
Chapter 1



Toxics Release Inventory Reporting and the 1997 Public Data Release

Introduction and Background

Following a fatal chemical-release accident in Bhopal, India, the Emergency Planning and Community Right-to-Know Act (EPCRA) provisions were enacted to promote emergency planning, to minimize the effects of an accident such as occurred at Bhopal, and to provide the public with information on releases of toxic chemicals in their communities.

Section 313 of EPCRA established the Toxics Release Inventory (TRI) Program, a national database that identifies facilities, chemicals manufactured and used at the identified facilities, and the annual amounts of these chemicals released (in routine operations and in accidents and other one-time events) and otherwise managed on- and off-site in waste.

In 1990, Congress passed the Pollution Prevention Act (PPA). Among its requirements was a mandate to expand TRI to include additional information on toxic chemicals in waste and on source reduction methods. Beginning in 1991, covered facilities were required to report quantities of TRI chemicals recycled, combusted for energy recovery, and treated on- and off-site. This waste management data has strengthened TRI as a tool for providing information on facilities' handling of TRI chemicals as well as for analyzing progress in reducing releases.

The Toxics Release Inventory (TRI) Program has been a tremendously successful program and the results speak loudly for themselves. Industries have reduced their on- and off-site releases of TRI chemicals by more than 40% or 1.45 billion pounds

(for chemicals reportable in all years). Governments — federal, state, and local — have used the TRI to set priorities, measure progress, and target areas of special and immediate concern. The public, our most important customer, has used the TRI data to understand their local environment, to participate in local and national debates about the choices being made that effect their health and the health of their children and, ultimately, to exert their influence on the outcome of these debates.

Since 1987, the first year of TRI reporting, the TRI and the Right-to-Know Program has grown. The number of chemicals has doubled, federal facilities have been added, new sectors will be reporting for the first time with the 1998 reporting year, and EPA has proposed to lower the EPCRA section 313 reporting thresholds for certain persistent, bioaccumulative toxic (PBT) chemicals and to add certain other PBT chemicals to the section 313 list of toxic chemicals. Our progress is to a large degree the result of our open process. The Agency applauds those who have worked with us to assure that we meet the challenge that EPCRA posed, and we encourage those who continue to push us to assure and maintain the integrity and goals of the Program.

As we move into the second decade of the TRI Program, many challenges in the Right-to-Know Program remain to be met. TRI was designed to be a program that would evolve, over time, to meet the changing needs of an informed and involved public. The program will never be static and will never be “finished.” As new chemicals of concern are identified, they will be added. Sectors that appear to contribute significantly to environmental loadings will be added.

Data collection will be modified to meet new information needs and access technologies will be developed over time to assure enhanced public access.

The *1997 Toxics Release Inventory Public Data Release* provides an overview of the information collected through TRI. It summarizes data collected for calendar year 1997. For comparison purposes, this report also provides basic data for the preceding year (1996), for the new baseline year (1995), for the period since the PPA mandated collection of waste management data (1991), and for the original baseline year (1988). TRI's on-line computer database and CD-ROM contain data collected for all years, including those not found in this report.

1997 Public Data Release

This year the *1997 TRI Public Data Release* contains four chapters and focuses on the TRI data at the national level. The data are analyzed at the national level by state, by chemical and by industry. Unlike last year, this year's data release does not contain industry-specific chapters. The industry-specific chapters will be revised in the future but not in 1999.

Also, in previous data release publications, the year-to-year comparison chapter has had extensive analyses of the current year data compared to the 1988 core set of chemicals and the 1991 core set of chemicals. In this year's data release, the bulk of the year-to-year comparison is done with a new baseline year of 1995. However, there are still several tables in the *1997 TRI Public Data Release* which compare the current year data to the base years of 1988 and 1991. In addition to the change in the baseline year, the text and tables have been reorganized to put the data in terms of the waste management hierarchy.

TRI Reporting

The Toxics Release Inventory is a publicly available database that contains information on specific toxic chemical releases and other waste management activities from the manufacturing sector of the U.S. economy and, since 1994, federal facilities. This inventory was established under the Emergency Planning and Community Right-to-Know Act of 1986 (EPCRA). Following passage of the Pollution Prevention Act of 1990, TRI was expanded to include mandatory reporting of additional waste management and pollution prevention activities.

The information collected under these laws can be used by the public to identify facilities and chemical release patterns that warrant further study and analysis. Combined with hazard and exposure information, TRI has proven to be a valuable tool for risk identification.

