THIRTEENTH ANNUAL
TOXIC CHEMICAL REPORT

APRIL 2001

Illinois Environmental Protection Agency
Springfield, Illinois

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EXECUTIVE SUMMARY

Nearly 2,300 unique facilities have reported toxic chemical release information to the Illinois EPA since the reporting program mandated by federal law began in 1987. Not including 1987, an average of around 1,300 facilities have reported each year, with the actual number ranging between 1,258 and 1,477.

For calendar year 1999, 1,318 facilities submitted 4,820 individual toxic chemical release reports showing a total of 197.9 million pounds of releases and transfers. Zinc compounds had the highest reported releases and transfers, at 43.6 million pounds. The combined total of fugitive and stack air emissions topped all other environmental areas at 84.8 million pounds. Facilities in Standard Industrial Classification (SIC) Code 4911 (Electric Services - coal and/or oil fired power plants) exceeded all other industrial categories with reported releases and transfers of 41.7 million pounds.

In order to perform meaningful trend analyses of total toxic chemical releases, including offsite transfers, the Illinois EPA utilizes information reported by facilities for toxic chemicals which have been reportable in the same form for each of the years 1988-1999. This approach is called "normalizing". Offsite transfers for recycle or energy recovery, reportable for 1991 and later years, are not considered.

Total "normalized" releases and transfers have decreased 48 percent from 1988 to 1999. The toxic chemical with the greatest quantity reduction in that period was toluene (17.6 million pounds or 81 percent), which is a teratogen, reproductive toxin and fetal toxin. Facilities in the SIC category 2821 (Plastic Materials, Synthetic Resins and Nonvulcanizable Elastomers) as a group had the greatest quantity reduction (10.3 million pounds, or 71 percent).

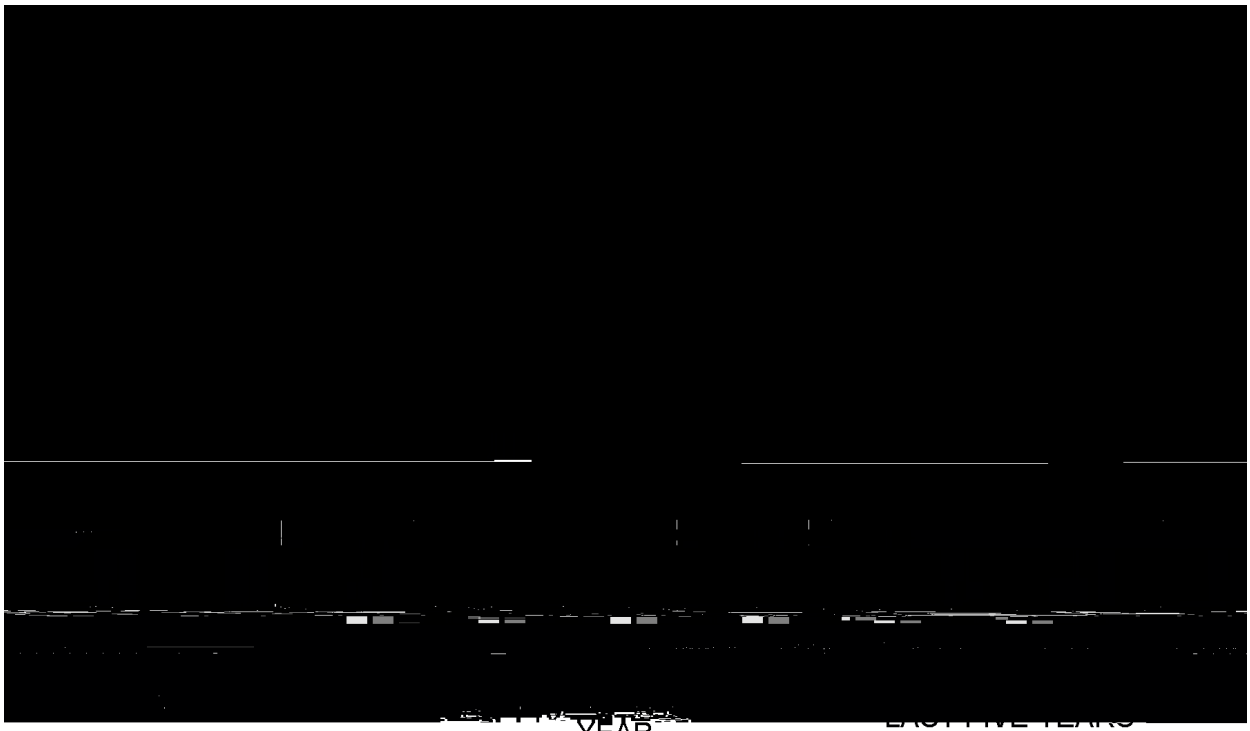
The toxic chemical with the greatest amount of releases from 1994 through 1999 was zinc compounds, totaling 138.3 million pounds. Considering only those toxic chemicals with significant human health effects, i.e. which are known or probable human carcinogens, teratogens, fetal toxicants and/or reproductive toxicants, manganese compounds had the highest total of 39.6 million pounds.

The group of facilities in SIC Code 3312 reported 166.6 million pounds of releases from 1995 through 1999, the greatest for any industrial category, and also had the highest total of 47.1 million pounds in the period for those toxic chemicals with significant human health effects.

Facilities located in ZIP Code 61832 in Danville (Vermilion County) reported the highest total of air emissions from 1995 through 1999, totaling 19.4 million pounds. Considering only those toxic chemicals with significant human health effects, facilities located in ZIP Code 61832 also reported the highest total of 19.2 million pounds.

CURRENT AND PAST YEAR HIGHLIGHTS

MEDIA	1999	1998	DIFFERENCE %
Air	**84.9**	**91.0**	**-7**



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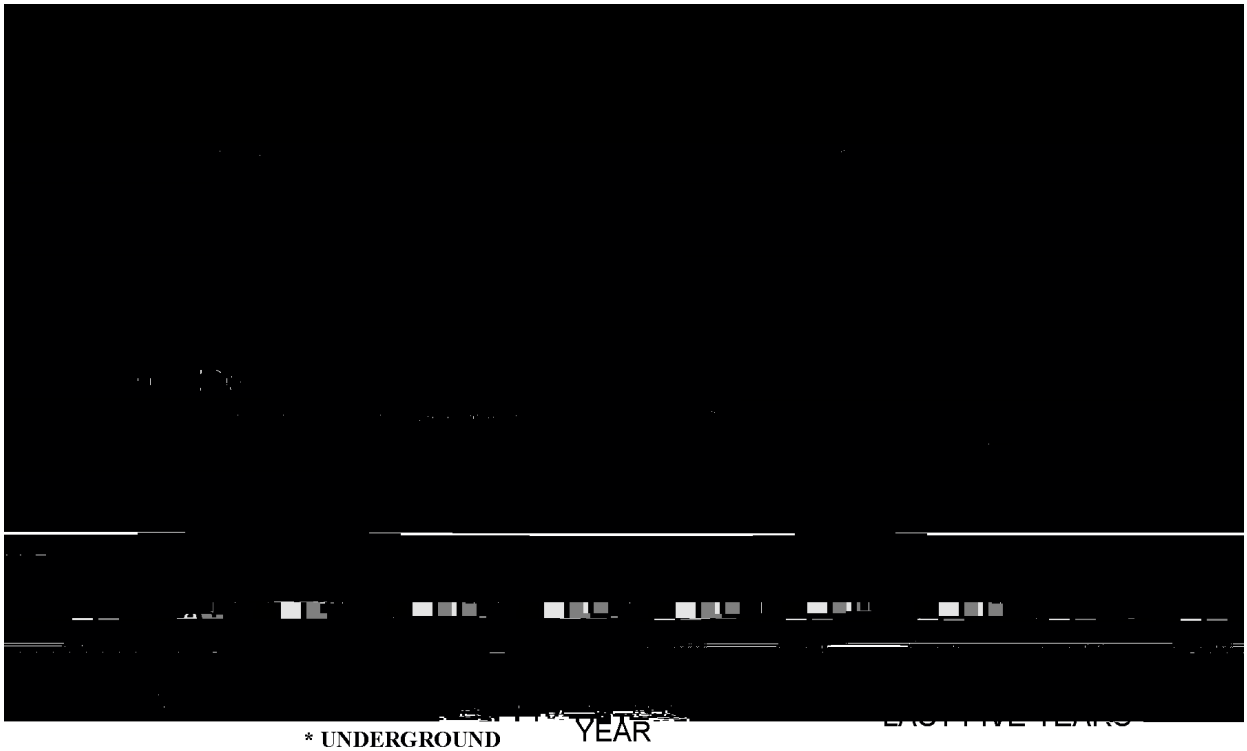

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INTRODUCTION

EMERGENCY PLANNING AND COMMUNITY RIGHT-TO-KNOW ACT

Congress adopted Title III as part of the Superfund Amendments and Reauthorization Act of 1986 (SARA). Title III is known as the Emergency Planning and Community Right-to-Know Act of 1986 (EPCRA). EPCRA established programs to provide the public with important information on the hazardous chemicals in their communities, as well as providing emergency planning and notification requirements which help protect the public in the event of a release of hazardous chemicals.

SECTION 313 (Annual Toxic Chemical Release Reporting)

Section 313 of EPCRA requires annual reports to be filed by certain companies which release any of over 600 listed toxic chemicals and compounds to the environment. This reporting covers routine releases that occur as a result of normal business operations within a calendar year, and non-routine or accidental releases.

In 1987, the Illinois General Assembly amended the Illinois Environmental Protection Act to provide for a coordinated state implementation of Section 313. This amendment also established an orderly procedure for the public to access this information. Under the Act, the Illinois Environmental Protection Agency (IEPA) is charged with the administration of Section 313 which requires industry to report annually to the U.S. EPA and state governments via the toxic chemical release form (Form R).

Form R includes all routine and non-routine releases of toxic chemicals to the air, water and land, as well as transfers of wastes to off-site treatment, storage and disposal facilities. The information reported is not necessarily derived from actual monitoring or measurements, but may be estimated from published emission factors, material balance calculations, or engineering calculations.

Form R information reported to the Illinois EPA is entered into a computer data base known as the Illinois Toxic Chemical Inventory (TCI), as required by the Illinois Environmental Protection Act.

SUMMARY OF FORM R

A complete copy of Form R is enclosed as Appendix A. In general, the information to be provided by the reporting facility can be summarized as follows:

- The name, location and type of business
- Whether the chemical is manufactured, processed, or otherwise used and the general categories of use of the chemical
- An estimate of the maximum amounts of the toxic chemical present at the facility at any time during the preceding year
- Waste treatment/disposal methods and efficiency of methods for each wastestream
- Quantity of the chemical entering each environmental medium (air, water, land) annually
- Source reduction and recycling activities for the toxic chemical
- A certification by a senior official that the report is complete and accurate

EXPLANATION OF TERMS

In order to better understand the form and references made to the information reported, selected terms have been defined as follows:

"**SIC Code**" - Standard Industrial Classification (SIC) Code - A two, three or four digit number code designated by the federal Office of Management and Budget in its "SIC Manual" which identifies an industry or industrial grouping. For example, the two-digit code "28" refers to the major group, "Chemicals and Allied Products," the three-digit code "281" refers to the industry group, "Industrial Inorganic Chemicals," and the

four-digit code "2812" refers to the specific industry, "Alkalies and Chlorine." The four-digit code identifies a specific facility rather than company.

"**Publicly Owned Treatment Works (POTW)**" - A wastewater treatment facility which is owned by a unit of government or a public utility company.

"

area of the genetic material can result in a mutated cell. If this cell continues to divide, it will produce a colony of genetically different cells. The consequences of this type of damage can be expressed as a birth defect, a mutation, a tumor, or the damage can cause a "silent mutation" in which there is no obvious effect (if the damage occurs in an area of the genetic material having no expressed function).

Since it is impossible to detect a single injury or even small numbers of injuries to the genetic material at this time, scientific studies to determine whether a chemical can cause genetic damage are designed to expose laboratory test organisms to high doses of the chemical in order to maximize the chances of seeing a response. For cancer tests, the results of positive tests at the high doses (doses which are almost always much larger than expected levels of human exposures) are then extrapolated downward to doses which are relevant to expected human exposures.

These extrapolations are usually expressed as the extra risk of contracting cancer above the "background" cancer incidence due to exposure to low levels of the chemical, such as one extra chance in 100,000 or one in a million. An extra risk of one chance in a hundred thousand or one in one million is generally considered insignificant, since there exists for everyone a similarly small, unavoidable risk of death due to natural disasters such as floods, tornadoes, lightning, etc.

These concepts of:

1. "the dose makes the poison";
2. the requirement for a route of exposure;
3. there may be specific target organs for a chemical;
4. thresholds exist for some responses; and
5. there are insignificant risk levels for those chemicals for which no threshold is thought to exist;

are concepts which may be used as part of the regulatory control strategy for releases of toxic chemicals to the environment.

