

29TH ANNUAL BUSINESS & INDUSTRY'S

# **Sustainability & Environmental, Health and Safety**



S Y M P O S I U M

## **Workshop D**

**Mission 2020: Best Practices,  
Developments & Trends in Emission  
Inventory (EI), Toxic Release  
Inventory (TRI) and Chemical  
Inventory (Tier II) Reporting**

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**Tuesday, March 24, 2020  
9:45 a.m. to 11 a.m.**

## **Biographical Information**

**John Colebrook, Managing Consultant  
Trinity Consultants – Kentucky Office,  
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John Colebrook is a Managing Consultant in Trinity Consultants' Northern Kentucky office. In his 14 years with the firm, he has provided a wide array of support and solutions to clients including state and federal air quality permitting, federal air regulatory compliance assistance, air emissions inventory development, and air dispersion modeling. He has worked on air quality projects for numerous industrial sectors, primarily including primary and secondary aluminum, petroleum refining, chemical manufacturing, electric utility, and gasification. He holds a B.S. degree in Chemical Engineering from Bucknell University.

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**Tia Wenrich, Manager, Environmental Services  
Macy's, Inc.  
7 West Seventh St., Cincinnati, OH 45202  
(513) 579-7241  
tia.wenrich@macys.com**

Ms. Wenrich is the Environmental Services Manager for Macy's, Inc. and has 10 years of experience supporting the company's environmental programs, including all Macy's and Bloomingdale's retail stores, as well as distribution/fulfillment centers, call centers, and Corporate Offices. Areas of support are focused in environmental compliance, including asbestos management, indoor air quality/mold, storage tanks/subsurface, due diligence, and hazardous materials reporting. She holds a B.S. degree in Biology, with a minor in Environmental Sciences from Northern Kentucky University (NKU).

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**Chris Smith, HES Professional  
Marathon Petroleum Corporation – Catlettsburg Refining  
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christiaanas@marathonpetroleum.com**

Chris Smith is an HES Professional with Marathon Petroleum Corporation's Catlettsburg Refinery. In his 5 years with Marathon, Chris's focus has been mostly with air regulations (MACT, GHG, EI, TRI) and SARA Title III planning and reporting. In addition to his work with MPC, Chris spent 10 years in the Technical Foam industry, where his career path guided him from midnight Lab Tech to Chief Chemist (R&D) to Technical Director. He holds a B.S. degree in Meteorology from Penn State University, an M.S. in Environmental Science from Marshall University, and an M.B.A. from Marshall University.



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# Mission 2020: Best Practices, Developments & Trends in Emission Inventory (EI), Toxic Release Inventory (TRI) and Chemical Inventory (Tier II) Reporting

John Colebrook, Trinity Consultants

Tia Wenrich, Macy's

Chris Smith, Marathon Petroleum

March 24, 2020



# Mission 2020 EI-Tier II-TRI Reporting Session - Agenda



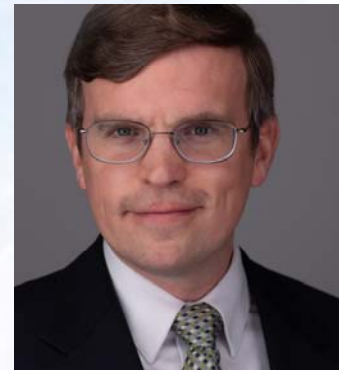
- > Basics/Quick Refresher on EI-Tier II-TRI
- > Electronic Reporting Platforms for EI-Tier II-TRI
- > Tier II Reporting Challenges and Best Practices for Small Commercial/Light Industrial Operations
- > EI-Tier II-TRI Program Synergies, Optimized Data Flows, Key Challenges and Best Practices for Large Integrated Manufacturing Operations
- > Developments, Trends, and Key Learnings for Achieving Success with EI-Tier II-TRI Reporting



# Introductions

## John Colebrook - Managing Consultant

- > Works from Trinity's consulting office in Northern Kentucky
- > 14 years of experience in air permitting, modeling, and regulatory compliance services to industry
- > Focus areas are:
  - ❖ Federal NSR and NSR-avoidance permitting
  - ❖ NSPS/NESHAP/State Reg. compliance in refining, chemicals, and utility sectors
- > B.S. Chemical Engineering
  - ❖ Bucknell University





# Evolution of Trinity Consultants



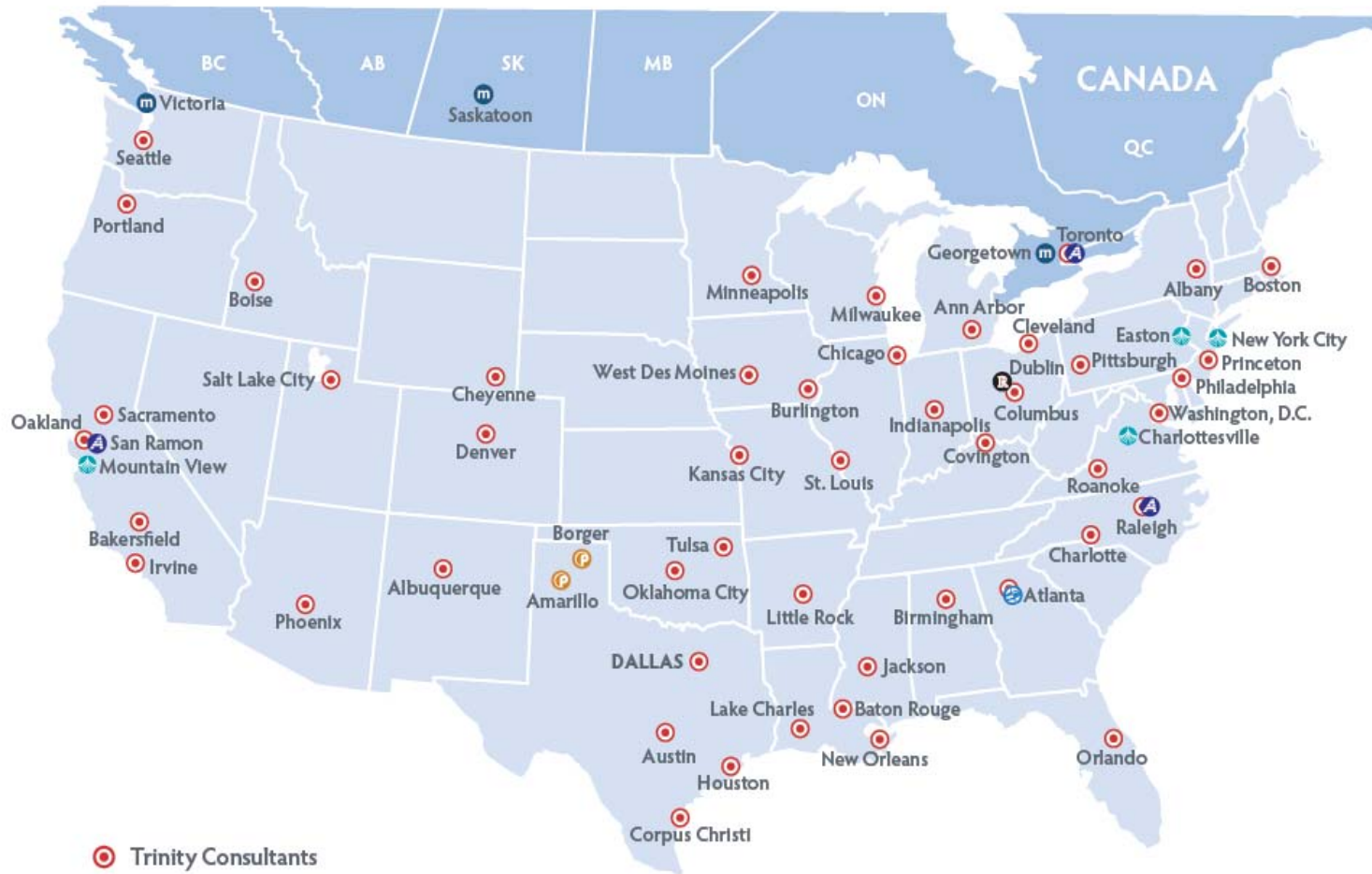
1974

- > One person, one office
- > Air quality specialty

2019

- > Approximately 750 employees
- > Office across North America and in Europe, the Middle East, China, and Australia
- > Serve more than 2,500 clients annually
- > EHS consulting and engineering services with a focus on air quality
- > ISO 9001-based quality management system, certified in Dallas, TX

## TRINITY CONSULTANTS OFFICE LOCATIONS



**ASIA**

China • Singapore



**EUROPE**

England, UK



## AUSTRALIA

Brisbane, QLD



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# El-Tier II-TRI Refresher

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# Annual Emissions Inventory (EI) Reporting <sup>(1/3)</sup>

- > Mission – Provide actual annual emissions to State/local agencies for criteria pollutants (CAP) and select HAP/toxics for affected sources in reporting year (RY) using electronic system
  - ❖ KY = Kentucky Emission Inventory System (KyEIS)
  - ❖ IN = Emission Inventory Tracking System (EMITS)
  - ❖ OH = Air Services Fee Emissions Report (FER)
- > “Launch Date” - Varies by state/local jurisdiction
  - ❖ KY = 30 days after notice of survey availability (typically from ~2/28 to 4/15 after calendar RY)
  - ❖ IN = 7/1 after calendar RY
  - ❖ OH = 4/15 after calendar RY

# Annual Emissions Inventory (EI) Reporting (2/3)

- > **Rules** - Each State agency maintains SIP rules governing which facilities report and how emissions fees are assessed
  - ❖ KY = 401 KAR 50:038 Air emissions fee
  - ❖ IN = 326 IAC 2-6 & 2-7-19
  - ❖ OH = OAC 3745-78 Air Pollution Control Fees
- > **Objectives** - Develop complete, accurate, and well documented EI reports to inform the following:
  - ❖ Title V permitting/other air program emissions fees
  - ❖ EPA's triennial National Emissions Inventory (NEI)
  - ❖ Agency State Implementation Plan (SIP) planning efforts
  - ❖ Baseline actual emissions (BAE) for New Source Review (NSR)
  - ❖ Modeling parameters for source-level, state-wide, or regional studies

# Annual Emissions Inventory (EI) Reporting (3/3)

- > Destination - Annual EI data is publicly available, but not all state agency publish this data on a readily accessible platform
  - ❖ KY = Available only w/ Open Records Request
  - ❖ IN = CAP data published in state-wide spreadsheet at facility level
    - ◆ <https://www.in.gov/idem/airquality/2507.htm>
  - ❖ OH = CAP + ammonia data published in state-wide spreadsheet at process-level
    - ◆ <https://www.epa.ohio.gov/dapc/aqmp/eiu/eis#126013925-download-eis-data-and-reports>
  - ❖ EPA = Triennial NEI data (2017 most recent) for CAP and HAP at source-level in data export and facility mapping format (see example NEI dashboard screen shots)