Each year, facilities that meet certain thresholds must report their releases and other waste management activities for listed toxic chemicals to EPA and to the state or tribal entity in whose jurisdiction the facility is located. The TRI list for 1997 included more than 600 chemicals and 28 chemical categories. Each facility submits a TRI reporting form, known as Form R, for each TRI chemical it has manufactured, processed, or otherwise used during 1997 in amounts exceeding the thresholds. Starting with the 1995 reporting year, facilities with lower levels of reportable amounts that do not *manufacture, process, or otherwise use* more than 1 million pounds of the chemical can file a much shorter certification statement, Form A (see "TRI Reporting Forms," later in this chapter).

Reports for each calendar year are due by July 1 of the following year. After completion of data entry and data quality assurance activities, the Agency makes the data available to the public in printed reports, in a computer database, and through a variety of other information products such as CD-ROMs.



States also make available to the public copies of the forms filed by facilities in their jurisdiction. In addition, some states independently produce a data release report.

Who Must Report?

Manufacturing facilities that have the equivalent of 10 or more full-time employees and meet the established thresholds for manufacture, processing, or “otherwise use” of listed chemicals must report their releases and other waste management quantities (including quantities transferred off-site for further waste management). Manufacturing facilities are defined as facilities in Standard Industrial Classification (SIC) primary codes 20-39, which include, among others: chemicals, petroleum refining, primary metals, fabricated metals, paper, plastics, and transportation equipment. Federal facilities have been required to report since 1994, regardless of their SIC classification. In May 1997, EPA added seven new industry sectors that will report to the TRI for the first time in July 1999 for reporting year 1998.

Thresholds for manufacturing and processing are currently 25,000 pounds for each listed chemical, while the threshold for otherwise using is 10,000 pounds per chemical. Beginning with the 1995 reporting year, certain facilities are able to take advantage of a burden-reducing reporting threshold. (See “Form A” in “TRI Reporting Forms,” later in this chapter.)

What Must Be Reported?

Each year, facilities report to TRI the amounts of toxic chemicals released on-site to the air, water, and land and injected underground (Section 5 of TRI Form R), and the amounts of chemicals transferred off-site for recycling, energy recovery, treatment, and disposal (Section 6 of Form R).

Box 1-1. Who Reported Toxic Chemical Release Inventory Reports for the 1997 Reporting Year?

Who Reported Toxic Chemical Release Inventory Reports for the 1997 Reporting Year?

A facility must report to TRI if it:

- Conducts manufacturing operations within Standard Industrial Classification (SIC) codes 20 through 39 (or is a federal facility in any SIC code),
- Has 10 or more full-time equivalent employees, and
- Manufactures or processes more than 25,000 pounds or otherwise uses more than 10,000 pounds of any listed chemical during the calendar year.

Box 1-2. Who Will Report to TRI Starting in the 1998 Reporting Year?

Who Will Report to TRI Starting in the 1998 Reporting Year?

- Metal mining (SIC code 10, except for SIC codes 1011, 1081, and 1094)
- Coal mining (SIC code 12, except for 1241 and extraction activities)
- Electrical utilities that combust coal and/or oil (SIC codes 4911, 4931, and 4939)
- Resource Conservation and Recovery Act (RCRA) Subtitle C hazardous waste treatment and disposal facilities (SIC code 4953)
- Chemicals and allied products wholesale distributors (SIC code 5169)
- Petroleum bulk plants and terminals (SIC code 5171)
- Solvent recovery services (SIC code 7389)



They also report production-related waste management information on quantities recycled, combusted for energy recovery, treated, or released or otherwise disposed of, both on- and off-site, and catastrophic or other one-time releases (Section 8 of the Form R).

Facilities provide specific identifying information, such as:

- Name
- Location
- Type of business
- Contact names
- Name of parent company
- Environmental permit numbers

They also provide information about the manufacture, process, and otherwise use of the listed chemical at the facility and the maximum amount of the chemical on-site during the year. Facilities provide information about methods used to treat waste streams containing the toxic chemicals at the site and the efficiencies of those treatment methods. In addition to information about the amount of toxic chemicals sent off-site for waste management, facilities also must specify the destination of these transfers. Beginning with the 1991 reports, facilities were required to provide information about source reduction activities, along with the quantities managed in waste by activities such as recycling. Companies must provide a production index that can help relate changes in reported quantities of toxic chemicals in waste managed to changes in production.

These additional data elements facilitate tracking of industry progress in reducing waste generation and moving towards safer management alternatives. While current TRI data cannot provide an absolute measure of pollution prevention, the data can provide new insight into the complete toxics cycle.

Box 1-3. What Must Be Reported to TRI?

What Must Be Reported?

Information reported by facilities includes:

- Basic information identifying the facility;
- Name and telephone number of a contact person;
- Environmental permits held;
- Amounts of each listed chemical released to the environment at the facility;
- Amounts of each chemical shipped from the facility to other locations for recycling, energy recovery, treatment, or disposal;
- Amounts of each chemical recycled, burned for energy recovery, or treated at the facility;
- Maximum amount of chemical present on-site at the facility during the year;
- Types of activities conducted at the facility involving the toxic chemical; and
- Source reduction activities.