As a result of spills, derailments, past disposal practices, industrial accidents, illegal dumping, etc., environmental, public safety and health agencies must on occasion respond to unplanned chemical releases to the environment. In fact, accidental conditions which result in major releases of toxic chemicals to the environment were the driving force behind passage of EPCRAs Community Right-to-Know requirements.

In cases of chemical emergencies it is critical to know the chemical, physical and toxicological properties of the chemical(s) released so that appropriate counter-measures can be undertaken as soon as possible. Knowledge of all important routes of exposure, any critical target organs, any especially sensitive populations, threshold and acutely toxic levels, and antidotes are all important in planning what to do should an emergency arise.

Even in cases which are not of an emergency nature, such as some spill cleanups, illegal dumpings or past disposal practices, it is important to know the toxicological properties of the chemicals involved. Relevant routes of exposure, sensitive organs or populations, threshold levels or levels of insignificance, and the potential fate of the chemicals in all environmental media are important subjects which must be addressed in assessing the amount of cleanup which may be necessary in the incident. In some cases, where similar-acting chemicals are involved, special care must be taken to account for additive effects on sensitive organs.

Information on the toxicological aspects of many chemicals of concern and on toxicology in general can be obtained from the references listed in Appendix B.

Many references are available which explain the properties and usage of various chemicals. An abbreviated listing of these references is presented in Appendix D.

ILLINOIS EPA REGULATORY PROGRAMS

The Illinois EPA operates a number of programs which identify, limit, monitor or otherwise control releases of various chemicals including many toxic chemicals regulated under Section 313. The following is a brief summary of those programs.

Bureau of Air

- A statewide system of air monitoring instruments provides information on various air pollutants either continuously or every two to six days depending on instrument operation.

- Permits are required for processes and machinery that emit air pollutants. Permit conditions are imposed which are designed to ensure that state emission restrictions are met. Approximately 21,000 operating permits have been issued for 7,600 facilities in Illinois.

Chemical releases to the air can occur from point sources such as stacks and vents or from non-point (fugitive) sources such as emissions from open-top holding tanks, wastewater streams or ponds, or from production losses. If these releases are subsequently captured or destroyed, no exposure occurs and, therefore, no toxic response is possible.

For some permitted releases, permit requirements are written to control chemicals of toxicological importance to the extent possible such that any exposure would be at a level of insignificance to the general public. Certain releases not covered by permits can be monitored by the Agency's statewide air monitoring network.

- The Agency is delegated to implement and enforce the federal standards under Section 112 of the CAAA which limit the air releases of Hazardous Air Pollutants (HAPs). Expanded air toxics regulation has been authorized by legislation which added Section 9.5 to the Illinois Environmental Protection Act
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interim or final operating, monitoring and reporting requirements, on-site investigations, sampling visits and records review are done to verify compliance with regulations and permit conditions. Through non-compliance letters, meeting with the facilities and appropriate referral of enforcement actions compliance is tracked and maintained.

- Subtitle C of RCRA provides the authority for the development and implementation of a comprehensive hazardous waste management program. The intent of the Act is to control hazardous wastes; to eliminate environmentally unsound disposal practices; to increase the opportunity for resource conservation and recovery; and to provide for the environmentally acceptable disposal of hazardous wastes.

The Hazardous and Solid Waste Amendments to RCRA in 1984 include, among other changes, the authority to make a facility take corrective action for any release.

Subtitle D of RCRA establishes a voluntary program through which states receive federal technical support to develop and implement solid waste management plans. These plans are intended to promote waste reduction and recycling of solid wastes, and require the closing or upgrading of all environmentally unsound dumps. Additionally, minimum technical standards are in place for all solid waste landfills.

Approximately 200 facilities are subject to regulation under the provisions of RCRA.

Bureau of Water - Division of Water Pollution Control

- A statewide network of 207 stream monitoring locations is routinely used to assess physical, chemical, biological and bacteriological properties of all surface water and also provides information on ambient conditions and water quality trends. This network is augmented by periodic intensive surveys of the 15 major river basins in the state as well as ongoing programs to measure pollutant levels in sediment and fish flesh.

- Specific pollutant concentration and mass limitations and monitoring/reporting requirements are incorporated into permits for discharge to surface waters for the approximately 2500 municipal, industrial and commercial dischargers in the state. Chemical releases to surface waters may be permitted if it can be shown that the release will conform to state and federal requirements for technology-based treatment and will not cause or contribute to violations of water quality standards established by the IPCB to protect designated uses of these waters. Thus, it may be required that the chemical be treated, removed, broken down or otherwise controlled to a point where the remaining amount will not be harmful to humans, fish and other aquatic life and wildlife, depending on the designated use of the body of water. Revisions of the toxic provisions of the state's water quality standards currently before the IPCB are designed to increase the Agency's ability to protect these waters.

- Field staff visit several hundred facilities a year to determine compliance with permit conditions. Sampling by field staff and subsequent analyses characterize the chemical and physical make-up of the discharge. Biomonitoring and facility-related stream surveys are also used to quantify this impact on aquatic life in the receiving stream. Self-monitoring reports submitted by facilities, as required by permits, are evaluated for compliance. Unresolved violations are referred to the Office of Attorney General for prosecution.

Bureau of Water - Division of Public Water Supplies

- Monitoring is conducted through regular testing of samples of raw and treated water from each public water supply. Testing includes microbiological, inorganic and organic chemicals, and radiological parameters.

- Owners or official custodians of facilities that wish to install new equipment or water mains or to modify existing equipment or distribution systems are required to obtain a construction permit. Once construction has been completed, an operating permit must be obtained prior to start of operation before putting new construction into operation. Agency personnel review permit applications to insure proper system design and

compliance with applicable regulations. Approximately 1,930 community water supply systems throughout the state are subject to the construction and operating permit requirements of the Agency. Permits are also issued for algae control, for pesticide application upstream of public water supply intakes, and for the waste disposal permit requirements that apply to public water supply treatment wastes.

The Agency administers the minimum and maximum setback zone procedures, which provide for a buffer area between public water supply wells and sources of possible chemical contamination of those wells, and is responsible for the hazard certification program, which registers all sites posing minimum hazard and provides an exemption from setback requirements.

- Agency field personnel regularly inspect public water supply systems and also respond to complaints and requests for assistance. Technical assistance provided by the Agency has proven to be extremely cost effective in helping supplies maintain adequate operations. In addition, other aspects of the groundwater protection program are conducted by the Agency. In cases of violations of water supply standards, permit requirements or certification requirements, the Agency will initiate enforcement action through the Office of the Attorney General.

Office of Emergency Response

- Regulations require immediate reporting of emergency releases of many chemicals to the state. The Illinois EPA works within the State response system to provide technical advice to spillers and responding governmental units during response, mitigation and cleanup of incidents involving chemical emergencies. Over 2,865 such incidents were handled by the Agency in 1999.

- The Agency also administers certain provisions of the Illinois Chemical Safety Act (ICSA). The ICSA requires facility contingency planning for dealing with releases of chemical substances, and provides for review and recommendations for improvement of contingency plans by the Illinois EPA following significant releases of chemical substances. Approximately 2,300 facilities are regulated under the provisions of the ICSA.

- The use of certain toxic substances such as Polychlorinated Biphenyls are regulated by the federal government under the authority of the Toxic Substances Control Act. Pursuant to a cooperative agreement, OCS staff conduct compliance inspections of such substances for the U.S. EPA who initiate any subsequent enforcement actions. This is one of the few Agency programs that addresses the use aspect of chemicals in contrast to addressing them as a waste, release or residue.

- Spills reported as emergencies are evaluated to determine the need for prevention and remediation measures. Cooperation is achieved in most cases, but formal compliance actions or even referral for prosecution are sometimes necessary to obtain the desired relief.

Pollution Prevention

The Illinois Pollution Prevention Act was passed in 1992. This act may lead to new approaches to preventing pollution in Illinois. The Toxic Pollution Prevention Act of 1989 provides that manufacturing industries in Illinois may elect to develop toxic pollution prevention innovation plans in order to reduce the releases of toxic substances by various manufacturing processes which operate in the state. The Illinois EPA is to concur in innovation plans which will be effective in preventing toxic pollution, provided the plan will achieve the level of toxic pollution prevention of other available processes, and provided the plan will not reasonably be expected to have any significant adverse effect on public health or the environment.

The Illinois Materials Exchange Service, operated by the Agency, identifies potential waste materials for which a facility is attempting to find a potential user so that the materials can be recycled instead of being discarded as a waste. The Illinois EPA also identifies potential waste materials which are being sought by facilities for use in their process as a raw material.

The Illinois EPA also operates an internship program in cooperation with several universities, in an effort to work with Illinois industries to identify opportunities to reduce the generation of waste through the manufacturing process.

UTILIZATION OF FORM R DATA

Data reported on Form R has been utilized in many ways. Some examples are as follows:

AIR PROGRAM

Form R data is being used in conjunction with seasonal emissions reports to help evaluate performance by participants in the Emissions Reduction Market System. The Bureau of Air also utilizes Form R data to identify facilities for regulation under delegated provisions of the federal Clean Air Act Amendments.

ILLINOIS CHEMICAL SAFETY ACT (ICSA)

Section 313 (Form R) data is utilized in the process of adding facilities for coverage under the ICSA. Form R data is also being reviewed to determine compliance with the ICSA by facilities reporting under Section 313.

STORM WATER PERMITS

Form R data is used to identify facilities for storm water permitting activities under the federal Clean Water Act Amendments.

HEALTH AND HAZARDOUS SUBSTANCES REGISTRY ACT

The Illinois Department of Public Health has requested and received Form R data to use as inputs to this Registry.

INFORMATION SUPPORT DURING CHEMICAL EMERGENCIES

The Illinois EPA has used Form R data to determine what chemicals might have been released during facility chemical emergencies involving fire or explosion.

LOCAL SAFETY ACTIVITIES

In addition to handling planning and response activities under the Illinois Chemical Safety Act, local governments have been actively developing and pursuing emergency response and preparedness capabilities under Title III. Local officials used Form R data as input to their emergency response plans.

CHEMICAL EXPOSURE SCREENING

Local public health departments and the U. S. Occupational Safety and Health Administration (OSHA) have requested identification of facilities in certain areas which release specific chemicals for the purpose of targeting exposure screening for facility employees.

ENVIRONMENTAL PERFORMANCE

The Illinois EPA uses Form R data as indicators of environmental performance in its Annual Environmental Conditions Report.

OTHER USES

An industrial trade association has requested pollution prevention information from Form Rs for some of its member facilities.

Form R data from the Illinois Toxic Chemical Inventory has been provided to be used, along with other data, to analyze critical environmental trends in Illinois.

Utility companies in Illinois have requested Form R information for their customers to support them in release reduction.

The Illinois EPA used Form R information, along with EPCRA Section 312 information, to assess the Year 2000 preparedness of chemical facilities in Illinois.

CHANGES IN REPORTING REQUIREMENTS

The EPCRA Section 313 Chemical List (Table II) has not changed since last year.

ANALYSIS OF FORM R INFORMATION

For the current calendar year analysis, all valid reports for chemicals reportable in 1999 are included in the release and transfer totals. This includes both new chemicals (reportable for the first time in 1998, if any), chemicals which may be reportable in a different form than when they were first listed and reports from the new SIC major group codes and facility codes ("new industrial categories") which are required to report beginning with 1998. For this reason, release totals in this section differ from those given for 1999 in the "Trend Analysis, 1988-1999" section.

FACILITIES

Total Releases and Transfers

For calendar year 1999, 1,318 facilities submitted 4,820 toxic chemical release reports totaling 197.9 million pounds.

