DTE Electric Company

2017 Toxics Release Inventory Report

Community Right-to-Know

Table of Contents

About 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) and the U.S. Environmental Protection Agency (EPA) administers the program. In May 1997, electric utilities were added to the list of manufacturing industries required to report TRI data to the EPA. Reports are generated once per year for the previous year's emissions. The inventory covers air emission, water discharge, releases to land and amounts transferred to disposal facilities.

All TRI report data is available on the EPA's Web site: www.epa.gov/tri.

Commitment to the Environment

DTE Energy is committed to minimizing its impact on the environment, developing cleaner ways to produce energy, helping customers use energy more efficiently, and partnering to enhance the environment for plants, animals and people.

Assuring DTE Energy's power plants, electrical distribution system and other operations meet all environmental regulations is the starting point for the company's commitment to environmental stewardship. When possible and practical, DTE Energy goes beyond regulations to adopt practices that provide additional environmental benefits.

Currently, more than 30 DTE Energy facilities have received Wildlife Habitat Council certification for improving their grounds to support native wildlife. Also, DTE Energy has planted more than 20 million trees throughout Michigan to enhance parks, restore forests, and remove carbon dioxide from the atmosphere.

DTE Electric Company (DTE Electric) is a subsidiary of DTE Energy. For more information on DTE Energy's corporate citizenship, visit dtecitizenship.com.

How to Interpret the Data

DTE Electric's TRI releases appear large due to land disposal volumes. Chemical releases reported do not represent the chemical concentrations as they occur in the environment.

- In the TRI program, a "release" is defined as a chemical that is emitted to the air, discharged to the water or managed for disposal. DTE Electric's air and water releases to the environment are smaller compared to the managed land releases. The land management accounts for putting the coal combustion by-products into managed landfills.

All DTE Electric power plants operate in compliance with state and federal emissions and discharge regulations.

- DTE Electric is committed to protecting the public health and the environment in its power plant operations. As a baseline, DTE ensures that all plants comply with state and federal regulations governing releases to the air, land, and water. Beyond that, each power plant has voluntarily developed a site-specific environmental management plan and earned ISO 14001 certification. In addition, most operating power plants have earned Clean Corporate Citizen designations from the Michigan Department of Environmental Quality (MDEQ). This designation recognizes facilities that are top performers in environmental management and stewardship.

TRI data does not measure human exposure or provide health information.

- The U.S. EPA has listed approximately 650 chemicals and chemical substances on the TRI list. These chemicals, like many others not on the list, can potentially cause harm depending on a person's exposure or dose. Dose relates to exposure time and concentration. For example, exposure to ultraviolet rays from the sun can be harmless, cause mild-to-serious sunburn or even potentially lead to fatal disease such as skin cancer.
- The U.S. EPA's TRI reports do not include dose information and therefore do not provide the public with health information. Per the EPA, the TRI information is not designed to show if chemical releases pose potential health or environmental hazards. Rather, the reports divulge how many pounds of chemicals companies release onsite and transfer to offsite disposal facilities.

Power plant emissions will vary from year to year based on coal consumption and element concentrations in the coal.

- In 2017, DTE Energy generated about 70% of its electricity at five coal-fired power plants, 5% from renewable wind and solar energy sources, and the remainder from nuclear power, oil, natural gas and hydro. While DTE Energy increases its use of renewable energy sources, the company continues to use coal because it has proven to be an economic, domestically available and abundant fuel.
- DTE Electric obtains coal from dozens of mines, and the coal from each mine has a unique mix of trace elements that are the source for chemicals reported in the TRI data. Generally, TRI releases at each plant will vary due to trace elements in coal and volume of coal burned each year.
- Power plants are taken in and out of service for repairs or to accommodate generation needs. Because releases are reported in pounds, not percentages of power produced, releases will fluctuate from year to year depending on how much power each plant produces.

DTE Energy is committed to the generation of electricity in an environmentally responsible manner.