What Are the Benefits and Limitations of the Data?

We believe that people know what's best for their own communities and, given the facts, they themselves will determine what is best to protect public health and the environment.

—Carol Browner, U.S. EPA Administrator

Benefits

The TRI Program has given the public unprecedented direct access to toxic chemical release and other waste management data at the local, state, regional, and national level. Responsible use of this information can enable the public to identify potential concerns, gain a better understanding of potential risks, and work with industry and government to reduce toxic chemical releases and the risks associated with them. When combined with hazard and exposure data, this information can allow informed environmental



priority-setting at the local level. More than 1,500 citizen groups have used TRI data to achieve the goal of a cleaner and healthier neighborhood.

Federal, state, and local governments can use the data to compare facilities or geographic areas, to identify hot spots, to evaluate existing environmental programs, to more effectively set regulatory priorities, and to track pollution control and waste reduction progress. TRI data, in conjunction with demographic data, can help government agencies and the public identify potential environmental justice concerns.

Industry can use the data to obtain an overview of the release and other waste management of toxic chemicals, to identify and reduce costs associated with toxic chemicals in waste, to identify promising areas of pollution prevention, to establish reduction targets, and to measure and document progress toward reduction goals. Public availability of the data has prompted many facilities to work with communities to develop effective strategies for reducing environmental and human health risks posed by toxic chemical releases. Since 1988, facilities have reduced toxic releases, on- and off-site, by 42.8%, for chemicals reportable in all years.

Completion of TRI chemical expansion for the 1995 reporting year has significantly increased the usefulness of the data. The scope of the program was broadened to include 286 new chemicals and chemical categories¹ on the toxic chemical list for a total of 643 reportable chemicals and chemical categories. Many of these new chemicals are high production volume (HPV) chemicals and highly toxic substances. (See “TRI Expansion,” later in this chapter for more information.)

¹ Of the 286 chemicals, 20 were diisocyanates and 19 were polyaromatic compounds. These are reported not as individual chemicals, but as two chemical compound categories. Not individually counting the members of these two categories converts 286 to 249. Furthermore, three other chemicals have been remanded and one chemical was not reportable because of an administrative stay. Thus, the number of chemicals added to TRI, beginning with the 1995 reporting year, was 245.

Box 1-4. Factors to Consider in Using TRI Data

Factors to Consider in Using TRI Data

Toxicity of the Chemical: TRI chemicals vary widely in their ability to produce toxic effects. Some high volume releases of less toxic chemicals may appear to be a more serious problem than lower-volume releases of highly toxic chemicals, when just the opposite may be true.

Exposure Considerations: The potential for exposure is greater the longer the chemicals remains unchanged in the environment. Sunlight, heat, or microorganisms may or may not decompose the chemical. For example, microorganisms readily degrade some chemicals, such as methanol, into less toxic chemicals, whereas metals are persistent and will not degrade when released to the environment.

Type of Release (Environmental Medium): Chemical exposure of a population depends on the environmental medium (air, water, land, etc.) to which a chemical is released. The medium also affects the types of exposures possible, such as inhalation, dermal exposure, or ingestion.

EPA also expanded the industry coverage of the TRI program because of the recognition that the manufacturing sector is not the only industrial sector releasing toxic chemicals to the environment or otherwise managing them as waste. EPA focused particular attention on sectors linked to manufacturing—those providing energy, further managing products, or further managing waste from the manufacturing sector. On May 1, 1997, EPA published a final rule expanding TRI’s industry coverage. As a result of this effort, EPA added seven industry sectors: metal mining, coal mining, electrical utilities that combust coal and/or oil, hazardous waste treatment and disposal facilities, chemical wholesale distributors, petroleum bulk stations and terminals, and solvent recovery services. Facilities in these industries will begin reporting in July 1999 for the year 1998.

EPA believes this action will greatly enhance communities’ Right-to-Know by requiring TRI reports from an estimated 6,600 additional facilities. EPA is conducting an aggressive outreach campaign,

including guidance, training, and technical assistance, to assist these new industries in understanding their reporting obligations. In addition, as a result of a Presidential Executive Order, federal facilities have been required to report since 1994.

In order to further enhance communities' Right-to-Know, on January 5, 1999 (64 FR 688) EPA published a proposed rule to lower the EPCRA section 313 reporting thresholds for certain persistent, bioaccumulative toxic (PBT) chemicals and to add certain other PBT chemicals to the section 313 list of toxic chemicals. These PBT chemicals are of particular concern not only because they are toxic but also because they remain in the environment for long periods of time, are not readily destroyed (i.e., they are persistent) and build up or accumulate in body tissue (i.e., they bioaccumulate). Relatively small releases of PBT chemicals can pose human and environmental health threats. Consequently these chemicals warrant recognition by communities as potential health threats and need to be captured by the TRI Right-to-Know Program.

