Toxics Release Inventory (TRI) Reporting Guidelines and Data Trends

2018 Environmental Trade Fair and Conference

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TRI Topics

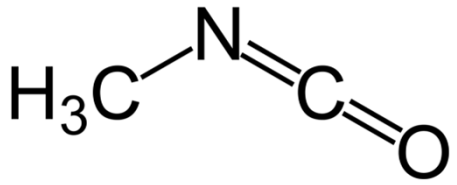
- Origin and History
- Reporting Guidelines
- Reporting Process
- Texas Data and Trends
- Information Resources

Origin and History

Let’s start at the beginning

Why was TRI established?

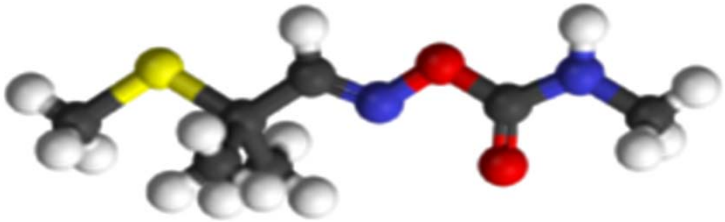
Simple, methyl isocyanate



A Union Carbide chemical plant located in Bhopal, India was the site of one of the most significant chemical industry disasters in history. Beginning on the night of December 2, 1984 and continuing into the morning hours of December 3, 1984 a runaway hydrolysis reaction caused the uncontrolled release of thousands of pounds (lb) of methyl isocyanate and related byproducts. The gas settled over the nearby town, causing thousands of fatalities and injuring upwards of 500,000 people.

What followed the Bhopal accident

Eight months later, the town of Institute, WV was also exposed to aldicarb oxime vapors (made using methyl isocyanate) from a leaking tank. The accident didn't cause any fatalities, but around 100 residents reported medical problems.



2-Methyl-2-(methylthio)propanal *O*-(*N*-methylcarbamoyl)oxime

At this point, the United States Environmental Protection Agency (EPA) was tasked via the Emergency Planning and Community Right-to-Know Act (EPCRA) by Congress to create the Toxics Release Inventory program.

Purpose and Goals of TRI

- Public access to the EPA database containing information on disposal and other releases of approximately 690 toxic chemicals reported from more than 21,000 United States industrial facilities
- Provides communities with information regarding toxic chemical releases and waste management activities
- Supports informed decisions by industry, government, nongovernmental organizations, and the public

Major Milestones in the TRI Program

1986 - EPCRA established

1990 - Pollution Prevention Act adds further requirements to TRI reporting

1993 - Executive order requires all federal facilities to report to TRI

1994 - TRI chemical list adds 286 chemicals

1997 - Addition of new reportable industry sectors (i.e. metal and coal mining, electric utilities, solvent recovery services)

1999 - Addition of Persistent Bioaccumulative Toxin (PBT) classification to reporting requirements

2006 - Changed from Standard Industrial Classification (SIC) codes to North American Industrial Classification System (NAICS)

2013 - Required online reporting with TRI-MEweb application

2017 - Proposed addition of natural gas processing facilities with SIC code 1321 or NAICS code 211112

The TCEQ and the TRI Program

- Texas Health and Safety Code, Chapter 370 establishes the state requirements for reporting TRI forms and imposes a fee for Form R reports.

- The TCEQ TRI Coordinator acts as a liaison to the EPA TRI program by supplying online and phone support for businesses and the general public.

- The TCEQ does not have the compliance and enforcement authority for the TRI.

Reporting Guidelines

Reporting Criteria

Facilities must meet all three criteria

- 10 or more full-time employees or 20,000 man hours as defined by the EPA
- Industry sector must be covered by the NAICS code list found in Table I of the December 2015 EPA publication 260-R-15-001, *Toxic Chemical Release Inventory Reporting Forms and Instructions*
- Manufacture, process, or otherwise use more than the triggering amount for that classification of a TRI chemical

Full-Time Employee Determination

- Employees include contractors, sales, and support staff.
- Hours worked include paid vacation, sick leave, and paid holidays.
- Calculate the number of full-time employees by adding up all hours worked for all employees and divide by 2000.