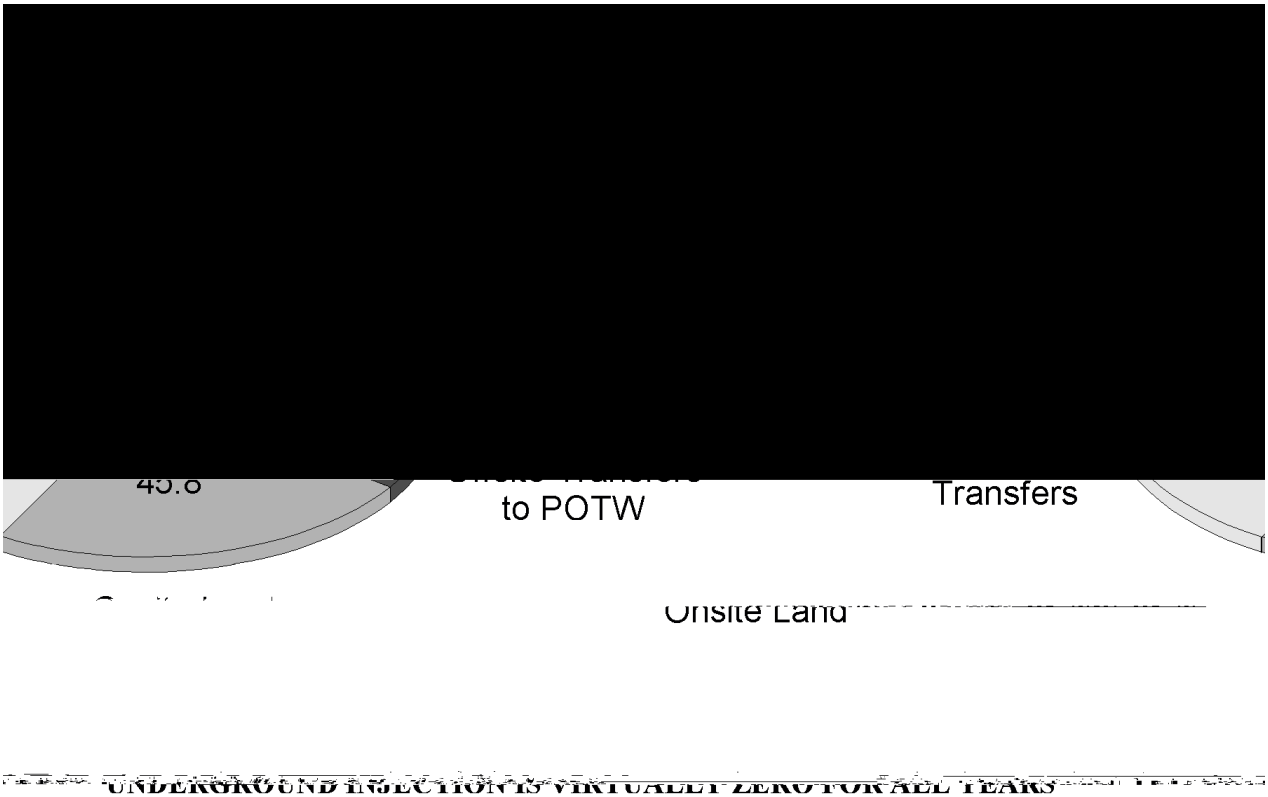
Table 1 lists the facilities reporting the top 20 total release and transfer amounts, not including offsite transfers for recycle or energy recovery.

Table 1
Total Releases and Transfers

(Million Pounds)
Top 20 Facilities

			Releases					Transfers		
	Facility Name	City	Fugitive Air	Stack Air	Water	Under-ground Injection	On-Site Land	On-Site POTW	Off-Site	Other Releases & Transfers	Total
1.	Peoria Disposal Company #1	Peoria	0.0	0.0	0.0	0.0	18.7	0.0	0.0	18.7	
2.	Baldwin Power Station	Baldwin	0.0	11.7	0.2	0.0	1.1	0.0	0.0	13.0	
3.	Northwestern Steel & Wire	Sterling	0.1	0.1	0.0	0.0	9.8	0.0	0.1	10.0	
4.	KeystoAr0775 Tc 0.19hro.										

Figure 1 shows the distribution of total releases and transfers for 1999.



UNDERGROUND INJECTION IS VIRTUALLY ZERO FOR ALL YEARS

CHEMICALS

Releases and transfers of 305 different toxic chemicals and categories during 1999 were reported by Illinois facilities. Table 2 lists release and transfer information for the 20 chemicals with the highest reported total amounts.

Table 2
Total Releases and Transfers
(Million Pounds)
Top 20 Chemicals

		Releases					Offsite Transfers		Total Releases
CAS Number & or Category	Chemical Name	Fugitive Air	Stack Air	Water	Under-ground Injection	Land	POTW	Other	
1. 000010982	Zinc compounds	0.3	0.5	0.0	0.0	28.1	0.0	14.7	43.6
2. 007647010	Hydrochloric Acid	0.0	28.9	0.0	0.0	0.0	0.0	0.1	29.1
3. 000010450	Manganese Compounds*	0.0	0.1	0.1	0.0	6.6	0.0	5.4	12.4
4. 000010511	Nitrate Compounds	0.0	0.0	5.9	0.0	0.2	5.5	0.4	12.0
5. 007664939	Sulfuric acid	0.0	7.9	0.0	0.0	0.0	0.7	0.1	8.7
6. 000110543	n-Hexane*	2.0	5.7	0.0	0.0	0.0	0.0	0.0	7.7
7. 007664417	Ammonia	0.6	4.1	0.1	0.0	0.0	1.3	0.6	6.7
8. 000067561	Methanol	0.5	1.3	0.0	0.0	0.0	1.7	1.9	5.3
9. 000010040	Barium compounds	0.0	0.1	0.1	0.0	3.4	0.0	1.4	5.1
10. 000108883	Toluene*	2.2	1.5	0.0	0.0	0.0	0.0	0.9	4.7
11. 000078933	Methyl Ethyl Ketone*	0.8	0.9	0.0	0.0	0.0	0.4	1.9	3.9
12. 000010090	Chromium Compounds*	0.0	0.0	0.0	0.0	1.9	0.0	1.8	3.8
13. 000010420	Lead Compounds*	0.0	0.0	0.0	0.0	2.0	0.0	1.7	3.7
14. 000075150	Carbon Disulfide*	0.1	3.4	0.0	0.0	0.0	0.0	0.0	3.6
15. 000085449	Phthalic Anhydride	0.0	0.1	0.0	0.0	0.0	0.0	2.8	3.0
16. 001330207	Xylene (Mixed Isomers)*	0.8	1.6	0.0	0.0	0.0	0.0	0.5	3.0
17. 000010230	Glycol Ethers	0.7	1.6	0.0	0.0	0.0	0.2	0.3	2.8
18. 007440666	Zinc (Fume or Dust)	0.0	0.1	0.0	0.0	0.6	0.0	2.0	2.7
19. 000100425	Styrene*	0.5	2.0	0.0	0.0	0.0	0.0	0.2	2.6
20. 007664393	Hydrogen fluoride	0.0	2.5	0.0	0.0	0.0	0.0	0.0	2.5

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STANDARD INDUSTRIAL CLASSIFICATION (SIC) CATEGORIES

Facilities in 255 individual four-digit SIC codes have reported toxic chemical releases and transfers for calendar year 1999. Table 3 summarizes the information for the 20 SIC codes reporting the highest release and transfer totals.

Table 3
Total Releases and Transfers
(Million Pounds)
Top 20 SIC Codes

ZIP CODES - AIR EMISSIONS

Air emissions for calendar year 1999 in the 20 ZIP codes with the highest reported totals are summarized in Table 4.

Table 4

Total Air Emissions
(Million Pounds)
Top 20 ZIP Codes

Zip Code	County	City	Total Air Emissions Fugitive	Stack	Total
1. 62217	Randolph	Baldwin	0.0	11.7	11.7
2. 62526	Macon	Decatur	0.6	5.8	6.4
3. 62739	Montgomery	Coffeen	0.0	4.6	4.6
4. 61832	Vermilion	Danville	0.4	4.1	4.6
5. 62707	Sangamon	Springfield	0.0	2.8	2.8
6. 61607	Peoria	Bartonville	0.0	2.8	2.8
7. 62002	Madison	Alton	0.0	2.8	2.8
8. 61858	Vermillion	Oakwood	0.0	2.2	2.2
9. 62084	Madison	Roxana	0.5	1.3	1.8
10. 60501	Cook	Summit	0.3	1.4	1.7
11. 60450	Grundy	Morris	0.1	1.2	1.3
12. 61327	Putnam	Hennepin	0.0	1.3	1.3
13. 61025	Jo Daviess	East Dubuque	0.0	1.2	1.2
14. 61554	Tazewell	Pekin	0.1	1.0	1.1
15. 62655	Morgan	Meredosia	0.0	1.1	1.1
16. 61350	La Salle	Ottawa(Rural)	0.1	1.0	1.0
17. 62206	St. Clair	Sauget	0.4	0.5	1.0
18. 61054	Ogle	Mt. Morris	0.7	0.3	0.9
19. 61938	Coles	Mattoon	0.9	0.0	0.9
20. 62306	Adams	Quincy	0.1	0.8	0.9
Top 20 Zip Codes:			4.2	47.9	52.1
Total for All Reporting Facilities:			12.6	72.3	84.9

COUNTY SUMMARY

Table 5 presents a five-year summary of the total releases and facilities reporting for each county.

Table 5

Total Releases/Number of Reporting Facilities For Each County

(Release Amounts in Million Pounds)

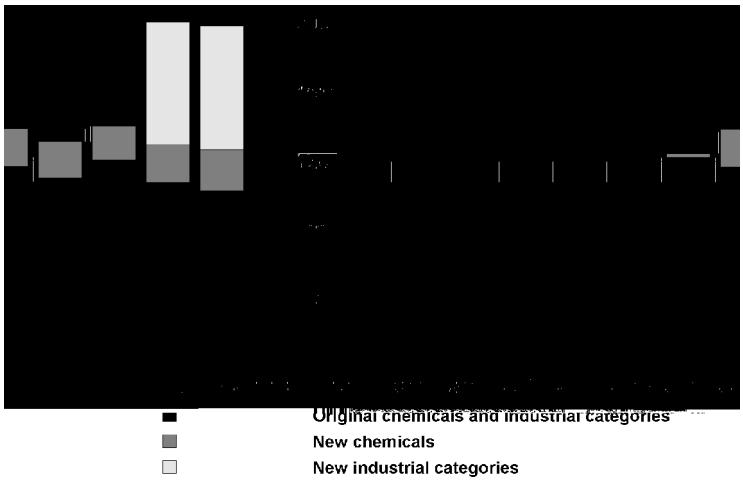
County	Base Year	Last Five Years					Total
	1988	1995	1996	1997	1998	1999	95-99
1. Cook	56.2/613	22.8 /506	23.8 / 461	24.9 / 440	21.7 / 486	28.8 / 509	122.0
2. Whiteside	7.8 /13	20.5 /15	14.8/ 13	15.1 /13	13.1 /15	10.1 /13	73.6
3. Peoria	6.6 / 22	7.5 /16	8.0 /15	6.6 /15	6.2 /14	31.1 /18	59.4
4. Madison	12.6/34	9.2 /28	9.0 /25	9.7 /20	10.2/23	14.6/26	52.7
5. St. Clair	13.2 /19	4.5 /18	5.0 /21	4.6 /21	4.6 /22	8.8 /25	27.5
6. Vermilion	3.6 / 13	4.5 /17	4.4 /17	4.3 /15	4.0 /16	7.6 /17	24.8
7. Will	7.9 / 44	2.5 /42	4.3 /47	5.6 /47	3.0 /52	7.3 /52	22.7
8. Kankakee	0.8 / 19	1.1 /15	1.0 /17	6.2 /16	5.9 /16	6.3 /15	20.5
9. Macon	1.4 / 13	0.8 /20	0.9 /20	2.0 /19	2.4 /19	11.2 /18	17.3
10. LaSalle	5.0 / 28	3.3 /26	2.7 /24	2.7 /18	2.7 /23	3.0 /23	14.4
11. Randolph	0.1 / 5	0.0 /3	0.0 /3	0.0 /2	0.0 /3	13.0 /4	13.0
12. Ogle	6.5 / 14	4.1 /10	3.9 /11	1.8 /11	1.5 /14	1.7 /13	13.0
13. Lake	4.9 / 44	2.2 /42	1.6 /42	1.9 /37	1.9 /43	3.5 /45	11.1
14. Rock Island	1.7 / 18	1.5 /17	1.4 /15	1.3 /17	1.4 /16	4.2 /17	9.8
15. Grundy	7.7 / 10	1.3 /8	1.9 /7	2.0 /7	2.2 /8	1.5 /10	8.9
16. Montgomery							

	Base Year	Last Five Years					
Total County	1988	1995	1996	1997	1998	1999	95-99
41. Putnam	0.2 / 1	0.0 /1	0.0 /1	0.0 /1	0.0 /1	1.5 /2	1.5
42. Kendall	1.6 / 3	0.4 /5	0.3 /4	0.4 /4	0.3 /4	0.1 /3	1.5
43. McDonough							