# Kentucky Multi-Pollutant Emissions by NEI Year

Stationary Sources



Location

Kentucky

Pollutant

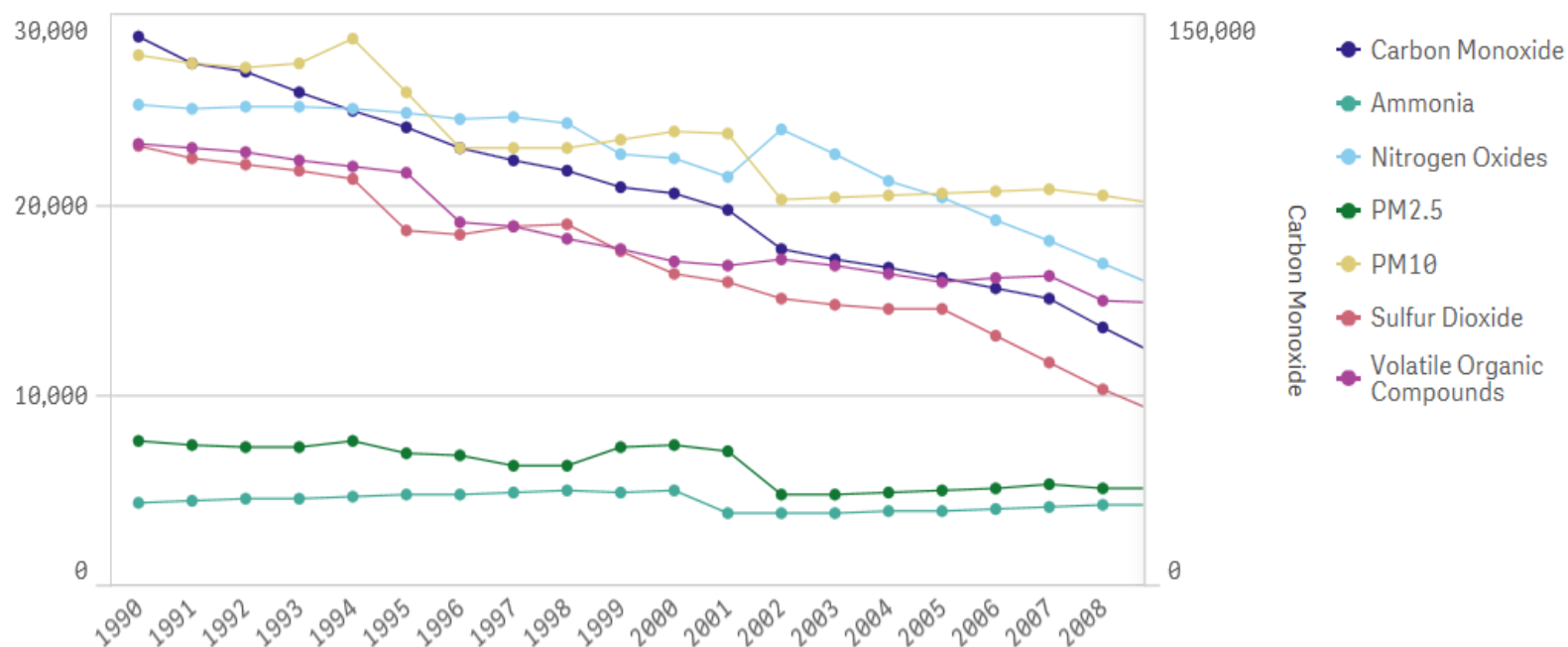
Select one or more

Source Type and Sector

Select one or more

Select one source type to view and select sectors

## National Emission Trends (thousand tons)



Hover over points to view annual values; wildfire emissions are not included due to the large year-to-year variability



Pollutant



Sector



Table

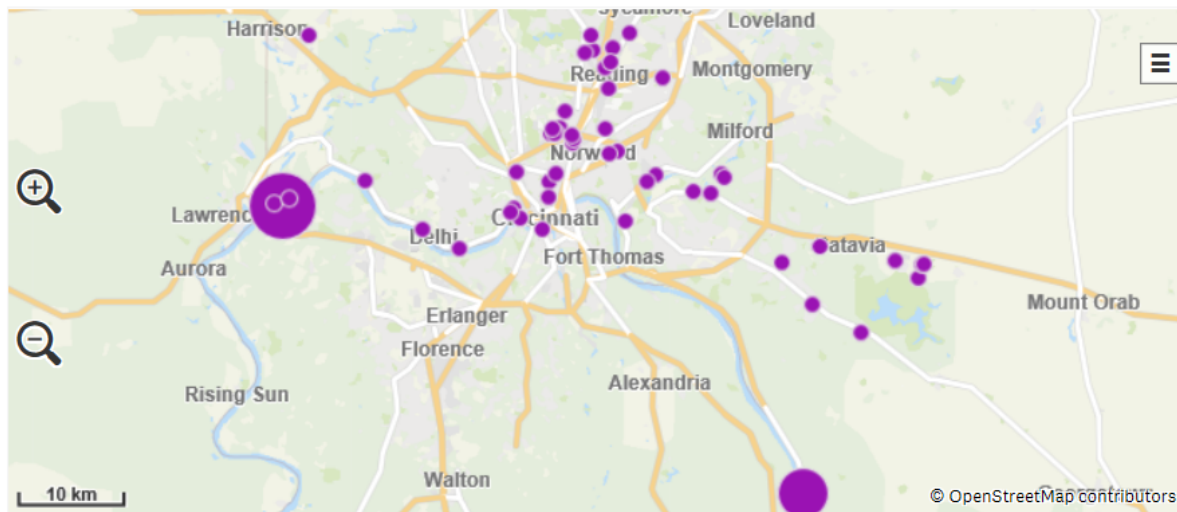


1990 - 2014



## Ohio 2014 Point Source Emissions

Multiple Pollutants



Point sources are clustered into 50km bubbles, select a bubble to view details.

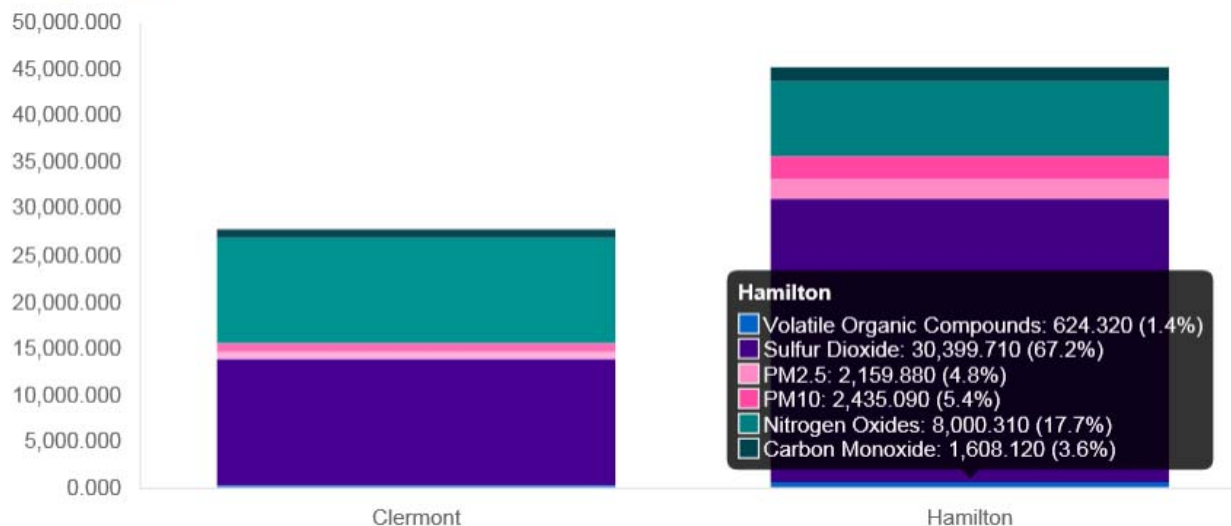
[All Areas](#)

[Download Point Source Data \(12 MB\)](#)

> **Publicly available** site-wide emissions data file for all regulated entities under state EI reporting programs

## Ohio 2014 Total Point Source Emissions (tons)

Multiple Pollutants



[Location](#) [Pollutant](#) [Type](#) [Scatter Plot](#) [Table](#)

Source: [https://edap.epa.gov/public/extensions/nei\\_report\\_2014/dashboard.html#point-db](https://edap.epa.gov/public/extensions/nei_report_2014/dashboard.html#point-db)

# EPCRA (Right-to-Know) Reporting

- > Section 302 Emergency Planning Notification
- > Section 311 SDS Reporting
- > **Section 312 Inventory (Tier II) Reporting**
- > **Section 313 (TRI) Toxic Release Inventory Reporting**
- > Section 304 Emergency Release Reporting

# EPCRA Chemicals and Thresholds

	Section 302 <b>Planning Letter</b>	Section 304 <b>Release Notification</b>	Sections 311/312 <b>SDS and Tier II</b>	Section 313 <b>TRI</b>
Chemicals Covered	356 EHSs	>1,000 hazardous substances	500,000 products	650 toxic chemicals and chemical categories
Thresholds	TPQ 1-10,000 lbs	RQ 1-5,000 lbs, released in 24-hr period	TPQ or 500 lbs for EHS  10,000 lbs for other chemicals	25,000 lbs/yr manufactured or processed; 10,000 lbs/yr used; Lower thresholds for PBT chemicals

# Resource - List of Lists



United States  
Environmental Protection  
Agency

Office of Land  
and  
Emergency Management

EPA 550-B-19-003  
June 2019  
[www.epa.gov/epcra](http://www.epa.gov/epcra)

## LIST OF LISTS

Consolidated List of Chemicals  
Subject to the Emergency  
Planning and Community Right-  
To-Know Act (EPCRA),  
Comprehensive Environmental  
Response, Compensation and  
Liability Act (CERCLA) and  
Section 112(r) of the Clean Air Act

Source: <https://www.epa.gov/epcra/consolidated-list-lists>



# Tier II Reporting (1/2)

- > **Mission** - Provide State, local officials, and the public with specific information on potential hazards including locations and amount of hazardous chemicals present at your facility above Threshold Planning Quantities (TPQ) within a state-selected reporting system
  - ❖ KY = TIER II MANAGER®
  - ❖ IN = TIER II MANAGER®
  - ❖ OH = Tier2 Submit
- > **"Launch Date"** - 3/1 after calendar RY