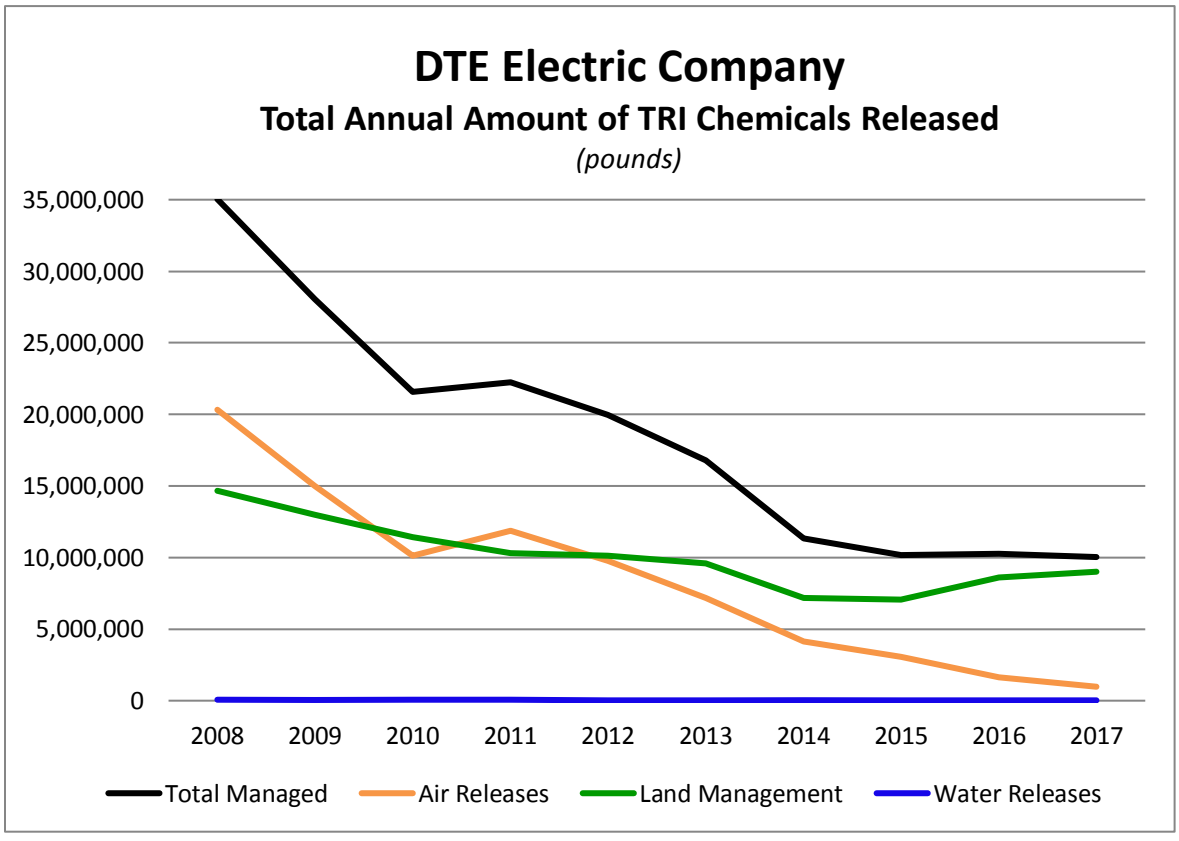
- DTE Electric has long been an innovator in using pollution control technologies. For example, the company used electrostatic precipitators as early as 1924 and is among the world leaders in blending low-sulfur coal. DTE Electric continues to invest in new technology and has spent nearly $2 billion to install equipment at the Monroe Power Plant to control emissions of sulfur dioxide, nitrogen oxides, mercury and hydrogen chloride. The company has also invested about $250 million in dry sorbent injection systems at the Belle River, St. Clair, River Rouge, and Trenton Channel Power Plants to comply with the 2015 federal mercury and acid gas emission limitations.
- The TRI includes a category of releases to land. It's important to note that these land releases involve disposal of material into engineered and licensed landfills. By-products from coal combustion are not released uncontrolled to the environment.
- To reduce land releases, DTE Electric actively recycles fly ash at several power plants for use as a concrete additive and recycles gypsum at Monroe Power Plant for use in producing dry wall as a building product.

2017 Summary

DTE Electric's 2017 emissions decreased by 2.6%.

Overall, DTE Electric's emission releases, reportable under the U.S. EPA's TRI, decreased by 2.6%, or 269,000 pounds, in 2017 compared to 2016, while the total amount of coal consumed by the plants increased by 8.2%.

