

Frequently Asked Questions on the Bay Area Air District's Draft Health Risk Assessment of the Richmond Refinery Released August 25, 2026

What is a Health Risk Assessment?

According to the Bay Area Air District, “a health risk assessment, or HRA, is a scientific tool designed to help determine which potential hazards from facilities are most significant to a community. HRA results are used to determine where to focus efforts and resources to improve air quality and protect public health. Scientific methods used in HRAs cannot be used to link individual illnesses to chemical exposures.”

HRAs use a computer program called an air dispersion model to predict how facility emissions move into the surrounding community. For each potential community location, health risks are calculated using standardized information about breathing rates, daily activities, and pollutant toxicity, which are published by the California Office of Environmental Health Hazard Assessment.

HRAs are designed to be conservative and health protective.

What a Health Risk Assessment is NOT:

It is not an exact predictor of risk for everyone in the community. It is a model, and it is meant to be health protective. This means the results are potential “worst-case” numbers derived by making unlikely, risk-maximizing assumptions. For instance, the cancer risk to residents assumes residents are being exposed to air outside their home 24 hours per day, 350 days per year, for 30 years and breathing at a level of moderate exercise.

The HRA does not reflect actual measured emissions at any specific community location. Rather, the results of the HRA show software-modeled health risk based on weather, terrain, and estimated emissions data.

Are Health Risk Assessments new?

No. Health Risk Assessments (HRAs) are conducted for a variety of facilities throughout the Bay Area that emit toxic air contaminants (TACs), including refineries, chemical manufacturing facilities, airports, hospitals, power plants, universities, shipyards, waste management operations, and other permitted sources.

Chevron has performed several HRAs at the Richmond Refinery over the years, applying the methodologies and guidelines of the Air District, CalEPA's Office of Environmental Health Hazard Assessment (OEHHA), and the California Air Resources Board (CARB) to screen projects for health risk benefits and impacts. We also provide a facility-wide emissions inventory to the Air District every year.

Why is a Health Risk Assessment happening now?

The Bay Area Air District's Rule 11-18, “Reduction of Risk from Air Toxic Emissions at Existing Facilities,” requires that a Health Risk Assessment be performed at facilities within the Air District's purview that emit toxic air contaminants (TACs) to assess the potential health risks against the Air District's Risk Action Levels (RAL).

Why does the Air District's Health Risk Assessment say “draft” or “preliminary”?

The Air District has chosen to release a draft of the HRA to the public for comment before it is finalized.

What happens after a Health Risk Assessment is finalized?

If the results of a HRA indicate the calculated health risks exceed any of the Air District's RALs, a facility must notify the public and prepare a Risk Reduction Plan (RRP), which proposes strategies and measures the facility will use to reduce its relevant TAC emissions. The Air District must review the draft RRP and make it available for public comment.

Once public comments and concerns have been received and the District approves the RRP, the facility must implement the strategies and measures outlined in the RRP, which may include installation of emissions control devices, changes to processes or operations, or other modifications that will reduce the facility's emissions such that health risks are reduced below RALs. Finally, the Air District will confirm that the facility's risk reduction measures have been implemented and verify the health risks have dropped below the RALs.

What are the Risk Action Levels established by the Air District?

The Rule 11-18 thresholds, which, if exceeded, require the facility to implement risk reduction strategies, are the most stringent thresholds in the country, lower than those set by Air Districts in Southern California and San Joaquin Valley.

Health Risk	Bay Area	Los Angeles	San Joaquin Valley
Cancer Risk	10 in a million or higher (0.001%)	25 in a million or higher (0.003%)	100 in a million or higher (0.01%)
Chronic Hazard Risk	1.0 or higher	3.0 or higher	5.0 or higher
Acute Hazard Risk	1.0 or higher	3.0 or higher	5.0 or higher

What does it mean when the Air District says "additional" cancer risk?

An additional cancer risk of 10 in one million people means a person's risk of developing cancer in their lifetime increases by 10 chances in one million (0.001%) above and beyond the background cancer risk that exists from all other causes. The model will run thousands of scenarios based on weather modeling, emissions estimates, and assumptions such as being outside 24 hours per day, 350 days per year, for 30 years, breathing at a level of moderate exercise to identify a specific location where the additional cancer risk is highest.

For context, the Air District's estimated lifetime cancer risk for Bay Area residents over a 70-year lifespan from all toxic air contaminant (TAC) emissions combined is around 600 cases per million (0.06%). Therefore, an additional 10 in one million risk would result in a total risk of 0.061%.

To put the risk of cancer from TAC emissions into perspective of overall cancer risk, the [World Health Organization's International Agency for Research on Cancer](#) estimates that, based on data from 2024, the lifetime risk of being diagnosed with cancer before the age of 75 is about 36.8% for men and 31.3% for women in the United States (368,000 and 313,000 cases per million, respectively).

Are elevated health risks considered to be a violation of Rule 11-18?

No. If HRA modeling indicates a health risk value above a risk action level, requirements for public notification and development of a risk reduction plan are triggered, but it is not in itself a violation of Rule 11-18. A violation of Rule 11-18 would occur if a facility did not submit the required risk reduction plan or meet other requirements, such as not completing the required risk reductions by the specified due date or failing to notify the public that a risk action level was exceeded.