

## **Regulation 5.30 Program Status Report February 2007**

### **Monitoring Activity**

The hot spots monitoring project consisted of collecting and analyzing four weekly one-hour samples at selected area sources and receptors in Louisville, Kentucky, to help assess possible VOC emission levels from smaller businesses and mobile sources in the community. The three source/receptor pairs were a perchloroethylene dry cleaner/day care center, gas station/high school, and large intersection (mobile sources)/elementary school. The monitoring phase of the project, led by Tua McDermott, was completed in January. Air Toxics Ltd. in Folsom, California, has completed the TO-15 analysis for all of the hot spots samples. The District is in the process of reviewing the data and writing a report on the results of the sampling.

The District is continuing its investigation into different monitoring instruments that are suitable for Louisville's complex air emissions.

The District expects to receive the report from the U.S. Environmental Protection Agency, Region 4, Science and Ecosystem Support Division (SESD), for the Cerex UVSentry comparison study within the next few weeks.

### **Emissions Inventory**

The District has started reviewing the 2005 minor source emissions inventories. The target date for completion of this review is the end of March. Bo Fawbush and other District staff are screening the minor sources for the emissions of toxic air contaminants that are likely to cause high risk levels.

Lilibeth Lanceta has entered the speciation factors for area sources and nonroad mobile sources into a database developed by Corey Ryan. Reports based on this database rank source categories by cancer and noncancer hazard potential as well as source categories for specific chemicals. These reports will be used by the STAR 5.30 Area and Minor Source Committee and the STAR 5.30 Mobile and Non-Road Mobile Source Committee in screening source categories for refined assessment.

### **Modeling – Stationary Sources**

Lilibeth, Matt King and Billy DeWitt are developing source information and modeling parameters used for dispersion modeling for sources of interest. To date, stationary source modeling has been completed for a perchloroethylene dry cleaner, gas station, auto body repair shop, waste oil furnace, and printer. The modeling has used typical emissions information for the source category although the stack, building, and property parameters may represent an actual business in the source category.

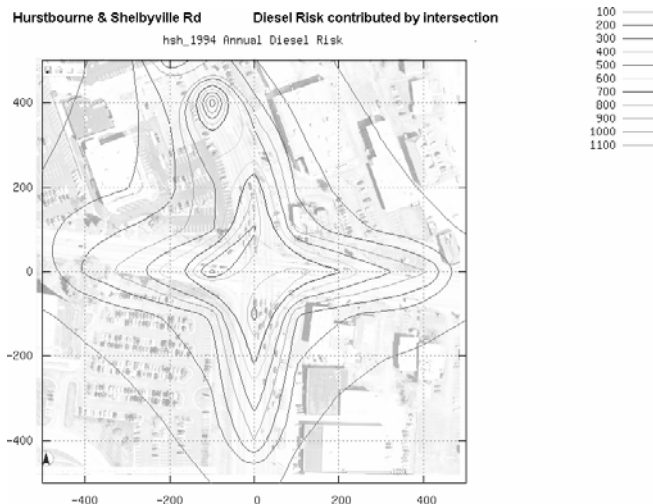
To the right is a graphical output of dispersion modeling done for a perchloroethylene dry cleaner. The contour lines represent isopleths of concentrations of perchloroethylene. Based upon these concentrations, cancer risk can be determined. The highest risks are at the edge of the dry cleaner's property, to the north and to the east.



### Modeling - Mobile Sources

During the past month Gary Flispart built upon the mobile source toxics modeling described to STAR 5.30 committees the previous month. The prior work looked at 1-hour modeled carbon monoxide and derived relationships to air toxics components at two major intersections. This month the models were extended to cover annual average concentrations for 1990-1994. Two sets of maps were constructed representing annualized risk at 1 per million contour levels surrounding the intersections for diesel particulate matter (PM) and for cumulative risk from all other known (nondiesel) mobile source pollutants. Animated series were presented to the STAR 5.30 Mobile and Non-Road Source Committee showing the (small) year-to-year variation in risk levels up to 500 feet around each intersection. The ensuing discussion helped clarify the dominance of diesel PM in risk associated with onroad mobile sources, and the rapid falloff of risk as distance from the roadway edge increases.

To the right is a map showing the diesel PM cancer risk for the Shelbyville Road/Hurstbourne Parkway intersection. The other intersection modeled (not shown) is Preston and Outer Loop.



### Stakeholder Group

The Regulation 5.30 Stakeholder Group held its eighth meeting on Thursday, February 8th. The main topic of the meeting was a discussion of each section of the draft Report and Plan of Action (RAPA). As part of this discussion, each of the four Stakeholder Group committees discussed its progress on developing the section of the RAPA applicable to that committee.

The next Stakeholder Group Committee meetings are:

March 1, 3:00 p.m. – Area and Minor Source Committee

March 5, 9:00 a.m. – Report and Plan of Action Committee

March 5, 1:00 p.m. – Health/Risk Committee

March 7, 9:00 a.m. – Area and Minor Source Committee (2<sup>nd</sup> meeting)

March 7, 3:00 p.m. – Mobile and Non-Road Mobile Source Committee

The next Stakeholder Group meeting is Thursday, March 8, 2:00 p.m.