Air releases decreased 39%, or 620,000 pounds, due in part to the pollution control equipment installed in 2016 at Belle River, River Rouge, St. Clair, and Trenton Channel Power Plants to reduce mercury and acid gas emissions. The flue gas desulfurization and selective catalytic reduction systems at Monroe Power Plant continue to neutralize hydrogen chloride, hydrogen fluoride, and sulfuric acid gas releases by 97%, 94% and 85%, respectively. Managed land volumes increased 4%, or 350,000 pounds, due to increased coal consumption. While the 2016-installed pollution control equipment eliminates acid gases as an air release, it adversely affects the fly ash quality such that cement companies can no longer use all of it, reducing recycling. Water releases increased by about 5%, or 1,750 pounds, in part due to increased water discharge from site basins to rivers and lakes.



2017 Total Plant Emissions

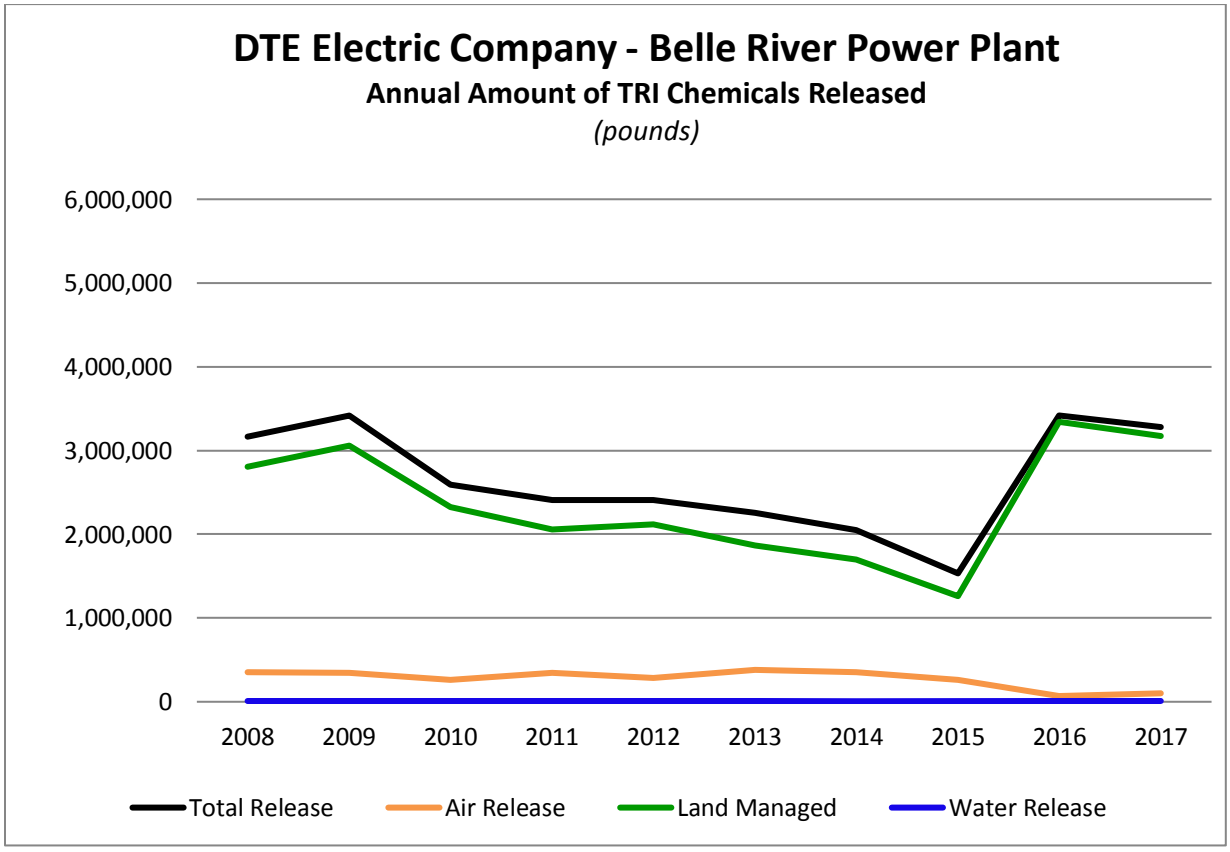
Power Plant	Total *(Pounds)*	Air *(Pounds Emitted)*	Land *(Pounds Managed)*	Water *(Pounds Discharged)*
Belle River	3,266,514	101,179	3,157,456	7,880.0
Fermi II	3,571.63	2.14	3,569.49	0
Greenwood	0.12	0.12	0	0
Monroe	3,608,092	738,214	2,846,393	23,485.8
River Rouge	213,594	21,761	191,736	97.1
St. Clair	2,145,267	53,613	2,088,557	3,096.6
Trenton Channel	755,820	57,049	697,541	1,230.0
RY 2017 Total	**9,992,860**	**971,817.7**	**8,985,253**	**35,789.5**
System Total, Change over 2016, %	-2.6%	-38.9%	4.0%	5.1%
System Total, Change over 2016, Pounds	(269,065)	(618,419)	347,605	1,750
RY2016 Total	10,261,925	1,590,236.7	8,637,648	34,039.9

