

Risk Characterization

The NCUAQMD has established health risk thresholds to determine the significance of health impacts from proposed land use development projects. Based on these thresholds, a project would produce less than significant cancer risk impacts if the maximum incremental cancer risk due to the project alone is less than 10 in 1 million (1×10^{-5}).

For chronic and acute noncancer exposures, a hazard index (defined as the summation of predicted TAC concentrations divided by their respective RELs) less than 1.0 indicates that the exposure would present insignificant health risks. Hazard indices above 1.0 represent the potential for a significant health risk.

5.1 HARP Results

Table 5-1 presents a summary of the maximum potential health impacts that would occur for the Evergreen operation. The cancer risk at the point of maximum impact (PMI) is about 35 in 1 million. However, the PMI is located on the facility's north fenceline, which is not a residential or commercial/industrial receptor. The cancer risk applicable to the MEIR is predicted to be 2.5 in 1 million, located at about 740 meters southeast from the Evergreen facility boundary. The cancer risk applicable to the MEIW is predicted to be 1.4 in 1 million, located at approximately 500 meters from the south facility boundary. Both the MEIR and MEIW cancer risk values for the estimated Evergreen emissions are below the NCUAQMD significance threshold of 10 in 1 million. The residential cancer risk isopleths are shown on Figure 5-2.

TABLE 5-1
Risk Summary of Evergreen Operation Emissions
Evergreen Pulp Human Health Risk Assessment

	Modeled Maximum Cancer Risk	Modeled Maximum Chronic Hazard Index	Modeled Maximum Acute Hazard Index
Point of Maximum Impact	3.5E-05 ^a	1.4 ^a	5.7
Maximum Exposed Individual Resident	2.5E-06	0.09	1.7
Maximum Exposed Individual Worker	1.4E-06	0.17	2.3
Significance Threshold	1.0E-05	1	1

^aSignificance thresholds for cancer risk and chronic hazard index only apply to MEIR and MEIW locations.

The maximum chronic hazard index increment is predicted to be 0.17, at a commercial/industrial receptor about 500 meters from the facility's south boundary. The maximum acute hazard index increment is predicted to be 5.7, in the middle of the facility's north boundary. The chronic hazard indices of the Evergreen operation are below the NCUAQMD significance threshold of 1 at residential and commercial/industrial receptors. However, the modeled maximum acute hazard index exceeds the NCUAQMD significance threshold.