

Toxics Release Inventory

The Federal Emergency Planning and Community Right to Know Act of 1986 (EPCRA) requires some industries to report to the public annual emissions of certain chemicals used in or produced by their operations. Under EPCRA provisions, electric utilities were among seven additional industries that were required to report for the first time by July 1999.

The rule requires coal- and oil-fired power plants to report releases listed in the U.S. Environmental Protection Agency's inventory. The chemicals Southern Company facilities report include: arsenic, hydrochloric acid aerosol, nickel, zinc, barium, hydrogen fluoride, selenium, chromium, lead, sulfuric acid aerosol, copper, manganese, thallium, beryllium, cobalt, mercury and molybdenum. These represent about 3 percent of the EPA's total inventory of substances.

Of the releases that we are required to report under EPCRA, approximately 25 percent are captured and stored on the plant site. And, on average per plant, less than 2 percent of the arsenic, nickel, zinc, barium, selenium, chromium, lead, copper, manganese, thallium, beryllium, cobalt, mercury and molybdenum is actually emitted into the air.

The Clean Air Act of 1990 included a provision that required the U.S. Environmental Protection Agency to study the health effects of these releases. That report, presented to Congress in February 1998, concluded that these emissions from our plants are not present in the air at levels that are of a significant public health concern. The EPA report was developed with extensive input and peer review from outside scientific experts. The EPA study can be found online at www.epa.gov/ttn/oarpg/t3rc.html.

In addition, a four-year study by the Electric Power Research Institute, carried out in close collaboration with the Utility Air Regulatory Group and the U.S. Department of Energy, "concluded that the nationwide utility emissions of the chemicals targeted for study pose no significant health risks to humans."

Dr. George Gray of the Harvard Center for Risk Analysis noted, "Although this industry [electric utilities] will report large quantities of emissions, the resulting risk to public health is minimal. This example illustrates why TRI should be revamped to consider risk as well as emissions."

For more information about TRI can be found on the Edison Electric Institute's Web site at: www.eei.org/issues/enviro/tri/index.htm.

The Toxics Release Inventory

The Toxics Release Inventory (TRI) is a publicly available database of information on the release and transfer of nearly 650 chemicals by private companies and government facilities. Congress created TRI under the Emergency Planning and Community Right-To-Know Act of 1986 (EPCRA). The U.S. Environmental Protection Agency (EPA) administers the TRI program, collecting the data and making it available to the public.

The TRI program is popular among regulators, legislators, environmental groups, emergency response professionals, the media, and the general public. This fact sheet poses, and answers, basic questions about TRI, and what TRI means for utilities.



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Who
What
Where
When
Why
How



Who must file TRI reports?

Under TRI, an individual facility reports to EPA if it meets the following criteria:

- It employs the equivalent of at least 10 full-time workers.
- It “manufactures” or “processes” at least 25,000 pounds of a listed chemical or it “otherwise uses” at least 10,000 pounds of a listed chemical.
- It “manufactures,” “processes,” or “otherwise uses,” in general, 100 pounds of a listed chemical classified as a persistent, bioaccumulative toxic (PBT), and 10 pounds of a “highly” PBT. (A threshold of 0.1 gram exists for dioxin.)

According to EPA, approximately 25,000 facilities now file TRI reports. Of that total, almost 600 are utilities that burn coal or oil to generate electricity.

What are facilities required to report under TRI?

For each listed chemical “manufactured,” “processed,” or “otherwise used” in an amount exceeding the threshold level, a facility must report the following:

- Amount released to the air, water, and land.
- Amount shipped from the facility to other locations for recycling, energy recovery, treatment, or disposal.
- Amount recycled, burned for energy recovery, or treated at the facility.
- Maximum amount present on-site at the facility during the year.
- Types of activities conducted at the facility involving the chemical.
- Source reduction activities.
- Environmental permits held.
- Name and telephone number of a contact person.

TRI covers nearly 650 individual chemicals and chemical substances. In general, electric utilities as a whole meet or exceed the threshold levels for “manufacturing,” “processing,” or “otherwise using” up to 70 of these chemicals. In the case of certain chemicals — such as hydrochloric and sulfuric acids and hydrogen fluoride — the volumes reported are very high, ranking utilities high in terms of total TRI emissions in their states.

In 1999, EPA issued the “PBT Rule,” lowering reporting thresholds for 18 chemicals and chemical categories. All industries, including utilities, that meet these thresholds are required to report PBTs to EPA starting in 2001. The volume of PBTs reported by utilities will be very low relative to other TRI chemicals that are reported.

What are the limitations of the TRI data?

According to EPA, the TRI program has given the public “unprecedented direct access to toxic chemical release and transfer data at the local, state, regional, and national level.” But one of the

criticisms of the program is that TRI data cannot be used to determine actual toxicity, exposure, or risk associated with the releases that are reported.

EPA, state agencies, and the media compile TRI data into “Top 10” or “Top 20” lists of companies, facilities, industries, and states with the largest release volumes. In many cases, utilities rank in the “Top 10” or “Top 20.” However, these lists are often misleading.

For example, “Top 10” lists report only total volumes of releases and ignore toxicity and other measures of risk. Thus, EPA might place a facility that released a larger volume of a low-toxicity chemical higher on its list (giving the public the impression that the facility poses a more serious risk) than another facility that released a smaller volume of a much more toxic chemical.

Additionally, if one company acquires another, it must aggregate data on the releases of both companies in its next TRI report. As a result, it may then appear that the acquiring company experienced a significant increase in its TRI releases for that year when, in fact, the totals for both companies may have stayed the same or even decreased.

Where do utilities’ TRI reports originate?

