenone, 98862
2-Acetylaminoflourene, 53963
Acrolein, 107028
Acrylamide, 79061
Acrylic acid, 79107
Acrylonitrile, 107131
Allyl chloride, 107051
4-Aminodiphenyl, 92671
Aniline, 62533
o-Anisidine 90040
Asbestos 1332214
Benzene (including gasoline), 71432
Benzidine, 92875
Benzotrichloride, 98077
Benzyl chloride, 100447
Biphenyl, 92524
Bis (2-ethylhexyl) **phtalate** (DEHP), 117817
Bis (chlromethyl) **ether**, 542881
Bromoform, 75252
1,3-Butadiene, 106990
Calcium cyanamide, 156627
Caprolactam, 105602
Captan, 133062
Carbaryl, 63252
Carbon disulfide, 75150
Carbon tetrachloride, 56235
Carbonyl sulfide, 463581
Catechol, 120809
Chloramben, 133904
Chlordane, 57749
Chlorine, 7782505
Chloroacetic acid, 79118
2-Chloroacetophenone, 532274
Chlorobenzene, 108907
Chlorobenzilate, 510156
Chloroform, 67663
Chloromethyl methyl ether, 107302
Chloroprene, 126998
Cresols/cresylic acid(isomers/mixer) 1319773
o-Cresol, 95487
m-Cresol, 108394
p-Cresol, 106445

AIR TOXIC and CAS Number
Cumene, 98828
2,4-D, Salts & Esters, 94757
DDE, 3547044
Diazomethane, 334883
Dibenzofurans, 132649
1,2 Dibromo-3-chloropropane, 96128
Dibutylphthalate, 84742
1,4 Dichlorobenzene (p), 106467
3,3-Dichlorobenzidene, 91941
Dichloroethyl-ether, Bis (2-chloroethyl) ether, 111444
1,3-Dichlororopropene, 542756
Dichlorvos, 62737
Diethanolamine, 111422
N, N-Dietrhyl aniline, 121697
Diethyl sulfate, 64675
3,3-Dimethoxybenzidine, 119904
Dimethyl aminoazobenzene, 60117
3,3'-Dimethyl benzidine, 119937
Dimethyl Carbamoyl chloride, 79447
Dimethyl formamide, 68112
1,1-Dimethyl hydrazine, 57147
Dimethyhl phthalate, 131113
Dimethyhl sulfate, 77781
4,6-Dinitro-o-cresol and Salts, 534521
2,4-Dinitrophenol, 51285
2,4-Dinitrotoluene, 121142
1,4 Dioxane (1,4 Diethyleneoxide) 123911
1,2 Diphenylhydrazine, 122667
Epichlorohydrin (1-Chloro-2,3-epoxypropane), 106898
1,2-Epoxybutane, 106887
Ethyl acrylate, 140885
Ethyl benzene, 104414
Ethyl carbamate, (urethane), 51796
Ethyl chloride, (chloroethane), 75003
Ethylene dibromide, (dibromoethane), 106934
Ethylene dichloride, (1,2, dichloroethane), 107062
Ethylene glycol, 107211
Ethylene imine, (Aziridine), 151564
Ethylene oxide, 75218
Ethylene thiorea, 96457
Ethylene dichloride, (1,1-Dichloroethane), 75343
Formaldehyde, 50000
Heptachlor, 76448

