FACT SHEET MARCH 11, 2010

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

The Southwest Indianapolis Air Toxics Study Regional Air Impact Modeling Initiative (RAIMI)

www.idem.IN.gov

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Background:

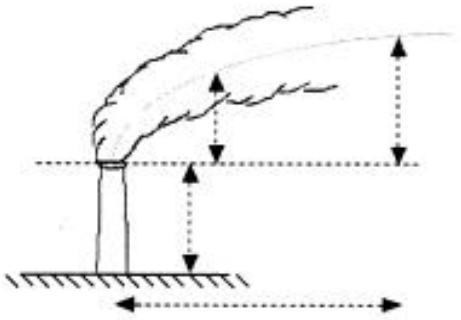
The Indiana Department of Environmental Management (IDEM) recently concluded a two-year study of air toxics in the Southwest quadrant of Indianapolis. IDEM studied one-hundred-sixty-eight (168) pollutants to determine whether any of them were present in the air in concentrations that would warrant further attention to reduce potential health risks.

The information gathered during the study was put into a computerized tool referred to as a "model." The model then estimated what the anticipated air toxics concentrations were at unmonitored locations within the study area.

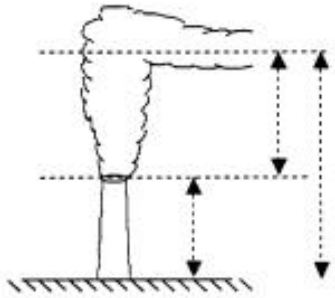
The model IDEM used for the study was the Regional Air Impact Modeling Initiative (RAIMI).

Description:

- RAIMI is a computer model developed by the United States Environmental Protection Agency (USEPA), Region 6 to evaluate region-wide estimation of potential health risks, on a community level of resolution, as a result to multiple contaminants and sources.
- Use Industrial Source Complex-Short Term Version 3 (ISCST3) air dispersion model.
- RAIMI calculates concentrations at 54,195 different receptors (locations).
- Emissions inventory developed using information from sources, permit data and approved calculations.
- Four-hundred-sixty-five (465) industrial and area sources were modeled, including:
  - Permitted (Industrial Sources).
  - Gas Stations.
  - Dry Cleaners.
  - Trucking Companies.
  - Automotive Refinishing Shops.
  - Indianapolis International Airport.
- Six-hundred (600) points modeled along I-465 and I-70.
- 1,676 points modeled along thirteen (13) main city streets.
  - Traffic count data obtained from Indiana Department of Transportation and City of Indianapolis for each roadway.
  - Modeled for cars and trucks.
- RAIMI imports multiple sources into a single batch modeling analysis and exports results into a graphical format.
- Modeling inputs for each source includes:
  - Stack Dimensions (Height and Diameter).
  - Stack Exhaust Characteristics (Temperature and Velocity).
  - Source Location.
  - Pollutant Emission Rate per source (amount of each air toxic released for a set time period).
- Five years (43,680 hours) of weather data were used for modeling:
  - Temperature.
  - Wind Speed and Direction.
  - Data from Indianapolis National Weather Service.



High Wind Speed



Low Wind Speed

- Model considers geographic features:
  - Urban Setting.
  - Terrain and Elevation.
  - Land Use.

More Information:

- For more information on the Southwest Indianapolis Air Toxics Study, visit the study's Web site at http://www.idem.IN.gov/programs/air/workgroups/swindyairtox.
- For questions and concerns, please call IDEM's Office of Air Quality Project Management Section at (317) 234-3499.