

## **Kailua Regional Wastewater Treatment Plant (KRWWTWP)** **Frequently Asked Questions Regarding Odors:**

1. What is the source of odors at the plant?

Odors are caused by sulfur gases, mercaptans and organic amines. The predominant odor that most people typically smell is hydrogen sulfide (H<sub>2</sub>S). Operators who work at the plant are trained to operate and maintain the existing odor control systems properly and to ensure that doors, hatches and other potential odor sources are closed to minimize fugitive emissions that can be unpleasant for the surrounding community. Occasionally, a key piece of equipment at the plant may break, causing odors to increase until it can be repaired. Operators and supervisors at the plant are aware of these issues and work to resolve these situations as expeditiously as possible.

2. What is safe?

The human nose is incredibly adept at detecting H<sub>2</sub>S, and most people can smell it at concentrations as low as 2 to 5 parts **per billion**. By comparison, H<sub>2</sub>S causes eye, nose, and/or throat irritation at approximately 10,000 to 50,000 parts per billion (ppb). In extremely high concentrations, greater than 300,000 ppb, H<sub>2</sub>S is life threatening.

3. What are the highest levels of hydrogen sulfide generated by the plant?

The City monitors H<sub>2</sub>S daily at its property line and typical values range from 2 parts per billion to 15 ppb. In unusual circumstances, H<sub>2</sub>S levels at the property line can be in the range of 30 to 50 ppb. While these levels are easily detected by the human nose and can cause irritation, they are orders of magnitude lower than what is considered unsafe (greater than 10,000 ppb).

4. Who holds the City accountable to monitor H<sub>2</sub>S levels?

The City and County of Honolulu's Department of Environmental Services is required to monitor hydrogen sulfide at various locations within the treatment plant and at 11 locations along the property fenceline by permit with the Department of Health's Clean Air Branch (DOH-CAB). The permit stipulates that the average one-hour concentration at any one of the 11 locations along the property's fenceline must not exceed twenty-five (25) ppb. If the hourly average concentration exceeds 25 ppb, the City and County pays a violation penalty to the DOH-CAB of \$4,000.00 (or \$6,000.00 if the hourly average concentration is greater than 37 ppb).

5. What is being done to reduce odors coming from the plant?

The City is in the process of upgrading and replacing all of its existing Odor Control Systems with modern technology, which will control and reduce odor-causing emissions to the greatest extent feasible. Please see ([insert link to Odor Control Improvement Projects Phase 1 and Phase 2 here](#)) for more information on the projects.

5. Will odors be eliminated entirely after the new projects are completed?

While odors will be reduced with the new odor control systems, eliminating odors entirely at a wastewater treatment plant is not a realistic goal because there are so many potential sources of odor to control. The ongoing odor control projects utilize modern technology and the City has made a major investment in the odor control system upgrades (approx. \$18.3 million), but it is still possible that odors will be detected at and beyond the treatment plant's property line after the projects are completed.

6. If local residents will still be able to detect odors after the projects are completed, why are we doing the projects at all?

The odor control improvement projects will reduce odors to the greatest extent feasible with modern technology. While they will not completely eliminate odors, the City and County expects that local residents will be able to notice an improvement and odors will be significantly reduced.

7. Who do I call if odors from the plant are irritating?

The Kailua Regional WWTP can be reached at:

Work Hours: 768-5900

After Hours: 847-8307

Sewer Collection System Odors:

24-hr Hotline: 768-7272

Department of Health – Clean Air Branch:

Work Hours: 586-4200

During work hours, operators from the plant may be able to respond to a complainant's location to take H<sub>2</sub>S measurements and demonstrate that levels are safe. By permit, the City and County is not required to monitor outside of its property line, but operators at the plant attempt to do so when time permits as a measure of good faith to our neighbors.

8. It seems like odors from the Kailua Regional WWTP are worse than everywhere else, why is that?

Odors are subjective and every individual can be more or less sensitive than another when presented with the same concentration of a given odor-causing compound. The Kailua Regional WWTP is located within close proximity to the surrounding community, which is different from other treatment plants on Oahu and most on the mainland. Because the treatment plant can not be relocated, the City is working to address odors and minimize them to the greatest extent possible by upgrading the existing odor control systems and by operating them efficiently.