How to successfully report to PRTRs: Recommendations for industrial sectors

Presented for:
Workshop on Strengthening Capacities for Developing a National PRTR in Support of SAICM Implementation in Mongolia

June 27, 2018

Overview

- Understanding the PRTR requirements
- Preparing for PRTR reporting
- Completing PRTR Forms
- Lessons learned from successful PRTR reporting

Understand the PRTR Requirements

- Goals of the PRTR
  - e.g., providing information to the public
- Data elements reported
  - e.g., releases to air, land, water, transfers
- Chemicals covered
- Reporting thresholds
- Reporting deadline

Prepare for Reporting

- Assign a PRTR reporting coordinator
  - It may be the person in charge of environmental compliance
  - It may be someone from engineering, production, or waste management
  - Make the coordinator a long-term job
    - The coordinator will establish communications with other personnel at the facility who contribute data to the PRTR reporting process
    - Continuity results in finding more opportunities to improve processes, estimates, and identify pollution prevention opportunities

Tip: It takes teamwork

The PRTR coordinator will need to work with staff in functions throughout the facility, e.g., production, purchasing, engineering, and inventory control.

Prepare for Reporting

- Develop a system for data collection
  - Assess what data are already collected and how
    - Build on existing system, if possible
    - Can chemical management software be used?
    - If not, develop spreadsheets to digitally store, share, and track information
  - Key information sources include:
    - Safety Data Sheets from vendors
    - Purchasing records
    - Inventory levels
    - Production data on throughput
  - Maintain good documentation
    - Include all calculations, sources, and assumptions made

Tip: Good records are key

Thorough documentations provides the foundation for successfully collecting and reporting PRTR data.

