

The use of AERMOD is a departure from the Industrial Source Complex (ISC) dispersion model that HARP is designed to use. However, as directed by NCUAQMD, the AERMOD model (Version 04300) was used for this risk assessment. The output data from AERMOD were processed into a format that could be accepted as input to HARP. The output file represented the highest short-term and average long-term impact over the 5-year period for any emitted compound at every receptor.

The dose-response assessment is the process of characterizing the relationship between exposure to a compound and incidence of adverse health effects in populations. The OEHHA has compiled cancer potency factors for use in HARP risk assessments. For noncarcinogenic effects, the dose-response data developed from animal or human studies are used to define acute or chronic noncancer reference exposure levels (REL). These potency factors and RELs, along with other reference conditions that allow for the calculation of potential health risk, have been incorporated into the HARP model. The AERMOD modeling results were incorporated into HARP (Version 1.2a, August 2005) to conduct the HHRA analysis.

The final step of a risk assessment is risk characterization. The calculated risks from all pollutants emitted from the facility are combined. Cancer risks from multiple carcinogens are considered additive. For exposure to multiple noncarcinogen pollutants, a hazard index approach is applied for air contaminants affecting the same organ system. This HHRA primarily addresses risk through inhalation.