Toxics Release Inventory

Regional Data Quality Activities

Toxic Release Inventory Data Quality

- **Not everyone has to report !**
  - Dependent on criteria
    - Sector
    - Number of employees
    - Listed chemical
      - Manufacture process or otherwise use threshold

TRI Reporting Scope: Industry/Facility Coverage

❖ **A facility must report to TRI if it:**

- Is in a specific industrial sector or is a Federal facility,

- Employs ≥10 full-time employee equivalents, *and*

- Manufactures or processes >25,000 lbs. of a listed chemical *or* otherwise uses >10,000 lbs. of a listed chemical in a given year (lower thresholds for toxic chemicals that persist and bioaccumulates (PBTs) like lead (100 lbs) and mercury (10 lbs))

TRI Reporting Scope: Industry/Facility

❖ **Industry Sectors Covered** (* added in 1997)

- Mining: metal mining*, coal mining*

- Electricity Generation (from coal and/or oil combustion)*

- Manufacturing: food, chemicals, plastics, computers, wood, textiles, printing/publishing

- Wholesale Trade: chemical wholesalers*, petroleum bulk terminals*

- Hazardous Waste Treatment, Storage, and Disposal *

- Solvent Recovery*, Materials Recovery

❖ **Federal facilities began reporting in 1994 pursuant to Executive Order**

❖ **To find out if a facility is in the right sector:**

http://www.epa.gov/tri/lawsandregs/naic/ncodes.htm

TRI Reporting Scope: Chemical Coverage

❖ **Chemical Coverage:**

- Initial list of ~300 chemicals provided by EPCRA

- Current list includes > 650 chemicals and chemical categories

- Examples: lead, arsenic, mercury, dioxin

- On November 26, 2010, EPA published a final rule adding 16 National Toxicology Program (NTP) chemicals to the TRI list of chemicals. Reports will be received on July 1, 2012.

❖ **Statutory Authority:** The EPA Administrator may add or delete chemicals from the TRI list through rulemaking upon a finding of any one of the following:

1) Acute human health effects,

2) Chronic human health effects, or

3) Significant adverse environmental effects.

Activities That Are Not TRI Threshold Activities

❖ Activities that, alone, do <u>NOT</u> constitute a threshold activity
  – Storage
  – Remediation of on-site contamination (assuming no listed chemicals are manufactured during remediation)
  – Re-labeling without repackaging
  – Direct reuse onsite
  – On-site recycling (not including wastes received from off-site)
  – Transfers sent off-site for further waste management (not including recycling)

  Note: While these activities are not included in the threshold determination, releases and wastes from these uses are not exempt from reporting if threshold is exceeded through other activities (unless specifically eligible for one of the reporting exemptions).

- Types of exemptions

  - *De minimis*

  - **Article**

  - **Laboratory activities**

  - **NAICS code specific**
    - Coal mining extraction activities
    - Metal mining overburden

  - **"Otherwise use" exemptions**
    - Motor vehicle maintenance
    - Routine janitorial or facility grounds maintenance
    - Structural components
    - Personal use
    - Intake water and air

Data Reported to TRI

❖ **On-site (at facility) releases of TRI chemicals to:**
  - Air
  - Surface Water
  - Land (e.g. landfills, surface impoundments)
  - Underground Injection

❖ **Off-site transfers**
  - Transfers of toxic chemical wastes to disposal sites

❖ **Other waste management**
  - Recycling
  - Treatment
  - Energy Recovery

❖ **Pollution Prevention Activities**

Basis of Estimates

- Facilities provide an estimate of emissions:
  - Mass Balance
  - Monitoring
  - Emission Factors
  - Other

Region 2 Emission Calculations Basis*			
	Fugitive Air	**Stack Air**	**Water**
Mass Balance	16%	16%	6%
Monitoring	2%	5%	49%
Emission Factors	22%	35%	1%
Other	60%	44%	44%

* Based only Region 2 reports with basis

Regional TRI Data Quality Checks

❖ **TRIMeWeb Submission Data Quality Checks**

- Developed application for submission of form has intelligent software that will identify issues on the form submitted, for example;
  - metals reported as treated to POTW when in fact it is considered disposal
- Form has to pass validation before submitted

❖ **On going data quality checks July through August**

- These are data quality checks conducted as per identifiable issues at a national level, some examples are:
  - Significant increases and decreases
  - Non reporting as compared to previous year
  - Uncertified submissions
  - Low emissions for volatile compounds

❖ **Regional review of data**

- Review reports for the top 10 facilities in each state
- On-site data quality review at facilities
- Respond to data quality reviews identified by states and NGO's

Region 2 Data Quality Review

- On – Site Data Quality Inspections:
  - Targeted by each region to:
    - address specific issues concerning discrepancy on information from other databases
    - regional multimedia investigation at a site
    - sometimes referred to NEIC
    - Address risk ranking issues
  - Could be time consuming and resource intensive
    - Some facilities have up to 60 reported chemicals or more
    - Review of data is for at least 3 years worth of data
    - Each facility has different processes and therefore differ on how to calculate emissions.

