NATA: What South Carolina Learned as Related to Emission Inventories

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NATA Review Group

- Emissions Inventory Section
- Air Toxics Section (112(r) and MACT)
- Toxics Release Inventory
- Air Monitoring Laboratory
- Health Hazard Evaluation
- Outreach Section
Upper Management charged the group with the task of reviewing the website and developing a state response for inquiries about the site.
Data Evaluation Steps

- Emissions Inventory Section reviewed data before NATA modeling occurred
  - Little experience with area and mobile sources
  - Not all point sources had toxics included in their inventory
  - Toxics data submittal voluntary
Data Evaluation Steps (cont.)

- NATA review group reviewed maps from ASPEN model run and HAPEM4 model run.
- Evaluated each of the 34 pollutants included in NATA:
  - Pollutants exceeding “1 in a million cancer risk”
  - Pollutants exceeding “10 in a million cancer risk”
  - Counties involved
Counties Exceeding “1 in a Million Cancer Risk”

- Greenville (11 pollutants)
- Richland (10 pollutants)
- Spartanburg (10 pollutants)
- York (10 pollutants)
- Aiken (9 pollutants)
- Anderson (9 pollutants)
- Berkeley (9 pollutants)
- Charleston (9 pollutants)
- Cherokee (9 pollutants)
- Lexington (9 pollutants)
- Sumter (9 pollutants)
- Dillon (8 pollutants)
- Dorchester (8 pollutants)
- Pickens (8 pollutants)
- Hampton (7 pollutants)
- Lancaster (7 pollutants)
- Marlboro (7 pollutants)
- Oconee (7 pollutants)
- All other counties (6 pollutants)
Pollutants Exceeding “1 in a Million Cancer Risk”

- Acetaldehyde (8 counties)
- Benzene (all counties)
- Chloroform (all counties)
- Chromium Compounds (13 counties)
- Ethylene Dibromide (all counties)
- Ethylene Dichloride (all counties)
- Formaldehyde (all counties)
- Perchloroethylene (2 counties)
- Polycyclic Organic Compounds (POMs) (17 counties)
- 1,3 Butadiene (11 counties)
- Carbon Tetrachloride (all counties)
Pollutants Exceeding “10 in a Million” Cancer Risk

- Benzene (Greenville & Richland Counties)
- Formaldehyde (Greenville, Richland, and York Counties)
- Carbon Tetrachloride (all counties)
Counties Exceeding Reference Concentration (Hazard Quotient >1.0)

- Acrolein (all counties)
Data Evaluation Steps (cont.)

- Identify sources of higher values
  - Background concentrations
  - Mobile sources explained by major highways
  - Other sources

- What sources can we investigate?
What can we improve?

- Area source information
  - Better activity data
  - Better location data
  - Relative size information

- Types of Sources
  - Municipal Solid Waste Landfills (MSW landfills)
  - Public Owned Treatment Works (POTWs)
  - Drycleaners
MSW Landfills

List of Landfills and the Correct Location Data from Bureau of Land and Waste Management
POTWs

Worked with Bureau of Water to obtain size information and some location data
Dry Cleaners

- Received original list from EPA; contained locations but not mailing addresses
- Better list from Dept. of Revenue
- Sent questionnaire to all drycleaners when MACT came out
- Initial notifications contained purchased gallons
- Currently working with Bureau of Land and Waste Management to reconcile our list with their list. Ours is currently smaller.
Dry Cleaners (cont.)

- Submitted drycleaner data to EPA contractor
- Updated data was not used to correct 1996 emission estimates but was used to help generate 1999 emission estimates
Conclusions

- We feel we had more control over our estimates
- Our POTWs and MSW landfills are now part of point source inventory
- Working to obtain better activity data for other area sources
- South Carolina’s 1999 inventory will be significant improvement over 1996