Limitations

While TRI provides the public, industry, and state and local governments an invaluable source of key environmental data, it has some limitations that must be considered when using the data. Through the 1997 reporting year, the program applies to industries in the manufacturing sector and those owned by the federal government. It, therefore, does not cover all sources of releases and other waste management activities of TRI chemicals. With finalization of the facility expansion rule, industries providing energy, further managing products, or further managing waste from the manufacturing sector will also report. Although TRI is successful in capturing information on a significant portion of toxic chemicals currently being used by covered industry sectors, it does not cover all toxic chemicals or all industry sectors, nor will it do so after the facility expansion takes effect. In addition, facilities that do not meet the TRI threshold levels (those with fewer than 10 full-time employees or those not meeting TRI quantity thresholds) are not required

to report. More information will be captured when the PBT rulemaking is complete, but this will still only be for a subset of chemicals on TRI. Thus, while the TRI includes 71,670 reports from 21,490 facilities for 1997, the 2.58 billion pounds of on-and off-site releases reported represent only a portion of all toxic chemical releases nationwide.

Another limitation of the existing TRI Program is that the data currently collected provide limited information on the life cycle of chemicals used by facilities. Beyond reporting on releases and other waste management, only limited and very general information on chemical storage is provided and none on the toxicity of the chemicals. In addition, this report does not account for toxic emissions from cars and trucks, nor from the majority of sources of releases of pesticides, volatile organic compounds, fertilizers or from many other non-industrial sources.

Furthermore, facilities report estimated data to TRI, and the program does not mandate that they monitor their releases. Various estimation techniques are used when monitoring data are not available, and EPA has published estimation guidance for the regulated community. Variations between facilities can result from the use of different estimation methodologies. These factors should be taken into account when considering data accuracy and comparability.

As discussed above, the TRI data summarized in this report reflect chemical releases and other waste management activities that occurred in the 1997 calendar year. Patterns of releases and other waste management activities can change dramatically from one year to the next. Thus, it is important to recognize that current facility activities may be different from those reported for 1997.

TRI reports reflect releases and other waste management activities of chemicals, not exposures of the public to those chemicals. Release estimates alone are not sufficient to determine exposure or to calculate potential adverse effects on human health and the environment. Although additional information is necessary to assess exposure and risk, TRI data can be



used to identify areas of potential concern. Furthermore, TRI data, in conjunction with other information, can be used as a starting point in evaluating exposures that may result from releases and other waste management activities of toxic chemicals. The determination of potential risk depends upon many factors, including the toxicity of the chemical, the fate of the chemical after it is released, the locality of the release, and the human or other populations that are exposed to the chemical after its release.

TRI in Perspective

TRI has achieved tremendous results. The public now has a much better picture of potential toxic chemical risks in their communities, while industry and government have better data for identifying opportunities and measuring successes in preventing pollution. The sections below provide an overview of recent and proposed expansions to TRI. These expansions allow TRI to provide even more valuable information to the general public and industry.

TRI Expansion

There are few who would disagree that the 1987 Emergency Planning and Community Right-to-Know Act (EPCRA) provisions have proven to be among the most successful stimuli for reducing the amount of toxic chemicals that enter the environment. TRI, specifically, has focused public and industry attention on the billions of pounds of toxic materials that are released directly into our air, our land and our water, or injected underground, or are recycled, burned for energy recovery or otherwise treated. While all releases are not equal, and some may not lend themselves to reduction or elimination, the TRI has forced a hard look at our approach to the use of toxic chemicals. This hard look has been beneficial. Between 1988, TRI's baseline year, and 1997, industrial on- and off-site releases have decreased 42.8% from 3.40 billion pounds to 1.94 billion pounds, for chemicals reportable in all years (see Chapter 3 for additional information). This reduction reflects the hard work of manufacturing facilities that

have refined their processes, looked for source reduction opportunities, assured outstanding housekeeping practices and worked to minimize the footprint they leave on their surrounding environment. Designed to be non-intrusive, TRI has provided the guide for all to use when seeking areas for environmental improvement.

One valid criticism of the program has been the limited breadth and depth of its chemical, facility, and data coverage. In 1987, when the Congress passed EPCRA, 300-plus chemicals and chemical categories were included in the "TRI Chemical List." This list combined two existing chemical lists: the New Jersey Environmental Hazardous Substance List and the Maryland Chemical Inventory Report List. Over time, through EPA's petition process, the original list has been modified as the Agency responded to petitions to add and delete chemicals, given the law's toxicity listing criteria. These criteria focus on both acute and chronic health effects as well as environmental effects. TRI's coverage of facilities has been limited to the manufacturing sector (SIC codes 20- 39), required to report under EPCRA section 313. Finally, data coverage was initially confined to information on releases and certain transfers off-site for further waste management.