TREND ANALYSIS, 1988-1999 SUMMARY

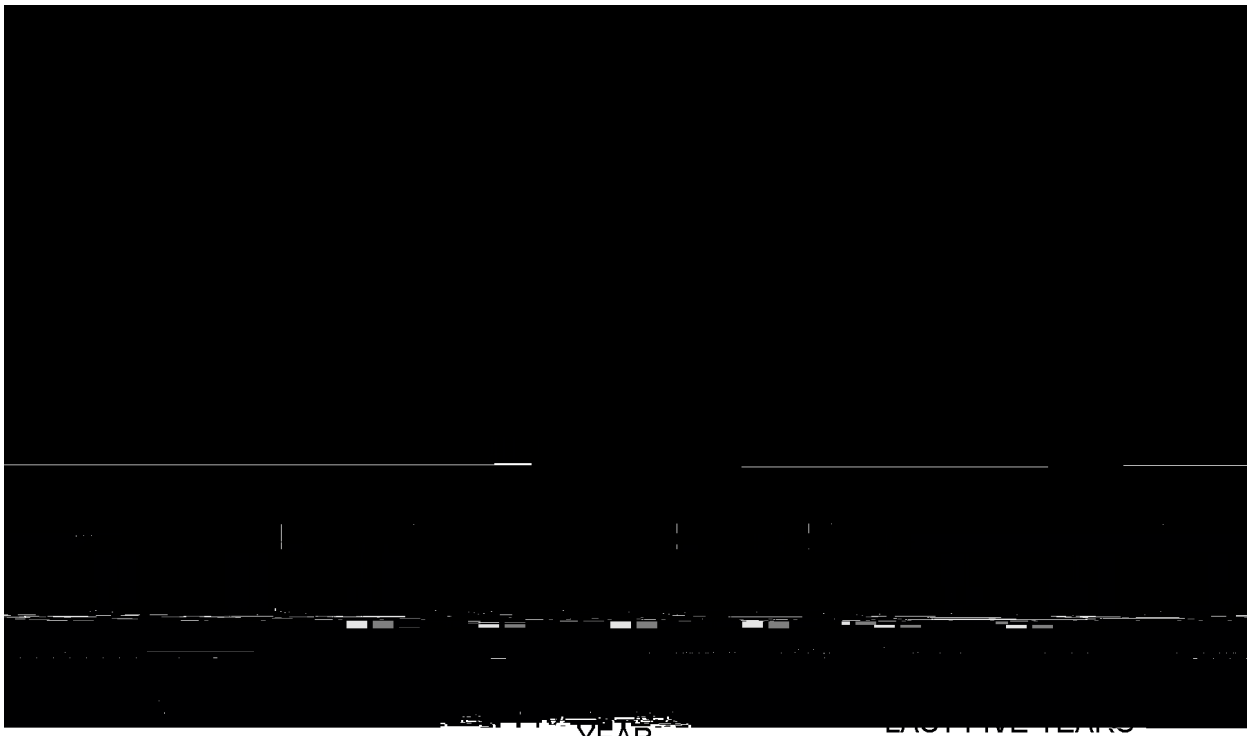
From 1988 to 1999, there have been many additions to and deletions from the list of toxic chemicals, and published guidance has modified chemical reporting. Coupled with the facts that the quality of data reported for 1987 is questionable and that reporting threshold amounts decreased from 1987 to 1989, it is nearly impossible to evaluate trends using all reported information from all facilities for all years.

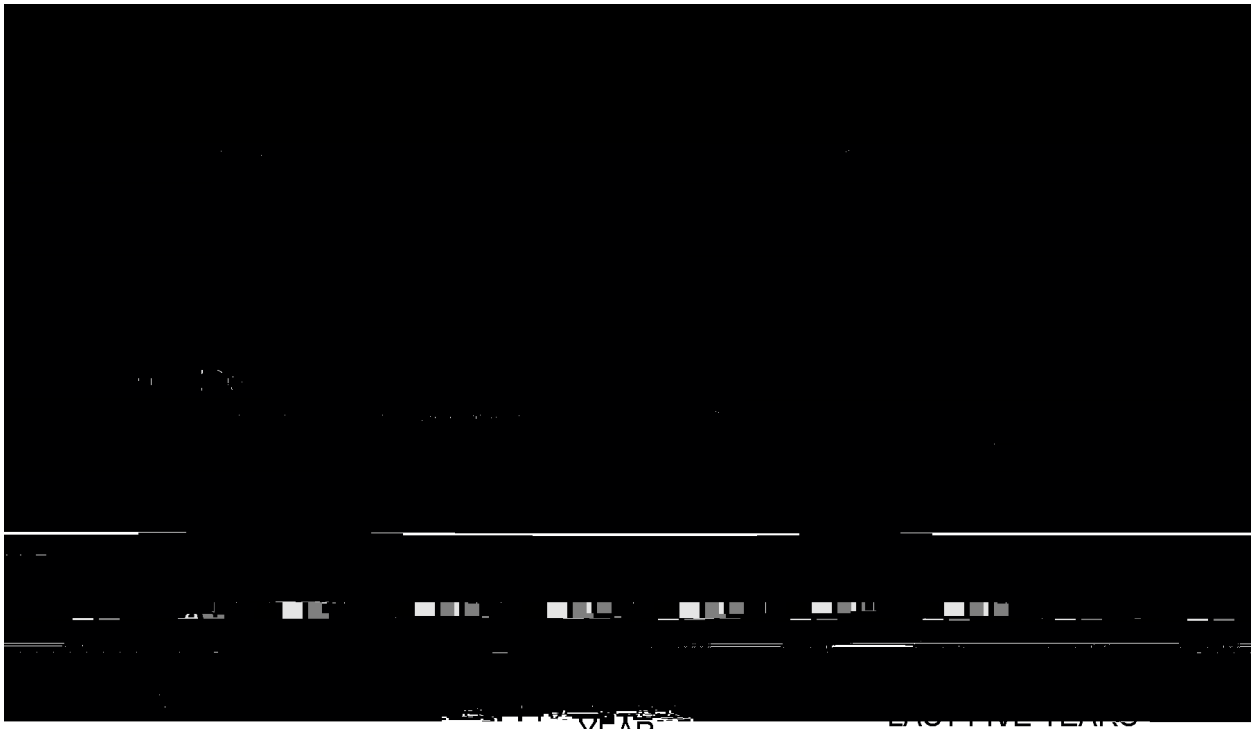
Considering the dynamic nature of the Form R reporting program, in order to perform meaningful analyses of toxic chemical releases, especially with regard to evaluating release trends, the Illinois EPA utilizes information provided by facilities for



SUMMARY

Figures 2 and 3 summarize the overall totals for releases and transfers from 1988 through 1999.





YEAR

* UNDERGROUND INJECTION IS

FOR ALL YEARS

FACILITIES

Total Releases and Transfers

Facilities reported releases totaling 487.6 million pounds from 1995 through 1999. During this period, the top 20 facilities accounted for approximately 53 percent of those releases and transfers, as shown in Table 6.

Table 6

Total Release and Transfer Amounts
Top 20 Facilities

		Total Releases and Transfers (Million Pounds):						
		Base Yr.	Last Five Years					Total
Facility	City	1988	1995	1996	1997	1998	1999	95-99
1. Northwestern Steel & Wire Co.	Sterling	7.0	20.1	14.6	15.0	13.0	10.0	72.9
2. Keystone Steel & Wire Co.	Peoria	4.5	6.6	6.9	5.9	5.3	6.6	31.1
3. Granite City Steel	Granite City	4.8	5.4	6.0	6.1	5.9	5.6	29.0
4. Devro-Teepak	Danville	2.0	3.8	3.9	3.9	3.6	3.5	18.8
5. Birmingham Steel Corp. Kankakee, IL Steel Division	Bourbonnais	0.0	0.0	0.0	5.3	5.0	5.2	15.5
6. Koppers Industries, Inc.	Cicero	1.3	0.2	2.6	3.0	4.0	3.1	12.9
7. Equistar Chemicals, LP	Morris	4.9	1.0	1.6	1.7	2.0	1.2	7.5
8. Acme Steel Co. - Riverdale Plant	Riverdale	1.9	0.8	0.9	3.3	2.1	0.3	7.4
9. Big River Zinc Corporation	Sauget	2.0	1.2	1.4	1.1	1.2	1.9	6.9
10. Carus Chemical Company	LaSalle	1.6	1.4	1.1	1.3	1.4	1.4	6.6
11. Flexsys America, L.P., Krumrich	Sauget	0.0	0.0	1.5	1.6	1.6	1.4	6.2
12. Viskase Corp.	Bedford Park	1.2	1.7	1.7	1.6	0.9	0.0	6.0
13. American Steel Foundries	Granite City	0.0	1.6	1.3	1.2	0.8	1.1	6.0
14. GE Company	Ottawa	2.4	1.5	1.0	1.0	1.1	0.9	5.1
15. Mueller Company, Plant #4	Decatur	0.0	0.0	0.0	1.5	1.7	1.8	5.1
16. Cabot Corp., Cab-O-Sil Division	Tuscola	3.9	2.4	2.0	0.2	0.2	0.2	5.1
17. Solutia Inc.- Krummich, Il	Sauget	6.2	2.1	0.8	0.8	0.6	0.7	5.0
18. Quebecor Printing, Inc.	Mt. Morris	1.7	0.9	1.3	0.9	0.7	0.9	4.7
19. Ford Motor Company, Chicago Assembly	Chicago	2.0	1.3	0.7	0.8	1.0	0.9	4.6
20. Abbott Laboratories, North Chicago Plant	North Chicago	0.7	1.0	0.7	0.8	0.7	1.2	4.4
Totals for Top 20 Facilities:		48.0	53.0	55.3	55.5	51.0	64.5	164.9
Totals for All Reporting Facilities:		170.8	103.4	97.2	102.8	94.5	89.7	487.6

Considering only toxic chemicals known to have significant human health effects, facilities reported total releases and transfers of 209.4 million pounds during those same years. The top 20 facilities accounted for 54 percent of that total, as show in Table 7.

Table 7

Total Release and Transfer Amounts
Chemicals With Significant Human Health Effects
Top 20 Facilities

		Total Releases and Transfers (Million Pounds):						
		Base Yr.	Last Five Years					Total
Facility	City	1988	1995	1996	1997	1998	1999	95-99
1. Northwestern Steel & Wire Co.	Sterling	2.7	6.7	6.0				

Decreases in Releases and Transfers

The top twenty facilities with decreases in releases and transfers of toxic chemicals from 1995 through 1999 are shown in Table 8.

Table 8

Total Release and Transfer Decreases
Top 20 Facilities

		Total Releases and Transfers (Million Pounds):						
Total Facility	City	Base Yr. 1988	Last Five Years 1995	1996	1997	1998	1999	Decrease 95-99
1. Northwestern Steel and Wire Co.	Sterling	7.0	20.3	14.6	15.0	13.0	10.0	-10.3
2. Cabot Corporation, Cab-O-Sil Division	Tuscola	3.9	2.4	2.0	0.2	0.2	0.2	-2.2
3. Viskase Corp.	Bedford Park	1.2	1.7	1.7	1.6	0.9	0.0	-1.7
4. Borden Chemical, Inc.	Forest Park	0.8	1.5	1.8	0.7	0.0	0.0	-1.5
5. Solutia, Inc. - Krummrich, IL	Sauget	6.2	2.1	0.8	0.8	0.6	0.7	-1.3
6. World Color Press Salem Gravure	Salem	0.8	1.2	1.1	1.3	0.6	0.0	-1.2
7. Dana Corp. Victor Products Div.	Robinson	1.8	1.0	0.1	0.0	0.0	0.0	-1.0
8. Chicago Specialties, Inc.	Chicago	3.0	1.1	0.5	0.2	0.1	0.1	-1.0
9. Nascote Industries	Nashville	0.7	0.8	0.5	0.6	0.6	0.0	-0.8
10. Equilon Wood River Refining Co.	Roxana	1.7	0.5	0.6	0.5	0.6	0.0	-0.5
11. American Steel Foundry	Granite City	0.0	1.6	1.3	1.2	0.8	1.1	-0.5
12. No-Sag Foam Products	West Chicago	0.1	0.5	0.0	0.0	0.0	0.0	-0.5
13. Acme Steel, Riverdale Plant	Riverdale	1.9	0.8	0.9	00.5	Granite City		010RT T87.6 43h14801

The top twenty facilities with decreases in releases and transfers of chemicals with significant human health effects are shown in Table 9.

Table 9

Total Release and Transfer Decreases
Chemicals With Significant Human Health Effects
Top 20 Facilities

	Total Releases and Transfers (Million Pounds):	
	Total	
	Base Yr.	

Increases in Releases and Transfers

Release and transfer amounts reported by a number of facilities increased from 1988 through 1999. Table 10 shows the top twenty facilities ranked according to total release and transfer increases in pounds per year for the eight-year period.

