
THE U.S. EXPERIENCE WITH THE TOXICS RELEASE INVENTORY: AN IMPORTANT TOOL TO IDENTIFY POTENTIAL RISKS TO THE PUBLIC AND TO PROTECT ENVIRONMENTAL HEALTHWALKER, MICHAEL J.¹ AND MARVIN, THOMAS C.²

¹Senior Enforcement Counsel, Office of Enforcement and Compliance Assurance, U.S. Environmental Protection Agency, 401 M Street SW, Washington, D.C. 20460, USA

²National Enforcement Coordinator for the Emergency Planning and Community Right to Know Act, Section 313, U.S. Environmental Protection Agency, 401 M Street SW, Washington, D.C. 20460, USA

SUMMARY

The U.S. Toxics Release Inventory and its enforcement heralds a new era in approaches to environmental protection, combining mandatory requirements for information reporting with strong incentives for voluntary pollution prevention opportunities. The United States took a bold step to create requirements to publicly report chemical use information which has created a powerful voluntary incentive to prevent and control pollution from thousands of toxic and hazardous chemicals. The lessons learned have great implications for counties seeking to develop similar Pollutant Release and Transfer Registers.

Emergency planning and public reporting of pollutant releases and their potential risk came to the forefront in the United States and international community after the 1984 Bhopal tragedy in India in which the release of toxic gas killed and injured thousands. The Congress of the United States recognized that a similar accident could happen at home. Prior to 1986, the federal Environmental Protection Agency had no single repository of information on hazardous and toxic chemical use, storage or manufacture. The Congress also recognized the slow pace of regulating environmental protection on an individual pollutant or industrial process. In 1986 Congress enacted the federal Emergency Planning and Community Right to Know Act to ensure that potentially dangerous chemicals are identified and that communities are prepared to respond to an accidental release of toxic chemicals and created a new marriage of market mechanisms and regulatory approaches. This paper examines the implementation, enforcement, and expansion of the TRI during the last twelve years, and demonstrates how simple reporting of chemical use information and practice and its enforcement can have a dramatic and positive effect in reducing risk to public health and environmental safety.

1 INTRODUCTION

Imagine a toxic cloud seven miles long arching over a community of thousands of men, women and children. Imagine a toxic release in the middle of the night that silently kills thousands of residents, including animals within a one mile radius of the plant. Imagine a simple chemical use estimate requirement that causes widespread internal chemical use assessments that result in widespread voluntary pollution reduction and waste elimination. You do not need to use your imagination because each of these items are true. The toxic release in the middle of the night was a pesticide cloud released from the Union Carbide plant

in Bhopal, India. The toxic cloud seven miles long was chloride release during a fire at the All Regions Laboratory in Springfield, Massachusetts. Since the tragic toxic chemical explosion in Bhopal, India focused worldwide attention on the actual and potential risks that chemical manufacture and storage pose. The concept of a community's right to know about toxic chemicals in the environment has become a world-wide regulatory theme.

The requirements that have led to countless incidents of pollution assessment, evaluation and voluntary reduction is the federal Emergency Planning and Community Right to Know Act. The United States first codified the right to know in the Emergency Planning and Community Right To Know Act or "EPCRA." EPCRA Section 313 also referred to as the Toxics Release Inventory or the "TRI" which is perhaps the most publicized aspect of the right to know in the United States. Other countries have enacted similar legislation, known internationally as National Pollutant Release and Transfer Registers or "PRTRs." PRTRs appear to be one of the fastest growing trends in environmental regulation today. The US EPA is currently in its twelfth year of implementing the TRI.

EPCRA is the largest regulatory net ever cast by Congress affecting a larger array of facilities and industrial sectors than any other regulatory program. The statute is further evidence of the recognized need for broad based, community environmental action. EPCRA's goal is emergency preparedness and community right to know, however, an important and perhaps unanticipated result has been widespread pollution prevention and control by industry. Further refinements in the use of this data will be achieved through efforts to make it easier for the public to access information and support community action. Vigorous enforcement of EPCRA emergency reporting and toxic release inventory violations have led to hundreds of enforcement settlements involving substantial civil penalties but also numerous pollution prevention projects. Many other counties have begin to adopt similar regulatory strategies to create voluntary incentives to prevent and control pollution from thousands of toxic and hazardous chemicals.

2 EPCRA: GOALS, PURPOSE, STRUCTURE

On October 17, 1986,¹ the U.S. embarked on an entirely novel approach to environmental regulation. Departing from decades of command and control regulatory approaches where the government set ambient and performance standards for facilities to meet or specific methods for pollution control,² the Toxic Release Inventory and other Pollution Release and Transfer Registers,³ encouraged voluntary corporate pollution control and prevention based upon internal assessments of chemical use practices by requiring regulated entities merely to report the amounts of specific listed chemicals that are produced, stored disposed of or released into the air or water during the previous year of operation. EPCRA Section 313 does not define any acceptable level of pollution, nor does EPCRA Section 313 directly penalize regulated entities for releasing chemicals into the environment. Rather, EPCRA Section 313 is violated primarily when regulated entities fail to submit specified information detailing the amount of each toxic chemical released into the environment, or when regulated entities submit incomplete or inaccurate information.⁴ By making reports of this information available to the public, press and others interested parties, public pressure and not government mandates encourages pollution reduction.⁵

The reductions of chemical use have been dramatic. Because EPCRA's Toxic Release Inventory data is freely available through the Internet and other data sources, citizens and other interested parties can search the data bases looking for the top chemical user in the United States; their state; their county; township; hamlet of cross roads. You can

search by company name; address, zip code; even the longitude and latitude. When the results of the first reporting year were made available to the public in 1988, the Monsanto Corporation was found to have the largest number of chemicals used or released in the United States. As the result of this information, Monsanto management vowed to reduce chemical use and emissions by 90 per cent whenever feasible. The next reporting year saw a new company in the top spot. Not a petrochemical giant, blast furnace or steel mill, but the Kodak Corporation, a household name for millions. Following this dubious recognition, Kodak executives vowed to reduce their chemical use, spoilage and emissions wherever feasible. Because EPCRA puts the opportunity for chemical reduction on the individual corporation and facilities, companies can identify voluntary strategies to reduce chemical usage that meet their timetable, specific processes and checkbook, consistent with applicable federal laws and regulations, of course. This eliminates the need for EPA to try to dictate "command and control" requirements. "Anticipate and prevent" does work.

2.1 How the Statute Works and Key Elements

EPCRA's primary purpose is obvious from its title: Emergency Planning and Community Right to Know Act. Encouraging and supporting emergency planning for responding to chemical accidents helps provide local governments and the public with information about possible chemical hazards in their communities. The Act contains four major provisions, all requiring state, local, and industry action. These major provisions are: planning for chemical emergencies⁶; emergency notification of chemical accidents and releases⁷; reporting of hazardous chemical inventories⁸ and toxic chemical release reporting.⁹

2.1.1 Emergency Planning

Emergency planning for chemical releases requires cooperation at all levels. Citizens must know what industrial and chemical activities are operating in their communities; the state and local governments must set in place emergency procedures; and industry must play its central part in the disclosure of complete information which allows for better emergency planning.

Under the emergency planning provision of the EPCRA, governors appoint state emergency response commissions. These state emergency response commissions establish emergency planning districts and appoint, supervise and coordinate local emergency planning committees. The local emergency planning committees then develop local emergency response plans and review them at least annually. Facilities¹⁰ are obligated to notify state emergency response commissions and local emergency planning committees if they have extremely hazardous substances present above "threshold planning quantities"¹¹ and to participate in emergency planning.

Where a release has occurred, facilities notify the state emergency response commissions and local emergency planning committees immediately of accidental releases of hazardous substances in excess of "reportable quantities"¹² and provide written reports on actions taken and on medical effects. The state emergency response commissions and local emergency planning committees make accidental release information available to the public.

2.1.2 Reporting Requirements

2.1.2.1. Hazardous Chemical Reporting Requirements

Under the hazardous chemical reporting requirements, facilities must submit material safety data sheets or lists of hazardous chemicals on-site (above “threshold quantities”) and emergency and hazardous chemical inventory forms (amounts and locations of chemicals) to state emergency response commissions, local emergency planning committees and local fire departments. In turn, the state emergency response commissions and local emergency planning committees make the hazardous chemical information available to the public. Aside from material safety data sheets, companies must also report on hazardous chemicals by submitting annual inventories of these same hazardous chemicals to the local emergency planning committee, the state emergency response commission, and the local fire department.¹³

2.1.2.2. Toxic Chemical Release Reporting

Toxic chemical release¹⁴ reporting under ‘313 applies only to facilities that meet certain requirements.¹⁵ An estimated 30,000 facilities nationwide are subject to reporting.

While these reports are intended for community use, some are submitted to local emergency planning committees, state emergency response commissions and fire departments. The annual release reports are submitted to EPA headquarters and to the state environmental, health, or emergency response agency which coordinates with the state emergency response commissions. EPA is required to compile them into a national computerized data base called the Toxic Release Inventory or “TRI”. This data must be accessible to the public through computer telecommunications and other means.