Over time, EPA has worked to expand TRI to cover other industrial sectors and other chemicals that have similar adverse impacts on our environment. Towards that end, the Agency has pursued an expansion strategy that would enlarge the boundaries of TRI in several directions. EPA's recent actions include a significant expansion of the number of chemicals in the program to give the public a more complete picture of toxic chemicals in their communities. At the same time, EPA provided a burden reducing option (Form A) for facilities with lower levels of reportable amounts. EPA has also expanded the facilities reporting to TRI. Additionally, EPA has recently proposed a rule (64 FR 688) to lower the EPCRA section 313 reporting thresholds for certain persistent, bioaccumulative toxic (PBT) chemicals and to add certain other PBT chemicals to the section 313 list of toxic chemicals.

Chemical Expansion

The chemical expansion phase included two major actions. The first occurred in 1993 with the addition of certain Resource Conservation and Recovery Act (RCRA) (58 FR 63500) chemicals and certain hydrochlorofluorocarbons (HCFCs) (58 FR 63496) to EPCRA section 313.

The second action of this phase was the addition of 286 chemicals and chemical categories on November 30, 1994 (59 FR 61432). These 286 additional chemicals can be characterized as high or moderately high in toxicity, and they are currently manufactured, processed, or otherwise used in the U.S. This expansion of the chemical list raised the number of chemicals and chemical categories reported to TRI to over 600. Specifically, the rule added more than 150 pesticides, certain Clean Air Act chemicals, certain Clean Water Act Priority Pollutants, and certain Safe Drinking Water Act chemicals. Many of the chemicals are carcinogens, reproductive toxicants, or developmental toxicants. Of particular note is the addition of industrial chemicals such as diisocyanates, n-hexane, N-methyl-2-pyrrolidone, and chemicals such as polycyclic aromatic compounds that result from the combustion of fuels. This 1997 data release marks the third year facilities have reported on these added chemicals.

While this constituted a major component of the chemical expansion, the TRI chemical list is always fluid and dynamic. EPA continues to review other chemicals for addition, including chemicals that were proposed for addition but not listed in 1994. EPA may also add or delete a number of chemicals each year through the petition process. Chemicals may be added or deleted according to the toxicity criteria outlined in sections 313(c) and (d) of EPCRA.

Facility Expansion

Since the enactment of EPCRA, the TRI Program has focused on the releases and other waste management activities of the manufacturing sector—facilities classified as being primarily in SIC codes 20-39. To

provide the public with a more complete picture of the toxics in their community, EPA undertook a detailed examination of other, non-manufacturing industries to determine which may be significant generators of toxic chemical releases and other wastes. Factors used to evaluate which industries would be considered for this expansion included other available data on toxic chemical releases and other waste management activities, the interrelationship of non-manufacturing operations to manufacturing operations, the degree to which reporting would be expected to occur, and the potential burden that TRI reporting might impose on these facilities.

As a result of its assessments, EPA added seven industry sectors to TRI in May 1997.

The sectors are:

- Metal mining (SIC code 10 except for SIC codes 1011, mining of iron ores; 1081 metal mining services on a contract or fee basis, such as drilling or exploration and development; and 1094, mining of uranium-radium-vanadium ores);
- Coal mining (SIC code 12 except for 1241 and extraction activities);
- Electrical utilities that combust coal and/or oil (SIC codes 4911, 4931 and 4939);
- RCRA subtitle C hazardous waste treatment and disposal facilities (SIC code 4953);
- Chemicals and allied products wholesale distributors (SIC code 5169);
- Petroleum bulk plants and terminals (SIC code 5171); and
- Solvent recovery services (SIC code 7389).

The first reports from these facilities are due July 1, 1999, for the 1998 reporting year. As part of this rule, EPA revised its interpretation of otherwise use to clarify that the treatment for destruction, stabilization,



and disposal of toxic chemicals in wastes received from other facilities is reportable. EPA estimates that about 6,600 additional facilities will submit more than 37,000 additional Form R reports because of the addition of these industry groups. EPA will continue to review other industries for possible inclusion in the TRI Program.

Since the final rule was published, EPA has developed guidance documents to help facilities in each of the newly added industries understand and comply with EPCRA section 313 requirements. The final guidance documents are available from EPA's Web site at <http://www.epa.gov/opptintr/tri>. In addition, the Agency is conducting training sessions around the country. The training sessions give an overview of EPCRA section 313 reporting requirements, with training modules that provide exercises in interpretation and form completion.