Hexachlorobenzene, 118741
Hexachlorobutadiene, 87683
Hexachlorocyclopentadiene, 77474
Hexachloroethane, 67721
Hexamethylene-1,6-diisocyanate, 822060
Hexamethylphosphoramide, 680319
Hexane, 100543
Hydrazine, 302012
Hydrochloric acid, 7647010
Hydrogen flouride (Hydrofluoric Acid) , 7664393
Hydroquinone, 123319
Lindane, (all isomers), 58899
Maleic anhydride, 108316
Methanol, 67561
Methoxychlor, 72435
Methyl bromide, (Bromethane), 74839
Methyl chloride, (Chloromethane), 74873
Methyl chloroform (I,I,I-Trichloroethane) , 71556
Methyl iodide (Iodomethane) 74884
Methyl isobutyl ketone (Hexone), 108101
Methyl isocyanate, 624839
Methyl methacrylate, 80626
Methyl tert butyl ether, 1634044
4,4' Methylene bis (2-chloroaniline), 101144
Methylene chloride (Dichloromethane, 75092
Methylene diphenyl diisocyanate (MDI), 101688
4,4'-Methylenedianiline, 107779
Naphthalene, 91203
Nitrobenzene, 98953
4-Nitrobiphenyl, 92933
4-Nitrophenol, 100027
2-Nitropropane, 79469
N-Nitroso-N-Methylurea, 684935
N-Nitrosodimethylamine, 62759
N-Nitrosomorpholine, 59892
Parathion, 56382
Pentachloronitrobenzene, 82688
Pentachlorophenol, 87865
Phenol, 108952
P-Phenylenediamine, 106503
Phosgene, 75445
Phosphine, 7803512
Phosphorus, 7723140
Phthalic anhydride, 85449
Polychlorinated biphenyls, (Aloclors), 1336363
1,3-Propane sultone, 1120714
beta-Propiolactone, 57578
Propionaldehyde, 123386
Propoxur (Baygon), 114261
Prophylene dichloride, (1,2 Dichloropropane), 78875
Propylene oxide, 75569
1,2-Propylenimine, (2-Methyl aziridine), 75558
Quinoline, 91225
Quinone, 106514
Styrene, 100425
Styrene oxide, 96093
2,3,7,8- Tetrachlorodibenzo-p-dioxin
1,1,2,2-Tetrachloroethane, 79345
Tetrachloroethylene, (Perchloroethylene) , 127184
Titanium tetrachloride, 7550450
Toluene, 108883
2,4-Toluene diamine, 95807
2,4-Toluene diisocyanate, 584849
o-Toluidine, 95534
Toxaphene, 8001352
1,2,4-Trichlorobenzene, 120821
1,1,2-Trichloroethane, 79005
Trichloroethylene, 79016
2,4,5-Trichlorophenol, 95954
2,4.6-Trichlorophenol, 88062
Triethylamine, 121448
Trifluralin, 1582098
2,2,4-Trimethylpentane, 540841
Vinyl acetate, 108054
Vinyl bromide, 593602
Vinyl chloride, 75014
Vinylidene chloride, 75354
Xylenes (isomers/mixture), 1330207
o-Xylenes, 95476
m-Xylenes, 108383
p-xylenes, 106423
--Antimony Compounds
--Arsenic Compounds
--Beryllium Compounds
--Cadmium Compounds
--Chromium Compounds
--Cobalt Compounds
--Coke Oven Emissions
--Cyanide Compounds
--Glycol Ethers
--Lead Compounds
--Manganese Compounds
--Mercury Compounds
--Fine Mineral Fibers
--Nickel Compounds
--Polycylic Organic Matter
--Radionuclides (including Radon
--Selenium Compounds

APPENDIX F

REGULATED SOURCES OF HAZARDOUS AIR POLLUTANTS

This is a list of 174 categories of industrial sources of hazardous air pollutants as identified by EPA under the air toxics provisons of the Clean Air Act Amendments of 1990. Each source is grouped under one of seventeen categories, denoted here in bold face capital letters. EPA must regulate "major sources" within these categories according to a 10-year schedule which the Agency will be issuing in 1993.

FUEL COMBUSTION

- Engine Test Facilities
- Industrial Boilers
- Institutional Commercial Boilers
- Process Heaters
- Stationary Internal Combustion Engines
- Stationary Turbines

NON-FERROUS METALS PROCESSING

- Primary Aluminum Production
- Secondary Aluminum Production
- Primary Copper Smelting
- Primary Lead Smelting
- Secondary Lead Smelting
- Lead Acid Battery Manufacturing
- Primary Magnesium Refining

FERROUS METALS PROCESSING

- Coke By-Product Plants
- Coke Ovens: Charging, Top Side, and Door Leaks
- Coke Ovens: Pushing, Quenching, and Battery Stacks
- Ferroalloys Production
- Integrated Iron and Steel Manufacturing
- Non-Stainless Steel Manufacturing-Electric Arc Furnace (EAF) Operation
- Iron Foundries
- Steel Foundries
- Steel Pickling-HC1 Process

MINERAL PRODUCTS PROCESSING

- Alumina Processing
- Asphalt/Coal Tar Applicaton-Metal Pipes
- Asphalt Concrete Manufacturing
- Asphalt Processing
- Asphalt Roofing Manufacturing
- Chromium Refractories Production
- Clay Products Manufacturing
- Lime Manufacturing
- Mineral Wool Production
- Portland Cement Manufacturing
- Taconite Iron Ore Processing
- Wool Fiberglass Manufacturing

PETROLEUM AND NATURAL GAS PRODUCTION AND REFINING

- Oil and Natural Gas Production
- Petroleum Refineries-Catalytic Cracking (Fluid and other) Units, Catalytic Reforming Units, and Sulfur Plant Units
- Petroleum Refineries- Other Sources Not Distinctly Listed

LIQUIDS DISTRIBUTION

- Gasoline Distribution
- Organic Liquids Distribution (Non-Gasoline)

SURFACE COATING PROCESSES

- Aerospace Industries
- Auto and Light Duty Truck (Surface Coating)
- Flat Wood Paneling (Surface Coating)
- Large Appliance (Surface Coating)
- Manufacture of Paints, Coatings, and Adhesives
- Metal Can (Surface Coating)
- Metal Coil (Surface Coating)
- Metal Furniture (Surface Coating)
- Miscellaneous Metal Parts and Products (Surface Coating)
- Paper and Other Webs (Surface Coating)
- Plastic Parts and Products (Surface Coating)
- Printing, Coating, and Dyeing of Fabrics
- Printing/Publishing (Surface Coating)
- Shipbuilding and Ship Repair (Surface Coating)
- Wood Furniture (Surface Coating)

WASTE TREATMENT AND DISPOSAL

- Hazardous Waste Incineration
- Municipal Landfills
- Sewage Sludge Incineration
- Site Remediation
- Solid Waste Treatment, Storage and Disposal Facilities
- Publicly Owned Treatment Works Emissions