TRI Industries

NAICS Six-digit code prefixes

- Mining - 212XXX
- Utilities - 221XXX
- Manufacturing - 31XXXX – 33XXXX
- Other Miscellaneous Manufacturing - 1119XX, 1131XX, 2111XX, 4883XX, 5417XX, and 8114XX
- Merchant Wholesalers, Non-durable Goods - 424XXX
- Wholesale Electronic Markets and Agent Brokers - 425XXX
- Publishing - 511XXX, 512XXX, and 519XXX
- Hazardous Waste - 562XXX
- Federal Facilities
- Note: Final EPA rule regarding potential addition of natural gas processing facilities to TRI industries anticipated in August 2018

Common TRI Industry Sectors Reporting Releases in Texas

- Chemicals
- Electric utilities
- Petroleum
- Hazardous waste/Solvent recovery
- Primary metals
- Paper
- Food/Beverage/Tobacco
- Fabricated metals
- Plastics and rubber
- Stone/Clay/Glass

TRI Chemicals

- Approximately 595 individual chemicals, 27 chemical categories (i.e., cyanide compounds) and four delimited chemical categories (i.e., diisocyanates) with 68 specifically listed chemicals are currently on the TRI list.
- Some chemical and chemical categories are classified as PBT chemicals and have different reporting requirements.
- Qualifiers are applied to some chemicals and chemical categories to account for physical forms, including dust, fumes, fibrous forms, friable materials, aerosols, and chemical allotropes, or manufacturer or manufacturing techniques, or geographical origins.

Threshold Reporting Amounts

Facilities meet the criteria requirements for reporting if site-level usage totals for each non-PBT chemical are at least:

- 25,000 lbs, manufactured (produce, prepare, compound, or import a TRI chemical);
- 25,000 lbs, processed (preparation of a TRI chemical for distribution in commerce); or
- 10,000 lbs, otherwise used.

Threshold Reporting Amounts (cont.)

For a facility to meet criteria requirements for PBT chemicals, manufacturing, processing, and otherwise use site-level totals must be at least:

- 100 lbs for aldrin, lead, lead compounds, methoxychlor, polycyclic aromatic compounds, pendimethalin, tetrabromobisphenol A, and trifluralin;
- 10 lbs for benzo(g,h,i)perylene, chlordane, heptachlor, hexachlorobenzene, isodrin, mercury, mercury compounds, octachlorostyrene, pentachlorobenzene, polychlorinated biphenyls, and toxaphene; or
- 0.1 grams for dioxin and dioxin-like compounds.

2017 Reporting Year Updates

TRI Updates for Reporting Year (RY) 2017

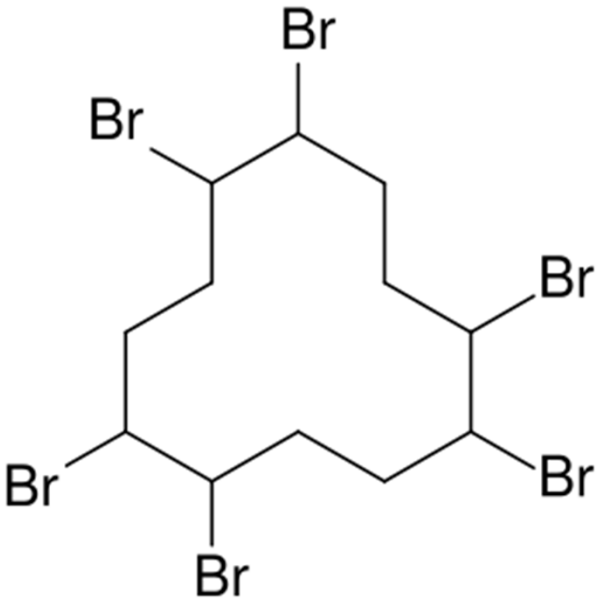
Several new TRI developments impact 2017 reports:

- The EPA has adopted the 2017 NAICS codes.
- The EPA added a category for hexabromocyclododecanes (HBCDs) to the TRI chemical list.
- Updated *de minimis* reporting levels have been implemented for several chemicals.
- Since July 1 falls on a Sunday, EPA reporting guidance indicates that 2017 reports can be submitted on July 2, 2018.