Region 2 Data Quality Review

- Review of activities before performing inspection covers
  - Type of industry
    - i.e. Sector Notebooks, review of industry processes
  - TRI Chemicals reported by same sector
  - Review of emissions reported on other databases:
  - Determination of high risk chemicals for further focusing efforts

Region 2 Data Quality Review

- Databases to review
  - NEI or AIRS
  - RCRA or BRS
  - NPDES or PCS
  - RMP
  - Tier 2
  - State Databases
- Each media program is like a silo
  - Data regulated is defined within each media regulations

Region 2 Data Quality Review

- Once cross reference of data is conducted, list of questions is developed to obtain
  - Why discrepancies on data? For example,
    - Water emissions may measure Total N, TRI measures nitrates
    - Air program request sampling for chemicals
    - RCRA bases on total waste tons TRI of specific chemicals
    - Tier 2 is based on storage, TRI is based on use
    - RMP is based on one process, TRI is based on a total amount manufactured, processed or otherwise used

Region 2 Data Quality Review

" It is indicated that the difference between NEI reported values and TRI reported values are due to the fact that NEI emissions cover sources of emissions from heaters, boilers, tanks and vents while TRI also include air emissions from WWTP and fugitive emissions"

Region 2 Recent Examples

- Over reporting chemicals
  - Using wrong emission factors
    - Closed loop vs open top in degreaser (10,000 lbs. difference of trichloroethylene)
  - Not using monitoring data
    - Reporting 400 lbs mercury instead or 10 lbs mercury at electric utilities

- Under reporting TRI chemicals
  - Using wrong molecular weight
    - Nitrate MW of 62 vs Nitrogen MW of 14
      - One facility reported around 50,450 lbs of nitrate compounds in 2009, when it should have reported 223,421lbs

So what are the steps to do an EPCRA 313 Data Quality ?

- Targeting
  - May include a subset of chemicals of concern
- Comparison of all data provided by facility
- Review of Permits
- Develop list of questions and concerns to be addressed during inspection? Address any issues.

So what are the steps?

- Obtain information including calculations made to review estimates
  - Additional information my be needed to address areas
- Identify discrepancies to facility and have them corrected
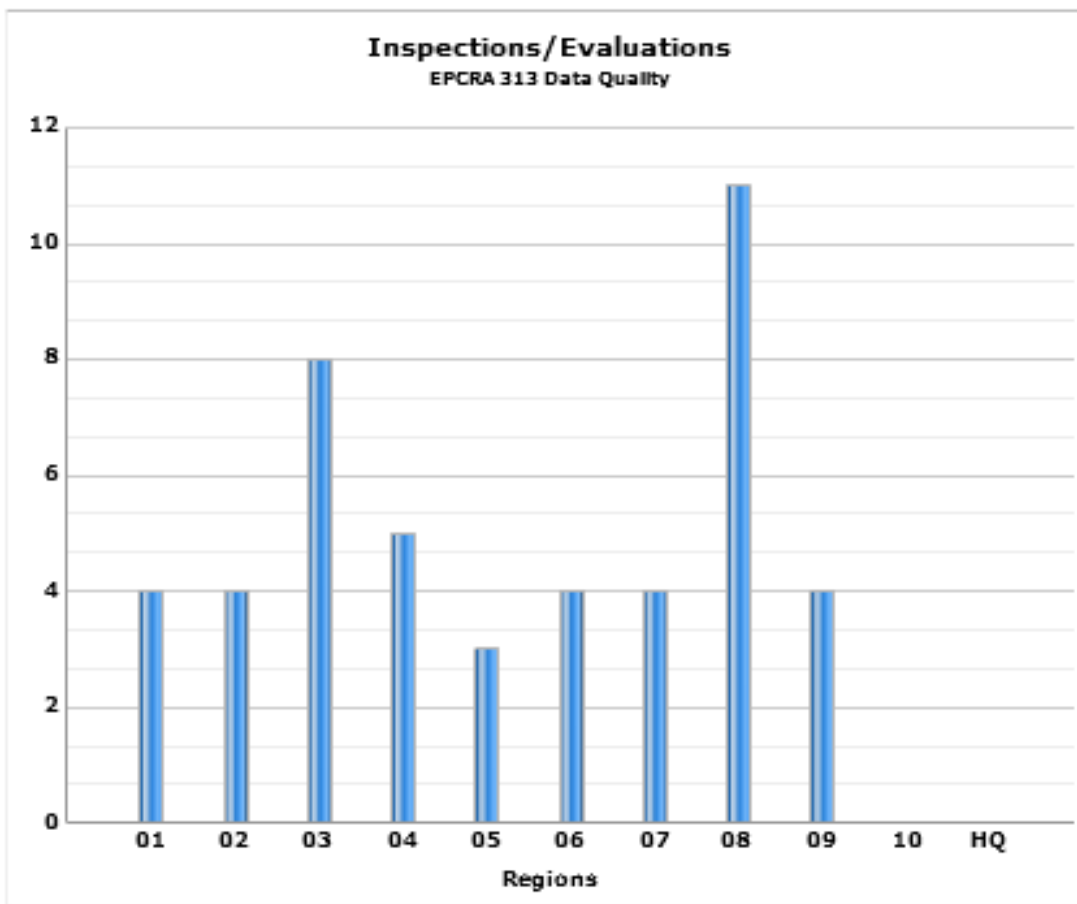- Issue appropriate action to facility