2.2 The Legal Framework of EPCRA Section 313, the Toxics Release Inventory

EPCRA is nationally administered by the U.S. EPAB no portion of the statute is delegated to the states for implementation.¹⁶ The basic requirement of EPCRA Section 313¹⁷ is that owner’s and operator’s of covered facilities must complete toxic chemical release forms (hereinafter “Form R” or “Form A”) for each toxic chemical listed under the Act that was manufactured, processed, or otherwise used above established thresholds during each preceding calendar year.¹⁸ Specifically, a Form R or Form A must be submitted if the following criteria are met: (1) the facility is in Standard Industrial Classification Codes 20-39,¹⁹ or one of nine additional Standard Industrial Classification Codes added in a May, 1997 rule-making;²⁰ (2) the facility has 10 or more full time employees, or the hourly equivalent;²¹ (3) the facility manufactures or processes over 25,000 pounds, or otherwise uses over 10,000 pounds, of a listed toxic chemical during the preceding calendar year.²² Where these criteria are met, a regulated entity must submit a Form R or Form A regardless of any listed chemicals actually released into the environment.²³

2.2.1 The Data Collected

The primary source of TRI information, the Form R,²⁴ (See Annex) is due annually to EPA and the state where the facility is located by July 1.²⁵ The Form R contains information such as: the quantity of each toxic chemical entering each environmental media;²⁶ amounts of each chemical shipped from the facility to other locations for recycling, energy recovery, treatment, or disposal;²⁷ amounts of each chemical recycled, burned for energy recovery, or treated at the facility;²⁸ maximum amount of chemical present on-site

at the facility during the year;²⁹ types of activities conducted at the facility involving the toxic chemical;³⁰ source reduction activities;³¹ environmental permits held;³² and name and telephone number of a person to contact concerning toxic chemicals present at the facility.³³ Pursuant to the statutory mandate, EPA publishes TRI data in an annual public data release which appears in both printed and electronic form.³⁴

2.2.2 How Chemicals Become Regulated

EPA considers chemicals “toxic” and therefore listed under EPCRA Section 313 if they pose statutorily proscribed risks to human health, or the environment.³⁵ Recognizing the evolution of science, the statute empowers EPA to add or remove chemicals from the list depending upon whether EPA determines the criteria for listing are met.³⁶ Private citizens and state governor’s may also petition EPA to add or remove chemicals from the purview of the Act.³⁷ By law, EPA must timely consider and publicly respond to every request.³⁸

2.2.3 How Entities Become Regulated

EPCRA Section 313 originally identified only facilities in Standard Industrial Classification codes 20-39 as potentially obligated to report under the Act.³⁹ However, by the authority of the Act,⁴⁰ EPA may add additional Standard Industrial Classification codes “to the extent necessary to provide that each [Standard Industrial Classification] to which this section applies is relevant to the purposes of this section.”⁴¹ In fact, EPA exercised this authority and added seven additional Standard Industrial Classification codes to the list of potentially covered facilities.⁴²

2.2.4 Enforcement Authority

Violations of EPCRA Section 313 are punishable by civil penalties of up to \$27,500,⁴³ with potential for per day penalties.⁴⁴ Alternatively, the statute authorizes citizens to sue,⁴⁵ and to collect costs should they be successful,⁴⁶ for violations of EPCRA Section 313 upon specified notice to EPA and the regulated entity.⁴⁷ In assessing penalties, the statute requires EPA to consider various factors, including the nature, extent, gravity, and circumstances of the violation.⁴⁸ EPA calculates civil administrative penalties using the Enforcement Response Policy (hereinafter “ERP”) for Section 313, which applies the statutory criteria for consistent penalty assessment.⁴⁹

3 THE IMPORTANCE OF EPCRA

3.1 Generally

The basic principle underlying EPCRA is public, government and industry cooperation in an awareness of the health and environmental risk to their communities. Environmental decisions must include and be influenced by the public. EPCRA builds on the idea of education, training⁵⁰ and access to information. These are essential in building an effective emergency planning program.

3.2 Advantages to Reporting

Reporting benefits government, industry, and citizens. Citizens can put together a complete record of hazardous substances in their district, therefore gaining a greater role in decision making and planning at a grass roots level; government can better prepare for an emergency spill; and industry can use the release information to assess their operations with the objective of reducing the amount of toxic chemicals they use and release into the environment. The entire structure of EPCRA is to identify risks and requires community action to better safeguard its health and environment.

3.3 Improved Targeting of Industry

While EPA generally has been able to focus its attention on traditional smokestack industries: steel, iron, automobiles, petrochemicals, by virtue of their public visibility and need for Clean Air and Clean Water permits, some categories of American industry, due to their comparatively small size or scatter distribution, failed to attract the full measure of the Agency's collective attention.

With the ability to electronically manage the TRI data into categories,⁵¹ EPA can readily see at a glance what areas of the country have the largest concentrations of chemical-producing facilities and search for sites of particular chemicals of concern, such as carcinogens or bioaccumulating substances. In addition to company name, address and zip code, the TRI Form R requires the longitude and latitude of the facility. This allows EPA to search the TRI by zip code, watershed, airshed or identical regional sector.

Industry sectors that traditionally might not have appeared on Agency "intuitive" lists of likely violators also come into clear focus through the TRI. One example has been the furniture category, Standard Industry Code 25. Generally smaller to mid-size in operations, furniture manufacturing in the United States releases approximately 100 million pounds of chemicals, including some very toxic substances such as acetone and toluene. Enforcement actions have been initiated at more than 10 furniture manufacturers for not reporting to the toxics release inventory.

In addition to looking for larger sources of environmental releases in neighborhoods or environmental areas of concern, EPA can check lists of Standard Industry Code sector facilities against the list of facilities that have reported to the TRI. Facilities that have not have reported to TRI might also have neglected other reporting requirements of other statutes, including treatment storage and disposal requirements for hazardous waste.

3.4 Pollution Prevention

A remarkable and startling outcome of TRI reporting has been the response of American business to reduce emissions in reaction to TRI reporting. Anecdotal reports coming to EPA from the first reporting cycle in 1988 suggests that many corporate executive and managers were shocked by the high volume of chemicals used and reported to the TRI. Reportedly, executives at Monsanto Corporation, alarmed to be the number one company for total emissions in the nation, vowed to reduce emissions and successfully did so before the next reporting cycle. The same was true with a top emitter for 1989: Kodak. Companies anxious to be number one in sales; customer loyalty, product recognition, do not want to be number one in chemical emissions for the U.S.; their state; their county; township; city; zip code or watershed.

Significantly, many voluntary reductions in chemical usage and emissions come from process and design changes, developed at the site by personnel familiar with the operation and not through “One size fits all” regulatory fixes mandated by Washington. Seeing voluntary, measurable reductions in chemical usage is reassuring to regulators long accustomed to command and control technology and fosters an increased willingness to consider innovative regulatory approaches to environmental problems.

3.5 Environmental Justice

One area where Toxic Release Inventory Reporting information has had a particularly beneficial effect has been in the area of Environmental Justice.⁵² Minority and low income communities can experience higher levels of environmental hazards due to the interplay of siting of highly concentrated polluting activities in areas where land values are low and siting of low income housing where housing prices are low. Evidence of unequal health risks is demonstrated by a higher number of death rates from cancer.⁵³ and higher incidence and levels of lead poisoning.⁵⁴ Having access to toxic release chemical inventory information is proving to be a good means of raising awareness and helps to empower the local community to seek answers to their environmental concerns.

4 FACILITY OBLIGATIONS UNDER EPCRA

The Emergency Planning, Community Right to Know Act requires facilities to adhere to emergency planning, notification, and reporting requirements.

4.1 Planning Obligations

Under EPCRA’s emergency planning provisions⁵⁵, facility owners and operators must notify their state emergency response commission⁵⁶ and the local emergency planning committees⁵⁷ if they have extremely hazardous substances present above “threshold planning quantities.”⁵⁸ A second obligation is to participate in emergency planning by representing their facilities as members of the local emergency planning committees. The entire community must be involved since all have very important interests at stake, most importantly, the health and safety of the community.

A third obligation of emergency planning requires the facility to designate a facility representative who will participate in the emergency planning process as a facility emergency coordinator.⁵⁹ This requirement creates a more efficient relationship between the facility and the community. Finally, upon request from the emergency planning committee, the facility must promptly provide information to such committee as necessary for developing and implementing the emergency plan.⁶⁰

4.2 Emergency Notification by Facilities

4.2.1 Types of Releases Requiring Notification

Notification by facilities is imperative where accidental releases of hazardous substances in excess of “reportable quantities” has occurred. There are three types of releases under EPCRA Section 304. The first is a *hazardous chemical* which is produced, used, or stored, which requires a notice by the Comprehensive Environmental Response, Compensation and Liability Act ‘103(a)⁶¹ is discussed below.

The second type of release involves an *extremely hazardous substance* which originates from a facility at which hazardous chemicals are produced, used, or stored but are not subject to the notification requirements of 103(a) Comprehensive Environmental Response, Compensation and Liability Act. This type of release requires the same procedural notification as the first type of release *only if* the release is one listed in '304(a)(2)(A), (B), and (C).⁶² EPA may establish by regulation the specific amount that must be spilled to constitute a reportable quantity. Until a quantity for an extremely hazardous substance is established by regulation, the quantity shall be 1 pound per release of released substances requiring notice.

The third type of release requiring notification is of a substance which is a 103(a) Comprehensive Environmental Response, Compensation and Liability Act hazardous chemical release produced, used or stored at a facility. The distinguishing feature here is that such a release is of a substance which is not on the list referred to in '302 "substances and facilities covered and notification" of EPCRA. The notice requirements of this provision provide a distinction between releases of substances for which a reportable quantity has been established under '102 of Comprehensive Environmental Response, Compensation and Liability Act and those for which a reportable quantity has not been established.⁶³

4.2.2. Notice

The first two types of releases require notice which is to be given immediately after the release by the owner or operator of a facility (by such means as telephone, radio, or in person) to the community emergency coordinator for the local emergency planning committee for any area likely to be affected by the release and to the state emergency response commission of any State likely to be affected by the release. With respect to transportation of a substance or storage incident to transportation, the notice requirements of a release shall be satisfied by dialing 911 or, in the absence of a 911 emergency telephone number, calling the operator.⁶⁴

After a release an owner and operator of a facility must also provide a written follow-up emergency notice (or notices, as more information becomes available) setting forth and updating the information. This notice should include actions taken to respond to and contain the release; any known or anticipated acute or chronic health risks associated with the release; and where appropriate, advice regarding medical attention necessary for exposed individuals.⁶⁵

4.2.3 Contents of Notice

Notice shall generally include each of the following to the extent known at the time of the issuance of the notice: the chemical name or identity; indication of whether the substance included under EPCRA; an estimate of the amount of release; time and duration; the medium or media into which the release occurred; potential health risks; possible precautions to take as a result of the release; and the name and telephone number of the person to be contacted for more information.⁶⁶

4.3 Reporting Requirements

Reporting requirements involve two separate types of substances: hazardous chemicals and toxic chemical releases.

4.3.1 Hazardous Chemical Reporting

Hazardous chemical reporting requires both the submission of material safety data sheets or lists⁶⁷, and hazardous chemical inventory forms⁶⁸. The owner or operator of any facility which is required to prepare or have available a material safety data sheet for a hazardous chemical under the Occupational Safety and Health Act of 1970⁶⁹ must submit a material safety data sheet for each such chemical, or a list of such chemicals⁷⁰ on site which are above threshold quantities. This information must then be given to the local emergency planning committee, the state emergency response commission, and the fire department with jurisdiction over the facility.