Persistent, Bioaccumulative Toxic Chemicals

On January 5, 1999 (64 FR 688), EPA published a proposed rule to lower the EPCRA section 313 reporting thresholds for certain persistent, bioaccumulative toxic (PBT) chemicals and to add certain other PBT chemicals to the section 313 list of toxic chemicals. These PBT chemicals are of particular concern not only because they are toxic but also because they remain in the environment for long periods of time, are not readily destroyed (i.e., they are persistent) and build up or accumulate in body tissue (i.e., they bioaccumulate). Relatively small releases of PBT chemicals can pose human and environmental health threats. Consequently these chemicals warrant recognition by communities as potential health threats and need to be captured by the TRI Right-to-Know Program.

At the current EPCRA section 313 reporting thresholds, facilities that manufacture, process and/or otherwise use PBT chemicals are not reporting many of the releases and other waste management data associated with these chemicals. The existing thresholds of 25,000 and 10,000 pounds are inadequate to ensure that the public has access to

information about the quantities of these PBT chemicals which may enter their communities from local industrial facilities. The proposed rule includes several actions necessary to ensure that additional information on PBT chemicals is reported under section 313, including a proposal for lower reporting thresholds for PBT chemicals and a special reporting threshold for dioxin and dioxin-like compounds. The rule also includes proposed modifications to certain reporting exemptions and requirements for those chemicals that would be subject to the lower reporting thresholds. EPA anticipates that a final rule for PBT chemical reporting will be issued by the end of 1999.

TRI Reporting Forms

Form R

The Form R is the reporting form that must be annually submitted by the owner or operator of a covered facility. The reports are submitted on or before July 1 and cover activities that occurred at the facility during the previous calendar year. EPA provides the reporting forms with instructions and technical guidance on how to calculate toxic chemical releases or emissions from facilities. The *Toxic Chemical Release Inventory Reporting Forms and Instructions* are available on the Internet at <http://www.epa.gov/opptintr/tri>. In addition, EPA does provide a simplified form of reporting based on an alternate threshold for facilities with low annual amounts of a listed toxic chemical in waste (see "Form A" below).

Form A

While expanding chemical and industry coverage, EPA also provided a burden-reducing option for facilities with relatively low quantities of listed toxic chemicals in waste. Beginning in 1995, as the expanded chemical list went into effect, facilities whose total annual reportable amount of a listed toxic chemical does not exceed 500 pounds can apply a higher activity threshold in determining their reporting obligations. The total annual reportable amount is defined as the sum of the waste management

categories that would be reported to TRI: quantities released (including disposal), recovered as a result of on-site recycling operations, combusted on-site for energy recovery, and treated at the facility, plus amounts transferred off-site for recycling, energy recovery, treatment, and disposal. These amounts correspond to total production-related waste in this report.

If the facility does not exceed the total production-related amount of 500 pounds, and does not manufacture, process, or otherwise use more than 1 million pounds of the listed chemical, the facility does not have to file a Form R. Instead of filing a Form R detailing all its releases and waste management activities, the facility can submit a certification statement (Form A). Form A certifies that the facility met the conditions outlined above for the listed chemical, but does not require reporting of any amounts of the toxic chemical released or otherwise managed as waste.

Future TRI Modifications

Pollution Prevention Act Reporting

Under the Pollution Prevention Act of 1990 (PPA), EPA is required to collect information on source reduction and recycling activities on TRI's Form R. In September 1991, all facilities subject to TRI reporting were required to provide the following data:

- Quantity of the chemical (prior to recycling, treatment, or disposal) entering any waste stream or released to the environment;
- Quantities of the chemical recycled at the facility and elsewhere;
- Quantities of the chemical treated at the facility and elsewhere;
- Information on source reduction activities and the methods used to identify those activities;
- Quantities of the chemical released in one-time events not associated with production processes;

- Quantities of the chemical expected to enter any waste stream or be recycled in future years; and
- Production ratio or activity index for the reported chemical.

This change in the program generated many comments (regarding, for example, definitions of waste stream, reportable recycling, and in-process recycling) from industry, environmental groups, and the public. Therefore, EPA sought to develop a consensus approach through a special subcommittee of the National Advisory Committee on Environmental Protection and Technology (NACEPT), which was composed of industry, environmental groups and governmental agencies. As a result of those discussions, the Agency is currently developing a supplemental notice of proposed rulemaking (SNPR) and final rule.

Redesign of TRI Reporting Forms and TRI Stakeholder Dialogue

In May 1997, when EPA finalized the industry expansion rule, the Vice President announced that the Agency would initiate an intensive stakeholder process to comprehensively evaluate the current reporting forms (Form R and Form A) and reporting practices relating to the TRI Program. The goals of this process were to improve the type of right-to-know information available to communities and to help streamline right-to-know reporting to ease the paperwork burden for businesses affected by the requirements. EPA utilized the Toxics Data Reporting Committee (TDR) of the National Advisory Council for Environmental Policy and Technology (NACEPT) and additional public stakeholder meetings to obtain input from interested parties on these issues.