Table 10

Total Release and Transfer Increases
Top 20 Facilities

			Total Releases and Transfers (Million Pounds):						
				Base Yr.	Last Five Years				
	Facility	City	1998	1999	1988 95-99	1995	1996	1997	Total Increase
1.	Birmingham Steel Corporation - Kankakee Illinois Steel Division	Bourbonnais	0.0	0.0	0.0	5.3	5.0	5.2	5.2
2.	Koppers Industries, Inc.	Cicero	1.3	0.2	2.6	3.0	4.0	3.1	2.9
3.	Mueller Co. Plant #4	Decatur	0.0	0.0	0.0	1.5	1.7	1.8	1.8
4.	Mc Intyre Group, Ltd.	University Park	0.0	0.0	0.0	0.2	0.9	1.6	1.6
5.	Flexsys America, L.P Krummrich	Sauget	0.0	0.0	0.0	1.6	1.4	3.4	T
6.	ADM Corn Processing	Decatur	0.0	0.0	0.0	0.0	0.0	1.0	1.0
7.	Shell Chemical Company	Bedford Park	0.0	0.0	0.0	0.0	0.8	0.8	0.8
8.	Williams Ethanol Services	Pekin	0.0	0.0	0.0	0.0	0.0	0.8	0.8
9.	Big River Zinc Corp.	Sauget	0.0	0.0	0.0	0.8	0.8	0.8	0.8

Table 11 shows the top twenty facilities reporting increases in releases and transfers of toxic chemicals with significant human health effects.

Table 11

Total Release and Transfer Increases
Chemicals With Significant Human Health E chemicals with

Table 13 shows the twenty facilities reporting the greatest reductions based on source reduction efforts for chemicals with significant human health effects.

Table 13

Source Reduction-Based Release and Transfer Decreases
Top 20 Facilities
(Chemicals for Which Source Reduction Activities
Were Claimed Any Year, 95-99)
Chemicals With Significant Human Health Effects

Facility	City	Total Releases and Transfers (Million Pounds): Base Yr.	Last Five Years					Total Reduction
			1991	1995				
			1996	1997	1998	1999		95-99
1. World Color Press -Salem Gravure	Salem	0.4	1.2	1.1	1.3	0.6	0.0	-1.0
2. Dana Corporation Victor Products Division	Robinson	0.0	1.0	0.1	0.0	0.0	0.0	-1.0
3. GE Company	Ottawa	0.8	1.0	0.0	0.4	0.0	0.0	-1.0
4. R.R. Donnelly & Sons, Inc.	Mattoon	1.8	0.6	0.3	0.7	0.8	0.0	-0.6
5. Nascote	Nashville	0.5	0.6	0.2	0.3	0.5	0.0	-0.5
6. Equilon Wood River Refining Co.	Roxana	0.9	0.3	0.3	0.3	0.4	0.0	-0.3
7. Zenith Electronics, Rauland Div.	Melrose Park	0.0	0.2	0.0	0.0	0.0	0.0	-0.2
8. Quality Metal Finishing Co.	Byron	0.0	0.2	0.2	0.1	0.1	0.0	-0.2
9. Belvidere Assembly Plant	Belvidere	0.2	0.1	0.0	0.0	0.0	0.0	-0.1
10. 3M Tape Manufacturing Div.	Bedford Park	0.2	0.2	0.1	0.1	0.1	0.1	-0.1
11. Mariah Boats, Inc.	Benton	0.0	0.1	0.0	0.0	0.0	0.0	-0.1
12. Brunswick Bicycles	Olney	0.1	0.1	0.1	0.0	0.0	0.0	-0.1
13. Tesa Tape Inc.	Carbondale	0.0	0.1	0.0	0.0	0.0	0.0	-0.1
14. Case 604.2Tc-8 Tc.10 D (0.0) Tj 36.1 TD (0.0) Tj haati TD (0. TD 0.03360079 1) 00 Tw (Benton) Tj 72651.28 0 TD 5 (0.								

Significant Environmental Achievement

A number of the facilities which have submitted toxic chemical release have demonstrated performance which sets them apart from other facilities. Several criteria have been considered to identify these facilities:

- Toxic chemical release and transfer reduction greater than 1 million pounds, 1988 through 1999 (most current information)

-

CHEMICALS

A total of 309 toxic chemicals and chemical categories have been reportable on Form R in the same form from 1988 through 1999.

Tables 15 through 26 summarize toxic chemical release and transfer amounts for each environmental media. The top twenty chemicals are listed for each media unless a smaller number of chemicals had non-zero release and transfer amounts.

Table 15

Total Air Emissions
Top 20 Chemicals

Combined Stack and Fugitive Emissions (Million Pounds):

CAS Number or Category	Chemical Name	Base Yr.	Last Five Years					Total
		1988	1995	1996	1997	1998	1999	95-99
1. 000108883	Toluene	18.4	6.4	4.9	5.2	4.3	3.7	24.6
2. 000075150	Carbon Disulfide	3.3	5.3	5.3	5.4	4.4	3.5	24.0
3. 001330207	Xylene (Mixed Isomers)	7.0	3.4	3.5	2.9	2.6	2.4	14.9
4. 000010230	Glycol Ethers	2.8	2.8	2.5	2.5	2.5	2.3	12.5
5. 000079016	Trichloroethylene	4.7	3.4	3.0	2.6	1.6	1.2	11.9
6. 000075092	Dichloromethane	4.3	2.7	2.5	2.0	1.8	1.6	10.6
7. 000100425	Styrene	1.9	2.1	2.0	1.9	2.1	2.4	10.5
8. 000067561	Methanol	3.7	2.4	2.3	2.2	1.8	1.7	10.5
9. 000078933	Methyl Ethyl Ketone	5.1	2.7	2.2	1.9	1.7	1.6	10.2
10. 000074851	Ethylene	5.2	1.1	1.6	1.6	1.4	1.4	7.2
11. 007782505	Chlorine	4.4	2.5	2.0	0.3	0.3	0.3	5.3
12. 000010982	Zinc Compounds	2.1	0.7	1.7	0.7	0.7	0.7	4.5
13. 000071363	n-Butyl Alcohol	1.4	1.1	0.8	0.9	0.9	0.8	4.5
14. 000108101	Methyl Isobutyl Ketone	1.7	1.4	0.7	0.8	0.6	0.5	4.1
15. 000108952	Phenol	0.5	0.8	0.7	0.5	0.4	0.5	3.0
16. 000115071	Propylene	0.7	0.3	0.5	0.5	0.9	0.3	2.6
17. 000071432	Benzene	1.6	0.4	0.4	0.4	0.4	0.4	2.0
18. 000107131	Acrylonitrile	1.1	0.4	0.4	0.4	0.4	0.3	2.0
19. 000074873	Chloromethane	1.1	0.4	0.4	0.4	0.4	0.3	1.9
20. 000095636	1,2,4-Trimethylbenzene	0.4	0.4	0.3	0.4	0.4	0.4	1.8
Totals for Top 20 Chemicals:		71.4	40.7	37.7	33.5	28.9	26.3	153.7
Totals for All Chemicals:		96.2	46.7	43.5	38.2	33.8	30.4	192.7

Table 16

Total Air Emissions
Chemicals With Significant Human Health Effects
Top 20 Chemicals

CAS Number or Category	Emissions Chemical Name	Combined Stack and Fugitive Emissions (Million Pounds): Base Year 1988	Last Five Years 1995	1996	1997	1998	1999	Total 95-99
1. 000108883	Toluene	8.4	6.4	4.9	5.2	4.3	3.7	24.6
2. 000075150	Carbon Disulfide	3.3	5.3	5.3	5.4	4.4	3.5	24.0
3. 001330207	Xylene (Mixed Isomers)	6.7	3.4	3.5	2.9	2.6	2.4	14.9
4. 000079016	Trichloroethylene	4.6	3.4	3.0	2.6	1.6	1.2	11.9
5. 000075092	Dichloromethane	4.3	2.7	2.5	2.0	1.8	1.6	10.6
6. 000100425	Styrene	1.9	2.1	2.0	1.9	2.1	2.4	10.5
7. 000078933	Methyl Ethyl Ketone	5.1	2.7	2.2	1.9	1.7	1.6	10.2
8. 000071432	Benzene	1.6	0.4	0.4	0.4	0.4	0.4	2.0
9. 000107131	Acrylonitrile	1.1	0.4	0.4	0.4	0.4	0.3	1.9
10. 000127184	Tetrachloroethylene	2.0	0.5	0.4	0.3	0.2	0.1	1.5
11. 000075003	Chloroethane	0.5	0.2	0.2	0.2	0.2	0.2	1.0
12. 000075014	Vinyl Chloride	0.1	0.1	0.1	0.1	0.1	0.1	0.6
13. 000010450	Manganese Compounds	0.0	0.1	0.2	0.1	0.1	0.1	0.6
14. 000075070	Acetaldehyde	0.1	0.1	0.1	0.1	0.1	0.1	0.5
15. 000010420	Lead Compounds	0.1	0.1	0.2	0.1	0.0	0.0	0.4
16. 007439965	Manganese	0.2	0.1	0.1	0.1	0.1	0.1	0.4
17. 000106990	1,3-Butadiene	0.0	0.0	0.1	0.1	0.1	0.1	0.3
18. 000079107	Acrylic Acid	0.1	0.0	0.0	0.1	0.0	0.0	0.2
19. 000050000	Formaldehyde	0.1	0.0	0.0	0.0	0.0	0.0	0.2
20. 007440020	Nickel	0.1	0.0	0.1	0.0	0.0	0.0	0.2
Totals for Top 20 Chemicals:		50.3	28.0	25.7	23.9	20.2	18.0	116.5
Totals for All Chemicals:		51.1	32.7	28.4	26.2	23.8	20.2	131.4

Table 17

Total Water Releases
Top 20 Chemicals

CAS Number or Category	Chemical Name	Water Releases (Thousand Pounds): Base Yr. 1988	Last Five Years 1995	1996	1997	1998	1999	Total Releases 95-99
1. 000067561	Methanol	16.5	26.9	32.4	60.2	28.7	23.7	171.9
2. 000010982	Zinc Compounds	16.3	16.7	19.1	16.9	14.7	14.4	81.8
3. 000010230	Glycol Ethers	2.1	6.1	16.9	16.7	16.5	17.5	73.6
4. 000111422	Diethanolamine	60.1	15.8	0.6	0.5	0.5	43.3	60.7
5. 007439965	Manganese	26.3	10.9	9.4	9.2	10.0	7.3	46.9
6. 000107211	Ethylene Glycol	172.8	6.0	1.6	11.3	0.1	14.1	33.1
7. 007440508	Copper	10.8	7.4	6.4	5.7	5.1	4.8	29.5
8. 000091203	Naphthalene	1.0	23.6	0.1	0.5	0.5	0.5	25.2
9. 000010450	Manganese Compounds	4.1	6.1	5.5	3.3	4.5	5.8	25.1
10. 000440020	Nickel	2.7	5.2	3.7	3.9	5.0	2.6	20.3
11. 007723140	Phosphorus (Yellow or White)	2.0	2.1	3.5	3.1	3.5	3.5	15.8
12. 000108952	Phenol	4.4	3.7	2.9	2.4	2.3	2.0	13.2
13. 000010420	Lead Compounds	7.0	4.7	2.9	1.8	1.8	1.8	13.0
14. 000050000	Formaldehyde	2.2	1.8	2.1	2.6	2.9	2.8	12.3
15. 000010090	Chromium Compounds	8.7	3.7	2.6	1.8	1.6	1.3	10.9
16. 007782505	Chlorine	41.7	2.3	1.6	2.5	2.4	1.7	10.6
17. 000010100	Copper Compounds	3.6	1.1	2.1	1.2	1.2	1.3	7.0
18. 007440473	Chromium	2.4	2.3	1.1	1.5	1.0	0.9	6.9
19. 000075058	Acetonitrile	0.9	0.2	0.3	0.3	2.9	2.9	6.6
20. 000440360	Antimony	0.0	1.2	1.3	1.2	1.3	1.3	6.2
Totals for Top 20 Chemicals:		385.6	147.8	116.1	146.6	103.0	153.5	670.6
Totals for All Chemicals:		449.5	174.8	129.3	157.7	117.2	163.6	742.6

Table 18

Total Water Releases
Chemicals With Significant Human Health Effects
Top 20 Chemicals