The chemical inventory form requires the owner or operator of any facility which must submit material safety data sheets for hazardous chemicals under the Occupational Safety and Health Act to also prepare and submit an emergency and hazardous chemical inventory form to the local emergency planning committee, the state emergency response commission and the fire department with jurisdiction over the facility.⁷¹

4.3.2 Toxic Chemical Release Forms

This reporting requirement only applies to owners and operators of facilities that have (a) 10 or more full-time employees; (b) are in Standard Industrial Classification Codes 20 through 39 and (c) that manufactured, processed, or otherwise used a toxic chemical listed under EPCRA in excess of the quantity established under the statute. Once a facility fits this category, the owner or operator must complete a toxic chemical release form.⁷² This form must be submitted to the Administrator and to an official of the State.⁷³ The Administrator of the EPA manages and maintains in a computer database, the Toxics Release Inventory, which is updated annually and is based on data submitted under the toxic chemical release forms. This information is available to the public and communities through a national computerized database, or the Toxics Release Inventory.

5 **ADMINISTERING THE TRI**

Administering the Toxics Release Inventory program has presented EPA with many novel challenges. Shortly after first developing the Toxics Release Inventory program, the scope of EPCRA Section 313 was expanded. Following distinct phases of expansion, the Toxics Release Inventory program became highly publicized and the data came under greater scrutiny. Effective administration of the Toxics Release Inventory requires close coordination of distinctive functions. From the first efforts to educate the regulated community, to the first administrative cases, EPA has been re-engineering environmental enforcement through the Toxics Release Inventory.

5.1 Internal Organization

Implementing the Toxics Release Inventory Program encompasses four primary operations: regulatory program development, information management, compliance assistance, and enforcement. These four functions are managed by different offices within EPA Headquarters. The regulatory program develops policy and the regulations through which the statutory mandate is realized. EPA's Office of Pollution Prevention and Toxic Substances, Environmental Assistance Division, Toxics Release Inventory Branch currently

has primary responsibility for developing the Toxics Release Inventory regulatory program.⁷⁴ Information management pertains to organizing and disseminating the data (largely Form Rs) submitted by the regulated community. EPA's OPPTS, Information Management Division has primary responsibility for developing the information management program. Compliance assistance consists of outreach to the regulated community to inform regulated actors of the statutory and regulatory obligations imposed by Congress and EPA. EPA's Office of Enforcement and Compliance Assurance, Office of Compliance is currently responsible for the compliance assistance program. The enforcement program penalizes the regulated community for violating the regulatory program developed by the Toxics Release Inventory Branch. Currently, EPA's Office of Regulatory Enforcement, Toxics and Pesticides Enforcement Division, is responsible for nationally implementing the TRI enforcement program.

All of these offices are located at EPA headquarters in Washington, D.C., and oversee regional implementation of the TRI program. EPA, in addition to its headquarters offices, has ten regional offices located throughout the U.S. Each regional office is responsible for local implementation of various programs through Memoranda of Understandings, executed between EPA headquarters and each regional office.⁵³ MOUs are annual commitments to engage in specified regulatory activities such as: performing a specified number of media specific inspections, participating in national initiatives and providing established levels of compliance assistance to regulated entities through seminars and other contact with the regulated community.

5.2 Expanding the Scope of EPCRA Section 313

Following these initial priorities, the regulatory program began expanding EPCRA Section 313 through three major phases.⁷⁵ Phase one increased the number of toxic chemicals regulated under the Act. As enacted in 1986, the original TRI listed over 300 chemicals, but permitted EPA to add new chemicals.⁷⁶ Phase one was achieved in 1994 when EPA promulgated a rule increasing the number of listed toxic chemicals from nearly 300 to well over 600.⁷⁷ Almost one-half of the added chemicals were pesticides regulated under the Federal Insecticide, Fungicide, and Rodenticide Act.⁷⁸ The addition of FIFRA regulated chemicals expanded the TRI's reach into every major statute administered by EPA.⁷⁹

The phase two expansion added additional industries to the requirements of TRI. Originally, EPCRA Section 313 applied only to those industrial facilities classified in SIC codes 20-39. However, in 1997, EPA promulgated a final rule,⁸⁰ which added nine additional sectors.⁸¹ Reports for these additional sectors are first due on July 1, 1999.⁸² Additional industries are pending EPA review.⁸³

EPA announced plans for a phase three expansion on October 1, 1996.⁸⁴ Phase three will add "materials accounting" data to the Form R.⁸⁵ Materials accounting data tracks the use of chemicals throughout their life, from the time they enter a facility, to the time they exit.⁸⁶ While the phase three expansion is not without controversy,⁸⁷ it is fully supported by the Clinton Administration.⁸⁸

EPA is also planning to lower the reporting threshold amounts for certain persistent bioaccumulative toxins.⁸⁹ These are chemicals already listed on the TRI that pose heightened risks because they are persistent (stable for long periods in the environment) and bioaccumulative (build up in the environment, especially in food chains).⁹⁰ Because PBTs are typically manufactured below the current threshold amount of 25,000 pounds, they are often excluded from TRI reports.⁹¹

There have been expansions of the TRI program from forces outside EPA as well. Even before EPA completed its Phase one expansion, Congress itself added to the TRI by passing the Pollution Prevention Act of 1990.⁹² The Pollution Prevention Act is an independent statute that directs regulated entities to strive for pollution reduction.⁹³ Where pollution prevention is not feasible, the Pollution Prevention Act encourages industry to recycle.⁹⁴ Only where recycling is not feasible, should industry resort to treating, disposing, or releasing pollutants into the environment.⁹⁵ The Pollution Prevention Act was implemented through the TRI reporting requirements of EPCRA Section 313, and are reflected in Section Eight of the Form R.⁹⁶ Where EPCRA Section 313 indirectly encourages pollution prevention through public exposure, the Pollution Prevention Act directly requires regulated entities to report progress toward pollution prevention.⁹⁷

Following EPA's announcement of phase three, the White House expanded the scope of EPCRA Section 313. On August 8, 1995, President Clinton signed executive order 12969 which subjected federal facilities to the TRI reporting requirements.⁹⁸ Although EPA can not assess penalties against federal agencies that violate EPCRA Section 313, liability is the first step toward deterrence.⁹⁹

5.3 Managing the Information

Publicly available information is the driving force behind the TRI, and the end result of TRI administration. As the TRI becomes more publicized, the data are put to greater and more innovative use. Federal, state, and local governments use TRI data to evaluate existing environmental programs and set regulatory priorities.¹⁰⁰ Community groups generate their own reports based on TRI data, highlighting top polluters, evaluating the regulated communities progress toward reducing pollution, and interpreting risks posed from certain chemical releases.¹⁰¹ Finally, and perhaps at the heart of the TRI program, industry is able to identify and reduce costs associated with toxic waste, identify opportunities for pollution prevention, establish reduction targets, and measure attainment of these goals on an annual basis.¹⁰²

With the extensive and complex data generated by the Form R, EPA's IMB faces many challenges. In Fiscal Year 1988, 75,000 Form Rs were submitted to EPA.¹⁰³ After the first phase of regulatory expansion, which increased the reporting universe by capturing more chemicals,¹⁰⁴ regulated entities submitted 73,311 Form Rs, and 6,437 Form As.¹⁰⁵ In 1996, 71,381 TRI forms were filed, representing on and off-site releases totaling 2.43 billion pounds of toxic chemicals.¹⁰⁶ The IMB was mandated not only to make TRI data publicly available and free of charge, but also to make the data accessible "by computer telecommunication."¹⁰⁷ Congressional foresight should be commended, considering this is original language from the Act many years before the Internet as we know it today.¹⁰⁸ In fact, EPA now displays TRI data on the Internet in formats which permit several user-defined searches.¹⁰⁹ Information can be mapped, with controls for population and the presence of schools, and the maps can be redrawn from the street to the state level.¹¹⁰ EPA also distributes TRI data in a variety of other media.¹¹¹

5.4 Educating the Regulated Community

Compliance assistance is critical to the effective implementation of the TRI enforcement program. EPA publishes many general¹¹² and industry specific guidance documents,¹¹³ and supports a free hotline to answer questions regarding EPCRA Section 313 requirements from anonymous callers.¹¹⁴ During the first year TRI reports were due, EPA focused mainly on outreach and compliance assistance activities at the regional level.¹¹⁵

EPA took every opportunity to inform the regulated community of their responsibilities under EPCRA Section 313 prior to any enforcement activities. Ignoring these outreach efforts prior to implementing the enforcement program would result not only in potential litigation risks, but also in lower compliance rates, and a diminished attainment of the Statute's objectives.¹¹⁶

6 ENFORCEMENT

USEPA recognized early in the life of this program that for it to be effective, information had to be credible and those who report cannot be at an economic disadvantage compared to those who ignored the reporting requirements. Enforcement actions under EPCRA exceed 1,500 administrative penalty cases, with more than 100 published decisions by administrative law judges, all generally favorable to the letter and spirit of this important statute. Significantly, many of the targets of enforcement have been facilities without prior federal environmental violations. One explanation has been that many EPCRA facilities have not been required to apply for or maintain federally-issued or administered operating or discharge permits under the Clean Water Act, Clean Air Act or Resources Conservation and Recovery Act. Examples of such cases include penalty actions against operators in the food industry: *Citrus Hill Orange Juice*, \$15,000 paid; *Murray's Meats*, \$48,000; *General Mills*; \$112,000 paid; *Dove Bar Ice Cream*, \$75,000 paid. The penalties paid by these companies was for failure to report the release of a commercial refrigerant, ammonia. Though each facility was regulated and inspected regularly by the federal Occupational Safety and Health Administration and United States Department of Agriculture OSHA and the USDA, none were subject to the federal permit requirements of the Clean Air Act, Clean Water Act or Resource Conservation and Recovery Act.

EPCRA has truly become the new "cradle to grave" statute, having seen cases involving baby cribs *Riverside Furniture* (seen TRI chemicals not reported to the EPCRA inventory) to *Clarksburg Casket* (chemicals used in processing wood and metal coffins).

The primary objective of enforcement is to ensure achievement of the environmental protection and the results from environmental requirements and to deter violations of environmental law. When enforcement is necessary, actions must be calculated, swift, and equitable. Through EPCRA Section 325(c), EPA is given broad enforcement authority to seek "a civil penalty . . . not to exceed \$25,000 . . ." for violating any requirement of Section 313,¹¹⁷ or the companion Pollution Prevention Act.¹¹⁸ Through this broad grant of authority EPA built the TRI enforcement program. Initially, enforcement focused on those who failed to submit TRI forms.¹¹⁹ However, as the TRI requirements expanded,¹²⁰ and the universe of non-reporters diminished,¹²¹ enforcement priorities have adjusted accordingly. Currently, enforcement priorities include upholding the quality of the data actually submitted, and deterring non-reporters.