Updated 2017 NAICS codes

- NAICS codes revised by Office of Management and Budget
- Effective for 2018 reporting year
- Full details available in *Federal Register* notice: https://www.gpo.gov/fdsys/pkg/FR-2017-12-26/pdf/2017-27815.pdf#page=1
- Crosswalk of previous NAICS codes (2012) to 2017 NAICS codes available at: https://www.census.gov/eos/www/naics/concordances/2012_to_2017_NAICS.xlsx

HBCD Category Added for RY2017



- Final rule adding this category to the list of TRI-reportable chemicals on November 28, 2016
- Rule applies for RY2017 and future years
- Compound classified as a PBT chemical with reporting threshold of 100 lbs
- Flame retardants used in expanded and extruded polystyrene foam production
  - Thermal insulation boards, upholstered furniture, packaging materials, textiles
  - EPA estimates approximately 101 reporting sites will be affected by the rule (approximately 21,600 sites reported for RY2016)

Updated *De Minimis* Reporting Levels

- Occupational Safety and Health Administration classifies several chemicals as carcinogens

  Based on assessments by the International Agency for Research on Cancer and the National Toxicology Program Report on Carcinogens

- *De minimis* reporting limit has changed from 1.0% to 0.1% for the following chemicals:
  - Cumene, diazinon, 1,2-dichloropropane, malathion, methyl isobutyl ketone, parathion, sodium pentachlorophenate, 1,1,1,2-tetrachloroethane, and 1,1,2,2 tetrachloroethane
  - Details available in the 2017 TRI Reporting Forms and Instructions