AGRICULTURAL CHEMICALS PRODUCTION

- 2,4-D Salts and Esters Production
- 4-Chloro-2-Methylphenoxyacetic Acid Production
- 4,6-Dinitro-o-Cresol Production
- Captafol Production
- Captan Production
- Chloroneb Production
- Chlorothalonil Production
- Dacthal (tm) Production
- Sodium Pentachlorophenate Production
- Tordon (tm) Acid Production

FIBERS PRODUCTION PROCESSES

- Acrylic Fibers/Modacrylic Fibers Production
- Rayon Production
- Spandex Production

POLYMERS AND RESINS PRODUCTION

- Acetal Resins Production
- Acrylonitrile-Butadiene-Styrene Production
- Alkyd Resins Production
- Amino Resins Production
- Boat Manufacturing
- Butadiene-Furfural Cotrimer (R-11)
- Butyl Rubber Production
- Carboxymethylcellulose Production
- Cellophane Production
- Cellulose Ethers Production
- Epichlorohydrin Elastomers Production
- Epoxy Resins Production
- Ethylene-Propylene Elastomers Production
- Flexible Polyurethane Foam Production
- Hypalon (tm) Production
- Maleic Anhydride Copolymers Production
- Methylcellulose Production
- Methyl Methacrylate-Acrylonitrile-Butadiene-Styrene Production
- Methyl Methacrylate-Butadiene-Styrene Terpolymers Production
- Neoprene Production
- Nitrile Butadiene Rubber Production
- Non-Nylon Polyamides Production
- Nylon 6 Production
- Phenolic Resins Production
- Polybutadiene Rubber Production
- Polycarbonates Production
- Polyester Resins Production
- Polyethylene Terephthalate Production
- Polymerized Vinylidene Chloride Production
- Polymethyl Methacrylate Resins Production
- Polystyrene Production
- Polysulfide Rubber Production
- Polyvinyl Acetate Emulsions Production
- Polyvinyl Alcohol Production
- Polyvinyl Butyral Production
- Polyvinyl Chloride and Copolymers Production
- Reinforced Plastic Composites Production
- Styrene-Acrylonitrile Production
- Styrene-Butadiene Rubber and Latex Production

PRODUCTION OF ORGANIC CHEMICALS

- Synthetic Organic Chemical Manufacturing

PRODUCTION OF INORGANIC CHEMICALS

- Ammonium Sulfate Production-Caprolactam By-Product Plants
- Antimony Oxides Manufacturing
- Chlorine Production
- Chromium Chemicals Manufacturing
- Cyanuric Chloride Production
- Fume Silica Production
- Hydrochloric Acid Production
- Hydrogen Cyanide Production
- Hydrogen Fluoride Production
- Phosphate Fertilizers Production
- Phosphoric Acid Manufacturing
- Quaternary Ammonium Compounds Production
- Sodium Cyanide Production
- Uranium Hexafluoride Production

MISCELLANEOUS PROCESSES

- Aerosol Can-Filling Faciliites
- Benzyltrimethylammonium Chloride Production
- Butadiene Dimers Production
- Carbonyl Sulfide Production
- Chelating Agents Production
- Chlorinated Paraffins Production
- Chromic Acid Anodizing
- Commercial Dry Cleaning (Perchloroethylene)- Transfer Machines
- Commercial Sterilization Facilities
- Decorative Chromium Electroplating
- Dodecanedioic Acid Production
- Dry Cleaning (Petroleum Solvent)
- Ethylidene Norbornene Production
- Explosives Production
- Halogenated Solvent Cleaners
- Hard Chromium Electroplating
- Hydrazine Production
- Industrial Dry Cleaning (Perchloroethylene) - Transfer Machines
- Industrial Dry Cleaning (Perchloroethylene) - Dry-to-Dry Machines
- Industrial Process Cooling Towers
- OBPA/1,3-Diisocyanate Production
- Paint Stripper Users
- Photograhic Chemicals Production
- Phthalate Plasticizers Production
- Plywood/Particle Board Manufacturing
- Polyether Polyols Production
- Pulp and Paper Production
- Rocket Engine Test Firing
- Rubber Chemical Manufacturing
- Semiconductor Manufacturing
- Symmetrical Tetrachlorophyridine Production
- Tire Production
- Wood Treatment

FOOD AND AGRICULTURAL PROCESSES

- Baker's Yeast Manufacturing
- Cellulose Food Casing Manufacturing
- Vegetable Oil Production

PHARMACEUTICAL PRODUCTION PROCESSES

- Pharmaceuticals Production

CATEGORIES OF AREA SOURCES

- Asbestos Processing
- Chromic Acid Anodizing
- Commercial Dry Cleaning (Perchloroethylene)- Transfer Machines
- Commercial Dry Cleaning (Perchloroethylene)- Dry-to-Dry-Machines
- Commercial Sterilization Facilities
- Decorative Chromium Electroplating
- Halogenated Solvent Cleaners
- Hard Chromium Electroplating