6.1 Inspections of Release Reporting: a new challenge

Issues regarding whether a facility falls within the criteria of types of facilities which need to report is easily such as determining the number of employees required for TRI reporting eligibility, namely ten full time employees or more. The same is true for making a determination of report eligibility regarding the facility Standard Industrial Code, which must be between Standard Industrial Classification Codes 20 to 39. Standard Industrial Classification Codes are assigned to representative manufacturing and commercial activities by the United States Department of Commerce. By its very nature, however, inspectors checking for the veracity of the actual data in TRI reports require a process oriented

inspection that tracks from raw materials to waste the handling and quantities of toxic substances and which attempts to determine independently whether there has been a fair accounting made. The Inspectors collect evidence of non-compliance on-site, and prepare an inspection report for the enforcement case development officer. Compliance with TRI reporting requirements or the companion requirements for immediate reporting of accidental releases of chemicals requires a careful examination of chemical inventory records, raw materials management, chemical use, storage and release records. Challenges to inspectors and case development personnel include the difficulties of being able to reconcile facility inventory records with actual process or disposal information. Frequently inspectors rely upon chemical use or release information that is contained in discharge or emissions reporting information subject to the federal Clean Air Act, Clean Water Act or Resource Conservation and Recover Act.

6.2 The Enforcement Response Policy

To implement the broad enforcement mandate expressed in the statute, EPA first developed an Enforcement Response Policy for EPCRA Section 313 in 1988.¹²² The Enforcement Response Policy is a statement of enforcement policy intended to guide enforcement actions and to alert regulated entities to the consequences of non-compliance.¹²³ As EPA headquarters, and each regional office initiates enforcement actions,¹²⁴ consistency in enforcement can only be obtained when all enforcement actions are consistent with the Enforcement Response Policy. The Enforcement Response Policy explains what constitutes a violation of EPCRA Section 313,¹²⁵ the appropriate response by EPA,¹²⁶ and the proper penalty to propose in a complaint.¹²⁷

6.2.1 Penalties for Not Reporting¹²⁸

The government may assess civil and administrative penalties of \$10,000 to \$75,000 per day against facilities that fail to comply with the above provisions. Anyone who knowingly and willfully fails to provide emergency release notification is subject to criminal penalties of up to \$50,000 or five years in prison. To date, EPA has issued more than 500 enforcement actions for EPCRA violations, including 200 for failure to report emergency releases.

6.2.2 Initiation of Actions against the Industry

The state emergency response commission, local emergency planning committee, or the state or local government may initiate actions against facility owners or operators for failure to comply with EPCRA requirements. Citizens may initiate civil actions against facility owners and operators for failure to comply with the law. Citizen suits¹²⁹ are a powerful enforcement tool against industry since the public image of any industry is of paramount importance. When a citizen suit is initiated, an industry may quickly change its behavior because of public pressure and the need to be perceived as an environmentally sound industry.

After EPA concluded four years of TRI enforcement, the Enforcement Response Policy was revised in 1992.¹³⁰ The revision permitted consideration of developing administrative case law,¹³¹ statutory and regulatory expansions of EPCRA Section 313,¹³² and evolving enforcement priorities. Currently, EPA is drafting a third revision to the Enforcement Response Policy. This latest revision is expected to be implemented by May, 1999. The new Enforcement Response Policy will better define enforcement procedure for

recently established enforcement priorities.¹³³ Occasional Enforcement Response Policy revisions permit the TRI enforcement program to adjust to internal and external changes, while maintaining the basic structure of TRI enforcement actions.¹³⁴

6.2.3 Targeting Strategies

EPA develops many successful targets through electronic information exchange.¹³⁵ The Agency has amassed environmental data about many regulated entities through requirements of various environmental laws. Electronically Linking media specific databases provides EPA with a panoply of targeting data.¹³⁶ Through electronic targeting, EPA is able to identify probable non-compliance prior to initiating an inspection for more efficient use of inspection resources.

Historically, the enforcement program devoted all resources toward targeting non-reporters.¹³⁷ However, as the TRI program matured, enforcement began examining the quality of the TRI data submitted to EPA and the states.¹³⁸ As the rate of publicity¹³⁹ and TRI data use increase,¹⁴⁰ data quality is increasingly critical to the right to know, and with increasing public exposure and the self-reporting nature of the TRI, there is both the opportunity and the motive to submit inaccurate data. By simply comparing typical reports submitted by similar industrial sectors, EPA targets likely data quality violations for inspection.

6.2.4 Building Effective Cases

EPA trains all enforcement personnel through the National Enforcement Training Institute (hereinafter "NETI").¹⁴¹ Litigating EPCRA Section 313 violations requires coordination among the EPA Inspector, Case Development Officer, and attorney.

The Case Development Officer assembles all elements of proof from the inspection report and elsewhere, calculates the proposed administrative penalty based upon the Enforcement Response Policy,¹⁴² drafts a Complaint, and presents the case file to the attorney for review. The Case Development Officer also provides technical expertise on scientific issues and serves as a penalty witness should the matter proceed to hearing. The attorney leads all EPA TRI litigation efforts. The attorney first reviews the case file to determine whether there is sufficient evidence to warrant an administrative complaint,¹⁴³ a judicial referral to the Department of Justice,¹⁴⁴ or a criminal referral to Department of Justice.¹⁴⁵ If a Complaint is filed with either the regional or headquarters hearing clerk, the attorney is responsible for all ensuing litigation or settlement negotiations.¹⁴⁶

EPA generally builds TRI cases through one of two methods. Depending upon the amount of evidence already possessed, an EPA inspector may inspect a possibly non-compliant facility, and/or provided an open investigation has yielded credible evidence of a violation, an EPA attorney may issue a Show Cause Letter demanding that a targeted facility provide evidence invalidating EPA's allegation. Regardless of the method employed, it is critical to gather evidence of each element necessary to establish a prima facie case prior to filing the Complaint.¹⁴⁷

6.2.5 Achieving Deterrence

Deterrence through enforcement upholds the community right to know and ensures accurate data is reported to EPA and the states.¹⁴⁸ There are two primary models of deterrence upon initiating enforcement actions.¹⁴⁹ Some believe that negotiating many settlements by reducing penalties best upholds deterrence by conserving enforcement resources, which enables a greater EPA field presence. Others believe deterrence is best

achieved through vigorous enforcement and litigation of fewer cases, which culminate in widely publicized administrative decisions and penalty orders.¹⁵⁰ EPA will either settle or litigate depending upon the facts and circumstances of each individual case. However, whether or not a case is settled or litigated, the Enforcement Response Policy provides consistency in the assessed penalty.¹⁵¹

Regulated entities may avoid litigation by self disclosing violations. EPA encourages self disclosures by applying its "Audit Policy."¹⁵² Where the criteria for the Audit Policy are met, EPA mitigates penalties either 75, or 100%. In fact, most self disclosures under the Audit Policy involve violations of EPCRA Section 313.¹⁵³

Many administrative penalty action involving EPCRA TRI or emergency release reporting violations are settled without further court proceeding. Generally the evidence of violations is not at issue, leaving only the size of the civil penalty to be paid. Because EPA's enforcement response policies can specify penalties as high as \$27,500 per violation per day, companies with 10 to 20 violations may face substantial civil penalties. Many companies choose to propose using the EPA's Supplemental Environmental Policy¹⁵⁴

6.3 The Future of TRI Enforcement

The enforcement program is guided by available resources and regulatory priorities, which are in turn influenced by political factors. Currently, expanding the Right-to-Know is one of the Agency's top ten goals.¹⁵⁵ As EPCRA Section 313 is expanded to cover a larger universe of regulated entities and listed chemicals or expanded to include additional obligations, EPA attempts to shift enforcement priorities accordingly. However, there are many more resources devoted to regulatory development than to enforcement.¹⁵⁶ If the TRI program is continually expanded without a corresponding increase in the enforcement budget,¹⁵⁷ some regulatory objectives will not be measured or assured. Despite resource shortages, TRI Enforcement will increasingly focus more on data quality. However, because there is not 100% compliance with EPCRA Section 313,¹⁵⁸ and because of recent expansions,¹⁵⁹ EPA will not abandon enforcement actions against non-reporters.

7 RESULTS

Because the Toxics Release Inventory (TRI) is an information based program, there are substantial data on which U.S. Environmental Protection Agency (USEPA) and others can monitor its impact. The most recent national report on TRI data, the 1997 TRI Public Data Release (PDR), compares releases from 1988, 1995, 1996, and 1997. It includes aggregate data on releases, both on and off-site, to specific media (i.e. air, land, surface water, treatment type, etc) and by chemical. A copy of the report can be accessed on the Internet at <http://www.epa.gov/opptintr/tri/tri97/access.htm>. A summary of the entire TRI database would be too complex to report here other than in a highly simplified way since reporting requirements, chemicals covered, and the regulatory context have all changed significantly over these time periods. It is therefore often difficult to distinguish real changes in source reduction and pollution control, from paper changes resulting from release estimation techniques, reporting definitions, changes in levels of production, and the like. Between 1988 and 1997, releases of chemicals of the TRI have decreased 43% or 1.45 billion pounds, decreasing in all on-site media releases (using the 1988 base set of chemicals). Air releases, both fugitive and point source, were the most significant of any of the decreases, declining by 1.20 billion pounds or 55%. Surface water releases decreased 63%, underground injection decreased 22%, on-site land releases decreased 26%, and off-

site releases increased 1%. Between 1995 and 1997, releases decreased approximately 2% or 38.8 million pounds (using the 1995 core set of chemicals—the chemical expansion base set of chemicals). Air releases, both fugitive and point source, decreased 16% or 248 million pounds. Surface water releases actually increased 24%, underground injection decreased 6%, on-site land releases increases 10%, and off-site releases increased 48%. One of the factors contributing to the large increase in the off-site release category is related to the solidification/stabilization of metals and metal compounds in hazardous waste.

Although air releases continue to decrease in recent reporting years, the rate of this decrease is falling. At the same time, certain media releases have increased (off-site releases to land in particular) and the overall decrease in total releases from one year to the next has become smaller. Although total releases between 1995 and 1997 have decreased, total releases have slightly increased between 1996 and 1997. These data trends point to the need to maintain such information over the long term.