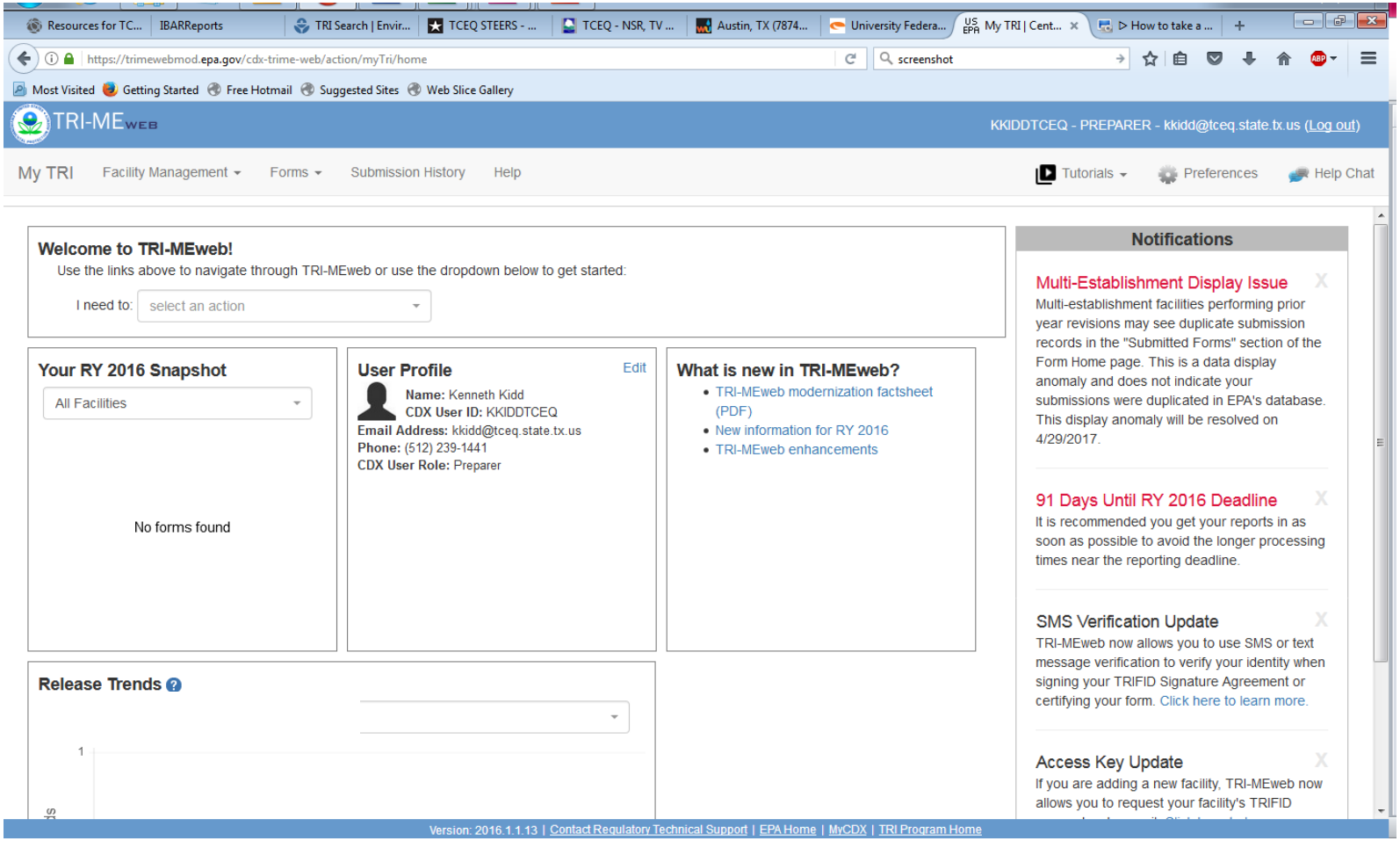
Reporting Process

Reporting Process

- Each chemical meeting all three criteria must be reported using either Form A or Form R.
- Facilities determine which reporting form to use by following the EPA guidance document, *Toxic Chemical Release Inventory Reporting Forms and Instructions* available at:

  https://ofmpub.epa.gov/apex/guideme_ext/guideme_ext/r/files/static/v3321/rfi/RY_2016_RFI.pdf
- Submit TRI reports to EPA using *TRI-MEweb* by July 1st following the reporting year.
- When using *TRI-MEweb*, the submission is automatically submitted to the TCEQ.

TRI-MEweb Homepage



Form A vs. Form R Reporting

- Form A reports only include facility information and the chemical name.

- Form R reports include facility information, chemical name, release amounts, transfer information, and other waste management activities for air, water, underground injection, and land media both on-site and off-site.

Information Reported by Forms

Forms A and R

- Facility information including physical address, mailing address, facility TRI ID, and parent company information
- Chemical information includes TRI chemical or chemical category name and chemical abstracts service (CAS) number

Form R only

- Release amounts includes onsite air, water, underground injection, and land releases
- Off-site transfers include publicly owned treatment works and other locations
- On-site waste disposal including waste treatment methods (i.e. neutralization), energy recovery, and recycling processes

Form A Reporting Criteria

Form A use is allowed if the following criteria are met:

The *total annual reportable amount** for that chemical does not exceed 500 lbs, and the chemical amounts manufactured, processed, or otherwise used does not exceed one million lbs.

*The *total annual reportable amount* is equal to the combined total quantities released, treated, recovered, and combusted at the facility, plus the amounts transferred to off-site locations.

Form A Reporting Scenarios

Scenario A

Company A make copper parts. They process 50,000 lbs of copper metal by melting and casting the parts. The casting process loses 0.1% by weight to air emissions. The parts are trimmed of 0.5% excess copper that is then recycled onsite.

The total annual reportable amount is 50 lbs (air emissions) + 250 lbs (on-site recycling) = 300 lbs. The facility is under the 1 million lbs processed and the 500 lb total annual reportable amount; therefore, they can report copper using Form A.

Scenario B

Company B also makes copper parts. They process 50,000 lbs of copper metal by melting and casting the parts but use a dirty kettle. The casting process loses 0.1% by weight to air emissions and 0.5% to copper slag that is sent offsite for recycling. The parts are trimmed of 0.5% excess copper that is then recycled onsite.

The total annual reportable amount is 50 lbs (air emissions) + 250 lbs (off-site recycling) + 250 (on-site recycling) = 550 lbs. The facility is under the 1 million lbs processed but in excess of the 500 lb total annual reportable amount so therefore they cannot report copper using Form A and must use Form R.

Submitting TRI Data to the EPA

"The Central Data Exchange [CDX] concept has been defined as a central point which supplements EPA reporting systems by performing new and existing functions for receiving legally acceptable data in various formats, including consolidated and integrated data."

Central Data Exchange, https:// cdx.epa.gov

1. Create CDX user accounts for both the preparer of the forms and a certifying official. The certifying official will need to sign an Electronic Signature Agreement.
2. Login through the TRI-MEweb application and enter the access key that was provided by e-mail from the CDX.
3. Enter facility and chemical information as applicable.
4. Validate the form and correct any errors if needed.
5. Select a certifying official and submit the form(s) for certification.
6. Certify, sign, and submit the form(s) to the EPA.

