Ten Pollutant Study in Jacksonville, Florida

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- Toxic Release Inventory (TRI)
- Risk Assessments
- Air Toxics Monitoring
- HAP Emission Inventories
- Special Studies.
Air Toxics Monitoring

- Mobile Lab (1997)
- Two Stationary Sites (1999)
- Three Stationary Sites (2002)
- EPA Method TO-15
- Monitor 38 Organic Pollutants
- Monitor 26 HAPs.
Ten Pollutant Study

- 10 HAPs - Present in Majority of Air Toxics Monitoring Samples
- 10 HAPs – Consistently High Annual Averages
- Used 2000 HAP Inventory Data to Determine Origin of Ten HAPs.
Ten Pollutants Chosen for Study

- Toluene
- Xylene
- Benzene
- Ethyl Benzene
- Methyl Chloroform
- Carbon Tetrachloride
- Methyl Chloride
- Methylene Chloride
- Perchloroethylene
- Styrene
Sources of Toluene Emissions

- On-Road Mobile Sources: 54%
- Non-Road Mobile Sources: 17%
- Surface Coating: 18%
- Commercial/Consumer Solvent Use: 5%
- Degreasing: 4%
- Graphic Arts: 1%
- Gasoline Use: 1%
- Other: 1%
Sources of Xylene Emissions

- On-Road Mobile Sources: 56%
- Non-Road Mobile Sources: 31%
- Commercial/Consumer Solvent Use: 4%
- Surface Coating: 3%
- Degreasing: 4%
- Gasoline Use: 1%
- Other: 1%

Total emissions:
- 100%
Sources of Benzene Emissions

- On-Road Mobile Sources: 57%
- Non-Road Mobile Sources: 32%
- Prescribed Burning: 2%
- Gasoline Use: 2%
- Aircraft: 2%
- Degreasing: 2%
- Petroleum Product Storage: 1%
- Surface Coating: 1%
- Other: 1%
Sources of Methyl Chloroform Emissions

- Commercial/Consumer Solvent Use: 31%
- Degreasing: 69%
Sources of Ethyl Benzene Emissions

- On-Road Mobile Sources: 60%
- Non-Road Mobile Sources: 31%
- Surface Coating: 7%
- Other: 2%
- Surface Coating: 7%
Sources of Methylene Chloride Emissions

- Commercial/ Consumer Solvent Use: 13%
- Surface Coating: 27%
- Degreasing: 59%
- Landfill: <1%
- Electric Generation - Coal Combustion: <1%
Sources of Styrene Emissions

On-Road Mobile Sources: 66%
Non-Road Mobile Sources: 9%
Organic Chemical Storage: 1%
Aircraft: 4%
Miscellaneous Organics: 4%
Traffic Markings: 1%
Other: 1%
Non-Road Mobile Sources: 66%
Sources of Perchloroethylene Emissions

- Dry Cleaning: 71%
- Commercial/Consumer Solvent Use: 3%
- Degreasing: 26%
Sources of Methyl Chloride Emissions

- Surface Coating: 42%
- Prescribed Burning: 32%
- Coal Combustion - Electric Generation: 18%
- POTW: 5%
- Wild Fires: 3%
- Landfills: 1%
Sources of Carbon Tetrachloride Emissions

- Traffic Markings: 3%
- Commercial/Consumer Solvent Use: <1%
- Landfills: <1%
- POTW: 96%
Conclusions – Ten Pollutant Study

- Surface Coating: 10%
- Degreasing: 10%
- On-Road: 47%
- Non-Road: 20%
- Other: 2%
- Commercial/Consumer Solvent Use: 6%
- Dry Cleaning: 4%
- Gasoline Use: 1%
Conclusions – Ten Pollutant Study

- On-Road Mobile 50 - 60% for 5 HAPs (styrene, xylene, toluene, ethyl benzene, benzene)
- Non-Road Mobile ~30% for 3 HAPs (Benzene, Ethyl Benzene & Xylene)
- Surface Coating ~ 7 HAPs
- Degreasing & Commercial/Consumer Solvent Use ~ 6 HAPs
- Other Contributors: Dry Cleaning & Gasoline Use.
Conclusions & Future Study

- Study aided Jax in determining which types of facilities contribute to ambient levels of 10 HAPs
- Local Regulatory Development
- Air Pollution Dispersion Modeling
- Risk Assessment
- Conduct 2002 HAP Inventory & Compare Data.
Questions???