2017 Releases by Plant

Belle River Power Plant

TRI Chemical	Total *(Pounds)*	Air *(Pounds Emitted)*	Land *(Pounds Managed)*	Water *(Pounds Discharged)*
Barium Compounds	2,908,200	1,300	2,900,000	6,900
Chromium Compounds	18,237	97	18,000	140
Copper Compounds	37,196	140	37,000	56
Dioxin[1]	1.35399	1.35399	0	0
Hydrogen Chloride	56,000	56,000	NA	NA
Hydrogen Fluoride	11,000	11,000	NA	NA
Lead Compounds	7,325.10	48.03	7,257.55	19.52
Manganese Compounds	79,570	180	79,000	390
Mercury Compounds	249.02	59.55	182.96	6.51
Nickel Compounds	22,204	130	22,000	74
PACs[2]	19.35	4.00	15.35	0.00
Sulfuric acid	31,000	31,000	NA	NA
Vanadium Compounds	62,124	120	62,000	4
Zinc Compounds	33,390	1,100	32,000	290
TOTAL TRI *(except Dioxin)*	**3,266,514.5**	**101,178.6**	**3,157,455.9**	**7,880.0**

Notes: [1] Dioxin Emissions are reported to the EPA in grams
[2] PACs = Polycyclic Aromatic Compounds



Fermi II Power Plant

TRI Chemical	Total *(Pounds)*	Air *(Pounds Emitted)*	Land *(Pounds Released)*	Water *(Pounds Discharged)*
Lead	3,571.63	2.14	3,569.49	NA
TOTAL TRI	**3,571.63**	**2.14**	**3,569.49**	**NA**

Greenwood Energy Center

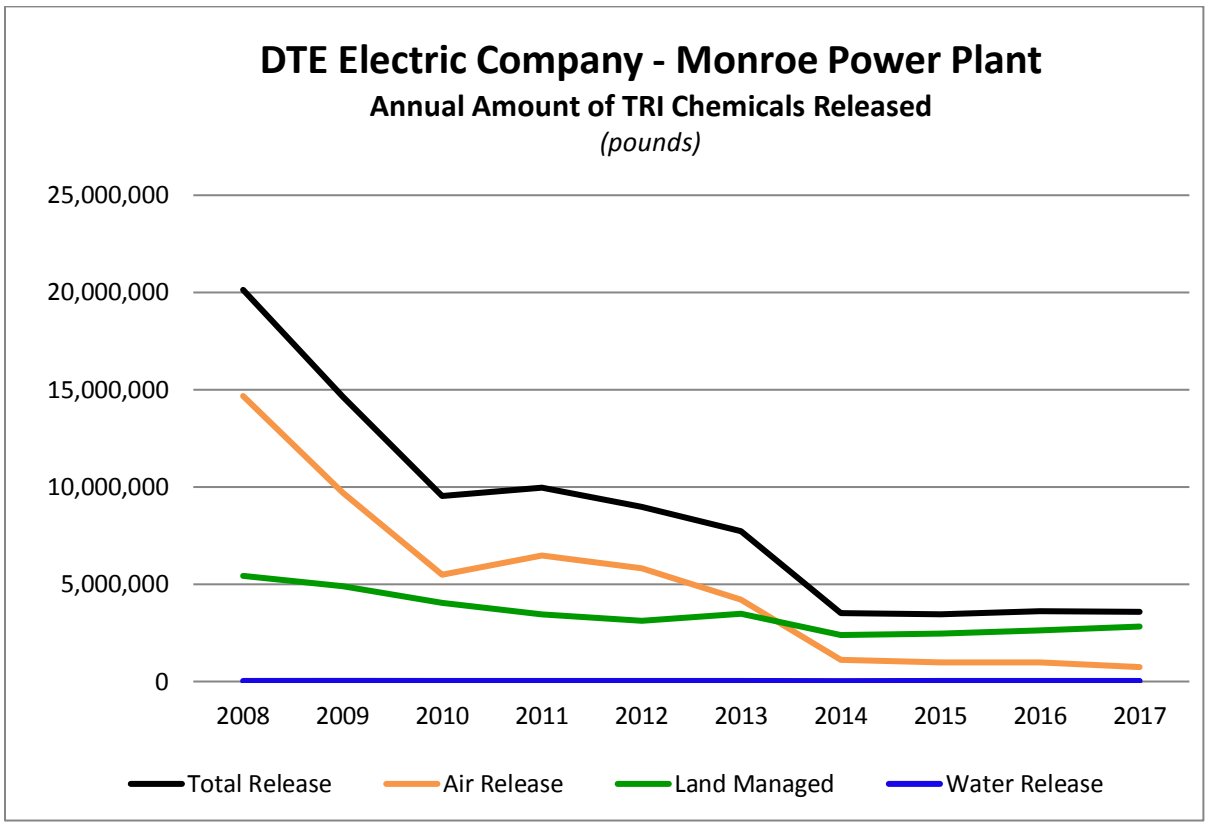
TRI Chemical	Total *(Pounds)*	Air *(Pounds Emitted)*	Land *(Pounds Managed)*	Water *(Pounds Discharged)*
PACs[1]	0.1	0.1	0	0
TOTAL TRI	**0.1**	**0.1**	**0**	**0**