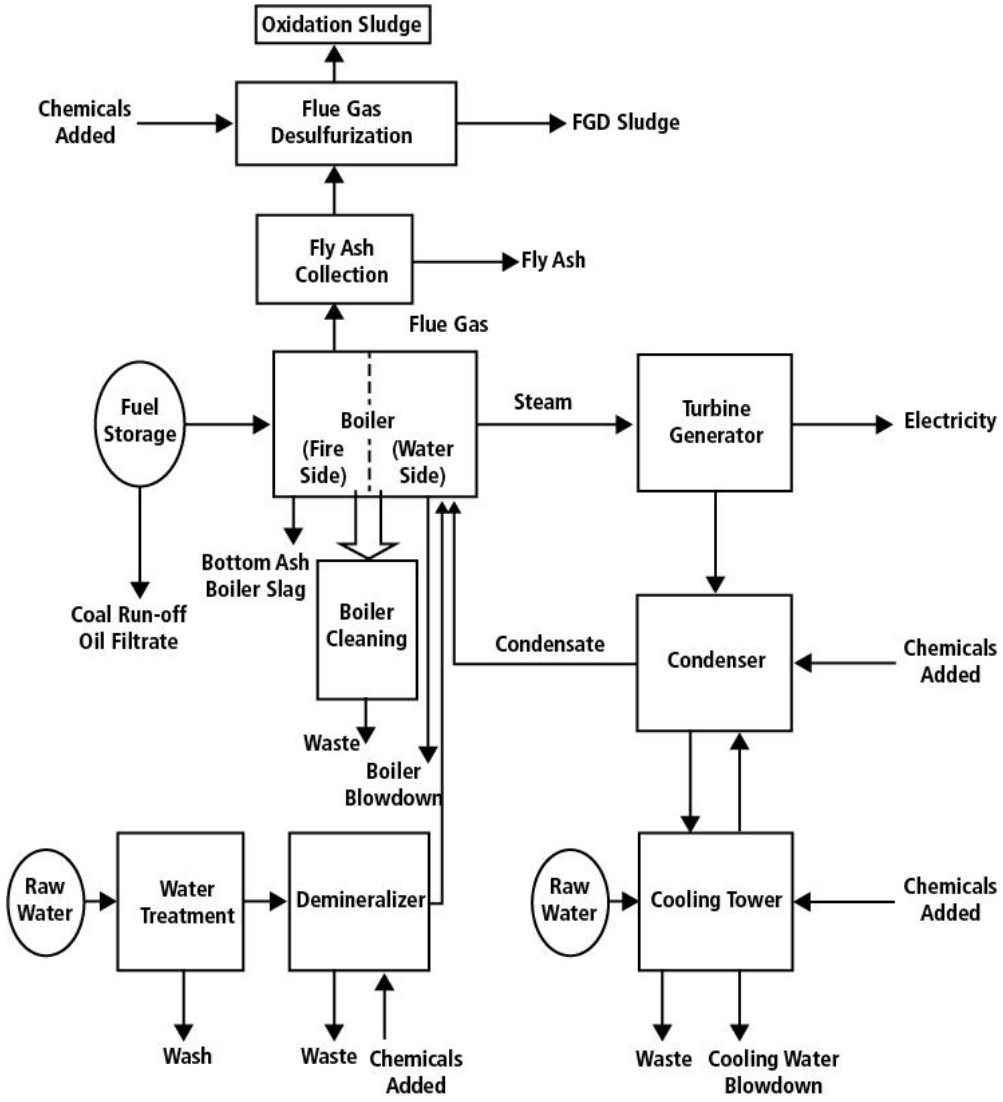
Prepare for Reporting

- Identify **chemicals** used and where **releases** occur
  - Conduct a systematic facility assessment, starting with reviewing, updating, or developing a process flow diagram
  - To develop the diagram, conduct a facility walk-through
  - For each piece of equipment, identify:
    - What are the inputs
    - What are the outputs, including releases
    - What chemicals the inputs/output contain
  - Consult with personnel who operate the equipment

Tip: Identify all releases

Don't overlook chemicals used in or released from support activities, such as equipment cleaning and waste treatment.

Process Flow Diagram - Power Plant Example



Prepare for Reporting

- Consider all sources of releases

Accidental spills and releases
Air pollution control devices (e.g., baghouse, scrubber)
Clean up practices
Combustion byproducts
Container residues
Fittings
Flanges
Maintenance activities
Process discharge streams
Process vents
Pumps
Recycling byproducts
Relief valves
Stock pile losses
Storage tanks
Storm water runoff
Tower stacks
Transfer operations
Treatment sludge
Volatilization from process, treatment
Waste treatment discharges

Power Plant Example

Sources of power plants include:

- input fuel, e.g., coal piles
- combustion process
- ash and/or boiler slag
- flue gas desulphurization residues
- volatilization, e.g. from treatment
- pollution control equipment
- transfer operations
- storage tanks
- stock pile losses
- waste treatment discharges

Complete the PRTR Forms

- Determine which chemicals must be reported
  - Thresholds may be based on the quantity released or the quantity used
  - Sample thresholds (Kiev protocol):
    - Threshold example 1:

      Air releases 0.001 – 100 000 000 kg/yr

      Water releases 0.001 – 2 000 000 kg/yr

      Land releases 0.001 – 2 000 000 kg/yr
    - Threshold example 2:

      10 000 kg/year manufactured

      10 000 kg/year processed or

      10 000 kg/year used

Power Plant Example

Power plants may coincidentally manufacture:

- metal compounds and PAHs during combustion, and
- metal compounds formed during flue gas desulfurization