# Tier II Reporting (2/2)

- > **Rules** - State-specific programs generally modeled after federal requirements in 40 CFR 370 Subpart C (§370.20 to §370.45)
  - ❖ KY = 106 KAR 1:081
  - ❖ IN = IC 13-25-2-10
  - ❖ OH = OAC 3750-30
- > **Objectives** - Submit an annual inventory of hazardous chemicals stored onsite above TPQ to:
  - ❖ State Emergency Response Commission (SERC)
    - ◆ Kentucky Emergency Management (KYEM)
    - ◆ Indiana Department of Homeland Security Emergency Response Commission
    - ◆ Ohio Department of Public Safety Emergency Management Agency (EMA)
  - ❖ Local Emergency Planning Committees (LEPC)
    - ◆ To find your LEPC, contact your SERC
  - ❖ Fire department with jurisdiction over the facility
- > **Destination “Unknown”** - Not formally published

Physical Hazards (OSHA original - prior to adopting GHS in 2012)	Physical Hazards (Reporting Years 1987 – 2016) (OSHA's original physical hazards consolidated into three physical hazard categories for EPA use)	Physical Hazards (Reporting Years 2017 and beyond) (OSHA's 2012 physical hazards that EPA adopted in 2016)
Combustible liquid	Fire - (Flammable; Combustible liquid; Pyrophoric; Oxidizer)	Flammable (gases, aerosols, liquids, or solids)
Flammable		Pyrophoric (liquid or solid)
Oxidizer		Pyrophoric gas
Pyrophoric		Oxidizer (liquid, solid or gas)
Compressed Gas	Sudden Release of Pressure – (Explosive; Compressed Gas)	Explosive
Explosive		Gas under pressure
		Combustible Dust
Corrosive	Reactive – (Unstable Reactive; Organic Peroxide; Water Reactive)	Self-reactive
Organic Peroxide		Organic Peroxide
Unstable Reactive		Self-heating
Water Reactive		Corrosive to metal
		In contact with water emits flammable gas
		Hazard Not Otherwise Classified (HNOC)
Health Hazards (OSHA original - prior to adopting GHS in 2012)	Health Hazards (Reporting Years 1987 – 2016) (OSHA's original health hazards consolidated into two health hazard categories for EPA use)	Health Hazards Reporting Year 2017 and beyond) (OSHA's 2012 health hazards that EPA adopted in 2016)
	Health Hazard (Immediate-Acute)	
Highly Toxic	Highly Toxic; Toxic; Irritant; Sensitizer; Corrosives & other hazardous chemicals that cause an adverse effect to a target organ and which effect usually occurs rapidly as a result of a short term exposure and is of short duration.	Skin Corrosion or Irritation
Irritant		Acute Toxicity (any route of exposure)
Sensitizer		Respiratory or Skin Sensitization
Toxic		Serious eye damage or eye irritation
Eye Hazard		Simple Asphyxiant
Skin Hazard		Aspiration Hazard
	Health Hazard (Delayed-Chronic)	
Kidney Toxin	Carcinogens & other hazardous chemicals that cause an adverse effect to a target organ and which effect generally occurs as a result of long term exposure and is of long duration.	Specific target organ toxicity (single or repeated exposure)
Liver Toxin		Reproductive Toxicity
Lung Toxin		Germ Cell Mutagenicity
Nervous System Toxin		Carcinogenicity

# TRI Reporting (1/3)

- > Mission – Provide multimedia (air, water, and land) release and waste management activity data for listed chemicals to EPA in nation-wide reporting system
  - ❖ KY, IN & OH = EPA's TRI-Meweb
- > “Launch Date” - 7/1 after calendar RY
- > Rules – TRI program derived exclusively from the federal EPCRA regulation at 40 CFR 372



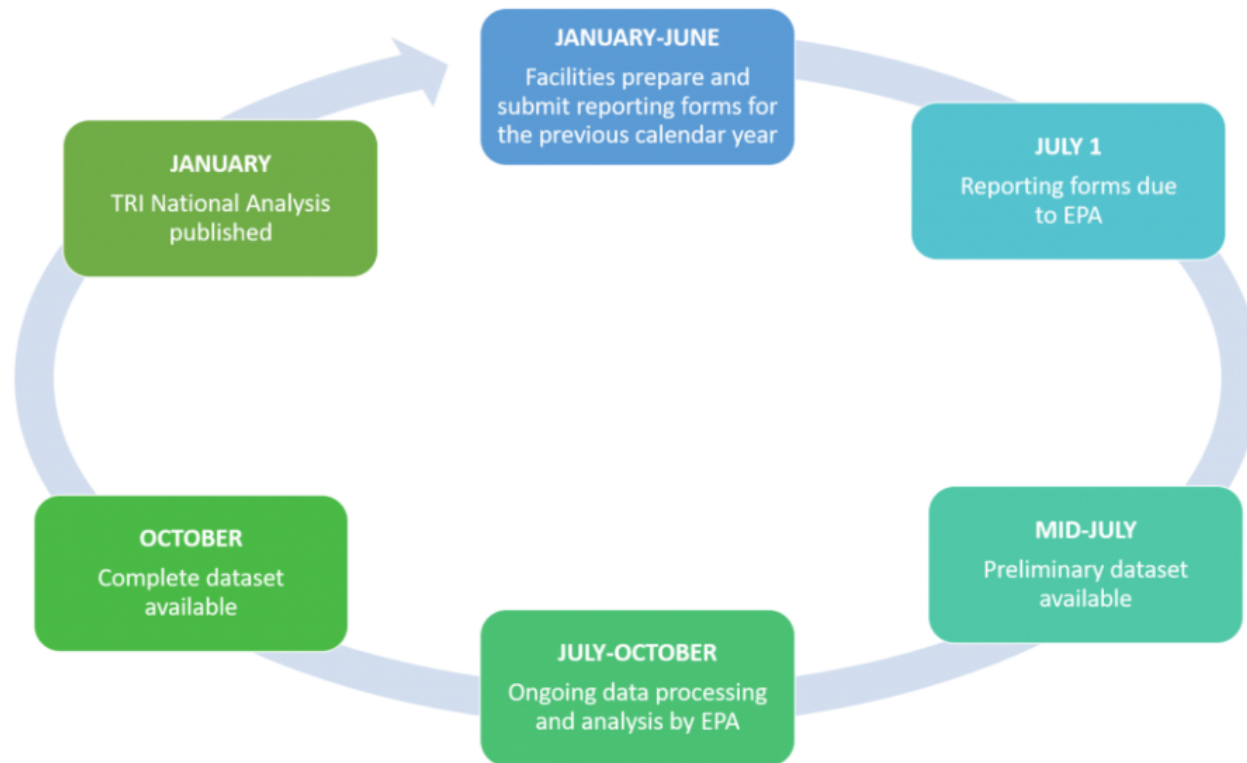
# TRI Reporting (2/3)

- > Objectives - Submit annual report for each toxic chemical containing on-site release, off-site transfer, and both on-site and off-site energy recovery, recycling, and waste treatment activity data
  - ❖ TRI reporting triggered based on “activity thresholds”
    - ◆ Manufacture (25,000 lbs) (e.g., making a chemical in product)
    - ◆ Process (25,000 lbs) (e.g., process a chemical as a raw material)
    - ◆ Otherwise Use (10,000 lbs) (e.g., use a chemical as a catalyst)
    - ◆ Persistent, Bioaccumulative and Toxic (PBT) have lower thresholds
  - ❖ “Form R” is default reporting approach in TRI-Meweb, but streamlined “Form A” is available for certain situations

# TRI Reporting (3/3)

- > Destination - EPA publishes facility-level TRI data down to the individual Form R reporting element on TRI Explorer in October after the calendar RY

## Annual TRI Data Cycle



# TRI Process - Flow Diagram

## Applicability and Threshold Determinations

Identify Section 313 Chemicals Manufactured, Processed, or Otherwise Used (MPOU)

Determine quantity of chemical and classify as MPOU for the reporting year

If Thresholds Exceeded

Identify total releases and off-site transfers

Identify other waste management practices 

Identify pollution prevention activities

## Release and Waste Management Reporting

Complete Form R or A Report

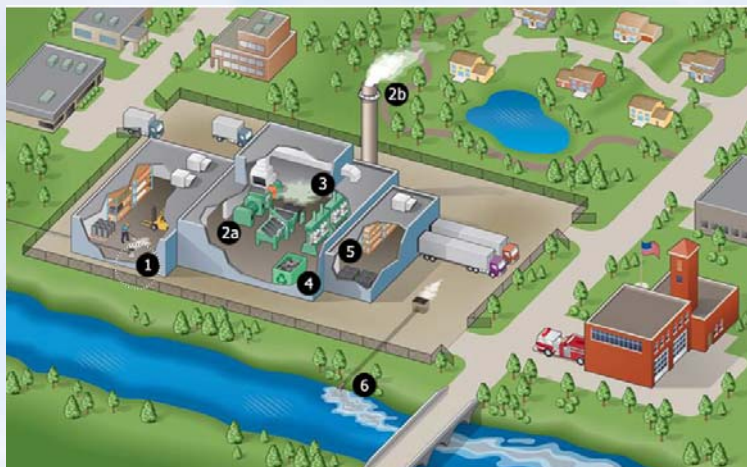
Review report for accuracy

Submit to EPA and State



# Toxic Chemical Release Inventory Reporting Forms and Instructions

Revised 2019 Version



Source: <https://www.epa.gov/toxics-release-inventory-tri-program/look-inside-tri-facility>

