Toxics Release Inventory (TRI) Basics: EPA Region 5

IDEM E101 Series

Toxics Release Inventory

Information on:

- Basics of Toxics Release Inventory (TRI)
- PFAS Reporting: Section 7321 of the National Defense Authorization Act (NDAA)
- Pollution Prevention (P2) & Additional guidance on reporting

What is TRI?

- TRI is an EPA information resource that provides data on releases and other waste management practices of toxic chemicals from certain facilities. TRI can tell you about:

Releases

Waste transfers

Recycling

Pollution prevention

- TRI collects data annually from more than **21,000 facilities** across the country and covers **770 individually-listed chemicals and 33 chemical categories**.

TRI's Statutory Authority

- Emergency Planning and Community Right-to-Know Act of 1986 (EPCRA) § 313
  - Facilities in certain industrial sectors must report toxic chemical releases to air, water, and land and other waste management to EPA and the states each year.
  - EPA must maintain the data and make it available to the public.
- Pollution Prevention Act of 1990 (PPA)
  - TRI Facilities must report progress in reducing waste generation and moving towards safer waste management alternatives (Section 8 of the Form R).

Purpose of TRI Information

"[T]o inform persons about releases of toxic chemicals to the environment; to assist governmental agencies, researchers, and other persons in the conduct of research and data gathering; to aid in the development of appropriate regulations, guidelines, and standards; and for other similar purposes."
42 USC 11023(h)

Which Facilities Must Report to TRI?