Complete the PRTR Forms

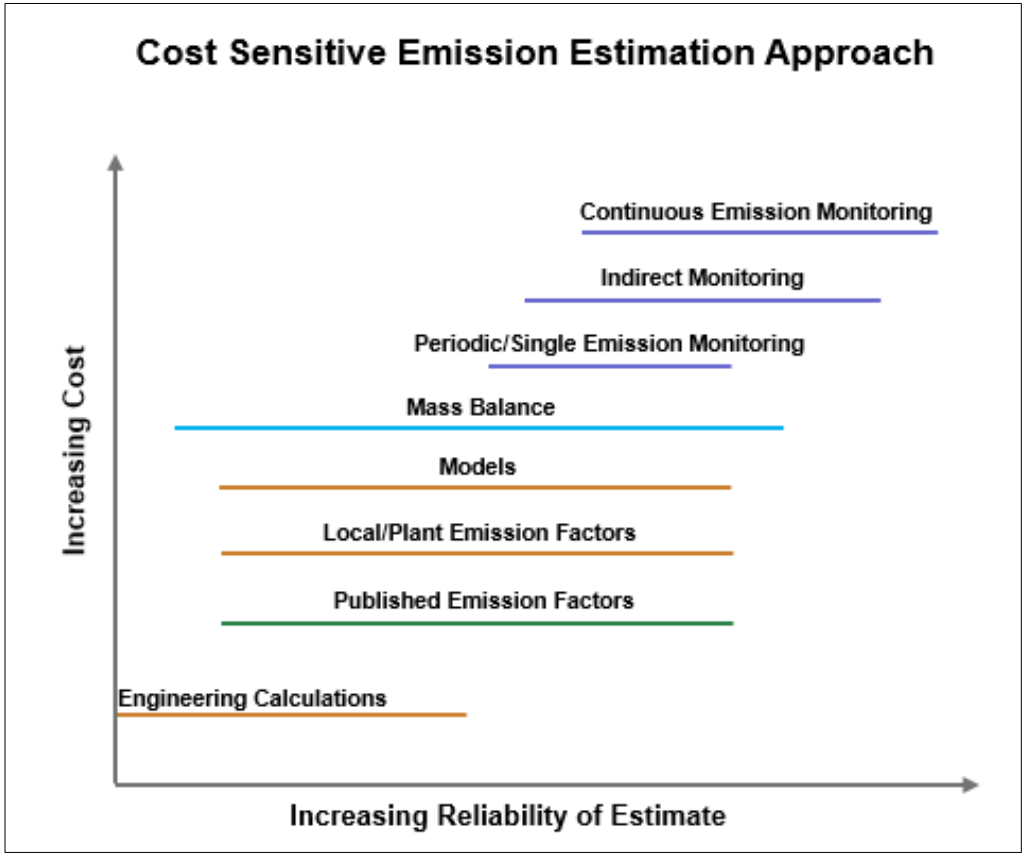
- Estimate releases
  - PRTRs require that facilities estimate their releases based on the best available information.
  - It's up to the facility to determine what method is most appropriate for each release.
- Release Estimation Techniques:
  - Monitoring Data or Measurements
  - Mass Balance
  - Emission Factors
  - Engineering Calculations

Tip: RET Resources

OECD's Resource Centre for PRTR Release Estimation Techniques (RETs) provides access to worldwide guidance documents on RETs http://www.prtr-rc.fi/.

Selecting the Most Appropriate RET

- Consider what data are available or can be readily obtained
  - Balance between the accuracy of the estimate and the effort/cost to calculate
  - Engineering calculations are often used initially when a facility first reports to a PRTR, and over time, the facility improves the estimate



Complete the PRTR Forms

- Complete and submit the PRTR forms
  - Forms are typically submitted online
  - Data quality checks are embedded in the reporting system
  - Certification by a facility official is usually required
  - Don't miss the reporting deadline

Tip: Leave time to certify

Make sure the certifying official has time to review the forms prior to the reporting deadline.

Lessons Learned from Successful PRTR Reporting

- Start early
  - Acquiring information in real time is more efficient than compiling the data later.
- Use a team approach
  - Involve personnel from engineering, purchasing, waste management, and operations.
- Look for pollution prevention opportunities
  - Use PRTR data to identify opportunities to reduce releases and improve efficiency.
- Check all calculations
- Document your work
  - Good records will ensure consistency, save time next year, and is required.

Tip: Discover P2

For many facilities, the first year of PRTR reporting is the first time they systematically collect chemical use and release information and it can reveal opportunities for pollution prevention (P2) and cost savings.