The TRI program collects release information at the facility level. Each facility with the equivalent of 10 or more full-time employees and meeting the TRI threshold criteria for “manufacturing,” “processing,” or “otherwise using” is required to compile a TRI report for each chemical that exceeds the threshold.

Where do utilities’ TRI reports go?

Utilities reporting under TRI submit their reports to EPA and the state where each reporting facility is located. Many cities also require companies participating in the TRI program to submit reports to them.

When must utilities report under TRI?

Companies are required to report TRI data to EPA once each year in July. EPA analyzes the data and compiles a *Public Data Release* for distribution the following spring. The numbers are reported on a plant-by-plant basis, as well as for each company and overall industry.

Why do companies report TRI data?

TRI reports are mandated by the Emergency Planning and Community Right-To-Know Act of 1986 (EPCRA). Congress passed the law in the wake of the chemical disaster in Bhopal, India, and intended it as a tool to help communities avoid similar accidents.

According to EPA, TRI reports give the public information about toxic chemicals present in their communities. EPA says citizens can use this information “to identify potential environmental concerns, gain better understanding of potential risks, and work with industry and government in addressing concerns and risks.”

Why do utilities report TRI data?

Originally, only manufacturing industries (those with Standard Industrial Classification Codes of 20 to 39) reported under TRI. In 1997, EPA expanded the list of industries required to report to include electric utilities, coal and metal mining, commercial hazardous waste treatment, petroleum bulk terminals, chemical wholesalers, and solvent recovery services. This action expanded by approximately 2,000 the total number of facilities required to report under TRI.

How do utilities report TRI data?

Each facility reporting under TRI uses a document known as Form R, provided by EPA. A separate Form R must be filed on each TRI chemical the facility has “manufactured,” “processed,” or “otherwise used” in amounts exceeding threshold levels during the reporting year.

How are TRI data used?

EPA analyzes TRI data from all reporting facilities — about 25,000 individual plants and facilities — and prepares an annual *Public Data Release*.

This report, which is published and made available via the Internet, summarizes all of the data submitted by chemical, state, federal facilities, and industry. It also summarizes releases by type and environmental medium, and provides lists and tables of such things as total releases, total transfers, “Top 10” and “Top 20” chemical releases, and “Top 10” OSHA carcinogen releases. And, it makes comparisons with previous years’ reports.

The information submitted to EPA is available to the public via the Internet at these sites:

- U.S. EPA makes the data files and TRI information available at (<http://www.epa.gov/tri/>) and (<http://www.epa.gov/triexplorer>).
- The Right-To-Know Net (<http://www.rtk.net>) provides public access to TRI and related environmental databases to community groups concerned about toxics.
- The National Library of Medicine (<http://www.toxnet.nlm.nih.gov>) makes it possible to search the entire TRI database.

Cumulative 2002 data for Southern Company plants.

The vast majority of releases listed as "air releases" are the acid aerosols, which are dispersed gradually over time from our plants and often dissipate in the atmosphere within minutes or hours once they leave the stacks. At the highest concentrations, the acid aerosols are less than one part per billion or one part of acid aerosol per billion parts of air. The majority of the other releases such as barium, which are classified as metals, are contained on our plant sites and are identified as "land or water releases." Of the metals that are released into the air - also done so gradually over time - the concentration is well below one part per trillion.

Element	Reportable	Air Releases (lbs)	Land Releases (lbs)	Water Releases (lbs)	Off-Site Transfers (lbs)	Total Releases (lbs)
Ammonia	R	288,523	0	637	0	289,160
Chlorine	R	0	0	13	0	13
Hydrazine	R	0	0	0	0	0
Formic Acid	R	0	0	0	0	0
Ethylene Glycol	R	0	17,467	0	0	17,467
Hydrochloric acid	R	78,179,330	NA	NA	NA	78,179,330
Hydrogen fluoride	R	9,604,097	NA	NA	NA	9,604,097
Sulfuric acid	R	7,696,974	NA	NA	NA	7,696,974
Antimony Compounds	NR					
Arsenic Compounds	R	10,418	723,395	16,084	1	749,898
Barium Compounds	R	56,355	12,018,334	63,278	47,192	12,185,159
Beryllium Compounds	R	793	79,141	42	0	79,976
Cadmium Compounds	NR					
Chromium Compounds	R	11,531	1,171,768	5,020	3	1,188,322
Cobalt Compounds	R	3,801	547,752	1,022	0	552,575
Copper Compounds	R	9,523	1,544,177	66,649	1	1,620,350
Lead Compounds	R	10,428.3	601,601.4	310.7	1,681.4	614,021.8
Manganese Compounds	R	17,189	1,781,868	4,368	40,322	1,843,747
Mercury Compounds	R	6,427.4	1,935.3	8.4	166.3	8,537.4
Nickel Compounds	R	11,415	1,054,174	10,057	0	1,075,646
Selenium Compounds	R	70,183	43,900	390	0	114,473
Silver Compounds	NR					
Thallium Compounds	R	87	32,215	19	0	32,321
Vanadium Compounds	R	17,356	2,598,067	3,470	16,021	2,634,914
Zinc Compounds	R	33,516	1,194,529	27,186	2	1,255,233

Benzo(g,h,i)perylene	R	0	0	0	0	0
Napthalene	R	80	0	0	0	80
Dioxin and Dioxin-like Compounds*	R	10.6591	0.0000	0.0000	0.0000	10.6591
Polycyclic aromatic compounds	R	10	0	0	0	10
Total by Media (Reportable)		96,028,037	23,410,324	198,554	105,390	
Total for All Media (Reportable)						119,742,304

R: Reportable

NR: Not Reportable

*Dioxin estimates are provided in grams.