Notes: [1]PACs (Polycyclic Aromatic Compounds) use exceeded the TRI threshold but experienced minor releases to the environment.

Monroe Power Plant

TRI Chemical	Total *(Pounds)*	Air *(Pounds Emitted)*	Land *(Pounds Managed)*	Water *(Pounds Discharged)*
Ammonia	33,350	33,000	0	350
Arsenic Compounds	17,695	95	16,000	1,600
Barium Compounds	1,812,200	1,200	1,800,000	11,000
Benzo(g,h,i)perylene	35,220	220	34,000	1000
Chromium Compounds	14,114	55	14,000	59
Cobalt Compounds	50,640	260	50,000	380
Copper Compounds	2.9334	2.93341	0	0
Dioxin[1]	72,000	72,000	NA	NA
Hydrogen chloride	24,000	24,000	NA	NA
Hydrogen fluoride	17,029.90	113.07	16,863.80	53.03
Lead Compounds	82,893	283	82,000	610
Manganese Compounds	596.91	68.96	504.23	23.72
Mercury Compounds	221,460	550	220,000	910
Nickel Compounds	33.62	8.62	25.00	0.00
PACs[2]	18,000	3,300	12,000	2,700
Sulfuric acid	600,000	600,000	NA	NA
Vanadium Compounds	534,860	560	530,000	4,300
Zinc Compounds	74,000	2,500	71,000	500
TOTAL TRI *(except Dioxin)*	**3,608,092**	**738,213.7**	**2,846,393**	**23,485.8**

