Source Category Definitions

Point, Nonpoint, and Mobile Sources are Needed for a Complete Air Toxics Inventory

What Is an Air Pollutant Emission Inventory?

Inventory - current comprehensive listing by sources of air pollutant emissions in a geographic area during a specific time period

Point Sources

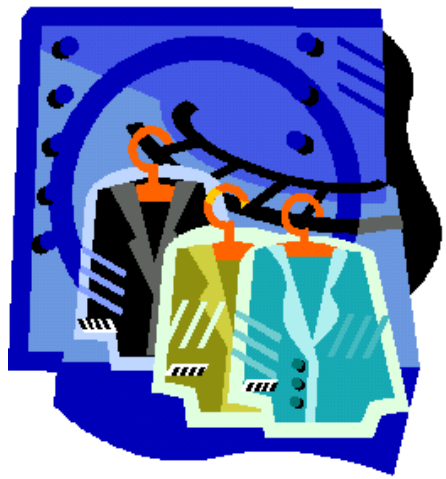
- Major Sources: Stationary sources that have the potential to release 10 tons per year (TPY) of any one HAP or 25 TPY of a combination of HAPs
- Area Sources: Stationary sources that have the potential to release less than 10/25 TPY
- Emissions may be released from equipment leaks, when materials are transferred from one location to another, or during discharge through emissions stacks or vents

Point Source Considerations

- Point source cutoffs/local thresholds
- Major vs Area definition
- MACT vs Non-MACT source categories of HAPs
- Other federal regulations, state and local regs
- Detail needed:
  - Plant, unit, process, stack (emission release point)
  - Location, stack parameters, control device info,
  - Pollutants
  - Operation schedule (for example, 7 days a week, 24 hr/day)
  - Process description (for example, SCC)
  - Facility description (for example, NAICS code)

Nonpoint Sources

- Called “area” sources in a criteria pollutant inventory and in some emission processing tools (SMOKE)
- Include smaller point source facilities grouped by source category
  - ✓ Gasoline stations
  - ✓ Dry cleaners
  - ✓ Car painting shops
  - ✓ Small electroplaters



Other Nonpoint Sources

- Sources such as wildfires and prescribed burnings that may be more appropriately addressed by other programs rather than through regulations developed under certain air toxics provisions (section 112 or 129) in the Clean Air Act. For example, wildfires and prescribed burning are being addressed through the burning policy agreed to by the Interim Federal Wildland Policy.
- Other examples
  - Residential wood combustion
  - Residential combustion of household waste (backyard barrel burning)

Other Nonpoint Sources

Wildfires and Prescribed Burns

- 2002 NEI – inventoried as hourly events with latitudes/longitudes

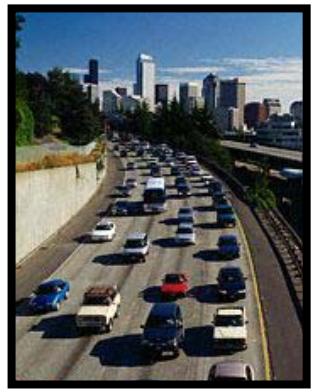
- Allows better modeling of specific events

Nonpoint Source Considerations

- Includes source categories that overlap with point source inventory
- HAP point source inventories often include small sources such as dry cleaners and gas stations (treated as area sources in a criteria inventory)
- MACT vs non-MACT source categories of HAPs
- Other federal regulations, state and local regs
- Detail needed:
  - County level
  - SCCs, NAICS
  - Shape files

Mobile Sources

- **Onroad** - Vehicles found on roads and highways (e.g., cars, trucks, buses)
  - 20 HAPs
  - Diesel particulate matter and diesel exhaust organic gases
- **Nonroad** - Mobile sources not found on roads and highways
  - 2/4 stroke engines in lawn mowers, construction vehicles, farm machinery
- **ALM**
  - Aircraft
  - Locomotives
  - Commercial marine vessels



Mobile Source Considerations

- Contribution by source category varies geographically
- Federal, state, and local regulations
- Diesel PM
- NMIM