From the perspective of direct results of environmental compliance and enforcement, the magnitude of these changes cannot be attributed just to compliance with TRI reporting requirements for obvious reasons. However, USEPA does maintain information on environmental results achieved through settlement agreements with violators of reporting requirements which include commitments to reduce or eliminate pollution in lieu of some of the assessed penalties. In fiscal year 1997, there were 376 cases related to non-compliance with the Emergency Planning and Community Right-to-Know Act (EPCRA) with 130 of these cases leading to settlement agreements with quantifiable environmental results. These cases include violations of both the TRI and non-TRI requirements of the law. Of the 130 agreements in 1997, 74 resulted in improved protection of human health and 46 resulted in increased protection of ecosystems. There were also 67 cases that resulted in increased worker protection, four that led to greater environmental restoration, and 42 that increased public awareness. Further, these settlement agreements resulted in the elimination of more than 100 million pounds of air pollutants in 1997 and more than 800,000 pounds in 1998. The majority of these reductions consisted of volatile organic compounds but also included reductions in particulate matter and carbon monoxide levels. The environmental results arise because the enforcement actions go beyond increased EPCRA reporting and recordkeeping to include specific chemical use reductions, industrial process changes, and changes in emissions or discharges.

8 CONCLUSION

American manufacturing and industry of all types must be responsible to their communities and take EPCRA seriously to avoid heavy fines or avoid risking the loss of a business. EPCRA is an important planning tool for government - state and local - as well as its citizens. Most importantly, EPCRA allows citizens to work toward Environmental Justice for their communities by gaining a sense of responsibility and control over the environmental quality of their neighborhoods. Implementing EPCRA will empower the public to bring a positive change in the environmental health of minority and low-income communities. In the long run, EPCRA will avoid potential environmental disasters and save lives.

As the world implements TRI and other PRTR legislation, pollution can be analyzed globally for the first time. TRI and other PRTR information will continue to have more and innovative uses as more countries implement right to know legislation. However, because

of the self reporting nature of the TRI and other PRTRs, a vigorous enforcement program is a necessity to ensure the integrity of the data, and any ensuing analysis. Although the nature of TRI violations deviate from traditional enforcement programs where violations produce actual harm to human health or the environment, it is nevertheless essential since the TRI remains a valuable regulatory tool for the community, for state and government planning and targeting, and as an incentive for business to prevent pollution.

APPENDIX I: RESOURCE LIST

1. TRI User Support Service (202) 260-1531. Provides assistance using and assessing TRI data.
2. EPCRA Hotline 1-800-424-9346. To request documents or pose regulatory questions.
3. Envirofacts Warehouse: <http://www.epa.gov/oppt/tri>. Conduct data analysis from many EPA regulated statutes.
4. Office of the Administrative Law Judge: <<http://www.epa.gov/alj>> Obtain recent administrative opinions.
5. EAB Homepage: . <<http://www.epa.gov/eab>> Obtain recent administrative decisions.
6. General Environmental Law Links on the World Wide Web (various)

EPA has a toll free Hotline to answer questions about EPCRA: 1-800-535-0202.

ENDNOTES

1. Publ L. 99-499, title III, Sec. 313, Oct. 17, 1986, 100 Stat. 1741.
2. See, e.g., [CAA; CWA; CERCLA; Environmental Law Textbook].
3. See CAA; CWA; CERCLA; Environmental Law textbook.
4. See generally 42 U.S.C. " 11045(c), 11023(a), 11023(g); see also 40 C.F.R. Part 372 (implementing 42 U.S.C. ' 11023 and describing additional requirements such as record keeping and supplier notification).
5. See 1997 Public Data Release available at <<http://www.epa.gov/oppt/tri>>.
6. EPCRA Sections 1001-11003.
7. EPCRA Section 11004.
8. EPCRA Sections 11021-11022.
9. EPCRA Section 11023.

10. EPCRA Section 11049(4) defines facility as “ all buildings, equipment, structures, and other stationary items which are located on a single site or on contiguous or adjacent sites and which are owned or operated by the same person (or by any person which controls, is controlled by, or under common control with, such person).”
11. EPCRA Section 11002 (a)(3)(A)(ii).
12. EPCRA Section 11004.
13. This law requires a two-tiered approach for annual inventory reporting. Under Tier I, a facility must report the amounts and general location of chemicals in certain hazard categories. A Tier II report contains basically the same information, but it must name the specific chemical. Congress gave companies the flexibility to choose whether to file Tier I or Tier II forms, unless the State Emergency Response Commission, Local Emergency Planning Committee, or fire department request Tier II. Tier II reports provide emergency planners and communities with more useful information. EPCRA Section 11022(a).
14. Information that must be gathered and reported under this section of the Act includes:
 1. Which toxic chemicals were released into the environment during the preceding year.
 2. How much of each chemical went into the air, water and land.
 3. How much of the chemicals were transported away from the site of the facility for disposal.
 4. How chemical wastes were treated on-site.
 5. The efficiency of that treatment.
15. The applicable facilities are those which have (a) 10 or more full-time employees and that are (b) in Standard Industrial Classification Codes 20 through 39 and (c) that manufactured, processed, or otherwise used a toxic chemical listed under EPCRA in excess of the quantity established under the statute. EPCRA Section 11023.
16. Some federal statutes have in fact been delegated to states to varying degrees for implementation. See, e.g., CAA; CWA.
17. Other requirements are imposed administratively by authority of EPCRA ‘ 328 and include record keeping obligations and supplier notification obligations. 42 U.S.C. ‘ 11048; 40 C.F.R. ‘ 372.10, 372.45; see also 40 C.F.R. ‘ 372.18.
18. 42 U.S.C. ‘ 11023(a); 40 C.F.R. ‘ 372.22.
19. 42 U.S.C. ‘ 11023; 40 C.F.R. ‘ 372.22. SIC codes 20-39 consist largely of the manufacturing sectors.
20. 62 Fed. Reg. 23834 (May 1, 1997). SIC codes added include the following: major codes 10 (except 1011, 1081, and 1094), 12 (except 1241), 4911, 4931, 4939 (limited to facilities that combust coal and/or oil for the purpose of generating power for distribution in commerce), 4953 (limited to facilities regulated under the

Resource Conservation and Recovery Act, subtitle C, 42 U.S.C. ' 6921 et seq.), 5169, 5171, and 7389 (limited to facilities primarily engaged in solvent recovery services on a contract or fee basis). See 40 C.F.R. ' 372.22 for determining primary SIC codes. Note that the first reports were due for the newly added SIC codes on July 1, 1998.

21. 40 C.F.R. ' 372.22. See 40 C.F.R. ' 372.3 for the hourly equivalent of 10 full time employees.
22. 42 U.S.C. ' 11023; 40 C.F.R. ' 372.22.
23. A common mistake is to assume no report is necessary if there are zero releases of a toxic chemical. In fact, the statute requires reporting even where there are zero releases. 42 U.S.C. ' 11023(a). Failing to abide by any requirement EPCRA Section 313 or the regulations promulgated under that authority is an actionable offense, subject to penalties not to exceed \$27,500. 42 U.S.C. ' 11045(c); 40 C.F.R. ' 372.18; see also Part 3.3.1 *infra*.
24. Office of Pollution Prevention and Toxics, Environmental Protection Agency, Toxic Chemical Release Inventory Reporting Form R and Instructions (1997) ("Form R") available at <http://www.epa.gov/opptintr/tri> .
25. Although the statutory deadline is July 1, EPA has permitted forms to be submitted at later dates from some reporting years due to international delays. Such actions are announced in the Federal Register on an individual basis. See, e.g., 62 Fed. Reg. 28,651 (May 27, 1997).
26. Form R, *supra* note 23, at part II, ' 5.
27. Form R, *supra* note 23, at part II, ' 6.
28. Form R, *supra* note 23, at part II, ' 7(a)-(c).
29. Form R, *supra* note 23, at part II, ' 4.
30. Form R, *supra* note 23, at part II, ' 3.
31. Form R, *supra* note 23, at part II, ' 8.
32. Form R, *supra* note 23, at part I, ' 4.
33. Form R, *supra* note 23, at part I, " 4.3, 4.4.
34. See 42 U.S.C. ' 11023(j); *infra* Part 3.2.1.
35. See *id.* ' 11023(d) (describing the process to list and delist a chemical from the requirements of EPCRA). Congress provided the initial list of chemicals. *Id.* ' 11023(c).
36. *Id.*
37. *Id.* ' 11023(e).
38. *Id.*
39. 42 U.S.C. ' 11023(b)(1)(A).
40. *Id.* at ' 11023(b)(1)(B).

41. *Id.*
42. See part 3.2.1 *infra*.
43. Compare 42 U.S.C. ' 11045(c) with 28 U.S.C. ' 2561 (amended by 31 U.S.C. ' 3701) and 40 C.F.R. Part 19. Although EPCRA ' 325 (c) permits penalties not to exceed \$25,000 per violation, recent legislation adjusted statutory penalties upward to account for inflation. 28 U.S.C. ' 2461 (amended by 31 U.S.C. ' 3701). Thus, EPA now assesses penalties up to \$27,500 for violations of EPCRA ' 313. 40 C.F.R. Part 19.
44. 42 U.S.C. ' 11045(c)(3).
45. 42 U.S.C. ' 11046 (a)(1)(A)(iv).
46. *Id.* at ' 11046(f).
47. *Id.* at ' 11046(d).
48. See 42 U.S.C. ' 11045(b)(1)(C). Penalty factors include: "the nature, circumstances, extent and gravity of the violation or violations and, with respect to the violator, ability to pay, any prior history of such violations, the degree of culpability, economic benefit or savings (if any) resulting from the violation, and such other matters as justice may require." *Id.* Although these factors expressly apply to the emergency notification provisions of EPCRA, EPA administrative decisions have applied them to Section 313 penalty assessments as well. See, e.g., Apex Microtechnology, EPCRA-09-92-00-07, Initial Decision (Frazier, May 7, 1993); Colonial Processing, Inc., II EPCRA-89-0114, Initial Decision (Frazier, June 24, 1991).
49. See part 3.3.1 *infra*.
50. EPCRA '11005.
51. Categories such as - (a) the total toxic releases by state - the top 25 counties with the largest TRI releases; (b) the 50 U.S. cities with the largest TRI releases; (c) the TRI releases by industry category; (d) the top 50 facilities with the largest TRI releases; and (e) the regional or geographic distribution of the top 25 chemicals released.
52. On February 11, 1994, President Clinton signed the Presidential Executive Order #12898, "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations," requiring each federal agency to make achieving environmental justice part of its mission by identifying and addressing "disproportionately high and adverse human health or environmental effects of its programs, policies, and activities."
53. African American males had a 33% higher death rate from cancer than white males, and African American females had a 16% higher death rate from cancer than white females. Collin, Robert W., "Environmental Equity: A Law and Planning Approach to Environmental Racism", 11 Virginia Environmental Law Review, 501 (1992).