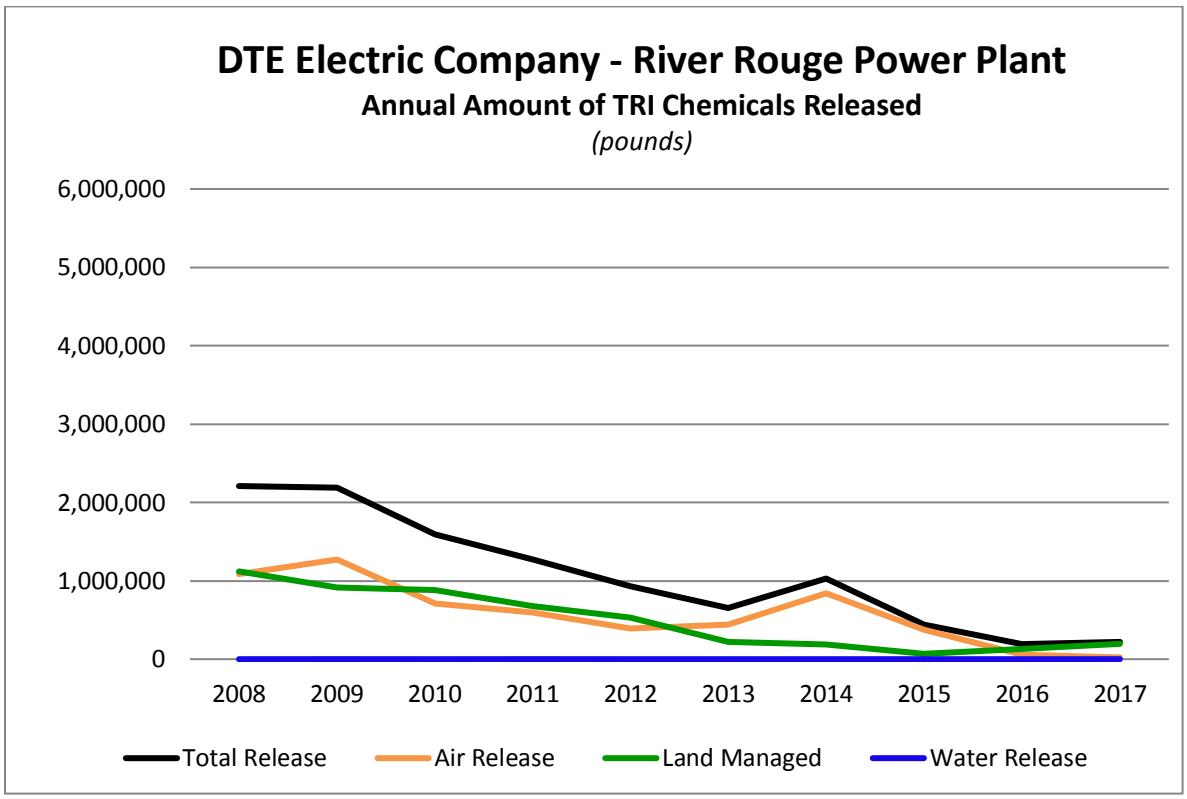
Notes: [1] Dioxin Emissions are reported to the EPA in grams
[2] PACs = Polycyclic Aromatic Compounds



River Rouge Power Plant

TRI Chemical	Total *(Pounds)*	Air *(Pounds Emitted)*	Land *(Pounds Managed)*	Water *(Pounds Discharged)*
Barium Compounds	190,317	220	190,000	97
Benzene	23	23	0	0
Dioxin[1]	0.1490	0.1490	0	0
Hydrogen chloride	18,000	18,000	NA	NA
Hydrogen fluoride	3,500	3,500	NA	NA
Lead Compounds	1,702.04	14.09	1,687.87	0.08
Mercury Compounds	51.92	4.10	47.82	0.00
TOTAL TRI *(except Dioxin)*	**213,594**	**21,761**	**191,736**	**97.1**