TRI-MEweb Resources

Registering with the CDX

https://cdx.epa.gov/Registration/Terms

TRI-MEweb Tutorials

https://www.epa.gov/toxics-release-inventory-tri-program/electronic-submission-tri-reporting-forms

Troubleshooting Guide

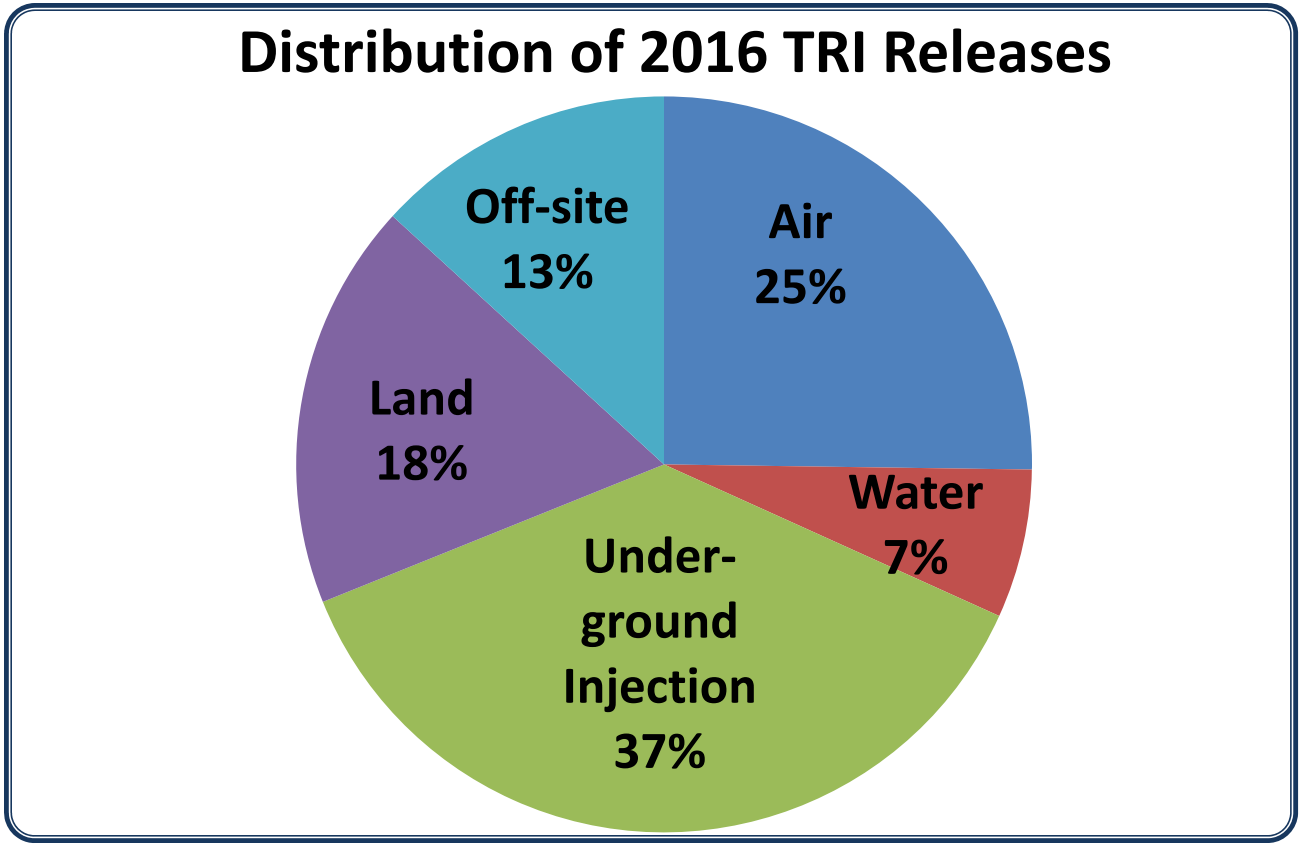
https://www.epa.gov/sites/production/files/2017-01/documents/ry_2016_cdx-tri-meweb_troubleshooting_guide.pdf