1. Facility must be in a *TRI-covered industry sector or category*, including:

Manufacturing

Coal/Oil Electricity Generation

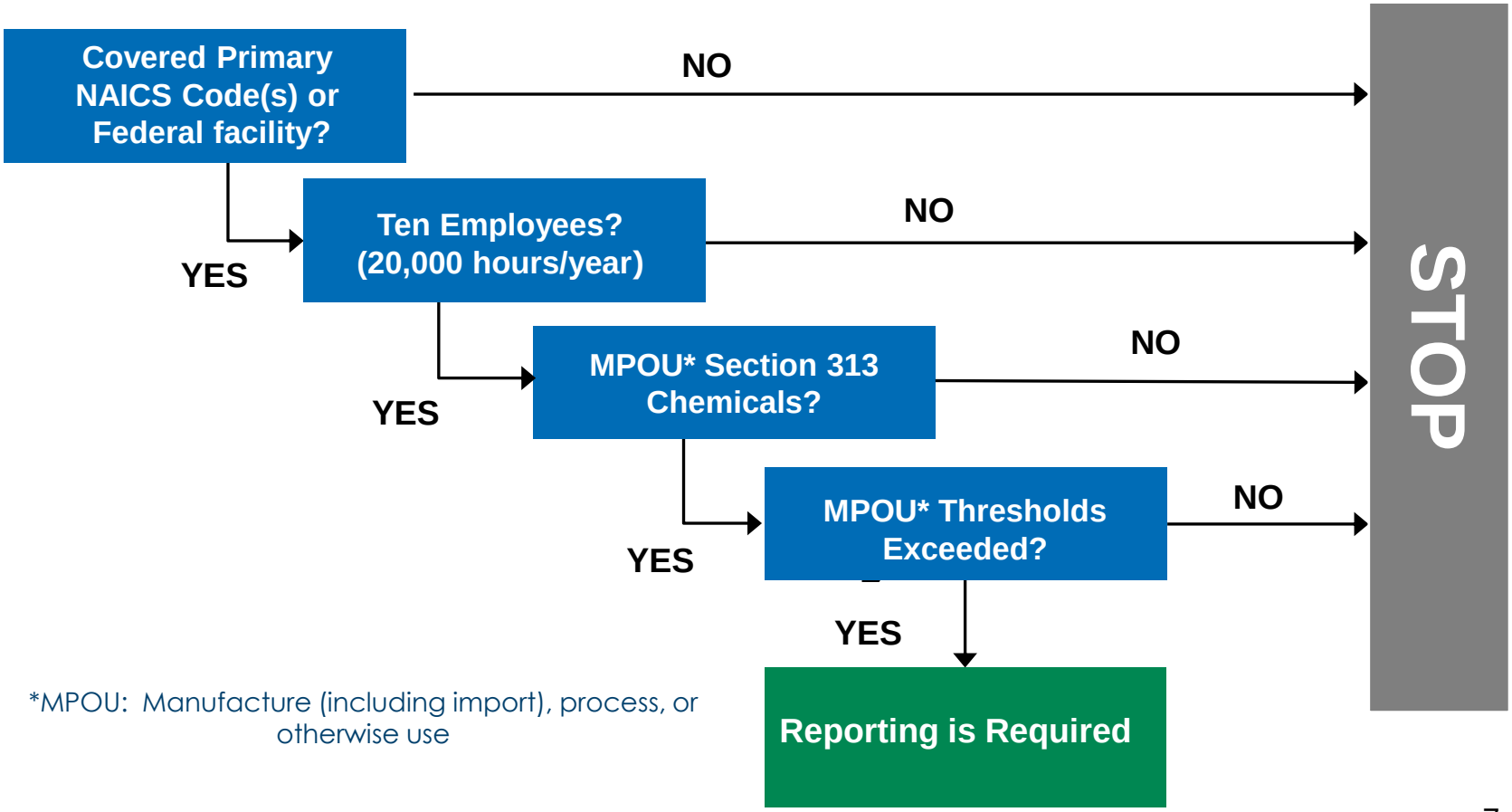
Certain Mining Facilities

Hazardous Waste Management

Federal Facilities

2. Facility must have the equivalent of at least *10 full-time employees*.
3. Facility must manufacture, process, or otherwise use more than a *certain amount of a TRI-listed chemical per year*.

TRI Reporting Requirements



*MPOU: Manufacture (including import), process, or otherwise use

What Information do Facilities Report to TRI?

- On-site releases of TRI chemicals to:
  - Air
  - Water
  - Land
- Transfer of chemical waste to off-site locations
- Other waste management:
  - Recycling
  - Treatment
  - Energy Recovery
- Pollution prevention activities

TRI Reporting – 2 Part Process

Applicability & Threshold Determinations

Identify Section 313 chemicals manufactured, processed, or otherwise used at the site

Determine quantities of Section 313 chemicals and whether they are **manufactured, processed, or otherwise used** on-site for the reporting year