Onroad Mobile Sources

- MOBILE 6.2 model
- Vehicle types
- Vehicle Miles Traveled (VMT)
- Fuels used

Nonroad Mobile Sources

- Nonroad Equipment
  - NONROAD model yields criteria pollutant estimates
  - Fuels used
  - Activity data
  - Emission factors
  - Speciation profiles

Aircraft

- Commercial air carriers, air taxis, general aviation, helicopters, and military aircraft
- FAA's Emissions and Dispersion Modeling System (EDMS) for commercial carriers
- Activity data
- Emission factors
- Speciation profiles
- Airports in 2002 NEI as point sources

Locomotives

- Long haul, passenger, yard, and Commuter Class II/III trains
- GIS data available for long haul and passenger trains
- Need local data for yard and commuter trains
- Emission factors
- Speciation profiles

Commercial Marine Vessels

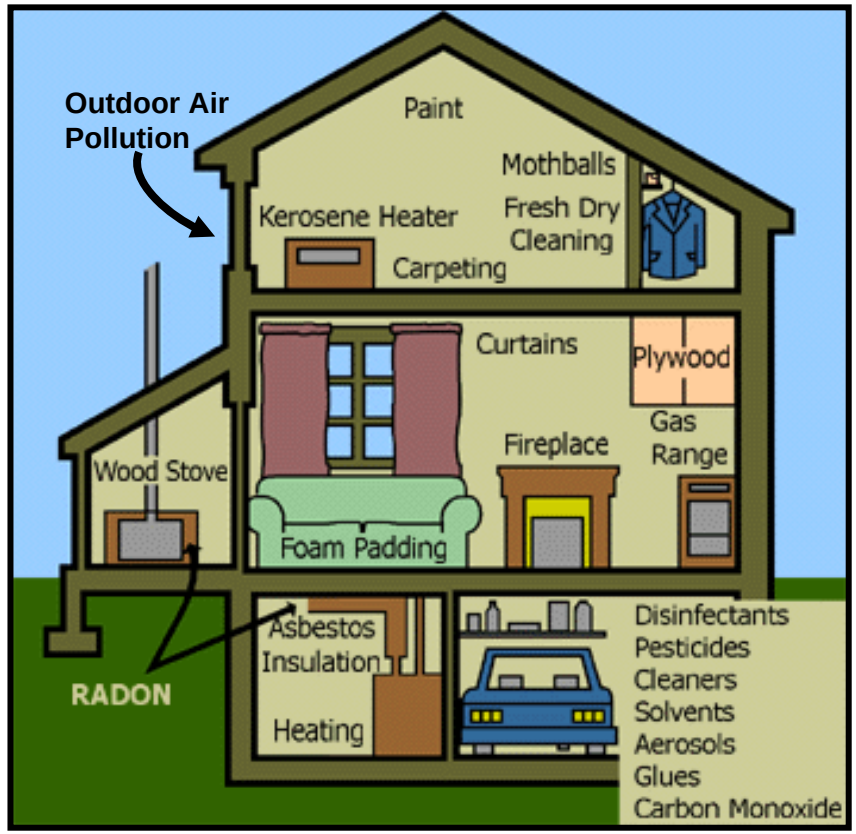
- Cruise ships
- Container ships
- Tankers
- Barges
- GIS data available for underway operations
- Need local data for ports
- Emission factors
- Speciation profiles

Natural Sources

- Natural biological and geological phenomenon which generate air emissions (nonanthropogenic)
- Biogenic emissions:
  - VOC emissions from vegetation
- Geogenic emissions:
  - NO_x emissions from soil (denitrification)
  - SO_x emissions from volcanoes
  - and geothermal activity
- May include wind erosion, wildfires

Indoor Sources

- Indoor air can become contaminated from numerous sources
- Indoor air can have significantly higher concentrations of air pollutants than outdoor air
- EPA currently does not regulate indoor sources of air pollutants



Other Types of Sources

- There are a number of other important sources of air toxics that aren't so easy to categorize or count
  - Accidents
  - Long-range transport of air pollutants
  - Historical background (CCl_4)