NACEPT is a federal advisory committee under the Federal Advisory Committee Act, PL 92-463. It provides advice and recommendations to the Administrator of EPA on a broad range of environmental policy issues. The TDR committee was created under NACEPT's auspices. The TDR committee consisted of 24 members from industry,



academia, government agencies, environmental groups, environmental justice groups, labor, and public interest groups. After meeting eight times during fiscal years 1998 and 1999 and completing a final report, the committee identified possible improvements and burden reduction measures in the TRI Program. The committee also supplied EPA with ideas about how EPA presents the data to the public.

EPA has reviewed the suggestions received from NACEPT and already implemented some of the Committee's ideas and is currently pursuing the implementation of other Committee ideas. Some examples of Committee suggestions already implemented by EPA include industry-specific guidance documents, the inclusion of economic and production information in industry sector chapters in the annual data release, and examples of sector-specific success stories in the data release. Some examples of Committee ideas that EPA is currently pursuing include an intelligent TRI software that would lead users through the reporting requirements of EPCRA section 313, a TRI users guide for the general public, and a hazard matrix for EPCRA section 313 chemicals. Once the new Information Office is established, the Agency expects to establish a new mechanism for stakeholder input on TRI and other information access issues.

In addition to the NACEPT process, EPA obtained additional views and information from stakeholders by holding a number of smaller meetings for interested parties. EPA held seven public meetings to solicit comments from stakeholders regarding the issues outlined above. These meetings were held in Washington, DC; San Francisco, CA; Chicago, IL; Dallas, TX; New York, NY; Kansas City, KS; and Atlanta, GA.

Airports Petition and Rulemaking Update

On April 16, 1997, EPA received a petition from the Natural Resources Defense Council, the Defenders of Wildlife, the National Audubon Society, and the Humane Society of the U.S. requesting EPA to initiate rulemaking to add SIC code 45, transportation by air,

to the list of facilities required to report to TRI. The petitioners stated that airports should report because they meet EPA's three criteria for adding facilities under section 313 of EPCRA. In addition, the petitioners asserted that requiring such reporting would further the purposes of EPCRA by making TRI information publicly available to communities located near airports.

In response, EPA issued a Notice of Receipt and request for comments in the *Federal Register* on February 10, 1998. In the notice, the Agency published the full text of the petition and requested comments on 1) whether the use of TRI chemicals would or should be exempt under the Motor Vehicle Maintenance Exemption, 40 CFR 372.38(c), and 2) the practical impacts of requiring airports to report under section 313 of EPCRA. The Agency recognizes that if airports were required to report under section 313 of EPCRA and 6607 of the PPA, there could be unique reporting issues associated with their ownership, operation, and control. Therefore, information gathered from those who commented on the February 10, 1998, *Federal Register* notice will be instrumental in helping the Agency determine whether to add airports as facilities that should report to TRI.

Additionally, EPA is presently considering changes to the motor vehicle maintenance exemption, as well as the structural component exemption, the routine janitorial and facility grounds maintenance exemption, the personal use exemption, and the intake water/air exemption. These exemptions were implemented at the origin of the program to exempt ancillary uses of toxic chemicals at facilities in the manufacturing sector. However, if airports are added to EPCRA section 313 reporting, these exemptions, in particular the motor vehicles maintenance exemption, would exempt a significant majority of the releases and other waste management activities. Uses of toxic chemicals to maintain airplanes and other vehicles at airports are instrumental to the business of the airport. Thus, if EPA adds airports to EPCRA section 313, the Agency must make changes to the motor vehicle maintenance exemption so that releases of concern to the community would be reported by airports.

International Aspects of TRI

Toxic chemical releases know no boundaries. While TRI data provide a wealth of information about releases, on-site waste management, and off-site transfers of toxic chemicals within the U.S., information from other countries is limited. This, however, is changing. There are an increasing number of countries developing TRI-like systems. The international term for these systems is Pollutant Release and Transfer Registers (PRTRs).

The real stimulus for PRTRs was the 1992 United Nations conference on the environment, popularly known as the Earth Summit. One conclusion from this conference was the benefit and value of PRTRs. Countries were encouraged to develop these systems. In an important step, the Earth Summit also linked these PRTR systems with public Right-to-Know, an integral aspect of TRI.