FY 13 EPCRA 313 Non Reporting Inspections

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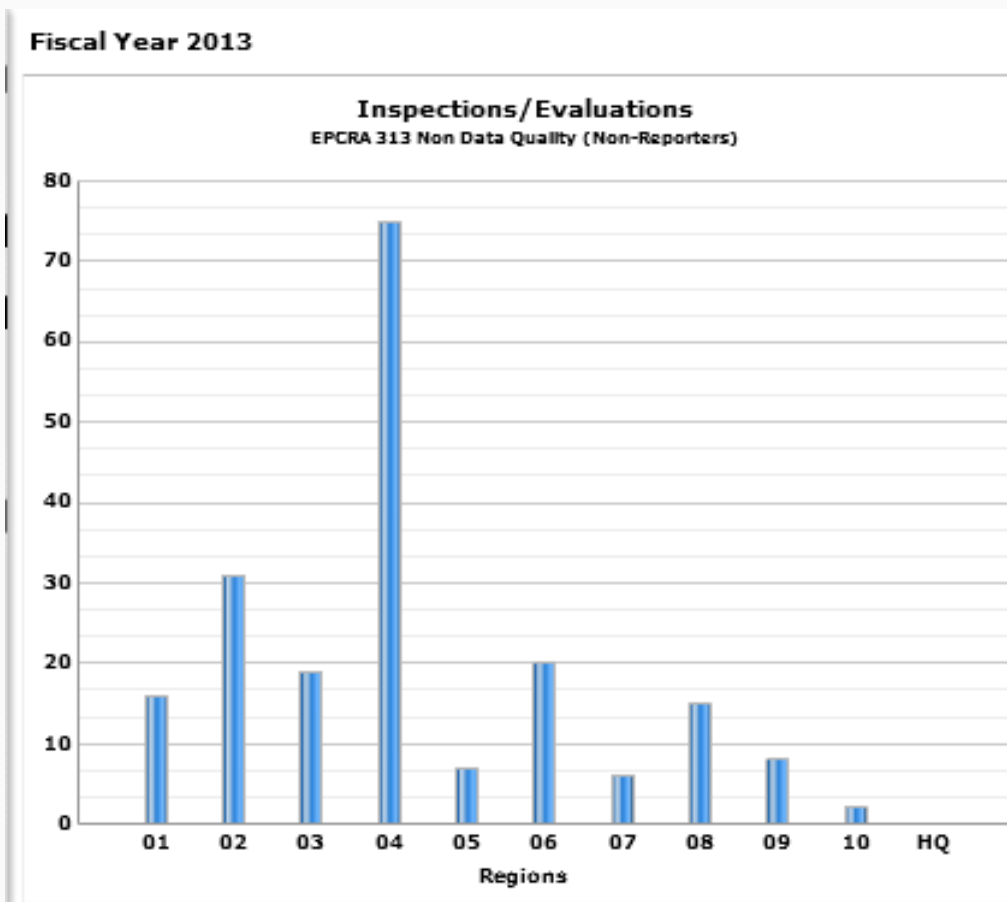
FY 13 EPCRA 313 Data Quality Inspections

Questions