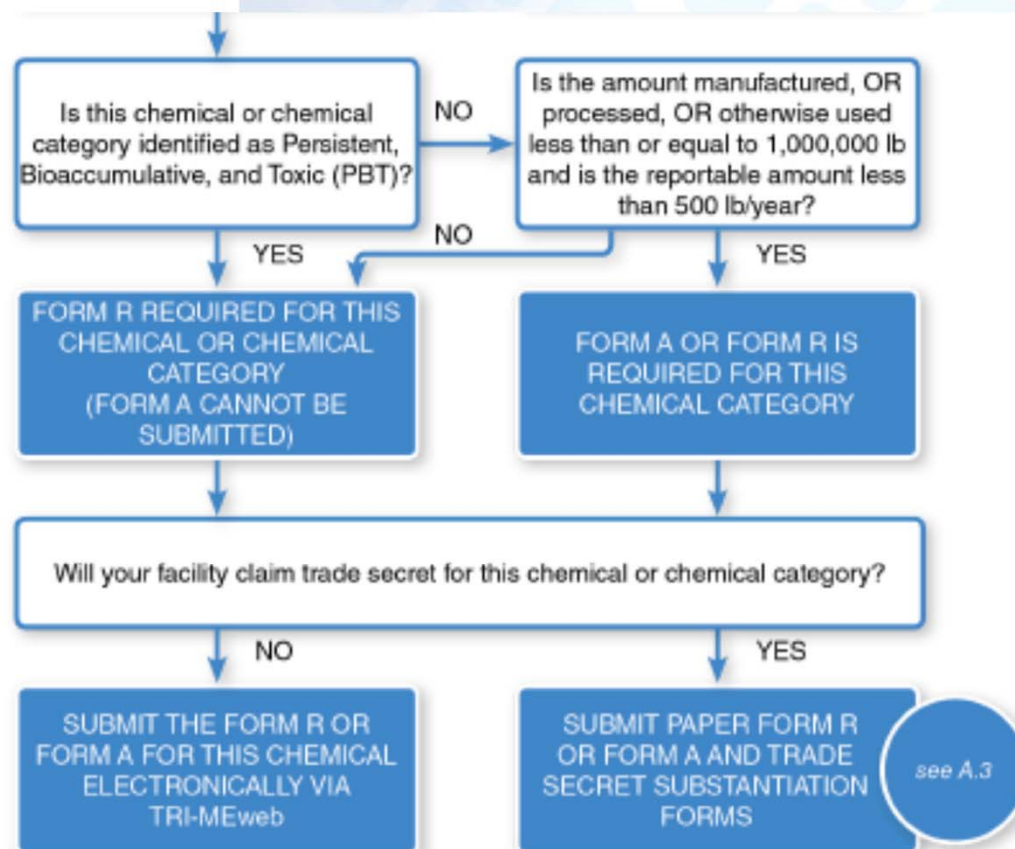
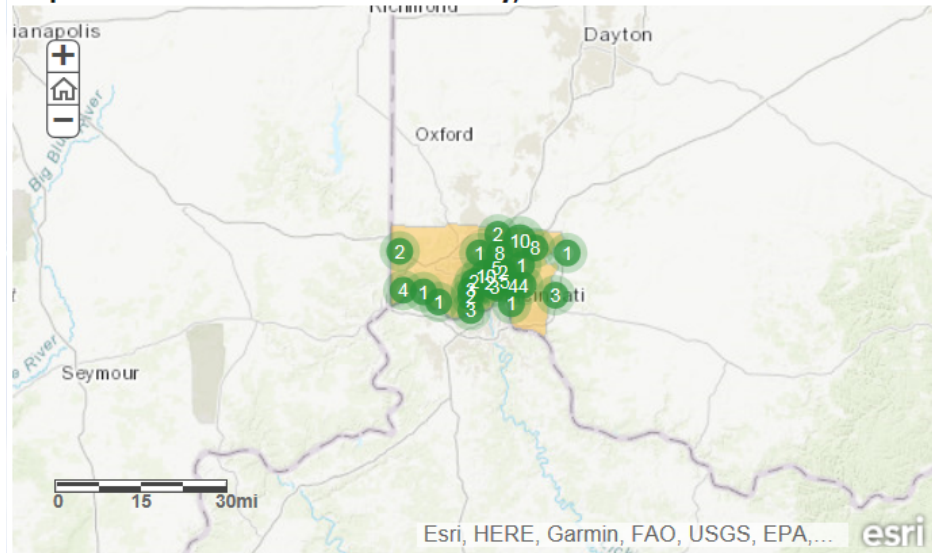


Figure 2. EPCRA Section 313 Reporting Decision Diagram



## Map of TRI Facilities in Hamilton County, OH

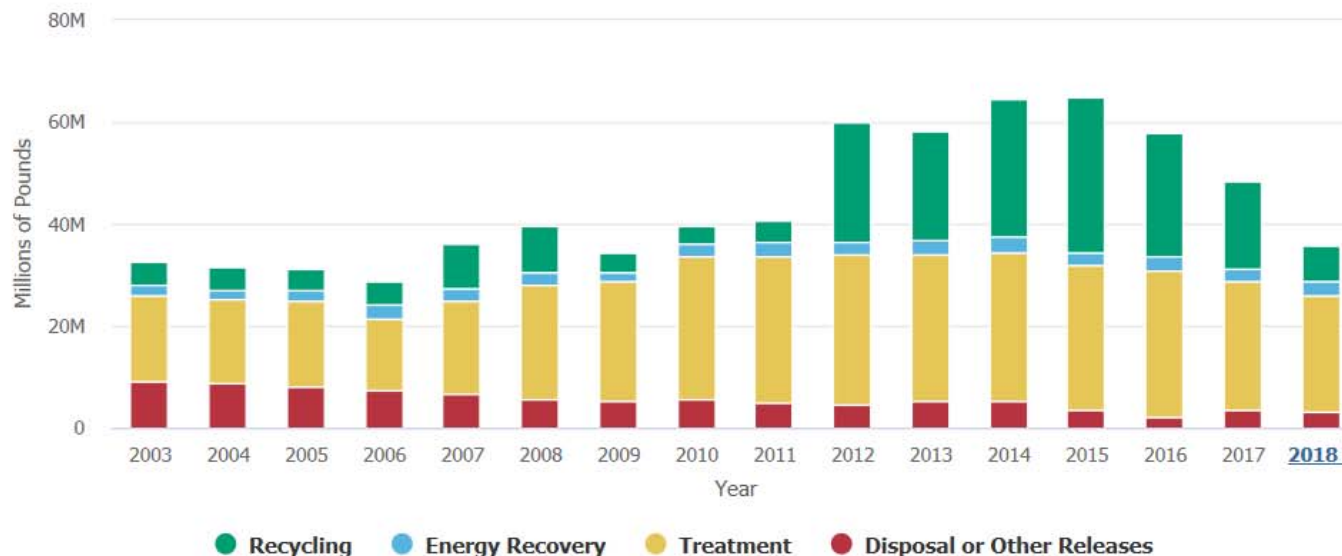


Ohio ranks **6 out of 56** states/territories nationwide based on total releases per square mile (Rank 1 = highest releases)

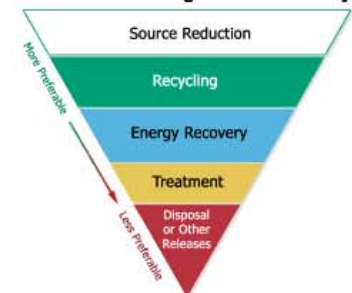
## Quick Facts for 2018

	Hamilton County, OH
<b>Number of TRI Facilities:</b>	88
<b>Total Production-Related Waste Managed:</b>	35.9 million lbs
<b>Total On-site and Off-site Disposal or Other Releases:</b>	3.2 million lbs
<b>Total On-site:</b>	1.0 million lbs
• <b>Air:</b>	938.5 thousand lbs
• <b>Water:</b>	133.2 thousand lbs
• <b>Land:</b>	7.8 thousand lbs
<b>Total Off-Site:</b>	2.1 million lbs

## Production-related waste managed in Hamilton County, OH, 2003 - 2018

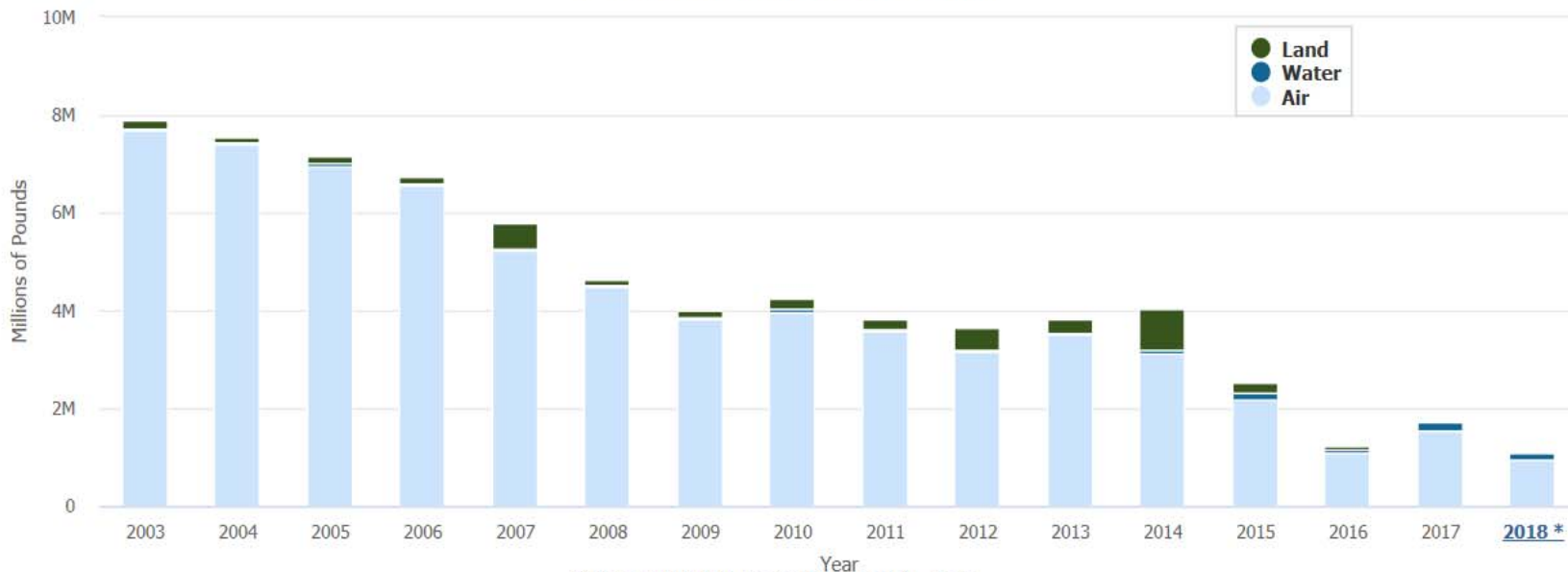


## The Waste Management Hierarchy



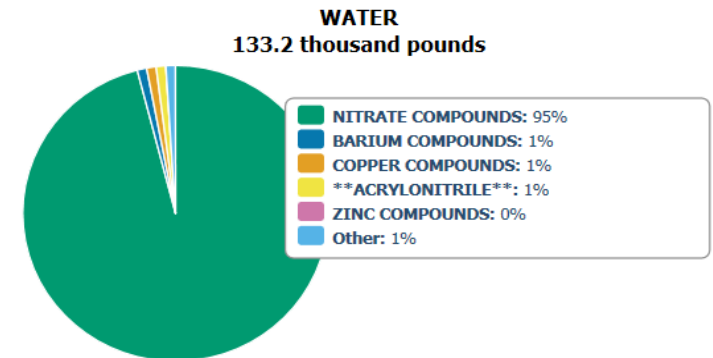
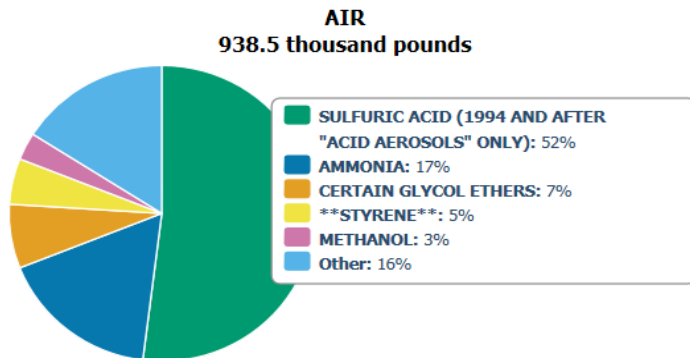
Source: [https://enviro.epa.gov/triexplorer/tri\\_factsheet.factsheet?pzip=&pstate=OH&pcity=&pcounty=Hamilton&pyear=2018&pParent=TRI&pDataSet=TRIQ1](https://enviro.epa.gov/triexplorer/tri_factsheet.factsheet?pzip=&pstate=OH&pcity=&pcounty=Hamilton&pyear=2018&pParent=TRI&pDataSet=TRIQ1)

## Total On-site Releases by Environmental Medium Hamilton County, OH, 2003 - 2018



\*click to view this year's data as a pie chart.