Since 1992, there has been a growing interest in PRTRs. The Organisation for Economic Cooperation and Development (OECD), an organization of 29 industrialized democracies, created a guidance document for governments on PRTRs. Development of this guidance manual included the participation of representatives from government, industry, and other non-governmental organizations. Following the publication of this manual in 1996 and recognizing the value and importance of PRTR systems to environmental protection, the OECD environment ministers issued a Council Recommendation that encourages all OECD nations to establish PRTR systems.

For developing nations, the United Nations Institute for Training and Research (UNITAR) developed a step-by-step process, with accompanying guidance manuals, on how to implement a PRTR system. In an initial phase, UNITAR selected three countries to serve in a pilot program (Mexico, Czech Republic, Egypt). The goal was to take the lessons learned from this pilot stage to help other industrializing nations develop PRTR systems.

Currently, PRTR work now has entered its second stage. While the initial work, including the OECD's guidance manual and UNITAR's pilot program, focused on creating the framework for PRTR development, the second stage is shifting to greater coordination between countries and international organizations. This is exemplified by a recent international conference on PRTR systems, which focused on measuring progress, identifying barriers, and discussing options for cooperation between nations. The PRTR conference was held in September, 1998, by the OECD, along with UNITAR and the United Nations Environment Programme (UNEP). Japan, which introduced legislation creating its PRTR in February, 1999, played host to the conference. The U.S. co-chaired the conference with Japan in recognition of its role in the PRTR movement.

Present work by the OECD focuses on facilitating the integration of PRTR systems with chemicals management activities. In 1999, the OECD is working on a project that focuses on the beneficial link between Environmental Management Systems (EMS), such as ISO 14000, and PRTR data. Other work includes a project for the OECD nations to coordinate the development of estimation guidance documents for industry.

UNITAR has moved from the three pilot nations to a new group of countries. Using its materials developed in the pilot stage, UNITAR is helping the Slovak Republic and is in planning discussions with Argentina. UNEP also is working with nations to implement PRTR systems, including a project to facilitate PRTR development in Russia, Ukraine, Kazakhstan and Uzbekistan.

Recognizing this new focus, the international community has formed a PRTR Coordination Group to coordinate and prevent duplication of efforts. The U.S. is the chair of the group, while the OECD is the Secretariat. With the number of countries with operational PRTR systems growing from the present eight (Australia, Canada, France, Mexico,



Netherlands, Norway, United Kingdom, U.S.) to over 30 in the next few years, the need for this PRTR Coordination Group is obvious.

A reflection of the international recognition of the importance of PRTR systems is the recent selection of PRTRs as a thematic discussion at the next meeting of the Intergovernmental Forum on Chemical Safety (IFCS). The IFCS is the body of governments that guides the development of chemicals management issues outlined at the 1992 Earth Summit. The meeting is scheduled for October, 2000, in Brazil. As the chair of the PRTR Coordination Group, the U.S. will play a significant role in the planning for this meeting.

On a more regional scale, North America offers the first opportunity to collect PRTR data across a continent. The U.S. has collected PRTR data since 1987. The first year of Canadian data is 1993. Mexico is phasing in its PRTR system starting with the 1997 reporting year. Facilities must file air emissions data for 1997, while voluntarily reporting for other releases. Mexico intends to make these other media mandatory.

Supporting this work is the Commission on Environmental Cooperation (CEC), an organization created by the environmental side agreements to the North American Free Trade Agreement (NAFTA). The CEC has developed two important reports. The first compares PRTR systems in the three North American nations. The second report, developed annually, compiles and analyzes the data from the North American PRTR systems. The 1994, 1995, and 1996 reports include only U.S. and Canadian data. The reports also provide information about the Mexican PRTR system, with the goal of including

Mexican PRTR data when that system has data comparable to the U.S. and Canadian data.

The U.S. will continue to work closely with other countries and international organizations on PRTR issues. The expanding work on PRTRs will require the commitment and guidance of the U.S. and rely on the growing experience of the TRI.

How Can I Obtain Additional TRI Information?

The TRI data are available in an on-line computer database and in a variety of common computer and hard copy formats to ensure that everyone can easily use the information. Information about accessing the TRI database is provided on the inside front cover of this report as well as in Appendix B. The TRI User Support Service (**202-260-1531**) can provide assistance in accessing and using the TRI data. On-line services include the National Library of Medicine's TOXNET system, the Right-to-Know Network (RTK NET), and EPA's Envirofacts system. Appendix B provides additional information on these and other means of access to TRI data.

To request copies of TRI and EPCRA documents or to obtain further information about the program, contact the toll-free Emergency Planning and Community Right-to-Know Information Hotline at **1-800-424-9346**. TRI information is also available on the TRI Web site at <http://www.epa.gov/opptintr/tri>. Other potential sources of TRI information include the state EPCRA section 313 contact, the EPA Regional Office, or the facility itself. Information about EPA regional and state EPCRA section 313 contacts appears in Appendix A.