Texas Data and Trends

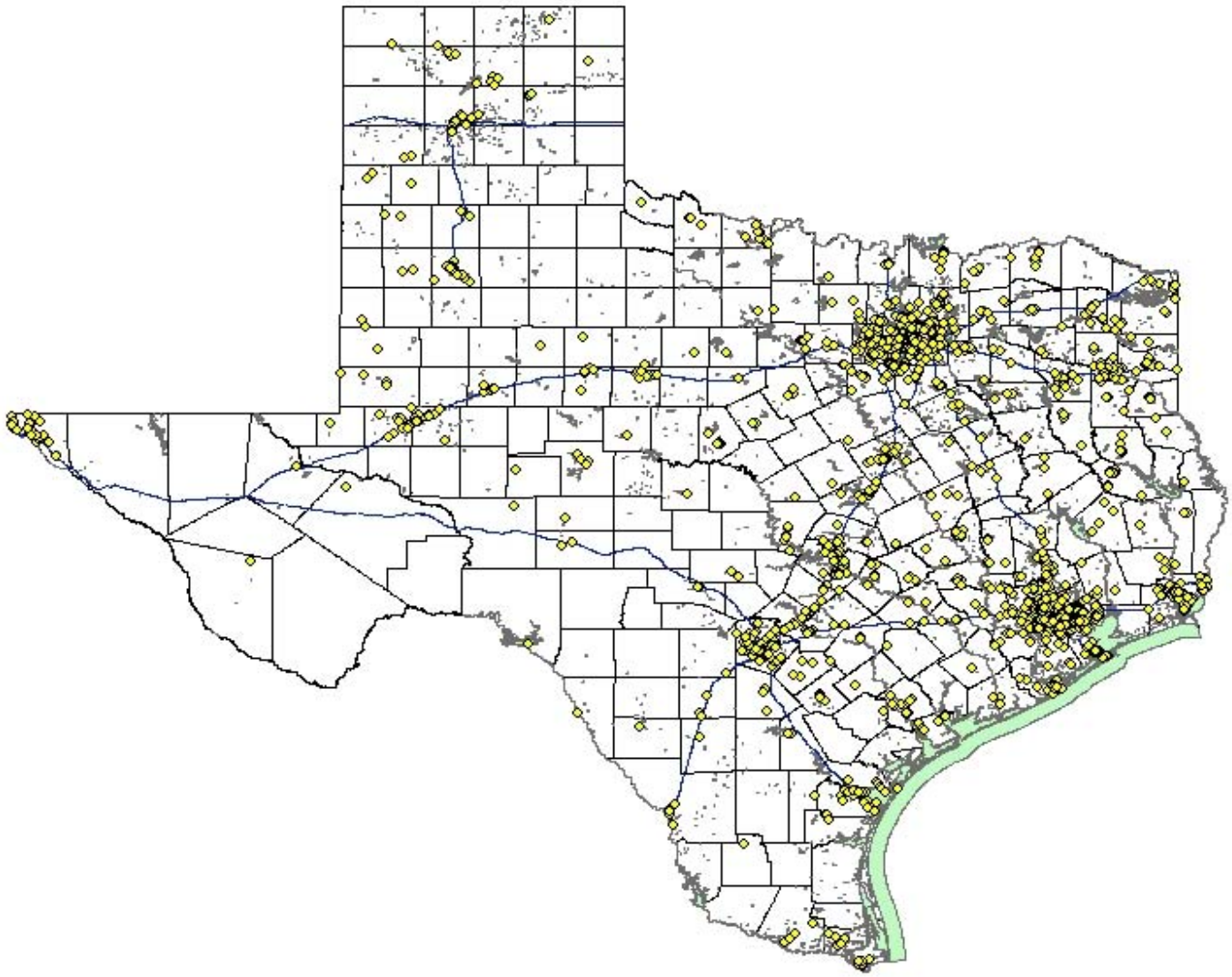
Texas 2016 TRI Data

Total Facilities Reported: 1,808
Total Form R Reports: 7,736

Total Forms Reported: 8,662
Total Form A Reports: 926



TRI Facilities in Texas



TRI Releases by Media Type

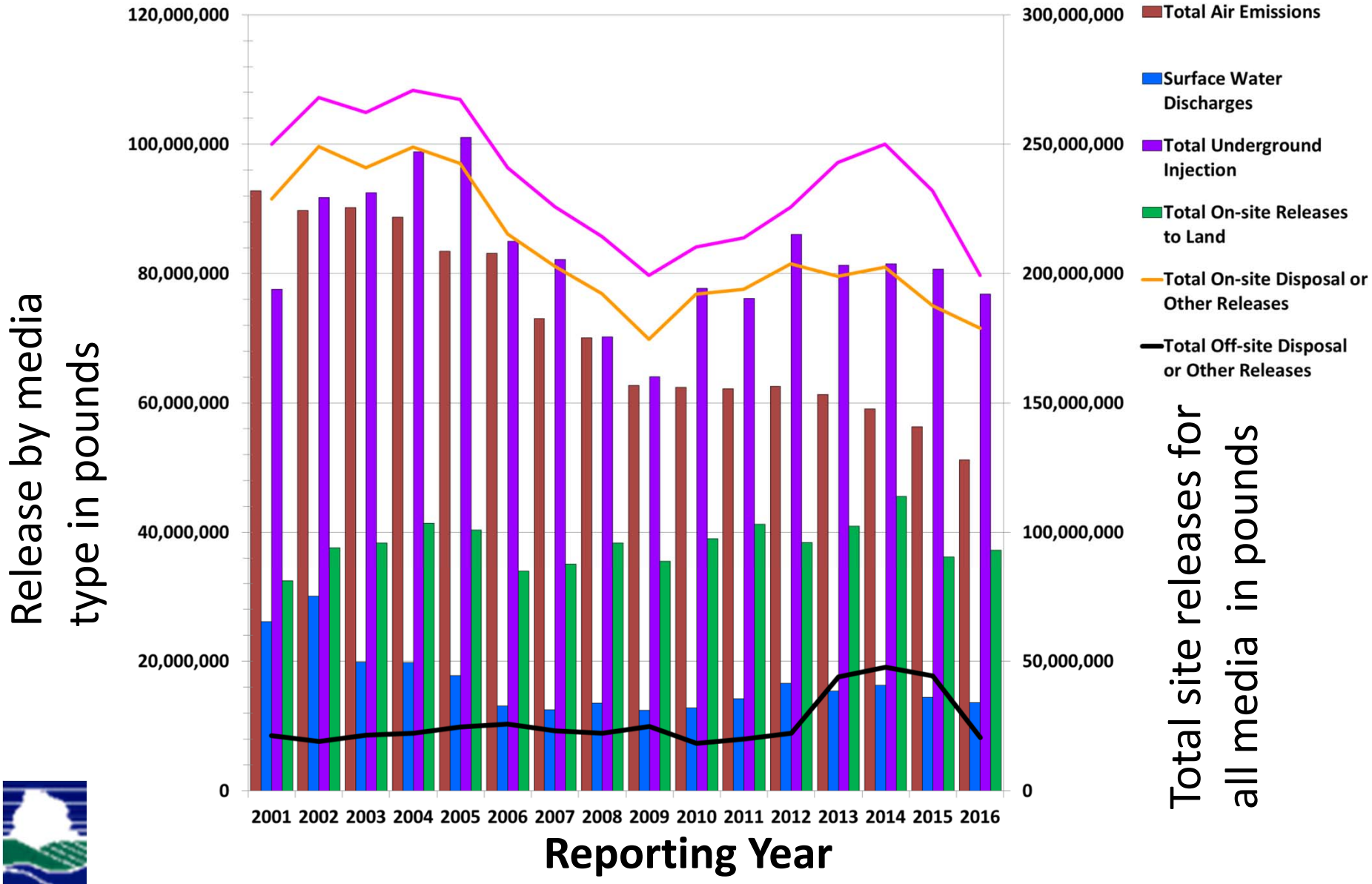
2015 – 2016

Media Type	RY2015 (million lbs)	RY2016 (million lbs)	Change from 2015 to 2016 (million lbs)	Percent change	Reduction/ Increase
Air	56.33	52.64	-3.69	-7%	Reduction
Water	14.41	13.64	-0.77	-5%	Reduction
Underground Injection	80.66	77.52	-3.14	-4%	Reduction
Land	36.22	37.33	1.11	3%	Increase
Total On-site	187.63	181.15	-6.48	-3%	Reduction
Off-site*	44.57	27.57	-17.00	-38%	Reduction
On- and Off-site	232.20	208.72	-23.48	-10%	Reduction

* Double counting of chemicals reported as transferred off-site for release or disposal and as an on-site release at the facility receiving the off-site transfer have been accounted for by the EPA. This issue is normally resolved by tracking the RCRA ID numbers identifying the transferring and receiving facilities.