## Top Five Chemicals Released to Air and Water Hamilton County, OH, 2018



**Note: \*\*=Carcinogenic Chemical**

Note: Trend graphs were created using the 2001 core chemicals/industries list.

Source: [https://enviro.epa.gov/triexplorer/tri\\_factsheet.factsheet?pzip=&pstate=OH&pcity=&pcounty=Hamilton&year=2018&pParent=TRI&pDataSet=TRI01](https://enviro.epa.gov/triexplorer/tri_factsheet.factsheet?pzip=&pstate=OH&pcity=&pcounty=Hamilton&year=2018&pParent=TRI&pDataSet=TRI01)


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# El-Tier II-TRI Electronic Reporting Platforms

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# EI Electronic Reporting Platforms (1/4)

- > Currently no EPA hosted or supported EI reporting infrastructure for facility use
- > States use Emissions Inventory System (EIS) Gateway to report data to EPA for NEI
- > Ohio EPA uses FER module in Air Services on the eBusiness Center web interface



## eBusiness Center

Ohio EPA's eBusiness Center (eBiz) is a secure portal for online business services. The eBusiness Center is the entry point for our customers to electronically complete and file reports, make payments and submit permit and grant applications.

**Services Available**

- **Division of Air Pollution Control - Air Services** through the eBusiness Center include:
  - permit applications;
  - permit-related reporting;
  - annual emissions reporting;
  - asbestos certification, licensing and training applications;
  - demolition project notifications;
  - asbestos abatement notifications; and
  - asbestos training notifications.

### eBusiness Center Login

User ID:

Password:

Login

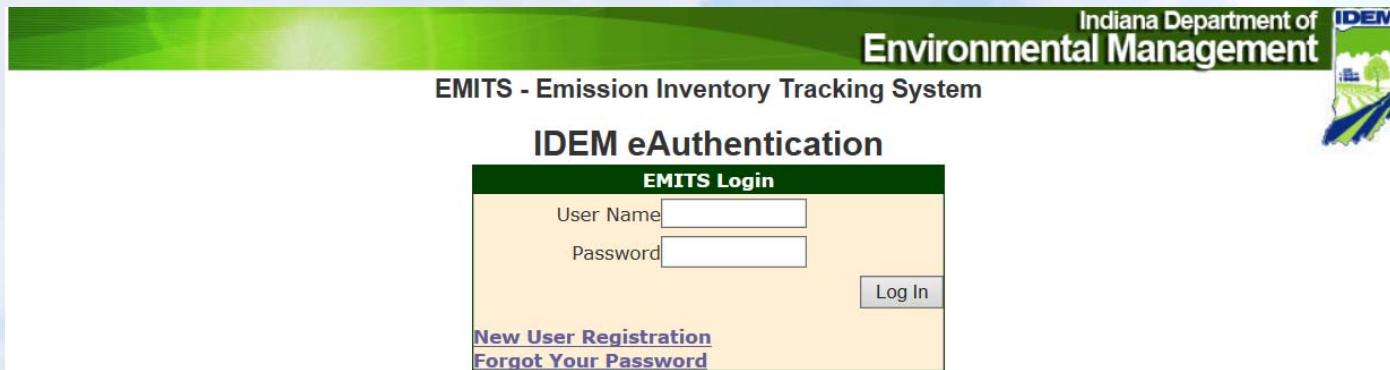
[Forgot your password?](#)

Source: [https://ebiz.epa.ohio.gov/login.html?jsessionid=3aG\\_hf83ot8j10FqzzQUbTHBi3CMRFaRI3YXXXJJLUPzOVMBSPA0!-784251986](https://ebiz.epa.ohio.gov/login.html?jsessionid=3aG_hf83ot8j10FqzzQUbTHBi3CMRFaRI3YXXXJJLUPzOVMBSPA0!-784251986)



# El Electronic Reporting Platforms (2/4)

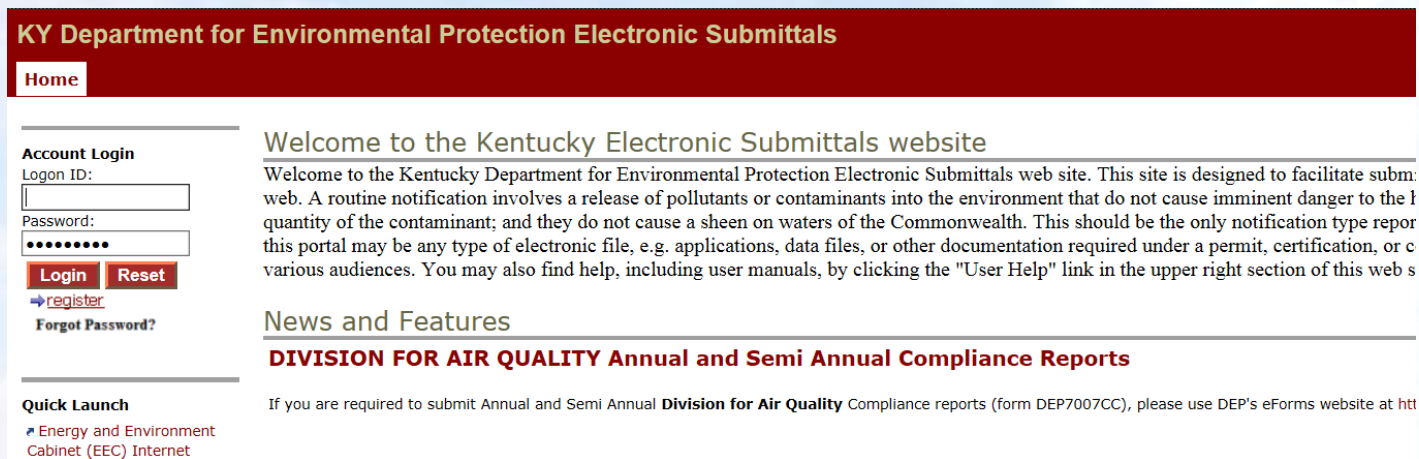
- > IDEM uses Emissions Inventory Tracking System (EMITS)



The screenshot shows the IDEM eAuthentication page. At the top, there is a green header with the text "Indiana Department of Environmental Management" and the IDEM logo. Below the header, the text "EMITS - Emission Inventory Tracking System" is displayed. The main heading is "IDEM eAuthentication". Underneath, there is a box titled "EMITS Login" containing fields for "User Name" and "Password", and a "Log In" button. Below the login box, there are links for "New User Registration" and "Forgot Your Password".

Source: <https://eauth.idem.in.gov/eauth/eAuthLogin.aspx?AAID=7000>

- > KDAQ uses the Web Survey module within the ePortal



The screenshot shows the KY Department for Environmental Protection Electronic Submittals website. The header is red with the text "KY Department for Environmental Protection Electronic Submittals" and a "Home" button. On the left, there is an "Account Login" section with fields for "Login ID:" and "Password:", and buttons for "Login", "Reset", "register", and "Forgot Password?". The main content area has a heading "Welcome to the Kentucky Electronic Submittals website" followed by a paragraph of text. Below this, there is a section titled "News and Features" with a subheading "DIVISION FOR AIR QUALITY Annual and Semi Annual Compliance Reports". At the bottom, there is a "Quick Launch" section with a link to "Energy and Environment Cabinet (EEC) Internet".

Source: <https://dep.gateway.ky.gov/ePortal/default.aspx>

# EI Electronic Reporting Platforms (3/4)

- > Instructions/Guides Are Your Friend - Each agency maintains an instruction guide for how to interact with the EI reporting interface
  - ❖ **SAVE TIME, READ INSTRUCTIONS FIRST** even if you have previously filed an EI
- > Know Your Source Inventory - Keeping an “evergreen” set of added/modified/removed emissions sources in EI reporting system is a constant challenge
  - ❖ **GET STARTED EARLY** to identify new EI reporting obligations for RY based on changes to facility in the “off-season”

# EI Electronic Reporting Platforms (4/4)

- > Avoid Unit Conversion Errors – Double/triple check engineering units for emission factors and process rates to ensure consistency
  - ❖ **KEEP INTERNAL CALCULATIONS** to document basis of all equations, input data, assumptions, and dimensional analysis
- > Use Source/Process Level Year-to-Year Emissions Comparison as QAQC – Flag outliers and possible calculation errors by comparing emissions totals between past and current RY at source level
  - ❖ **LET YOUR DATA TELL THE STORY** by using charts, summary tables, and EI reporting system exports for the year-to-year benchmarking effort

# Tier II Electronic Reporting Platforms (1/3)

- > EPA sponsors the Tier2 Submit™ program; Ohio EPA leverages this tool

The screenshot displays the 'Tier2 Submit' web application. The main header reads 'Getting Started'. A central white box contains the 'Tier2 Submit' logo, a welcome message for 2019, and instructions on how to use the tool. A 'Start Tier2 Submit' button is located at the bottom of this central box. Three red callout boxes provide additional context: one on the left explains the purpose of the tool, one at the bottom left points to the help links, and one at the bottom right points to the 'Start Tier2 Submit' button.