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54. Among urban children five-years old and younger, the percentage of African Americans who had excessive levels of lead in their blood far exceeded the percentage of whites at all income levels. For families with incomes less than \$6,000, 68% of African American children and 36% of white children had unsafe blood lead levels. In families earning more than \$15,000, 38% of African American children and 12% of white children had lead poisoning. *Id.* at 501-502.
 55. EPCRA Sections 11001-11023.
 56. Under EPCRA Section 11001, the Governor of each state shall appoint a State emergency response commission. To the extent practicable, the Governor must appoint persons to the State emergency response commission who have technical expertise in the emergency response field. In turn, the State Emergency Response Commissions appoint local emergency planning committees and establish emergency planning districts. The State Emergency Response Commissions supervise and coordinate the activities of local emergency planning committees. The SERCs are also responsible for establishing procedures for receiving and processing requests from the public for information under EPCRA.
 57. Under EPCRA '11001, local emergency planning committees are made up of elected State and local officials; law enforcement, civil defense, fire fighting, first aid, health, local environmental, hospital, and transportation personnel; broadcast and print media; community groups; and owners and operators of facilities. Local emergency planning committees establish provisions for public notification of committee activities, public meetings to discuss the emergency plan, public comments, response to such comments by the committee, and distribution of the emergency plan. Local emergency planning committees must also establish procedures for receiving and processing requests from the public for EPCRA information. After emergency response plans are established by the local emergency planning committees, there are reviewed at least annually. See EPCRA '11003(c) for the emergency response plan required provisions.
 58. EPCRA '11002(a)(3)(A)(i). Under this section, the Administrator must publish a threshold planning quantity for a substance; if the Administrator fails to establish this threshold quantity, then the quantity shall be 2 pounds until the Administrator publishes regulations establishing a threshold for the substance. EPCRA '11002(a)(3)(C).

Note that '11042 of EPCRA provides for withholding of information by facilities where trade secret requirements are met. Trade secret factors must be met and findings of sufficient assertions must be determined by the Administrator.

59. EPCRA '11003(d)(1).
60. EPCRA '11003(d)(3).
61. Comprehensive Environmental Response, Compensation, and Liability Act of 1980. 42 U.S.C.A. '9603(a). Hereafter "CERCLA".
62. EPCRA '11004(a)(2)(A), (B) and (C) are as follows:
 - (A) is not a federally permitted release as defined in section 101(10) of CERCLA [42 U.S.C.A. '9601(10)],

- (B) is in an amount in excess of a quantity which the Administrator has determined (by regulation) requires notice, and
 - (C) occurs in a manner which would require notification under section 103(a) of CERCLA [42 U.S.C.A. '9603(a)].
63. See EPCRA '11002(a)(3)(A) and (B).
64. EPCRA '11004(b)(1).
65. EPCRA '11004(c).
66. EPCRA 11004(b)(2):
- (A) The chemical name or identity of any substance involved in the release.
 - (B) An indication of whether the substance is on the list referred to in section 11002(a) of this title.
 - (C) An estimate of the quantity of any such substance that was released into the environment.
 - (D) The time and duration of the release.
 - (E) The medium or media into which the release occurred.
 - (F) Any known or anticipated acute or chronic health risks associated with the emergency and, where appropriate, advice regarding medical attention necessary for exposed individuals.
 - (G) Proper precautions to take as a result of the release, including evacuation (unless such information is readily available to the community emergency coordinator pursuant to the emergency plan).
 - (H) The name and telephone number of the person or persons to be contacted for further information.
67. EPCRA '11021.
68. EPCRA '11022.
69. 29 U.S.C.A. '651 et seq.
70. EPCRA '11021(a). See also EPCRA '11021(a)(2) for contents of the chemical list and '11021(a)(3) for treatment of mixtures.
71. The inventory form may contain either "Tier I", or "Tier II" information. Under Tier I, a facility must report the amounts and general location of chemicals in certain hazard *categories*. A Tier II report contains basically the same information, but it must name the *specific chemical*. Congress gave companies the flexibility to choose whether to file a Tier I or Tier II form, unless the SERC, LEPC, or fire department requests Tier II. EPA believes that Tier II reports provide emergency planners and communities with more useful information, and is encouraging facility to submit Tier II forms. Many companies voluntarily provide Tier II reports. See EPCRA '11022(a)(2) and (3). See also '11022(d)(1) and (d)(2) for contents of Tier I and Tier II information.
72. EPCRA '11023(g). Information required under the release form is as follows:

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- (A) provide for the name and location of, and principal business activities at, the facility;
 - (B) include an appropriate certification, signed by a senior official with management responsibility for the person or persons completing the report, regarding the accuracy and completeness of the report; and
 - (C) provide for submission of each of the following items of information for each listed toxic chemical known to be present at the facility:
 - (i) Whether the toxic chemical at the facility is manufactured, processed, or otherwise used, and the general category or categories of use of the chemical.
 - (ii) An estimate of the maximum amounts (in ranges) of the toxic chemical present at the facility at any time during the preceding calendar year.
 - (iii) For each waste stream, the waste treatment for disposal methods employed, and an estimate of the treatment efficiency typically achieved by such methods for that waste stream.
 - (iv) The annual quantity of the toxic chemical entering each environmental medium.

- 73. See EPCRA '11023 for Toxic chemical threshold amounts and '313(g) for the information required on the Release form.
- 74. At the time of this Article, there is a proposed reorganization that would place the TRI program in an Office other than OPPTS. In fact, there have been several reorganizations in the past, changing office names and shifting programs from one office to another.
- 75. See *infra* notes 54, 61, 62 and accompanying text. Less publicized expansions included: Record keeping and supplier notification obligations. 40 C.F.R. " 372.10, 372.45.
- 76. See *supra* part 2.2.2.
- 77. 59 Fed. Reg. 61,432 (Nov. 30, 1994), *codified at* 40 C.F.R. ' 372.65.
- 78. 7 U.S.C. ' 135 *et seq.*
- 79. Listed chemicals includes those also regulated by the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), The Toxics Substances Control Act (TSCA), the Clean Air Act (CAA), the Clean Water Act (CWA), and the Resource Conservation and Recovery Act (RCRA).
- 80. 62 Fed. Reg. 23,834 (May 1, 1997), *codified at* 40 C.F.R. ' 372.22.
- 81. The statute explicitly grants EPA authority to add new industries. 42 U.S.C. ' 11023 (b)(1)(B); see *also* part 2.2.3.
- 82. See 62 Fed. Reg. 23,834 (May 1, 1997) (reports first due July 1, 1999).
- 83. See 63 Fed. Reg. 6691 (Feb. 10, 1998) (proposed rule to add SIC 45 Transportation by Air to the list of covered facilities under EPCRA ' 313); 1996 PUBLIC DATA RELEASE *supra* note 1, at 16 (discussing addition of oil and gas industries).

84. 61 Fed. Reg. 51322 (October 1, 1996).
85. *Id.*
86. See *id.*; 1996 DATA RELEASE *supra* note 1, at 12.
87. See, e.g., TOXIC SUBSTANCES: FEW STATES HAVE CONSIDERED REPORTING REQUIREMENTS FOR CHEMICAL USE DATA, GAO/RCED-97-154 (June 6, 1997); *supra* note 28; 61 Fed. Reg. 51322, 51328; John Cunniff, *The New Battlefield: Economic Intelligence*, ASSOCIATED PRESS, Sunday, March 8, 1998.
88. *Expediting Community Right-to-Know Initiatives*, Pres. Mem. of Aug. 8, 1995, reprinted in 60 Fed. Reg. 41791 (August 10, 1995).
89. See <http://www.epa.gov/opptintr/chemrtk/persbioa.htm>; see also note 21 and accompanying text.
90. *Id.* Examples of PBT chemicals include: Chlordane, Benzo(a)anthracene, Mercury compounds, Lindane, and PCBs. While many PBTs are no longer manufactured in the U.S., they are released during treatment and disposal activities.
91. *Id.*
92. 42 U.S.C. ' 13101 *et seq.*
93. Source reduction is defined as any practice which (1) reduces the amount of any hazardous substance, pollutant, or contaminant entering any waste stream or otherwise released into the environment (including fugitive emissions) prior to recycling, treatment or disposal; and (2) reduces the hazards to public health and the environment associated with the release of such substances, pollutants, or contaminants. 42 U.S.C. 13101(b).
94. 42 U.S.C. ' 13101(b).
95. *Id.*
96. 42 U.S.C. ' 13106. For a discussion on the success of EPA's implementation of the PPA, see TOXIC SUBSTANCES: EPA NEEDS MORE RELIABLE SOURCE REDUCTION DATA AND PROGRESS MEASURES GAO/RCED-94-93 (September 23, 1994).
97. See 42 U.S.C. ' 13101.
98. Executive Order No. 12,969, reprinted in 60 Fed. Reg. 40989 (August 10, 1995).
99. See 42 U.S.C. ' 11045(c)(1) ("Any person (other than a governmental entity) who violates any requirement of section 312 or 313 shall be liable to the United States for a civil penalty in an amount not to exceed \$25,00 for each such violation.").
100. See 40 C.F.R. ' 372.1.
101. See, e.g., *Manufacturing Pollution* (Citizens Fund, Washington D.C.), August 1992; *Poisons in Our Neighborhoods: Toxic Pollution in the United States* (Citizens Fund, Washington D.C.), November 1993; Alair MacLean and Rich Puchalsky, *Where the Wastes Are: Highlights from the Records of the More Than 5,000 Facilities that Receive Transfers of TRI Chemicals* (OMB Watch and Unison

Institute, Washington D.C.), April 1994; Jefferey Tryens *et. al.*, *Making the Difference: Using the Right-to-Know in the Fight Against Toxics* (Center for Policy Alternatives and Working Group on Community Right-to-Know, undated).