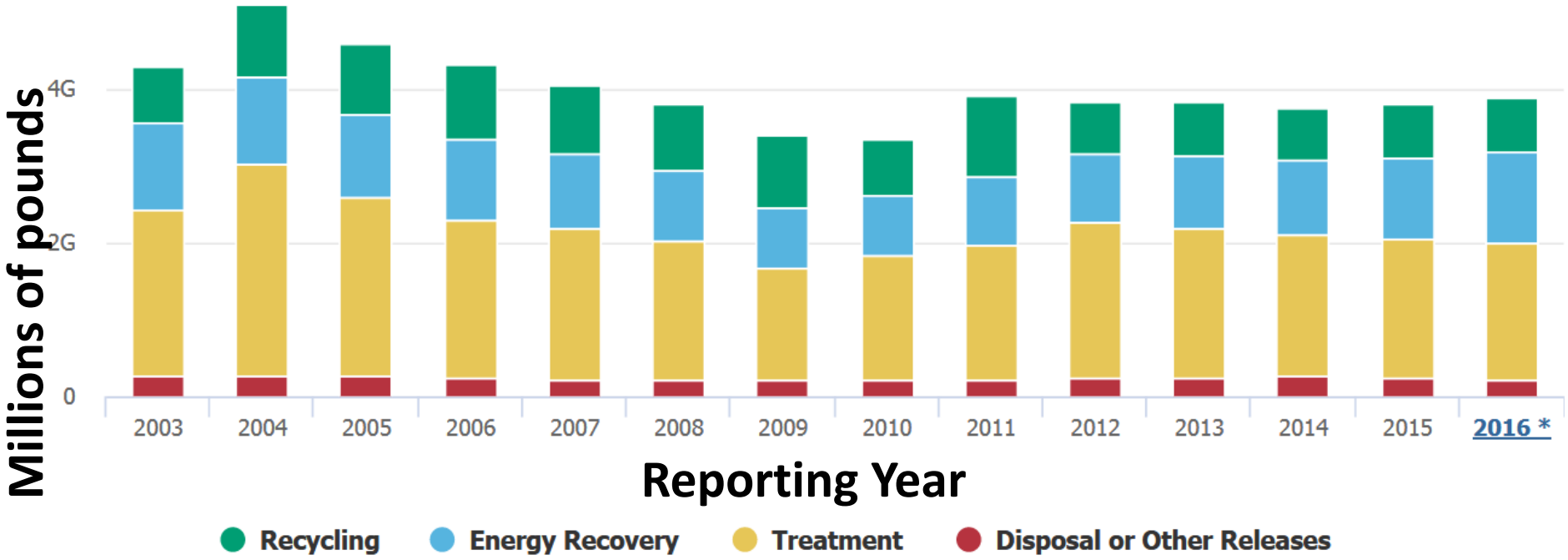
Texas Trends in TRI Chemical Releases

2001 - 2016



Waste Management Activities

2003 - 2016



Information Resources

EPA Online Training

Toxic Chemical Release Inventory Reporting Forms and Instructions

https://ofmpub.epa.gov/apex/guideme_ext/guideme_ext/r/files/static/v3321/rfi/RY_2016_RFI.pdf

TRI Basic Training

https://www.epa.gov/sites/production/files/2017-01/documents/ry16_basic_concepts.notes__0.pdf

TRI Advanced Training

https://www.epa.gov/sites/production/files/2017-01/documents/ry16_advanced_concepts.notes_.pdf

TRI Information Sources

EPA TRI home page

https://www.epa.gov/toxics-release-inventory-tri-program

EPA TRI Explorer

http://www.epa.gov/triexplorer/

EPA Envirofacts

http://www.epa.gov/enviro/

Contact Information

EPA Region 6 Enforcement Coordinator

Morton Wakeland, Jr. (214) 665 - 8116

wakeland.morton@epa.gov

TRI Information Center (operated by the EPA)

(800) 424 - 9346

Central Data Exchange Helpline

(888) 890 – 1995

TCEQ TRI Helpline

Blake Kidd (512) 239 - 4TRI {4874}

blake.kidd@tceq.texas.gov