**Getting Started**

This is what you see when you open Tier2 Submit.

**Tier2 Submit**

**Welcome to Tier2 Submit 2019**

Tier2 Submit helps facilities with hazardous material electronically report Tier II information for Section 312 of the Emergency Planning and Community Right to Know Act (EPCRA). It guides you in filling out the federally required fields, as well as fields required by the state in which your facility is located. The program is developed jointly by the EPA and NOAA.

Visit the [EPA EPCRA webpage](#) to learn more about Tier II requirements and to [see if your state accepts Tier2 Submit submission files](#). If you need help at any point, click the [Help](#) button at the top of the screen.

Data folder: C:\Users\Public\Documents\Tier2Submit2019 Data

**Start Tier2 Submit**

Here are valuable links for more information about Tier II reporting and your state's requirements.

Click here to start creating your own Tier2 Submit report.

Source: [https://www.epa.gov/sites/production/files/2018-12/documents/2018\\_tier2\\_submit\\_tutorial\\_12\\_14\\_18.pdf](https://www.epa.gov/sites/production/files/2018-12/documents/2018_tier2_submit_tutorial_12_14_18.pdf)



# Tier II Electronic Reporting Platforms (2/3)

- > KY and IN use a “third-party” software product  
TIER II MANAGER®

The screenshot displays the IDS International website. The header features the IDS International logo and a navigation menu with links: Home, About Us, Awards, News, Products, Services, Clients, Case Studies, Support, and Contact. Below the header, there are social media icons for Twitter, Facebook, and a 'Like 0' button. The main content area is divided into two columns. The left column has a 'Products' section with links to TIER II MANAGER™, SOLIDBLOX™, AutoPlan™, and WebParcel™, followed by a 'More....' link. Below this is a 'Case Studies' section with a link to 'City of Philadelphia achieves 100% online participation from chemical reporting sites in just under 3 years', followed by another 'More....' link. The right column features the 'TIER II MANAGER™' product description, which states it is already used by 14 states, 10 state level programs, 2,700+ local government agencies like LEPC, Fire, and HAZMAT teams, and 350,000+ businesses. It also mentions that the product manages the process of meeting SARA Title III, Emergency Planning and Community Right-to-Know (EPCRA) reporting, oversight, and emergency response needs. Below the text is a screenshot of the TIER II MANAGER software interface, which shows a map of the United States with various locations marked. To the right of the map is a sidebar with 'Emergency Contact' information for 'Brown Oil' and a 'Facility Details' table. At the bottom of the page, there are three buttons: 'Free Trial', 'Request a quote', and 'Brochure'.

**IDSi International**

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**Products**

TIER II MANAGER™  
SOLIDBLOX™  
AutoPlan™  
WebParcel™  
More....

**Case Studies**

City of Philadelphia achieves 100% online participation from chemical reporting sites in just under 3 years  
More....

40 Response Agencies - 1 Plan!

**TIER II MANAGER™**

The TIER II MANAGER™ is already used by

- 14 states
- 10 state level programs
- 2,700+ local government agencies like LEPC, Fire, and HAZMAT teams
- 350,000+ businesses

to manage the process of meeting SARA Title III, Emergency Planning and Community Right-to-Know (EPCRA) reporting, oversight, and emergency response needs. TIER II MANAGER™ provides Compliance Administrators at the State/LEPC levels and First Responders at the State/County/City levels with real-

**Free Trial** **Request a quote** **Brochure**

Source: [http://www.idsiinternational.com/TIER\\_II\\_MANAGER.html](http://www.idsiinternational.com/TIER_II_MANAGER.html)

## Tier II Electronic Reporting Platforms (3/3)

- > Location, Location, Location - Develop and implement a system for tracking changes in hazardous chemical storage locations and stored quantities (e.g., tanks, totes, bulk containers)
  - ❖ **GET OUT YOUR MAP/GPS** to determine actual geographical coordinates of storage locations
- > Find Some SOS for Your SDS - Leverage management of change (MOC), accounting, and other business enterprise-based software tools to identify new/changed chemicals on-site in RY
  - ❖ **EMBRACE A DATABASE** for SDS management including third-party products with Tier II reporting-specific functionality

# TRI Electronic Reporting Platforms (1/3)

- > Single TRI reporting platform (TRI-MEweb) for all affected facilities, what a novel idea!

The screenshot displays the TRI-MEweb interface. At the top, the header includes the TRI-ME WEB logo and the user's name, JOHNGREEN - CERTIFIER, with a log out link. Below the header is a navigation bar with links for My TRI, Facility Management, Forms, Submission History, and Help. On the right side of the navigation bar are links for Tutorials, Preferences, and Help Chat.

The main content area is divided into several sections. On the left, there is a 'User Profile' section with fields for Name, Email Address, Phone, and CDX User Role. Below this is the 'SMS Verification Status: Active' section, which shows a list of mobile numbers and options to edit or remove them. A dropdown menu is open over the 'I need to:' section, showing options such as 'select an action', 'provide info on why my facility is not reporting', 'add a facility', 'update my facilities', 'begin/continue a form' (which is highlighted), 'review my submission history', and 'certify pending forms'.

On the right side of the main content area, there is a 'Notifications' section showing 'TRIFID Signature Agreements' with a red badge indicating 1 notification. Below this is a 'Not Reporting?' section with a message about optional information and a link to 'TRI-MEweb RY 2018 Updates from ICR Renewal'.

Source: <https://www3.epa.gov/tri/tutorials/TRIT-20/index.html>

## TRI Electronic Reporting Platforms (2/3)

- > Be a Bookworm & Find a Tutor - EPA publishes a comprehensive set of TRI reporting instructions and TRI-Meweb tutorial videos which are immensely helpful for the novice and pro alike

TRI-MEweb Mini Tutorials		
Tutorial Title and Link	Tutorial Description	Duration
<a href="#">Do I Need to Report?</a>	This link will take you to the TRI Threshold Screening Tool welcome page. This web-based tool can help you determine if your facility meets all three TRI reporting criteria. If your facility does meet all three criteria, it must submit at least one TRI reporting form. The tool also provides guidance and other resources to help explain reporting requirements and threshold determinations.	N/A

Source: [https://www.epa.gov/sites/production/files/2018-03/documents/tri-meweb\\_mini-tutorial\\_list.pdf](https://www.epa.gov/sites/production/files/2018-03/documents/tri-meweb_mini-tutorial_list.pdf)

- > Stay Alert for Data Quality - TRI-MEweb has embedded error checking and data quality alert (DQA) functionality to streamline QAQC

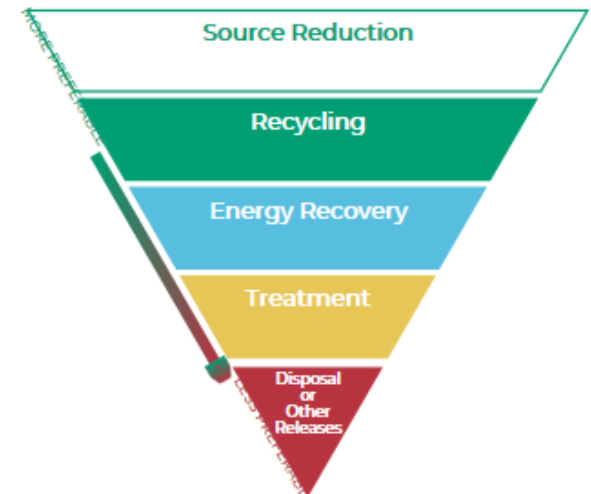


# TRI Electronic Reporting Platforms (3/3)

- > **Avoid “Fat Finger” Data Input Mistakes** - Develop a data entry page within your internal TRI calculations that mirrors the TRI-MEweb interface to facilitate Form R data checks
- > **Harmonize Your EI/Tier II/TRI Data** - Use Tier II data to inform TRI activity threshold determinations and use EI data for TRI stack/fugitive air releases
- > **Move Up the Waste Hierarchy** - Follow the Pollution Prevention Act (PPA) and document pollution prevention (P2) activities as supplement to base Form R data

## The Waste Management Hierarchy

The PPA calls for pollution to be prevented or reduced at the source whenever feasible and released to the environment only as a last resort.



Source: <https://www.epa.gov/toxics-release-inventory-tri-program/pollution-prevention-p2-and-tri>



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# Tier II Reporting Challenges and Best Practices for Small Operations

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# **Intro to Macy's, Inc.**



## **Intro to Macy's, Inc. Environmental Services Team**

- Program Development (Policy, Procedures, Training)
- Programs:
  - Asbestos Management Program
  - Petroleum Storage Tank Management
  - Subsurface Remediation
  - Real Estate Due Diligence (purchases and divestitures)
  - Environmental Compliance Audit Program
  - Misc other enviro
    - (air permits, storm water permits, IAQ/mold)
  - Hazardous Waste Disposal Program
- Sustainability Initiatives
- Support entire company

# Challenges


- Change in reporting requirements
- Change over
- Getting information
- Paying the fees
- LEPCs are notified



# **Create a Tracker**

- State reporting requirements
  - Site contacts
  - Locations needing to file
- Quantities of reportable materials
  - Associated fees

- First Step:
  - Confirm proper reporting system per State



United States Environmental Protection Agency

Environmental Topics   Laws & Regulations   About EPA

Related Topics: [Emergency Planning and Community Right-to-Know Act \(EPCRA\)](#)   [CONTACT US](#)   [SHARE](#)   [f](#)   [t](#)   [e](#)

## State Tier II Reporting Requirements and Procedures

To obtain Tier II reporting procedures and requirements for your state, please click on the state where the reporting facility is located.