CAS Number Releases or Category	Chemical Name	Water Releases (Thousand Pounds): Base Yr. 1988	Last Five Years 1995	1996	1997	1998	1999	Total 95-99
1. 007439965	Manganese	26.3	10.9	9.4	9.2	10.0	7.3	46.9
2. 000010450	Manganese Compounds	4.1	6.0	5.5	3.3	4.5	5.8	25.1
3. 007440020	Nickel	2.7	5.1	3.7	3.9	5.0	2.6	20.3
4. 000010420	Lead Compounds	7.0	4.7	2.9	1.8	1.8	1.8	13.0
5. 000050000	Formaldehyde	2.2	1.8	2.1	2.6	2.9	2.9	12.3
6. 000010090	Chromium Compounds	8.7	3.7	2.6	1.8	1.6	1.3	10.9
7. 007440473	Chromium	2.4	2.3	1.1	1.5	1.0	1.0	6.9
8. 000075150	Carbon Disulfide	0.0	0.0	0.0	1.4	1.6	1.6	4.7
9. 000010495	Nickel Compounds	3.2	1.1	1.1	1.1	0.6	0.6	4.6
10. 000108883	Toluene	1.5	0.9	1.8	0.6	0.5	0.6	4.5
11. 001330207	Xylene (Mixed Isomers)	0.6	0.7	0.9	0.8	0.7	0.7	3.9
12. 007439921	Lead	2.1	1.2	0.6	0.5	0.6	0.4	3.3
13. 000071432	Benzene	1.3	1.3	0.6	0.1	0.1	0.1	2.3
14. 000107131	Acrylonitrile	0.6	0.0	0.1	0.5	0.5	0.4	1.7
15. 000075014	Vinyl Chloride	0.4	0.5	0.5	0.0	0.0	0.0	1.1
16. 000100425	Styrene	1.6	0.1	0.6	0.0	0.0	0.0	0.7
17. 007440382	Arsenic	0.0	0.1	0.1	0.1	0.1	0.1	0.5
18. 000079107	Acrylic Acid	1.8	0.1	0.1	0.1	0.1	0.1	0.4
19. 000075092	Dichloromethane	0.9	0.1	0.0	0.1	0.1	0.1	0.3
20. 000106990	1,3-Butadiene	0.0	0.0	0.0	0.0	0.01	0.1	0.3
Totals for Top 20 Chemicals:		67.4	40.6	33.7	29.4	31.7	27.5	163.7
	40.6 2984 31.7							

Table 19

Total On-Site Land Releases
Top 14 Chemicals

CAS Number or Category	Chemical Name	On-Site Land Releases (Million Pounds): Base Yr. 1988	Last Five Years 1995	1996	1997	1998	1999	Total Releases 95-99
1. 000010982	Zinc Compounds	3.8	13.3	14.6	13.1	12.3	12.1	65.4
2. 000010450	Manganese Compounds	0.8	5.6	5.1	5.9	4.6	3.3	24.5
3. 000010090	Chromium Compounds	0.1	0.6	1.4	1.7	1.2	1.4	6.4
4. 007439965	Manganese	0.5	0.6	0.7	0.7	0.7	0.8	3.5
5. 000010420	Lead Compounds	0.3	0.8	0.8	0.8	0.5	0.4	3.3
6. 007429905	Aluminum (Fume or Dust)	0.1	0.8	0.9	0.3	0.0	0.0	2.0
7. 007440473	Chromium	0.2	0.1	0.1	0.0	0.1	0.0	0.3
8. 007440666	Zinc (Fume or Dust)	3.1	0.1	0.0	0.0	0.0	0.0	0.2
9. 007440439	Cadmium	0.0	0.0	0.0	0.0	0.1	0.0	0.2
10. 007440020	Nickel	0.0	0.0	0.0	0.0	0.0	0.1	0.1
11. 007440508	Copper	0.0	0.0	0.1	0.0	0.0	0.0	0.1
12. 007439921	Lead	0.2	0.0	0.0	0.0	0.0	0.1	0.1
13. 000074851	Ethylene	0.0	0.0	0.0	0.0	0.0	0.1	0.1
14. 007440382	Arsenic	0.0	0.0	0.0	0.0	0.0	0.1	0.1
Totals For Top 14 Chemicals:		9.1	21.9	23.7	22.5	19.5	18.4	106.3
Totals for All Chemicals:		10.1	22.0	23.8	22.7	19.6	18.5	106.6

Table 20

Total On-Site Land Releases
Chemicals With Significant Human Health Effects
Top 20 Chemicals

CAS Number or Category	Chemical Name	On-Site Land Releases (Thousand Pounds): Base Yr. 1988	Last Five Years 1995	1996	1997	1998	1999	Total Releases 95-99
1. 000010450	Manganese Compounds	833.5	5,626.3	5,083.5	5,927.5	4,568.4	3,301.7	24,507.6
2. 000010090	Chromium Compounds	72.7	643.8	1,390.5	1,745.3	1,230.5	1,414.9	6,425.0
3. 007439965								

Table 21

Total Off-Site Transfers to POTW
Top 18 Chemicals

CAS Number or Category	Chemical Name	Off-Site Transfers to POTW (Million Pounds): Base Yr. 1988	Last Five Years 1995	1996	1997	1998	1999	Total Transfers 95-99
1. 000067561	Methanol	3.0	1.7	1.8	1.6	1.2	1.7	7.9
2. 000108952	Phenol	1.2	1.1	1.4	0.9	0.6	0.5	4.6
3. 000078933	Methyl Ethyl Ketone	0.0	0.2	0.3	0.3	0.3	0.4	1.5
4. 000106445	p-Cresol	0.7	0.9	0.4	0.0	0.0	0.0	1.4
5. 000010230	Glycol Ethers	0.5	0.3	0.2	0.3	0.3	0.2	1.3
6. 007664393	Hydrogen Fluoride	0.0	0.3	0.2	0.3	0.3	0.0	1.2
7. 000100027	4-Nitrophenol	0.4	0.0	0.0	0.0	0.6	0.5	1.1
8. 000075150	Carbon Disulfide	0.0	0.2	0.3	0.2	0.2	0.1	1.0
9. 007439965	Manganese	0.0	0.0	0.0	0.2	0.6	0.0	0.8
10. 000095476	o-Xylene	0.0	0.2	0.2	0.1	0.1	0.1	0.8
11. 000107211	Ethylene Glycol	0.5	0.1	0.1	0.2	0.0	0.0	0.4
12. 000010982	Methyl Isobutyl Ketone	0.2	0.1	0.0	0.0	0.1	0.1	0.3
13. 000062533	Aniline	0.7	0.1	0.0	0.0	0.1	0.1	0.3
14. 000108101	Methyl Isobutyl Ketone	0.0	0.0	0.0	0.0	0.1	0.1	0.2

Table 22

Table 24

Total Other Off-Site Transfers
Top 20 Chemicals
Chemicals With Significant Human Health Effects
(Does Not Include Amount Recycled)

			Other Off-Site Transfers (Million Pounds):						
CAS Number Transfers or Category	Chemical Name	Base Yr. 1988	Last Five Years 1995	1996	1997	1998	1999	Total 95-99
1. 000010450	Manganese Compounds	2.4	2.4	2.0	3.2	3.2	3.6	14.4

Table 25

Total Releases and Transfers
Top 20 Chemicals
(Does Not Include Amount Recycled)

CAS Number or Category	Chemical Name	Total Releases and Transfers (Million Pounds): Base Yr. 1988	Last Five Years 1995	1996	1997	1998	1999	Total 95-99
1. 000010982	Zinc Compounds	17.2	28.0	24.7	30.4	29.0	26.2	138.3

Table 26

Total Releases and Transfers
Top 20 Chemicals
Chemicals With Significant Human Health Effects
(Does Not Include Amount Recycled)

CAS Number or Category	Chemical Name	Total Releases and Transfers (Million Pounds): Base Yr. 1988	1995	Last Five Years 1996	1997	1998	1999	Total 95-99
1. 000010450	Manganese Compounds	3.3	8.2	7.4	9.3	7.8	7.0	39.7
2. 000108883	Toluene	21.9	7.0	5.5	5.9	4.9	4.2	27.5
3. 000075150	Carbon Disulfide	3.3	5.7	5.7	5.6	4.6	3.6	25.0
4. 001330207	Xylene (Mixed Isomers)	9.4	4.2	4.0	3.5	3.4	2.7	17.8
5. 000078933	Methyl Ethyl Ketone	24.5	1.					

STANDARD INDUSTRIAL CLASSIFICATION (SIC) CATEGORIES

Facilities in 315 individual four-digit SIC codes have reported toxic chemical releases from 1988 through 1999. Tables 27 and 28 summarize the release and transfer information for these SIC codes.

Table 27

Total Release and Transfer Amounts
Top 20 SIC Codes

Total Releases and Transfers (Million Pounds):

SIC Code	Description	Base Yr. 1988	Last Five Years 1995	1996	1997	1998	1999	Total 95-99	% Increase(+) or Decrease(-) 95-99
1. 3312	Steel Works, Blast Furnaces (Including Coke Ovens) and Rolling Mills	24.0	34.3	31.1	38.3	33.9	29.0	166.6	-15
2. 273O68	n78 502.8 20.16 0.72 re f BT T								

Table 28

Total Release and Transfer Amounts
Chemicals With Significant Human Health Effects
Top 20 SIC Codes

			Total Releases and Transfers (Million Pounds):							
				Base Yr.	Last Five Years					%
	Increase(+) SIC Total Decrease(-) Code	Description	1988	1995	1996	1997	1998	1999	95-99	95-99
1.	3312	Steel Works, Blast Furnaces (Including Coke Ovens) and Rolling Mills	6.5	9.1	9.1	11.6	9.4	7.9	47.2	-13
2.	3089	Plastic Products, NEC*	2.0	6.1	6.1	5.8	5.1	4.1	27.2	-34
3.	2821	Plastic Materials, Synthetic Resins and Nonvulcanizable Elastomers	5.5	2.6	2.5	2.4	3.4	2.6	13.5	-2
4.	2752	Commercial Printing, Lithographic	5.7	1.4	1.8	2.9	2.1	1.9	10.1	30
5.	3086	Plastic Foam Products	0.7	2.0	1.9	1.6	1.5	1.3	8.3	-35
6.	2819	Industrial Inorganic Chemicals, NEC	1.3	1.1	0.9	1.1	1.3	1.5	5.9	29
7.	3471	Electroplating, Plating, Polishing, Anodizing and Coloring	1.1	0.9	1.3	1.4	0.9	1.1	5.7	14
8.	3325	Steel Foundries, NEC	0.1	0.9	1.1	0.9	0.9	1.2	4.9	28
9.	2851	Paints, Varnishes, Lacquers, Enamels and Allied Products	3.1	0.7	0.8	0.8	1.0	1.0	4.3	34
10.	3499	Fabricated Metal Products, NEC	1.1	0.5	0.9	0.9	0.9	0.5	3.7	-5
11.	2869	Industrial Organic Chemicals, NEC	0.8	0.6	0.6	0.5	0.5	1.2	3.5	106
12.	2911	Petroleum Refining	1.9	0.6	0.7	0.6	0.7	0.7	3.3	8
13.	3732	Boat Building and Repairing	0.2	0.7	0.6	0.6	0.6	0.9	3.1	28
14.	3711	Motor Vehicles and Passenger Car Bodies	2.3	0.7	0.6	0.5	0.7	0.7	3.2	-11
15.	3317	Steel Pipe and Tubes	0.5	0.8	0.7	0.5	0.5	0.4	3.0	-55
16.	2672	Coated and Laminated Paper, NEC	1.7	0.8	0.6	0.6	0.4	0.5	2.9	-36
17.	3479	Coating, Engraving, and Allied Services, NEC	1.3	0.6	0.5	0.5	0.3	0.6	2.6	-11
18.	2833	Medicinal Chemicals and Botanical Products	0.0	0.0	0.4	0.6	0.4	1.0	2.5	0
19.	2865	Cyclic Organic Crudes and Intermediates, and Organic Dyes and Pigments	4.2	0.6	0.6	0.5	0.5	0.2	2.4	-69
20.	2754	Commercial Printing, Gravure	5.0	1.2	0.9	0.0	0.0	0.0	2.2	-100
Totals for Top 20 SIC Codes:			45.0	31.9	32.6	34.3	31.1	29.3	159.5	-94
Totals for All SIC Codes:			75.1	45.7	43.1	45.2	39.3	36.1	209.4	

ZIP CODES - AIR EMISSIONS

In an attempt to localize the reported information in an understandable format, the following summaries of toxic chemical release information presented in Tables 29 and 30 are based on five-digit zip codes. Also, the analysis presented here is restricted to air emissions to give some indication of the possibility of human exposure. Of course, ZIP code areas vary in size and population. Also, as the case has always been, toxic chemical release and transfer amounts are annual totals, so no inferences can be made from the following rankings relative to exposure dose and resultant human health effects of these air emissions in any of the ZIP codes listed.