102. In fact, comparisons of TRI data from 1987 through 1996 reflect industries "have reduced their on and off-site releases of TRI chemicals by almost 50% or 1.5 billion pounds." Office of Pollution Prevention and Toxics, U.S. Environmental Protection Agency, 1996 Toxics Release Inventory Public Data Release Ten Years of Right To Know (May, 1998) ("1996 Data Release").
103. 1988 Toxics Release Inventory Public Data Release, Office of Pollution Prevention and Toxics, March 1989.
104. See *supra* note and accompanying text.
105. 1996 Public Data Release, *supra* note 43, at
106. 1996 Public Data Release, *supra* note 43, at 24-25.
107. 42 U.S.C. ' 11023(j).
- 108.
109. For TRI information and analysis, visit EPA's web site, the Envirofacts Warehouse, located at <<http://www.epa.gov/enviro>>.
110. *Id.* <http://www.epa.gov/enviro/html/tris/tris_overview.html>
111. The annual data release is available in the full printed format, free of charge at: (800) 424-9346. An abbreviated form of the data release, "State Fact Sheets," are available free of charge as well at: (800) 424-9346. There is a CD-Rom version of the TRI data which is searchable by customized query, however this item is free only to libraries, educators, students, non-profits, and community groups. Call (800) 490-9198 to obtain a copy of the CD-Rom. There are many other publications available, including the "TRI Information Kit," which is also free and available at: (800) 490-9198.
112. See <www.epa.gov/opptintr/tri>.
113. See <www.epa.gov/oeca/sector/index.html> .
114. The EPCRA Hotline may be reached at: 1-800-424-9346. TRI guidance documents may be requested through the EPCRA Hotline, or on the Internet at: <<http://www.epa.gov/oppt/tri>>.
115. See [FIRST CASEBLACK BOOK].
116. It is probably much simpler to understand the requirements of an environmental regulation through a guidance document than through reading a judicial or administrative decision adjudicating liability. However, litigation is also important to deter voluntary ignorance of the requirements.
117. 42 U.S.C. ' 11045(c)(1); see also *supra* note 23 (regarding upward penalty adjustments to account for inflation).
118. 42 U.S.C. ' 13106(c).


119. See, e.g., Colonial Processing, Inc., II EPCRA-89-0114, Initial Decision (Frazier, June 24, 1991) (early case imposing penalty for late report). Note that EPA characterizes non-reporters as late reporters. See generally CBI Services, Inc., EPCRA-05-1990, Order Granting Motion for Accelerated Decision (Greene, Apr. 30, 1991).
120. See *supra* part 3.2.1.
121. See *infra* note 133 and accompanying text.
122. Office of Compliance Monitoring, Environmental Protection Agency, Enforcement Response Policy for Section 313 of the Emergency Planning and Community Right-to-Know Act Also known as Title III of the Superfund Amendments and Reauthorization Act (SARA), December 2, 1988.(hereinafter "1988 ERP").
123. Note that because the ERP has not been subjected to notice and comment rulemaking, it is not binding upon regulated entities in and of itself. Instead, the ERP is a tool through which the statutory criteria for penalty assessment is applied. Thus, EPA attorneys must independently explain why the ERP yields a fair penalty under the Statute during administrative hearings. See Colonial Processing, Inc. II EPCRA-89-0114, Initial Decision (Frazier, June 24, 1991). While EPA's administrative law judges (ALJ) must consider the ERP when adjudicating a final penalty, they may deviate from it if they provide an explanation. 40 C.F.R. ' 22.27(b). See also Genicom Corp., EPCRA Appeal No. 92-2, Final Decision (Dec. 15, 1992).
124. EPA maintains an internal delegations manual which lawfully delegates the authority granted the Administrator by Congress to issue civil enforcement actions to certain headquarters and regional management.
125. Violations of EPCRA ' 313 range from failing to timely file the Form R or A and data quality errors, to failure to maintain records, failure to supply notification, and failure to respond to Agency requests for minor corrections. Office of Compliance Monitoring, Environmental Protection Agency, Enforcement Response Policy for Section 313 of the Emergency Planning and Community Right-to-Know Act (1986) and Section 6607 of the Pollution Prevention Act (1990), 11-12, August 10, 1992 (1992 ERP).
126. Enforcement actions available under the ERP consist of the following: no action for certain revisions to Form R submissions; Notices of Noncompliance (NON) for certain circumstances causing minor errors in the Form R; civil administrative complaints for failing to report in a timely manner, certain data quality errors, failure to respond to a NON, repeated violations, failure to supply notification, and failure to keep records; civil judicial referrals to the Department of Justice for exceptional circumstances; and criminal sanctions under authority under authority of 18 U.S.C. ' 1001. 1992 ERP *supra* note 106, at 2-7.
127. Penalties are assessed by first identifying the gravity based penalty using the ERP's penalty matrix, which considers the size of the business and the amount of chemical involved. The gravity based penalty is then adjusted based on certain "adjustment factors" discussed in the ERP. 1992 ERP *supra* note 106, at 7-8.
128. EPCRA Sections 11045-11046.

129. EPCRA Section 11046(a)(1).
130. 1992 ERP *supra* note 106.
131. To examine recent administrative decisions, visit the Office of the Administrative Law Judge, or the Environmental Appeals Board on the World Wide Web at the following addresses, respectively: <<http://www.epa.gov/alj>> <<http://www.epa.gov/eab>> .
132. *See supra* part 3.2.1.
133. *See infra* part 3.3.2.
134. Note that Enforcement Response Policy revisions would be less likely if the Enforcement Response Policy was subjected to notice and comment rule-making, and codified as a regulation. While codifying the Enforcement Response Policy would likely result in consistent application by administrative law judges, it would also result in a more static enforcement program due to resource intensive nature of rule-makings.
135. Jon D. Jacobs and Michael J. Walker, *Introducing the Environmental Data Police in the Decade of Data and Data Quality* 4 *Env'tl L. & Practice* 47 (July/Aug. 1996).
136. For example, by comparing pesticide production reports required by Federal Insecticide, Fungicide and Rodenticide Act ' 7 to the list of TRI chemicals, EPA can ascertain whether a regulated entity meets one of the TRI reporting criteria manufacturing over 25,000 pounds of a listed toxic chemical. Similar information pertaining to the TRI reporting criteria are available from many internally cross-referenced databases. *See generally* 7 U.S.C. ' 136(e); 40 C.F.R. ' 167.85; 40 C.F.R. 372.65.
137. Cite either old MOA, initial cases, or budget.
138. Cite old MOA mandating % of DQ inspections ensure this is public info!! Support for DQ: see *supra*, or cite to 313(g)(h).
139. *See* 1996 Public Data Release *supra* note 84, at Appendix B.
140. *See supra* part 3.2.2.
141. For more information, visit the NETI web-site at: <http://www.epa.gov/oeca/neti/netimain.html>.
142. *See supra* part 3.3.1.
143. 42 U.S.C. ' 11045(c)(4); *supra* note 107 and accompanying text.
144. *Id.*
145. *See supra* note 107.
146. This is mandated by the Delegations Manual. (Internal Document).
147. *See generally* *Pease and Curren, Inc.*, EPCRA I-91-1008, *Initial Decision* (Frazier, Mar. 13, 1991) (arbitrary and unreasonable for EPA to assess a penalty based solely on failure to file a Form R for a regulated toxic chemical prior to an EPA inspection).

148. See *supra* part 2.
149. See *supra* part 3.2.3 and *infra* note 132 for pre-enforcement deterrence mechanisms.
150. A common method EPA uses to publicize noteworthy administrative decisions is through the "Enforcement Alert Bulletin." Enforcement Alert Bulletins are directly mailed to the regulated community, and also available on the Internet at: <http://www.epa.gov/oeca/ore/enfalert>.
151. See *supra* part 3.3.1. The ERP provides that any deviation by the regional CDO or attorney must be approved by EPA headquarters. 1992 ERP *supra* note 106, at 20.
152. Incentives for Self-Policing: Discovery, Disclosure, Correction and revention of Violations, 60 Fed. Reg. 66,706 (Dec. 22, 1995), available at <http://www.epa.gov/oeca/auditpol.html>.
153. See the Audit Policy Newsletter at: <http://www.epa.gov/oeca/auditpol.html>.
154. See, for example, A Settlement Policy on Supplemental Environmental Projects, Office of Enforcement and Compliance Assurance; Revised, March 5, 1998.
155. OFFICE OF THE CHIEF FINANCIAL OFFICER, UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, STRATEGIC PLAN, 17, 50-52 (Sept. 1997).
156. See U.S. ENVIRONMENTAL PROTECTION AGENCY, BUDGET (1998).
157. For fiscal year 1999, Congress directed a 10 million dollar budget cut to EPA enforcement.
158. In 1990 an EPA study conducted under contract estimated EPCRA ' 313 compliance to be about 80%.
159. See *supra* part 3.2.1.

Annex 1 Form R - Toxic Chemical Release Inventory Reporting Form

(IMPORTANT: Type or print; read instructions before completing form) Form Approved OMB Number: 2070-0093 Page 1 of 5
Approval Expires: 04/2000

 EPA		FORM R		TOXIC CHEMICAL RELEASE INVENTORY REPORTING FORM	
United States Environmental Protection Agency		Section 313 of the Emergency Planning and Community Right-to-Know Act of 1986, also known as Title III of the Superfund Amendments and Reauthorization Act			
WHERE TO SEND COMPLETED FORMS: 1. EPCRA Reporting Center P.O. Box 3348 Merrifield, VA 22116-3348 ATTN: TOXIC CHEMICAL RELEASE INVENTORY				Enter "X" here if this is a revision For EPA use only	
Important: See instructions to determine when "Not Applicable (NA)" boxes should be checked.					
PART I. FACILITY IDENTIFICATION INFORMATION					
SECTION 1. REPORTING YEAR _____					
SECTION 2. TRADE SECRET INFORMATION					
2.1	Are you claiming the toxic chemical identified on page 2 trade secret? <input type="checkbox"/> Yes (Answer question 2.2; Attach substantiation forms) <input type="checkbox"/> No (Do not answer 2.2; Go to Section 3)		2.2	Is this copy <input type="checkbox"/> Sanitized <input type="checkbox"/> Unsanitized (Answer only if "YES" in 2.1)	
SECTION 3. CERTIFICATION (Important: Read and sign after completing all form sections.)					
I hereby certify that I have reviewed the attached documents and that, to the best of my knowledge and belief, the submitted information is true and complete and that the amounts and values in this report are accurate based on reasonable estimates using data available to the preparers of this report.					
Name and official title of owner/operator or senior management official:				Signature:	Date Signed:
SECTION 4. FACILITY IDENTIFICATION					
4.1		TRI Facility ID Number			
Facility or Establishment Name		Facility or Establishment Name or Mailing Address (if different from street address)			
Street		Mailing Address			
City/County/State/Zip Code		City/County/State/Zip Code			
4.2		This report contains information for: (Important: check a or b; check c if applicable) a. <input type="checkbox"/> An entire facility b. <input type="checkbox"/> Part of a facility c. <input type="checkbox"/> A Federal facility			
4.3		Technical Contact Name		Telephone Number (include area code)	
4.4		Public Contact Name		Telephone Number (include area code)	
4.5		SIC Code (s) (4 digits)		a. _____ b. _____ c. _____ d. _____ e. _____ f. _____	
4.6		Latitude		Longitude	
		Degrees Minutes Seconds		Degrees Minutes Seconds	
4.7		Dun & Bradstreet Number(s) (9 digits)		4.8 EPA Identification Number (RCRA I.D. No.) (12 characters)	
a. _____		a. _____		4.9 Facility NPDES Permit Number(s) (9 characters)	
b. _____		b. _____		4.10 Underground Injection Well Code (UIC) I.D. Number(s) (12 digits)	
				a. _____	
				b. _____	
SECTION 5. PARENT COMPANY INFORMATION					
5.1		Name of Parent Company NA <input type="checkbox"/>			
5.2		Parent Company's Dun & Bradstreet Number NA <input type="checkbox"/>			