<a href="#">Alabama</a>	<a href="#">Kansas</a>	<a href="#">North Dakota</a>
<a href="#">Alaska</a>	<a href="#">Kentucky</a>	<a href="#">Ohio</a>
<a href="#">American Samoa</a>	<a href="#">Louisiana</a>	<a href="#">Oklahoma</a>
<a href="#">Arizona</a>	<a href="#">Maine</a>	<a href="#">Oregon</a>
<a href="#">Arkansas</a>	<a href="#">Maryland</a>	<a href="#">Pennsylvania</a>
<a href="#">California</a>	<a href="#">Massachusetts</a>	<a href="#">Puerto Rico</a>
<a href="#">Colorado</a>	<a href="#">Michigan</a>	<a href="#">Rhode Island</a>
<a href="#">Connecticut</a>	<a href="#">Minnesota</a>	<a href="#">South Carolina</a>
<a href="#">Delaware</a>	<a href="#">Mississippi</a>	<a href="#">South Dakota</a>
<a href="#">District Of Columbia</a>	<a href="#">Missouri</a>	<a href="#">Tennessee</a>
<a href="#">Florida</a>	<a href="#">Montana</a>	<a href="#">Texas</a>
<a href="#">Georgia</a>	<a href="#">Nebraska</a>	<a href="#">Utah</a>
<a href="#">Guam</a>	<a href="#">Nevada</a>	<a href="#">Vermont</a>
<a href="#">Hawaii</a>	<a href="#">New Hampshire</a>	<a href="#">Virgin Islands (U.S.)</a>
<a href="#">Idaho</a>	<a href="#">New Jersey</a>	<a href="#">Virginia</a>
<a href="#">Illinois</a>	<a href="#">New Mexico</a>	<a href="#">Washington</a>
<a href="#">Indiana</a>	<a href="#">New York</a>	<a href="#">West Virginia</a>
<a href="#">Iowa</a>	<a href="#">North Carolina</a>	<a href="#">Wisconsin</a>
		<a href="#">Wyoming</a>

## Ohio Tier II Reporting Requirements

Tier II Administration: Ohio Environmental Protection Agency  
Phone: 614-644-2269  
Email: [Jeffrey Beattie](mailto:Jeffrey.Beattie@epa.ohio.gov) ([jeffrey.beattie@epa.ohio.gov](mailto:Jeffrey.Beattie@epa.ohio.gov))  
Webpage: <https://epa.ohio.gov/dapc/serc> [EXIT](#)  
Special Instructions: Ohio is requesting facilities to use Tier2 Submit and submit electronically. A new version of Tier2 Submit is created around November of each year. [Download the latest version of Tier2 Submit.](#)

[↑ Top of Page](#)

## Oklahoma Tier II Reporting Requirements

Tier II Administration: Oklahoma Department of Environmental Quality  
DEQ Customer Service  
Tom Bergman  
P.O. 1677  
Oklahoma City, OK 73101  
or FedEx to:  
707 N. Robinson  
Oklahoma City, OK 73101  
Phone: 405-702-1013  
Email: [Tom Bergman](mailto:Tom.Bergman@deq.ok.gov) ([tom.bergman@deq.ok.gov](mailto:Tom.Bergman@deq.ok.gov))  
Webpage: <https://www.deq.ok.gov/land-protection-division/chemical-reporting-and-preparedness/tier-ii/tier-ii-reporting/> [EXIT](#)  
Special Instructions: Oklahoma is requesting facilities to use Tier2 Submit and submit electronically. A new version of Tier2 Submit is created around November of each year. [Download the latest version of Tier2 Submit.](#)  
Oklahoma DEQ accepts electronic Tier2 Submissions via a specialized internet collection utility. Please visit <https://www.deq.ok.gov/land-protection-division/chemical-reporting-and-preparedness/tier-ii/> [EXIT](#) for more information.

★ **Mission 2020: Best Practices, Developments & Trends in Emission Inventory (EI), Toxic Release Inventory (TRI) and Chemical Inventory (Tier II) Reporting**

<https://erplan.net>

Eplan Password

Eplant assfold	
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<https://securesite.mde.state.md.us/TIER2MANAGER/Account/Login.aspx>

Password

Any issues contact

Any Issues Contact	
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<https://hazmat.dps.mo.gov/>

Password

Any issues call

<http://insideonline.com/>

Password

Security Q

Any issues contact

Any Issues Contact	
Certification Pin	

Certification Pin	
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[https://www2.illinois.gov/liema/preparedness/serc/pages/serc\\_tier2.aspx](https://www2.illinois.gov/liema/preparedness/serc/pages/serc_tier2.aspx)

Username and Password

Username and Password	
Any issues contact	

Any Issues Contact	
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CT, OH, HI, CO, OK all use Tier2Submit

**Submit .t2s documents only**

[illegible]

## TIER II reporting information survey

Hi Tia, when you submit this form, the owner will be able to see your name and email address.

★ Required

1. What facility are you reporting for? ★

F14						
	A	B	C	D	E	F
1	<b>Battery Inventory</b>					
2						
3	<b>Type (ie. Lead acid)</b>	<b>Manufacturer</b>	<b>Make/Model #</b>	<b># of Batteries</b>	<b>Weight of Battery in pounds</b>	<b>What is it used for?</b>
4						
5						
6						
7						
8						
9						
10						



# LEPC Reporting

- Delegate this to the individual facilities

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# El-Tier II-TRI Program for Large Integrated Manufacturing Operations

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## Intro to Catlettsburg Refining, LLC

- Oil refinery located in Catlettsburg, Kentucky (border of Ohio, Kentucky, & WV)
- Parent company is Marathon Petroleum Corporation – Findlay, Ohio
- Approximately 1,500 company employees and contractors .
- Production capacity of 277,000 bbls per day.



# Common Data Driven Environmental Programs

- Toxic Release Inventory (TRI)
- Emissions Inventory
- Greenhouse gas reporting program (GHGRP)



# Typical Data Needs for Reporting

- Throughputs
  - Processes (extruders, ovens, mixers, crude units, hydrotreaters,...)
  - Tanks
  - Fuel to emission points (process heaters, flares, boilers,...)
  - Loading operations (barges, truck & rail racks,...)
- Accounting Data
  - Products shipped
- Emission Factors
  - Stack testing, AP-42

# Data Tools

- Excel Workbooks
- Microsoft Access Database
- Process Data Interface - PI Processbook
- Web/Internet/Intranet
- Coding - VBA, HTML

# Excel Workbooks

## Pros

- Great with managing snapshot data and small scope tracking ( $\leq 5$  tabs or sheets)
- Can be used as a dashboard when set up to receive data from other sources
- Data linking to process-specialized apps – most Windows-based apps have Excel-linking/exporting capabilities

## Cons

- Calculation errors can occur if data elements repeat on multiple tabs (complex workbooks)
- Large data sets and numerous calcs can crash application; (“Excel Hell”)
- Workbook or spreadsheet constructions are usually not standardized – depending on the complexity, the learning curves can be quite large

# Microsoft Access

My preferred method for automating data acquisition from other applications, including browsers

## Pros

- Excellent for creating multi-tiered relationships between data
- Elements only need to be updated once
- Queries, queries, queries
- Data can be fashioned in many different ways

## Cons

- Coding can be present a steep a learning curve
- Construction times ranging from moderate to insanely huge
  - Mapping your data needs during the ideation phase is almost a necessity

# PI Processbook

## Pros

- Excellent data trending
  - Typically I will use PI Processbook as my graphing interface for data in other applications
- Contains linking capabilities with Excel
  - Simple add-in. Then I can use all off Excel's functions and analysis capabilities

## Cons

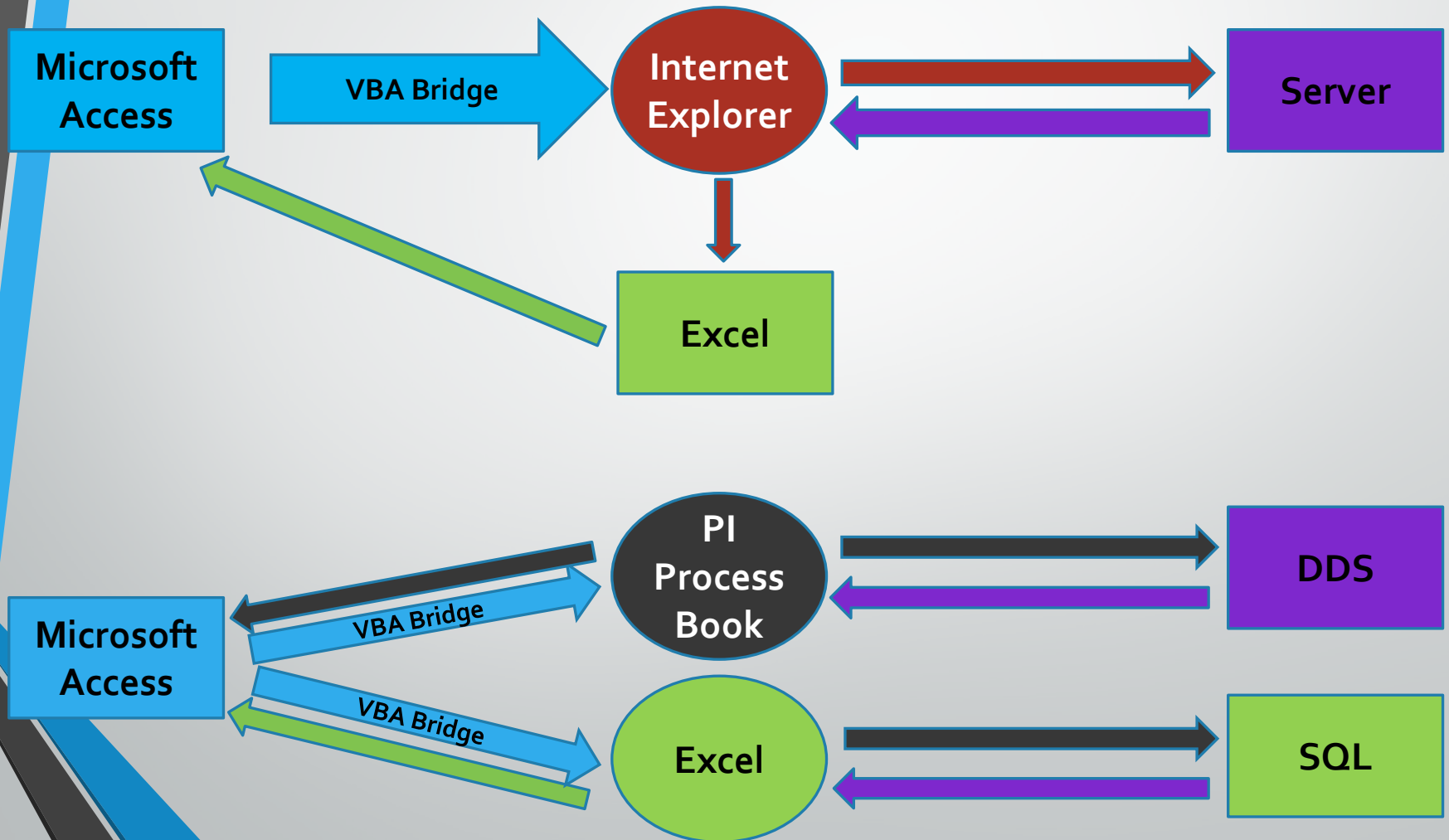
- Ambiguousness with accomplishing certain tasks
  - Changing the chart background color
  - Graph resets time period when changes are made to the supporting the data
- Statistical analyses take effort



# Web/Internet/Intranet

- With most state regulators moving to web-based reporting, automation can save environmental professionals copious amounts of time
  - Data pushing – using code (can be done with VBA) within a Windows-based application to fill in web-based forms or tables on the internet/intranet.
  - Data scraping – using code to extract data from internet/intranet cites.

