



**JEFFERSON COUNTY DEPARTMENT OF HEALTH**  
**Environmental Health Services**  
**Air and Radiation Protection Division**

## **New/Modified Source Review for Air Toxics**

The Clean Air Act Amendments of 1990 list 188 hazardous air pollutants, also known as air toxics, to be regulated or controlled (since modified by the EPA to 187). These air toxics are identified, quantified, evaluated, and addressed by the Jefferson County Department of Health (JCDH) during a permitting review. Air toxic emissions from new sources or increases in air toxic emissions from modified sources may be required to perform dispersion modeling.

If required to model, a current screening model is to be used to predict the maximum hourly concentration and the distance to the concentration. The predicted maximum 1-hour concentration from the model will need to be compared with the value considered necessary to protect public health. This value is based on the threshold limit value (TLV) that should be based on the time weighted average (TWA) and can be found in an annual publication prepared by the American Conference of Governmental and Industrial Hygienists (ACGIH). The predicted 1-hour concentration will be compared to 1/40<sup>th</sup> of the TLV. If the predicted concentration is greater than 1/40<sup>th</sup> of the TLV, then refined modeling will have to be done. Refined modeling will produce a predicted annual concentration that will be compared to 1/420<sup>th</sup> of the TLV.

Before modeling air toxic emissions, a modeling protocol must be submitted to JCDH for review and approval. When submitting a modeling protocol for air toxics, show the emission rates for all air toxics that are released by the facility and display the rates in both grams per second (g/s) and pounds per hour (lb/hr). The review of modeling protocols and analyses are subject to the fee schedule for air permits found in the Jefferson County Board of Health's *Air Pollution Control Rules and Regulations*.