If a Threshold is Exceeded…

Release/Waste Mgmt. Reporting

Identify total releases and off-site transfers

Identify other waste management practices

Identify pollution prevention activities

Use TRI-MEweb to Complete Form R or Form A

Complete Final QA/QC

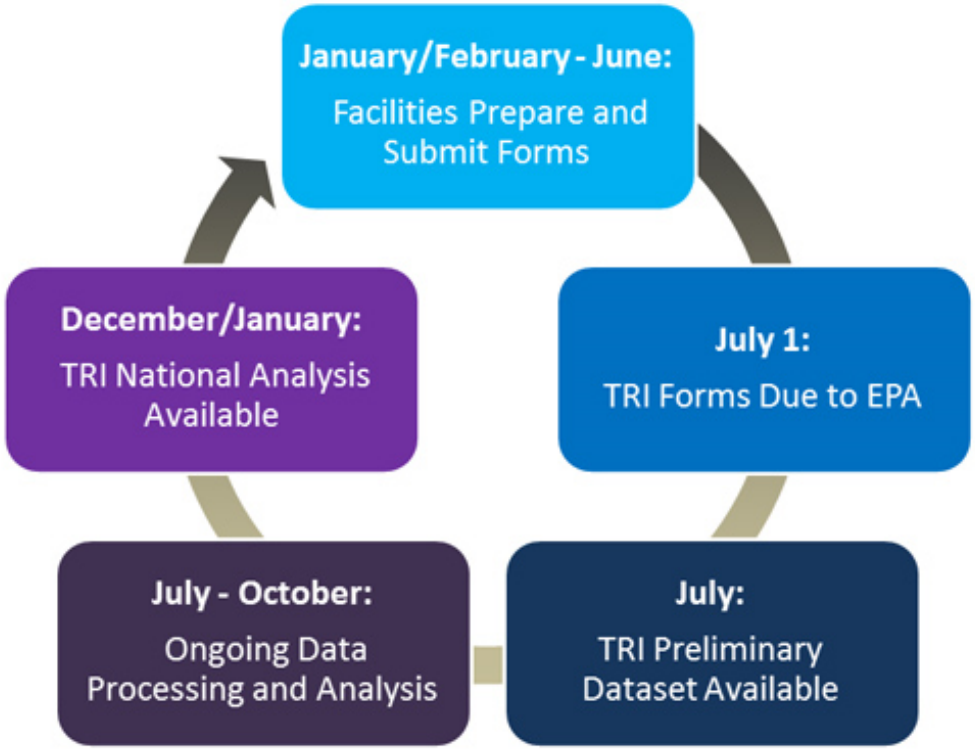
Certify Form

Submit to EPA & State or Tribe

What is a "Release"?

- On-Site Release to **Air**
  - Includes both fugitive/non-point source emissions (e.g., leaks and evaporation) and stack/point-source emissions (e.g., releases from a duct or pipe)
- On-Site Release to **Water**
  - Discharges to surface water bodies such as streams, rivers, lakes, and oceans; also includes releases of TRI chemicals to surface water due to runoff, including stormwater runoff
- On-Site Release to **Land**
  - 8 categories of land releases or disposal reported to TRI including:
    - Placement of waste rock containing TRI chemicals into engineered piles or structures at metal mines
    - Disposal of chemical waste in landfills
    - Injection of liquid containing TRI chemicals into underground injection wells
    - Placement of waste materials into surface impoundments to volatize or settle
    - Application of certain waste products to farmlands as fertilizer

Annual TRI Data Cycle



- **Due by July 1:**
  Facilities submit their TRI reports to EPA.
- **July-October:**
  EPA conducts data quality checks and compliance assistance activities.
- **January:**
  TRI National Analysis (EPA's official annual TRI report) published.

More Info on Reporting Criteria

- "Facility - all buildings, equipment, structures, and other stationary items which are located on a single site or on contiguous or adjacent sites and which are owned or operated by the same person (or by any person which controls, is controlled by, or under common control with, such person)."
  (EPCRA § 329 (4))
- Full-Time Employee - 10 or more full-time employee equivalents (i.e., 20,000 hours) (40 CFR § § 372.3 and 372.22(a))
  - All persons employed by a facility regardless of function (Includes operational staff, administrative staff, contractors, etc.)

Covered Activities

- Manufacturing (EPCRA § 313(b)(1)(C)(i) and 40 CFR § 372.3)
  - incudes generating a listed chemical whether intentionally or coincidentally as an impurity or by-product as well as importing.
- Processing (EPCRA § 313(b)(1)(C)(ii) and 40 CFR § 372.3)
  - Includes preparation of a Section 313 chemical, after its manufacture, for distribution in commerce (includes, e.g., use as a reactant to manufacture another substance or product, added as a formulation component, incorporated as an article component, repackaged for distribution, quantities sent off-site for recycling, and incidental inclusion as an impurity).

Form R Content

Part I	
Section 1:	Reporting Year
Section 2:	Trade Secret Information
Section 3:	Certification
Section 4:	Facility Identification
Section 5:	Parent Company Info
Part II	
Section 1:	Toxic Chemical ID
Section 2:	Mixture Component ID
Section 3:	Activities & Uses
Section 4:	Max Amt on site for CY
Section 5:	On-site Releases
Section 6:	Off-site Transfers
Section 7:	On-site Waste Treatment, Energy Recovery, Recycling Processes
Section 8:	Source Reduction and Waste Management Activities

TRI-MEweb and Submitting Via CDX

- Electronic filing via TRI-MEweb is required
  - No paper submissions are accepted (except for trade secrets), including revisions and withdrawal
  - TRI-MEweb resources including tutorials are available to help users at: www.epa.gov/toxics-release-inventory-tri-program/tri-meweb-resources
- TRI-MEweb is accessed through EPA's Central Data Exchange (CDX)
  - CDX is accessed through: https://cdx.epa.gov