EPA FORM R		TRI Facility ID Number	
PART II. CHEMICAL-SPECIFIC INFORMATION		Toxic Chemical, Category or Generic Name	
SECTION 1. TOXIC CHEMICAL IDENTITY (Important: DO NOT complete this section if you completed Section 2 below.)			
1.1	CAS Number (Important: Enter only one number exactly as it appears on the Section 313 list. Enter category code if reporting a chemical category.)		
1.2	Toxic Chemical or Chemical Category Name (Important: Enter only one name exactly as it appears on the Section 313 list.)		
1.3	Generic Chemical Name (Important: Complete only if Part 1, Section 2.1 is checked "yes". Generic Name must be structurally descriptive.)		
SECTION 2. MIXTURE COMPONENT IDENTITY (Important: DO NOT complete this section if you completed Section 1 above.)			
2.1	Generic Chemical Name Provided by Supplier (Important: Maximum of 70 characters, including numbers, letters, spaces, and punctuation.)		
SECTION 3. ACTIVITIES AND USES OF THE TOXIC CHEMICAL AT THE FACILITY (Important: Check all that apply.)			
3.1	Manufacture the toxic chemical:	3.2	Process the toxic chemical:
	a. <input type="checkbox"/> Produce b. <input type="checkbox"/> Import If produce or import: c. <input type="checkbox"/> For on-site use/processing d. <input type="checkbox"/> For sale/distribution e. <input type="checkbox"/> As a byproduct f. <input type="checkbox"/> As an impurity		a. <input type="checkbox"/> As a reactant b. <input type="checkbox"/> As a formulation component c. <input type="checkbox"/> As an article component d. <input type="checkbox"/> Repackaging
		3.3	Otherwise use the toxic chemical:
			a. <input type="checkbox"/> As a chemical processing aid b. <input type="checkbox"/> As a manufacturing aid c. <input type="checkbox"/> Ancillary or other use
SECTION 4. MAXIMUM AMOUNT OF THE TOXIC CHEMICAL ONSITE AT ANY TIME DURING THE CALENDAR YEAR			
4.1	<input type="text"/> (Enter two-digit code from instruction package.)		
SECTION 5. QUANTITY OF THE TOXIC CHEMICAL ENTERING EACH ENVIRONMENTAL MEDIUM ONSITE			
		A. Total Release (pounds/year) (Enter range code or estimate*)	B. Basis of Estimate (enter code)
			C. % From Stormwater
5.1	Fugitive or non-point air emissions	NA <input type="checkbox"/>	
5.2	Stack or point air emissions	NA <input type="checkbox"/>	
5.3	Discharges to receiving streams or water bodies (enter one name per box)		
	Stream or Water Body Name		
5.3.1			
5.3.2			
5.3.3			
5.4.1	Underground Injection onsite to Class I Wells	NA <input type="checkbox"/>	
5.4.2	Underground Injection onsite to Class II-V Wells	NA <input type="checkbox"/>	
If additional pages of Part II, Section 5.3 are attached, indicate the total number of pages in this box and indicate the Part II, Section 5.3 page number in this box. <input type="text"/> (example: 1,2,3, etc)			

EPA FORM R PART II. CHEMICAL - SPECIFIC INFORMATION (CONTINUED)		TRI Facility ID Number			
		Toxic Chemical, Category, or Generic Name			
SECTION 5. QUANTITY OF THE TOXIC CHEMICAL ENTERING EACH ENVIRONMENTAL MEDIUM ONSITE(Continued)					
		NA	A. Total Release (pounds/year) (enter range code* or estimate)	B. Basis of Estimate (enter code)	
5.5	Disposal to land onsite				
5.5.1A	RCRA Subtitle C landfills	<input type="checkbox"/>			
5.5.1B	Other landfills	<input type="checkbox"/>			
5.5.2	Land treatment/application farming	<input type="checkbox"/>			
5.5.3	Surface impoundment	<input type="checkbox"/>			
5.5.4	Other disposal	<input type="checkbox"/>			
SECTION 6. TRANSFERS OF THE TOXIC CHEMICAL IN WASTES TO OFF-SITE LOCATIONS					
6.1 DISCHARGES TO PUBLICLY OWNED TREATMENT WORKS (POTWs)					
6.1.A Total Quantity Transferred to POTWs and Basis of Estimate					
6.1.A.1. Total Transfers (pounds/year) (enter range code* or estimate)			6.1.A.2 Basis of Estimate (enter code)		
6.1.B. __	POTW Name				
POTW Address					
City		State		County	Zip
6.1.B. __	POTW Name				
POTW Address					
City		State		County	Zip
If additional pages of Part II, Section 6.1 are attached, indicate the total number of pages in this box <input type="text"/> and indicate the Part II, Section 6.1 page number in this box <input type="text"/> (example: 1,2,3, etc.)					
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? <input type="checkbox"/> Yes <input type="checkbox"/> No					

EPA FORM R						TRI Facility ID Number _____	
PART II. CHEMICAL-SPECIFIC INFORMATION (CONTINUED)						Toxic Chemical, Category or Generic Name _____	
SECTION 6.2 TRANSFERS TO OTHER OFF-SITE LOCATIONS (Continued)							
A. Total Transfers (pounds/year) (enter range code* or estimate)		B. Basis of Estimate (enter code)			C. Type of Waste Treatment/Disposal/ Recycling/Energy Recovery (enter code)		
1.		1.			1. M		
2.		2.			2. M		
3.		3.			3. M		
4.		4.			4. M		
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?						<input type="checkbox"/> Yes <input type="checkbox"/> No	
A. Total Transfers (pounds/year) (enter range code* or estimate)		B. Basis of Estimate (enter code)			C. Type of Waste Treatment/Disposal/ Recycling/Energy Recovery (enter code)		
1.		1.			1. M		
2.		2.			2. M		
3.		3.			3. M		
4.		4.			4. M		
SECTION 7A. ON-SITE WASTE TREATMENT METHODS AND EFFICIENCY							
<input type="checkbox"/> Not Applicable (NA) - Check here if no on-site waste treatment is applied to any waste stream containing the toxic chemical or chemical category.							
a. General Waste Stream (enter code)	b. Waste Treatment Method(s) Sequence [enter 3-character code(s)]				c. Range of Influent Concentration	d. Waste Treatment Efficiency Estimate	e. Based on Operating Data ?
7A.1a	7A.1b	1	2	7A.1c	7A.1d	7A.1e	
	3	4	5		%	Yes	No
	6	7	8			<input type="checkbox"/>	<input type="checkbox"/>
7A.2a	7A.2b	1	2	7A.2c	7A.2d	7A.2e	
	3	4	5		%	Yes	No
	6	7	8			<input type="checkbox"/>	<input type="checkbox"/>
7A.3a	7A.3b	1	2	7A.3c	7A.3d	7A.3e	
	3	4	5		%	Yes	No
	6	7	8			<input type="checkbox"/>	<input type="checkbox"/>
7A.4a	7A.4b	1	2	7A.4c	7A.4d	7A.4e	
	3	4	5		%	Yes	No
	6	7	8			<input type="checkbox"/>	<input type="checkbox"/>
7A.5a	7A.5b	1	2	7A.5c	7A.5d	7A.5e	
	3	4	5		%	Yes	No
	6	7	8			<input type="checkbox"/>	<input type="checkbox"/>
If additional pages of Part II, Section 6.2/7A are attached, indicate the total number of pages in this box						<input type="text"/>	
and indicate the Part II, Section 6.2/7A page number in this box :						<input type="text"/> (example: 1,2,3, etc)	

EPA FORM R PART II. CHEMICAL-SPECIFIC INFORMATION (CONTINUED)		TRI Facility ID Number			
		Toxic Chemical, Category or Generic Name			
SECTION 7B. ON-SITE ENERGY RECOVERY PROCESSES					
<input type="checkbox"/> Not Applicable (NA) - Check here if no on-site energy recovery is applied to any waste stream containing the toxic chemical or chemical category.					
Energy Recovery Methods [enter 3-character code(s)]					
1	<input type="text"/>	2	<input type="text"/>	3	<input type="text"/>
				4	<input type="text"/>
SECTION 7C. ON-SITE RECYCLING PROCESSES					
<input type="checkbox"/> Not Applicable (NA) - Check here if no on-site recycling is applied to any waste stream containing the toxic chemical or chemical category.					
Recycling Methods [enter 3-character code(s)]					
1.	<input type="text"/>	2.	<input type="text"/>	3.	<input type="text"/>
4.	<input type="text"/>	5.	<input type="text"/>	6.	<input type="text"/>
7.	<input type="text"/>	8.	<input type="text"/>	9.	<input type="text"/>
10.	<input type="text"/>				<input type="text"/>
SECTION 8. SOURCE REDUCTION AND RECYCLING ACTIVITIES					
		Column A Prior Year (pounds/year)	Column B Current Reporting Year (pounds/year)	Column C Following Year (pounds/year)	Column D Second Following Year (pounds/year)
8.1	Quantity released **				
8.2	Quantity used for energy recovery onsite				
8.3	Quantity used for energy recovery offsite				
8.4	Quantity recycled onsite				
8.5	Quantity recycled offsite				
8.6	Quantity treated onsite				
8.7	Quantity treated offsite				
8.8	Quantity released to the environment as a result of remedial actions, catastrophic events, or one-time events not associated with production processes (pounds/year)				
8.9	Production ratio or activity index				
8.10	Did your facility engage in any source reduction activities for this chemical during the reporting year? If not, enter "NA" in Section 8.10.1 and answer Section 8.11.				
	Source Reduction Activities [enter code(s)]	Methods to Identify Activity (enter codes)			
8.10.1		a.	b.	c.	
8.10.2		a.	b.	c.	
8.10.3		a.	b.	c.	
8.10.4		a.	b.	c.	
8.11	Is additional information on source reduction, recycling, or pollution control activities included with this report? (Check one box)			YES	NO
				<input type="checkbox"/>	<input type="checkbox"/>
** Report releases pursuant to EPCRA Section 322(B) including "any spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping, or disposing into the environment." Do not include any quantity treated onsite or offsite.					