Table 29

Total Air Emissions
Top 20 ZIP Codes

				Total Air Emissions (Million Pounds):						
	ZIP Code	County	City	Base Yr. 1988	Last Five Years 1995	1996	1997	1998	1999	Total 95-99
1.	61832	Vermilion	Danville	2.5	3.9	4.0	3.9	3.6	3.5	18.9
2.	60450	Grundy	Morris	5.4	1.3	1.9	1.9	2.2	1.2	8.5
3.	60638	Cook	Bedford Park	1.8	1.6	1.5	1.5	0.9	0.0	5.6
4.	61953	Douglas	Tuscola	5.0	2.5	2.1	0.4	0.3	0.3	5.6
5.	61350	LaSalle	Ottawa (Rural)	2.1	1.2	1.1	1.1	1.1	0.9	5.5
6.	62881	Marion	Salem	0.7	1.3	1.2	1.4	0.8	0.2	5.1
7.	61054	Ogle	Mount Morris	1.6	0.9	1.3	0.9	0.7	0.9	4.6
8.	60633	Cook	Chicago	1.9	1.2	0.7	0.8	0.9	0.8	4.4
9.	62206	St. Clair	Sauget	2.7	0.8	0.8	0.9	0.7	0.6	3.8
10.	61938	Coles	Mattoon	2.4	0.6	0.3	0.8	0.8	0.9	3.4
11.	60185	Du Page	West Chicago	0.6	0.9	0.6	0.6	0.5	0.6	3.4
12.	60455	Cook	Bridgeview	0.3	0.9	0.8	0.6	0.6	0.4	3.3
13.	60609	Cook	Chicago	0.8	0.8	0.6	0.5	0.5	0.5	2.9
14.	60410	Will	Channahon	0.6	0.8	0.4	0.7	0.6	0.4	2.9
15.	60421	Lake	Elwood	0.4	0.6	0.7	0.6	0.4	0.4	2.7
16.	60426	Cook	Harvey	1.0	0.6	0.5	0.5	0.5	0.5	2.7
17.	62084	Madison	Roxana	1.6	0.5	0.5	0.5	0.5	0.6	2.6
18.	60007	Cook	Elk Grove Village	1.1	0.7	0.6	0.5	0.2	0.5	2.5
19.	60501	Cook	Summit	1.6	0.6	0.5	0.5	0.5	0.4	2.4
20.	62454	Crawford	Robinson	2.1	1.2	0.4	0.3	0.2	0.3	2.3
Totals for Top 20 ZIP Codes:				36.2	22.9	20.5	18.9	16.5	13.9	87.9
Totals for All ZIP Codes:				95.7	47.7	43.6	38.2	33.8	30.4	192.7

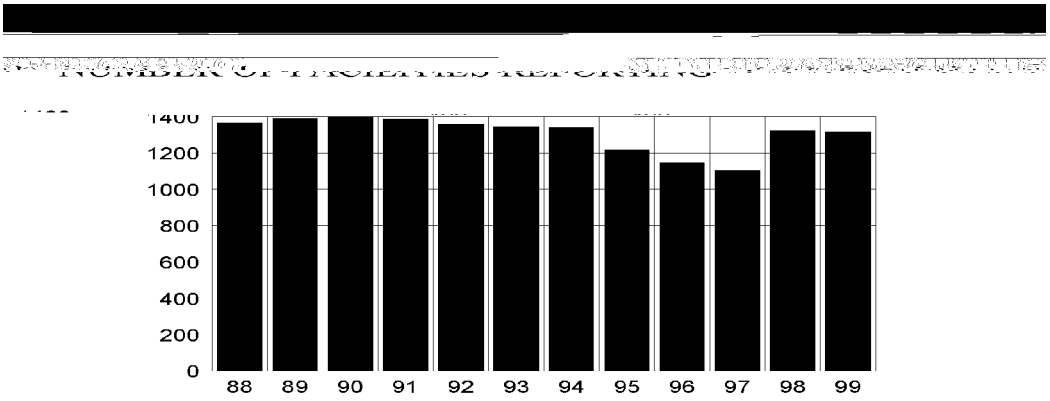
Table 30

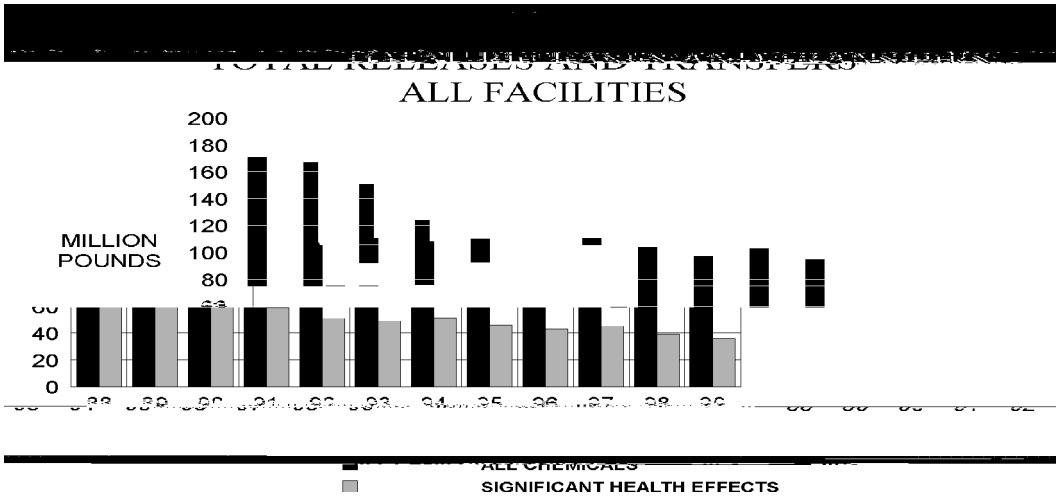
Total Air Emissions
Chemicals With Significant Human Health Effects
Top 20 ZIP Codes

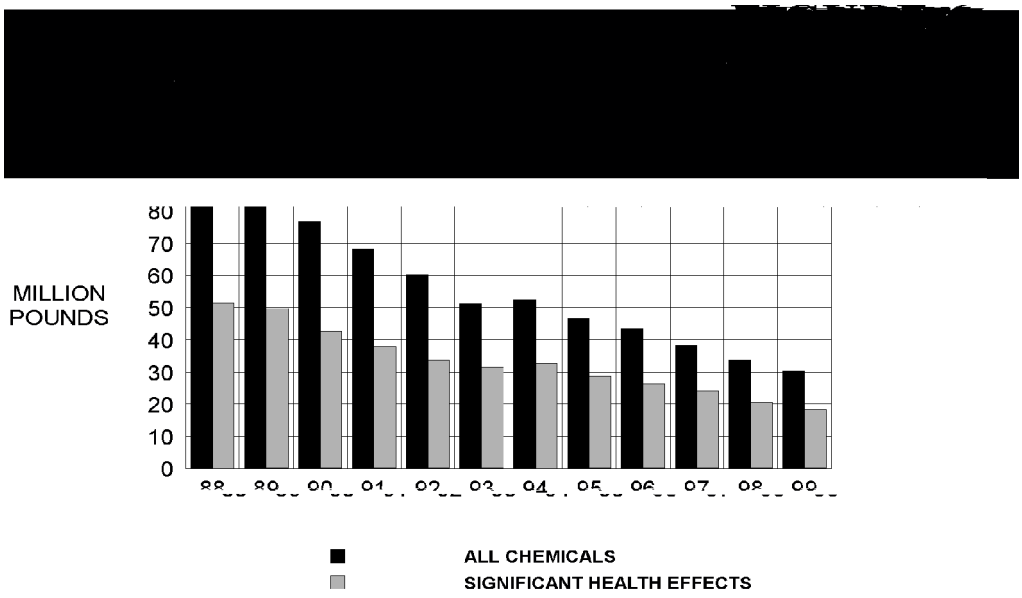
ZIP Code	County	City	Total Air Emissions (Million Pounds) Base Yr. 1988	Last Five Years 1995	1996	1997	1998	1999	Total 95-99
1. 61832	Vermilion	Danville	2.2	3.9	3.9	3.9	3.6	3.5	18.9
2. 60638	Cook	Bedford Park	1.5	1.6	1.5	1.5	0.9	0.0	5.5
3. 61350	LaSalle	Ottawa (Rural)	2.1	1.1	1.1	1.1	1.1	0.9	5.2
4. 62881	Marion	Salem	0.6	1.2	1.1	1.4	0.7	0.1	4.5
5. 61054	Ogle	Mount Morris	1.6	0.8	1.2	0.8	0.6	0.9	4.4
6. 61938	Coles	Mattoon	2.4	0.6	0.3	0.7	0.8	0.9	3.3
7. 60185	DuPage	West Chicago	0.4	0.9	0.6	0.6	0.5	0.6	3.3
8. 60455	Cook	Bridgeview	0.2	0.7	0.7	0.5	0.6	0.4	2.9
9. 60426	Cook	Harvey	0.5	0.5	0.5	0.4	0.4	0.3	2.2
10. 62896	Franklin	West Frankfort	0.0	0.4	0.4	0.4	0.4	0.6	2.1
11. 60007	Cook	Elk Grove Village	0.8	0.5	0.4	0.3	0.1	0.4	1.8
12. 60410	Will	Channahon	0.6	0.5	0.4	0.4	0.3	0.3	1.8
13. 60501	Cook	Summit	1.5	0.4	0.3	0.4	0.3	0.3	1.7
14. 61537	Marshall	Henry	0.1	0.3	0.4	0.3	0.3	0.4	1.7
15. 62084	Madison	Roxana	1.1	0.3	0.3	0.3	0.4	0.4	1.7
16. 62914	Alexander	Cairo	0.5	0.0	0.6	0.4	0.3	0.3	1.7
17. 62454	Crawford	Robinson	1.6	1.1	0.2	0.1	0.1	0.1	1.5
18. 60633	Cook	Chicago	0.8	0.3	0.3	0.2	0.4	0.3	1.5
19. 61761	McLean	Normal	0.0	0.3	0.2	0.3	0.3	0.3	1.4
20. 60103	Cook	Streamwood	0.1	0.3	0.6	0.3	0.1	0.1	1.4
Totals for Top 20 ZIP Codes:			18.7	15.8	15.0	14.3	12.2	12.0	68.6
Totals for All ZIP Codes:			51.2	28.6	26.3	24.0	20.5	18.2	117.6

GENERAL TRENDS

The following charts depict the general trends of toxic chemical release information from 1988 through 1998. Figure 4 indicates the number of reporting facilities in each year. Figure 5 shows totals for all reporting facilities. Figures 6 through 10 show the totals for each release and transfer route.



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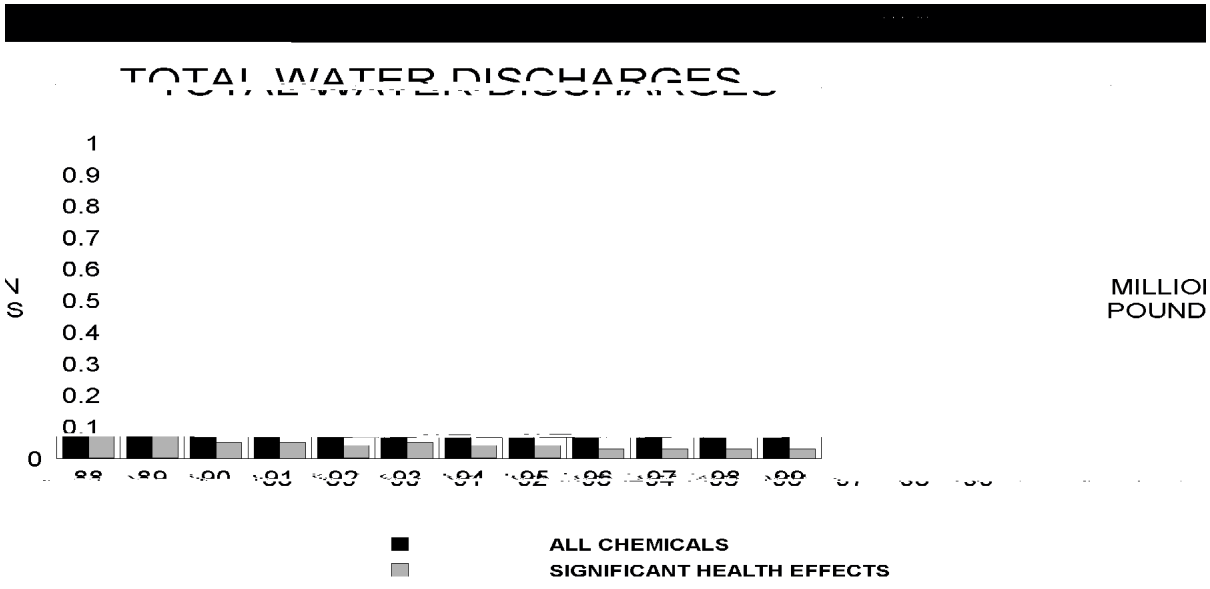
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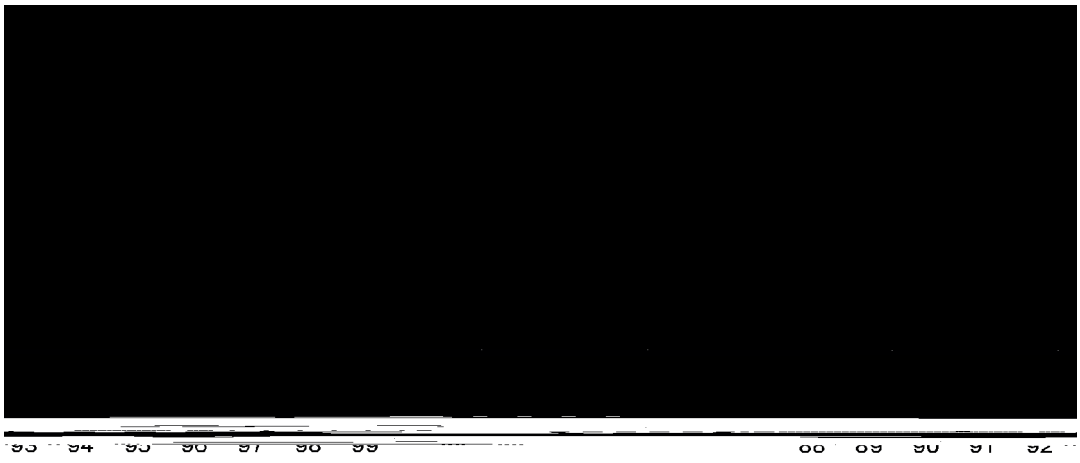