National Defense Authorization Act

- National Defense Authorization Act of Fiscal Year 2020 (NDAA) was enacted on 12/20/2019
- Section 7321 of the NDAA pertains to TRI reporting
- Information on Section 7321 is available at:
  - https://www.epa.gov/toxics-release-inventory-tri-program/addition-certain-pfas-tri-national-defense-authorization-act

Section 7321 of the NDAA

Section 7321 of the NDAA addresses TRI reporting of PFAS

- 7321(b) added 172 PFAS to the TRI list.
  - Reporting requirements became effective on 1/1/2020.
  - A 100-pound reporting threshold was established.
- 7321(c) indicates that certain EPA activities involving PFAS will trigger automatic additions to the TRI list.
  - For example, EPA finalizing a “toxicity value” for a PFAS will add it to the TRI list.
  - Effective date will be January 1 of the year following the activity w/ 100-pound reporting threshold.

Section 7321 of the NDAA

Section 7321 of the NDAA addresses TRI reporting of PFAS

- 7321(d) requires EPA to assess remaining PFAS for listing suitability pursuant to EPCRA 313(d)(2) listing criteria
- 7321(e) provides a process that EPA must follow before any PFAS covered by the NDAA that is subject to a claim of protection from disclosure is added to the TRI list

Reporting PFAS to TRI

- Many questions & topics relevant to TRI reporting on PFAS may be addressed on GuideME:
  - **epa.gov/tri/guideme**
  - PFAS-specific guidance: **https://ofmpub.epa.gov/apex/guideme_ext/f?p=guideme:gd:::::gd:pfas_resources**
- Communication with the TRI Program is welcome!
  - Questions that aren't answered through existing guidance
  - Information for EPA regarding quantity estimation for thresholds or reporting calculations

Form A Eligibility

- In addition to the Form R (standard TRI reporting form), EPA allows use of the alternative Form A Certification Statement in some cases.
- The Form A Certification Statement is a simplified, two-page form available for facilities meeting the alternate threshold.
  - Must NOT be a chemical of special concern (e.g., PBT);
  - Do not exceed 1,000,000 pounds of the toxic chemical manufactured, processed, or otherwise used alternate threshold; and
  - Do not exceed 500 pounds for the total annual waste management (i.e., releases including disposal, recycling, energy recovery, and treatment) of the Section 313 chemical.
- If alternate threshold criteria are met:
  - Have the option to file a Form A in lieu of a Form R
  - No detailed release, other waste management, or source reduction reporting
  - Maintain records and calculations used to determine Form A eligibility

Reporting Guidance – Exemptions

- Certain reporting exemptions are available
- Resources on TRI exemptions include:
  - 40 CFR 372.38
  - Activity Exemptions section of the Reporting Forms and Instructions
  - Summary page of TRI-reporting exemptions
- Examples of Exemptions:
  - Janitorial or Facility Grounds Maintenance
  - De Minimis
  - Personal Use

De Minimis Exemption

- The quantity of a Section 313 chemical not classified as a chemical of special concern in a mixture or other trade name product is eligible for the *de minimis* exemption (40 CFR § 372.38(a)) if the chemical is:
  - An OSHA-defined carcinogen present at a concentration of less than 0.1%; OR
  - Any other TRI chemical, not classified as a chemical of special concern, present at a concentration of less than 1%.
- The TRI *de minimis* level appears next to each chemical in Table II of the *TRI Reporting Forms and Instructions* (1.0, 0.1 or * for chemicals of special concern where *de minimis* is not allowed (See 40 CFR § 372.38(a)))

De Minimis Exemption

- *De minimis* exemption generally applies to chemicals not classified as chemicals of special concern:
  - In mixtures or trade name products received from off-site, including imported; or
  - Coincidentally manufactured as impurities that remain in products distributed in commerce.
- *De minimis* exemption does not apply to:
  - Manufactured chemicals (in most cases): this includes by-products produced from manufacturing, processing, otherwise use, or any waste management;
  - Wastes received from off-site; or
  - Chemicals of special concern (except for supplier notification).

Chemicals of Special Concern and the *De Minimis* Exemption

- The *de minimis* exemption cannot be applied to chemicals of special concern.
- All other EPCRA section 313 exemptions can apply to chemicals of special concern.
- Facilities that receive a mixture and know that chemical of special concern are present must consider each chemical of special concern in threshold and release calculations regardless of whether or not supplier notification was provided.

