



Hazardous Air Pollutant Analysis

The Environmental Protection Agency (EPA) defines [hazardous air pollutants](#) (HAPs) as “... pollutants known or suspected to cause cancer or other serious health problems, or cause adverse environmental and ecological effects.” According to Appendix J of 10 CSR 10-6.060, an applicant must submit an air quality analysis if the project’s potential HAP emissions exceed the [Screening Modeling Action Levels](#) (SMALs).

Once it is determined that a HAP analysis is necessary, the applicant must submit a demonstration of compliance with the Risk Assessment Levels (RALs). The RALs are ambient concentrations of air toxics that are not expected to produce adverse cancer and non-cancer health effects during a defined period of exposure. The RALs are based upon animal toxicity studies, human clinical studies, and human epidemiology studies that account for exposure to sensitive populations such as the elderly, pregnant women, children, and those having respiratory illnesses such as asthma.

The RAL compliance demonstration must consider emissions from the proposed source and existing sources at the facility. The modeled emission rates must reflect the maximum allowable operating conditions based upon federally enforceable emission limits and operating levels, for each pollutant, and averaging time. A separate RAL demonstration must be conducted for each pollutant that has a significant ambient impact or as requested by the Director.

RAL Compliance Determination

The RALs are health-based levels developed, maintained, and reviewed by the Department’s Air Pollution Control Program and approved by the Department of Health and Senior Services (DHSS). Upon request, the Department’s Air Pollution Control Program will review the RAL for an individual HAP for consistency with the current EPA guidelines. A RAL revision may take up to eight weeks and becomes effective upon approval from DHSS. If a RAL has not been developed for an individual or aggregate group HAP, then a complete ambient impact analysis cannot be performed. For these HAPs, the SMAL is used for permit applicability purposes and modeling is not required.

If it is determined that a risk assessment study is required and the predicted impact due to the proposed source and existing facility sources is below the RAL for each applicable averaging period, compliance has been demonstrated and no further analysis for the RAL will be necessary.

If a violation of a RAL is predicted to occur at one or more receptors, the applicant will not be able to demonstrate compliance and permit issuance can’t move forward until the violations are resolved through the establishment of emission limits, the installation of controls or other measures that reduce the ambient impact at the violating receptors.