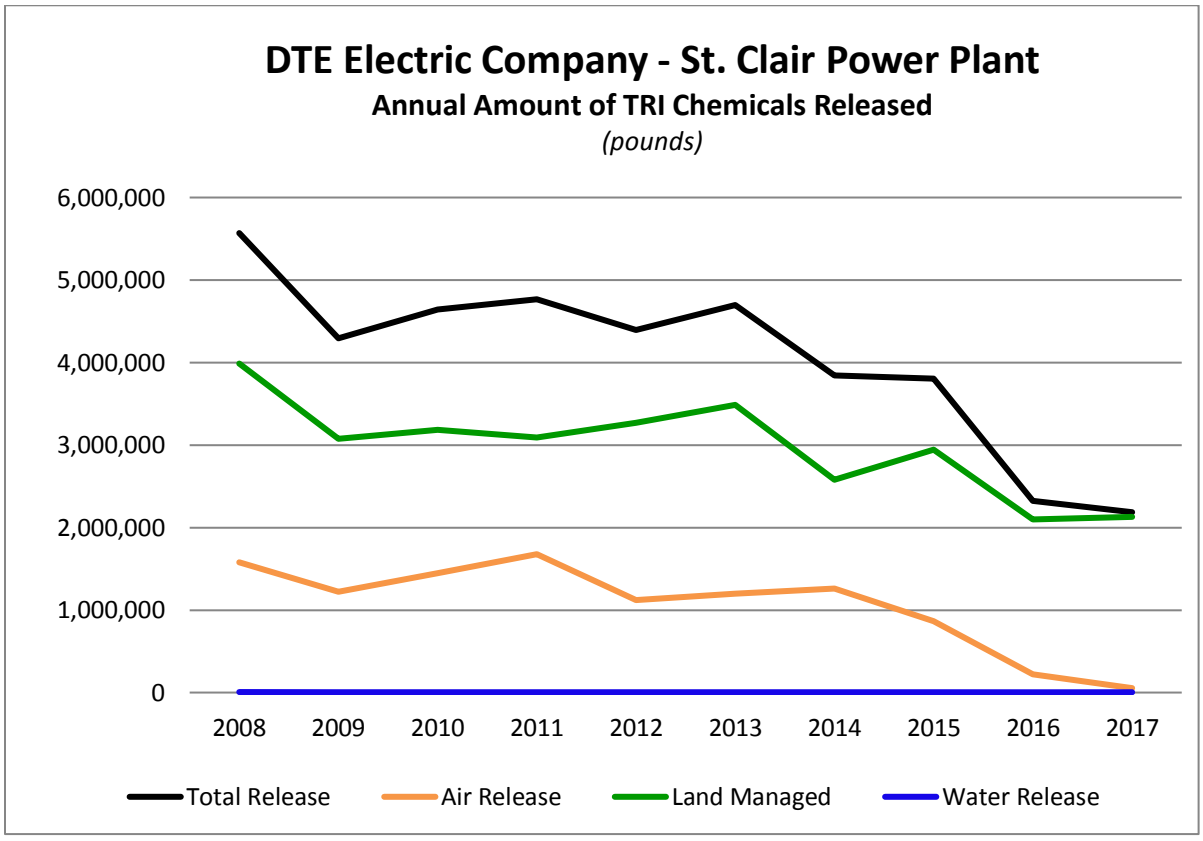
Notes: [1] Dioxin Emissions are reported to the EPA in grams
[2] PACs = Polycyclic Aromatic Compounds


DTE Electric Company - River Rouge Power Plant
Annual Amount of TRI Chemicals Released
(pounds)
6,000,000
5,000,000
4,000,000
3,000,000
2,000,000
1,000,000
0
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
Total Release
Air Release
Land Managed
Water Release

St. Clair Power Plant

TRI Chemical	Total *(Pounds)*	Air *(Pounds Emitted)*	Land *(Pounds Managed)*	Water *(Pounds Discharged)*
Barium Compounds	1,903,490	790	1,900,000	2,700
Chromium Compounds	14,169	59	14,000	110
Copper Compounds	24,124	74	24,000	50
Dioxin[1]	0.7271	0.7271	0	0
Hydrogen chloride	26,000	26,000	NA	NA
Hydrogen fluoride	2,700	2,700	NA	NA
Lead Compounds	5,446.10	28	5,405	12
Manganese Compounds	54,195	120	54,000	75
Mercury Compounds	173.17	30	143	0
Nickel Compounds	17,115	78	17,000	37
PACs[2]	10.66	2.16	8.50	0
Sulfuric Acid	23,000	23,000	NA	NA
Vanadium Compounds	44,134	72	44,000	62
Zinc Compounds	30,710	660	30,000	50
TOTAL TRI *(except Dioxin)*	**2,145,267**	**53,613**	**2,088,557**	**3,096.6**

Notes: [1] Dioxin Emissions are reported to the EPA in grams
[2] PACs = Polycyclic Aromatic Compounds



Trenton Channel Power Plant

TRI Chemical	Total *(Pounds)*	Air *(Pounds Emitted)*	Land *(Pounds Managed)*	Water *(Pounds Discharged)*
Barium Compounds	641,450	970	640,000	480
Dioxin[1]	0.3943	0.3943	0	0
Hydrogen chloride	29,000	29,000	NA	NA
Hydrogen fluoride	4,800	4,800	NA	NA
Lead Compounds	3,458.20	39.64	3,418.56	0.00
Manganese Compounds	23,667	127	23,000	540
Mercury Compounds	135.12	12.33	122.78	0.01
Sulfuric acid	22,000	22,000	NA	NA
Vanadium Compounds	31,310	100	31,000	210
TOTAL TRI *(except Dioxin)*	**755,820**	**57,049**	**697,541**	**1,230**

Notes: [1] Dioxin Emissions are reported to the EPA in grams
[2] PACs = Polycyclic Aromatic Compounds