# Catlettsburg Refining Automation Data Flow Configuration Examples



# Microsoft Access – UI Example

## Command Central

Ahhh, so you have to make some changes or generate a report, eh? Well, this database is designed to make these processes as painless as possible. The selections below will allow you to create the reports you need or make any required modifications quickly, so you can get back to more important things like thumb-twiddling tournaments, paint drying spectatorship; oh, and reading Facebook posts.

### Data

Acquire Throughput Data

Well, you need the data, don't you? This is where the journey begins. A fully automated process. Enter two dates, push a button, then come back here and create a nice report. You're welcome.

### Reports

MACT Y (Marine MACT)

Argh matey! Mariners need to be assured that you are not emitting more than permitted. This report is all they'll need to put their minds at ease. Remember, you have throughput limits as well as emission limits. Stay below these and recordkeeping is all that's required. However, exceed either and you might have to walk the plank of non-compliance. Keep in mind gasoline and crude barge loading is not a typical problem of yours, so the production limits are usually safe.

Annual Compliance Report (Title V)

The permit lead needs this report. Run the report, attach to an email, and send with a note saying "You're welcome, talk to you next year!" Feels good to get the permit lead off of your back, now doesn't it?

### Ch-ch-changes

Edit/Add Control Device or Emission Factors

Got a new device controlling emissions for the loading of regulated products? This is easy peazy.

Edit/Add Products and Product Codes

Did they add new products whilst you were away? This process is more involved, but you need not fear, we'll get through it together.

# Dataflow Continuity – All Forms

Indirect Data Flows (data that needs to be requested by you)

- Should be documented or mapped - where/who provides the data?
  - List data provider, department, manager, etc.
- All relevant email exchanges should be saved in descriptive file folders on network drives

Direct, Manual Data Flows (data that you need to get by performing tasks yourself)

- Again, should be documented or mapped – applications; also, where does the raw data originate from?

Automated data flows

- Must have basic instructions for use
- Background coding, if it exists, should have reference libraries listed and basic instructions to access the compiler
- Documentation of the verification of tool calculations against a standard

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# Developments, Trends, and Key Learnings for Achieving Success with EI-Tier II-TRI Reporting

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## El Developments and Trends (1/2)

- > Through the e-Enterprise for the Environment initiative, EPA is sponsoring a Combined Air Emissions Reporting (CAER) Project
  - ❖ Web-based Common Emissions Form (CEF) can be used for CAP, HAP/toxics, and GHG emissions reporting to avoid duplicative efforts
  - ❖ State/local agencies would phase out existing EI reporting systems and replace with CEF
  - ❖ Streamlines state/local agency efforts in conveying EI data to EPA for NEI development
  - ❖ Improves timeliness and transparency of EI data for the public and other stakeholders
  - ❖ Georgia is currently conducting a pilot of the CEF and EPA is holding periodic webinars on status of CAER project

## El Developments and Trends (2/2)

- > Public access to El data more prevalent and “dashboards” are more sophisticated to identify top emitters
- > El data scrutinized by EPA and environmental groups for indications of triggering applicability of other air reporting programs (e.g., air releases of TRI chemical >25,000 lbs)
- > “Back-end” upload features of El reporting systems using XML file formats more popular and widely used to avoid manual data entry
- > Emphasis on facilities maintaining their own El reporting infrastructure as opposed to agency managed/driven changes to system

## Tier II Developments and Trends

- > Storage locations no longer just descriptive but supported by GIS maps/coordinates
- > Focus on correctly accounting for extremely hazardous substance (EHS) in mixtures when assessing TPQ threshold and Tier II reporting data
- > Tier II data scrutinized by EPA and environmental groups for indications of triggering applicability of other environmental reporting programs (e.g., maximum stored onsite above TRI activity thresholds)
- > EPA focused on promoting adequate training for States, LEPC, Local planners and responders

# TRI Developments and Trends (1/2)

- > Certain per- and polyfluoroalkyl substances (PFAS) added to TRI chemical list for RY20 with the National Defense Authorization Act (NDAA)
  - ❖ Separate from NDAA EPA issued Advance Notice of Proposed Rulemaking (ANPRM) for adding certain PFAS to the TRI chemical list in December 2019
  - ❖ ANPRM solicited comment on reporting thresholds, categorization of PFAS, availability of information on human health and environmental toxicity, persistence, and bioaccumulation of PFAS
- > Nonylphenol Ethoxylates (NPEs) category added in RY19
- > Updated De Minimis Levels for N,N-Dimethylformamide, 2-Mercaptobenzothiazole, and Molybdenum Trioxide in RY19



# TRI Developments and Trends (2/2)

- > EPA publishes list of improvements made to TRI-MEweb to document new features

**RY 2019 TRI-MEweb Improvements  
Toxics Release Inventory (TRI) Program**

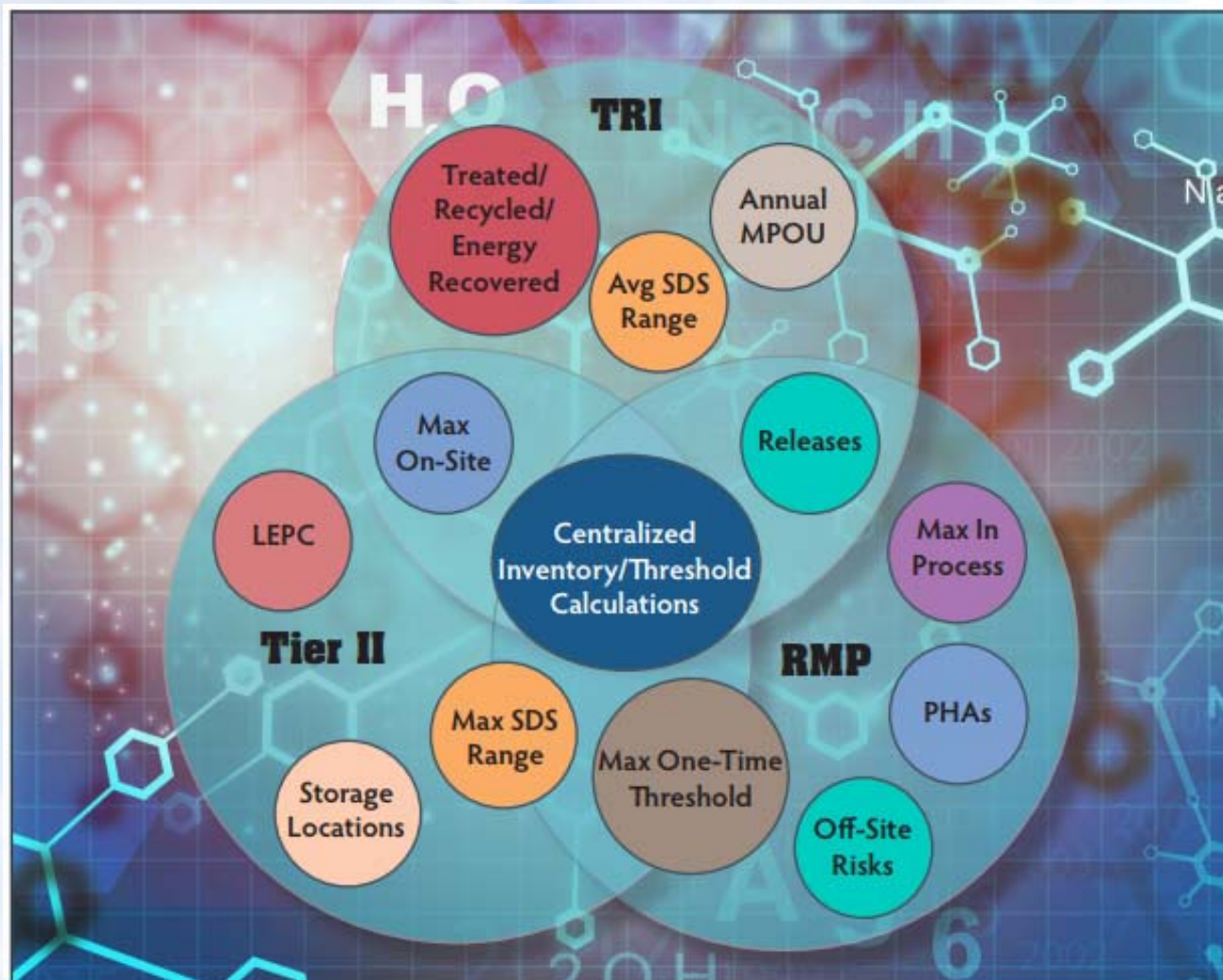
Category	TRI-MEweb Page	Description of Improvement
Form Preparation	Add Form	A new chemical category, Nonylphenol Ethoxylates (N535), is available for RY19 reporting
Form Validation	Email	Users will be sent a reminder email on July 2 if they have draft forms marked for deletion

Source: [https://www.epa.gov/sites/production/files/2019-12/documents/ry19\\_trimeweb\\_improvements\\_table.pdf](https://www.epa.gov/sites/production/files/2019-12/documents/ry19_trimeweb_improvements_table.pdf)

- > TRI Explorer more “localized” and user friendly for public to assess toxic chemicals data in their community
- > EPA Regional offices sending requests for information to follow-up on data quality alerts
- > Expanded pollution prevention (P2) documentation options on Form R and moving towards impression of “not so voluntary” for P2 related TRI entries



# Consistency is Key



# Top 5 Questions for Avoiding Reporting Data Management Issues

- > What are the new thresholds met, chemicals managed, etc. in reporting year (RY)?
- > What assumptions are used for assessing reporting thresholds and reportable quantities?
- > Were there any process changes or equipment modifications that affected program this RY?
- > What information is used from other programs to complete reporting responsibilities?
- > Have the results of each report been reviewed along side other environmental reports?

# REMINDER- Key Take-Aways

- > **Document** all applicability determinations, calculations, emails, etc. in order to avoid unnecessary year-over-year errors or recreating the wheel
- > **Manage SDSs** in a centralized location that will safe-guard against inadvertent compliance concerns
- > **Cross-check programs** against others that are completed on-site by requesting records, discussing with program leads, etc.
- > Help facilitate, if necessary, **quarterly (or more!) meetings** among program leads
- > Suggest **centralizing and automating calculations** that are applicable to multiple programs for maximum efficiency and consistency
- > Consider building a **site-specific spreadsheet/database/ software solution** for automating threshold calculations where possible

# Questions?

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★ make life shine **brighter**

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