Additional Guidance on Reporting

40 CFR 372

(Location for most TRI regulations)

Reporting Forms and Instructions

(Primary TRI guidance document)

Training Slides

(PDF/PPTX Overview of Reporting Concepts)

TRI GuideME

(Website where TRI guidance is provided)

Best Readily Available Information

- Use readily available data (including monitoring data) collected pursuant to other provisions of law.
- Where such data are not readily available, use reasonable estimates
- If available data known to be non-representative, facilities must make reasonable estimates using the best readily available information.
- Base reasonable estimates using published emission factors, material balance calculations, or engineering calculations.
- Do not use emission factors/calculations if more accurate data available.
- TRI does not require additional monitoring or measurement beyond what other laws/regulations require or are part of routine operations
- What is readily available can change over time
- **Recommendation:** Carefully document decision making used (e.g., assumptions & calculations)

Best Readily Available Information Examples

- If SDS lacks info then no TRI requirement to contact supplier, but if do contact supplier and receive detailed info then that becomes readily available info (Q&A 849).
- Reasonable estimates can be preferable if available data are non-representative (Q&A 570).
- If data unavailable, maximum emission level specified in permit could be basis for reasonable estimate (Q&A 572).
- If no data indicates chemical exists in waste stream then may assume concentration is zero, but if reason to believe chemical is present then may use half of the detection limit (Q&A 573).

Chemical Information Management

- All non-exempt manufacture/processes/otherwise use of Section 313 chemicals at the facility must be counted towards chemical activity thresholds.
- Tracking toxic chemicals entering facility
  - Purchasing/Inventory
  - Contractors
  - Capital purchases (e.g., chillers, process equipment)
  - Direct purchases (credit card or other emergency purchases)
  - Direct and indirect materials
  - Manufacturing byproducts/intermediates generated

Threshold Determinations

- Identify Chemicals and Concentrations:
  - SDS
  - Product or Specifications
  - Available Supplier/Vendor Product QA/QC data
  - Industry Standards (API, ASTM, etc.)
  - Waste Profiles
  - Process Knowledge
  - Other References (AP-42, WebFIRE, Merck Index)
  - Supplier Notification
- Collect Data to Calculate Thresholds:
  - Inventory or Purchase Records
  - Throughput/Production Data
  - Integrated Supplier Records
  - EPCRA or Other Env. Reports
  - Air Permits / MACT or Similar Standards / Emission Inventories
  - Water Permits / DMRs / Discharge Reports
  - Annual/Biennial Waste Reports
  - User Records
  - Other Vendor Records (can call vendor)

Determining Concentrations in Mixtures or Other Trade Name Products

- Determine whether thresholds were exceeded for listed chemicals in a mixture (40 CFR § 372.30(b)(3)):
  - Exact concentration - use concentration provided:
    - If SDS = 25%, then use 25%
  - Upper bound - use upper limit
    - If SDS < 25%, then use 25%
  - Range - use the midpoint of the range
    - If SDS: 30 – 50%, then use 40%
  - Lower bound - subtract out other known constituents, create a range, and use the midpoint of range
    - If SDS: >75% toxic chemical, then use 87.5% (top of range = 100%)
    - If SDS: >75% toxic chemical, then use 80% (range = 75% - 85%)
      15% water

Determining Concentrations in Wastes

- If concentration is exact, upper bound, range, or lower bound, use the guidance for mixtures and other trade name products discussed previously
- If concentration is below detection limit, use engineering judgment:
  - If the Section 313 chemical IS expected to be present, assume 1/2 of full detection limit
  - If the Section 313 chemical is NOT expected to be present, assume zero

Reporting Guidance – Supplier Notification

- Supplier Notification Applies if the Facility:
  - Is in SIC codes 20-39
  - Manufactures/imports or processes a listed toxic chemical; and
  - Sells or otherwise distributes a mixture or trade name product containing the toxic chemical to:
    - A facility in a covered SIC code; or
    - A facility that then may sell the same mixture or trade name product to a facility in a covered SIC code.
  - See 40 CFR 372.45 & guidance

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