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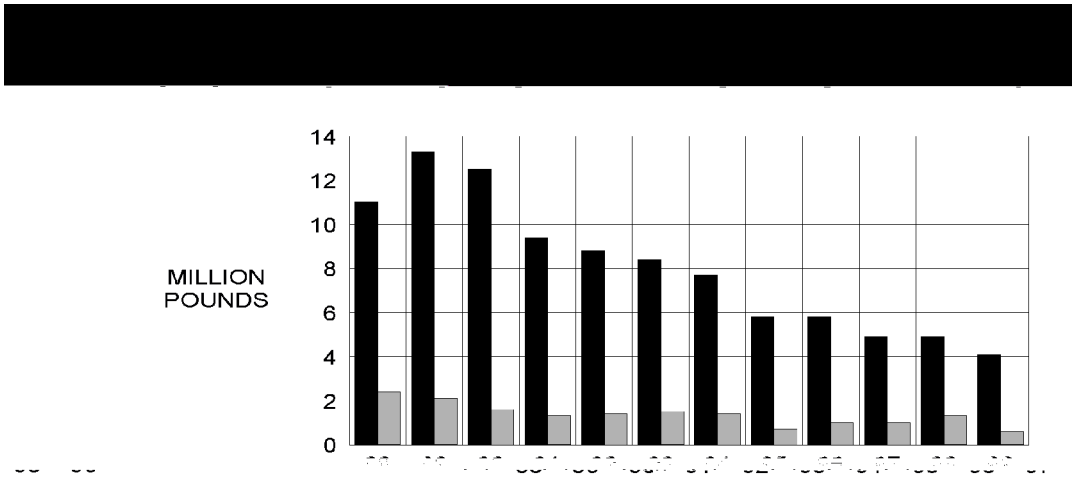

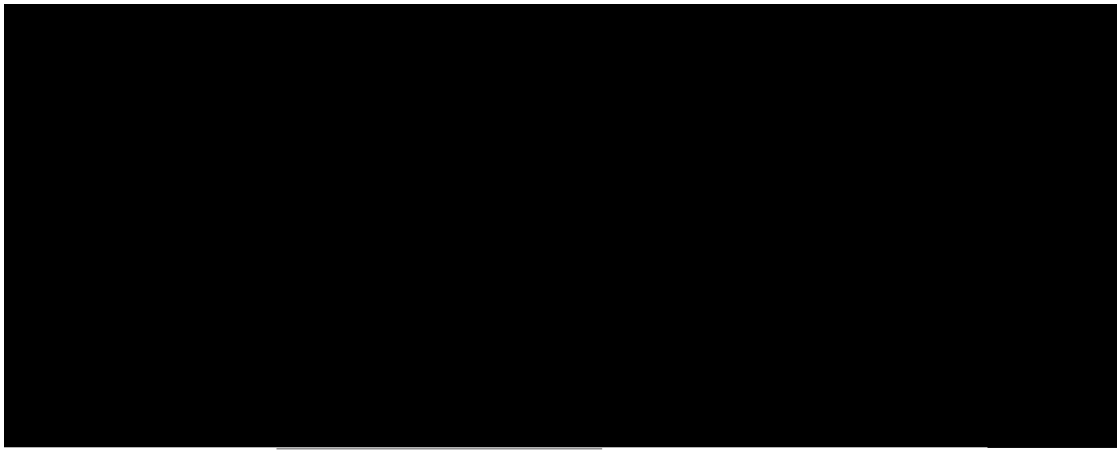

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APPENDIX A - FORM R

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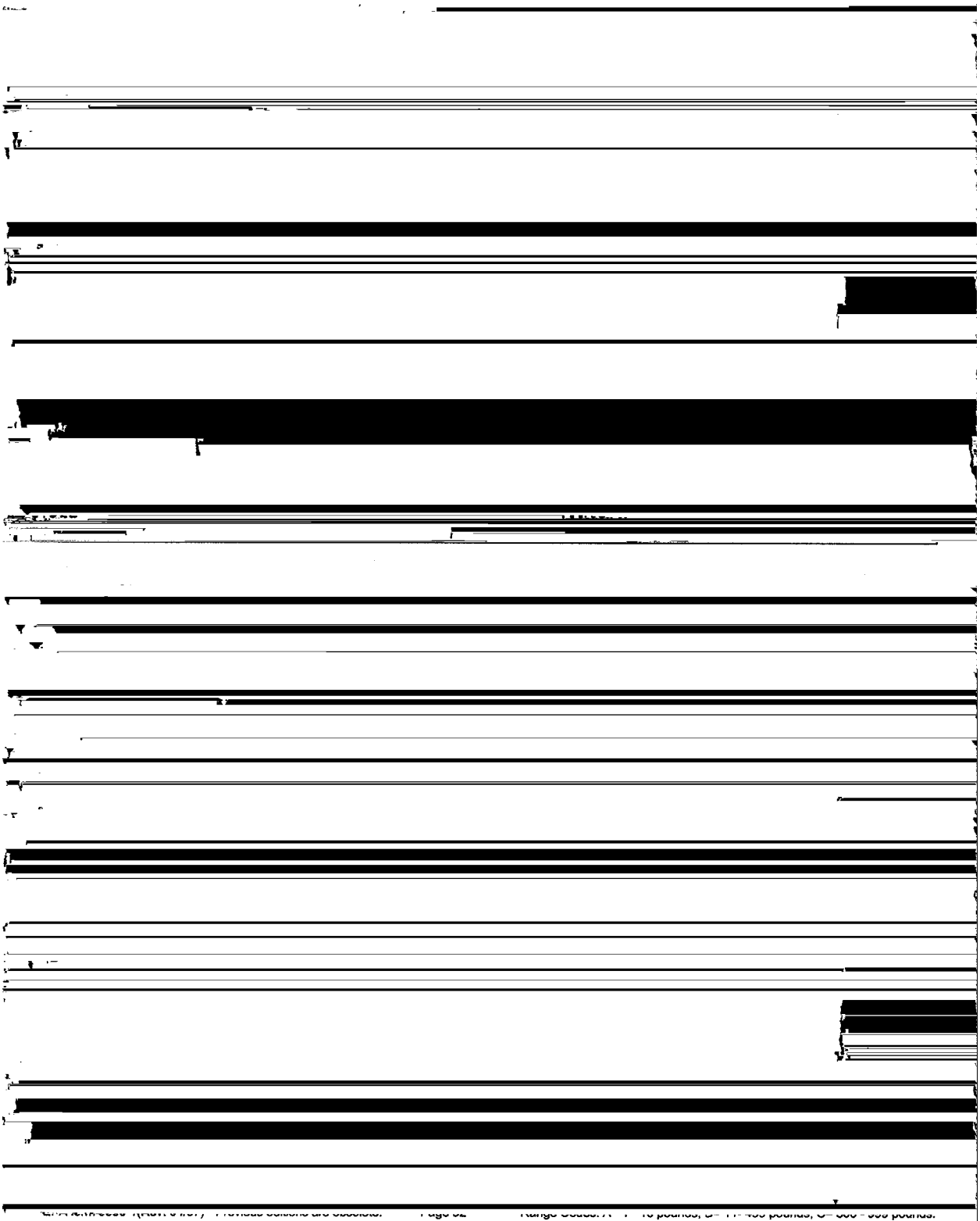
5.2	Parent Company's Dun & Bradstreet Number	NA ☐	



SECTION 6.2 TRANSFERS TO OTHER OFF-SITE LOCATIONS

6.2. ___ Off-Site EPA Identification Number (RCRA ID No.)							
Off-Site Location Name							
Off-Site Address							
City		State		County		Zip	

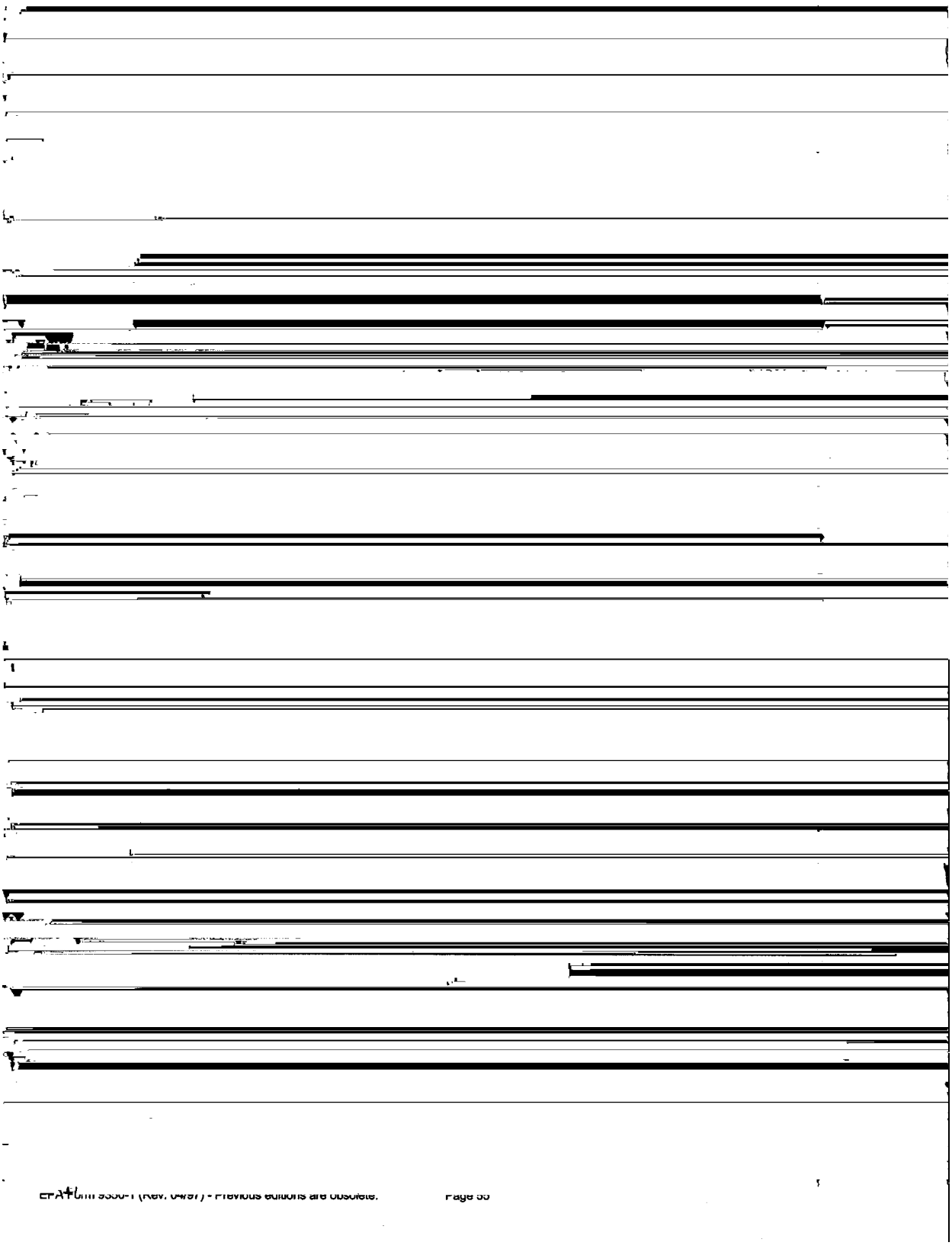
Is location under control of reporting facility or parent company? ☐ Yes ☐ No

[redacted]

[redacted]

If additional pages of Part II, Section 6.2/7A are attached, indicate the total number of pages in this box [ ]
and indicate the Part II, Section 6.2/7A page number in this box : [ ] **(example: 1,2,3, etc)**

* Range Codes: A = 1 - 10 pounds; B = 11 - 499 pounds; C = 500 - 999 pounds.



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