

LIA WATER SYSTEM FAQs

What purpose does chlorine serve in public water systems?

The primary purpose of having chlorine in water is to destroy the bacteria and viruses that can enter the water system. Over 98 percent of U.S. water supply systems utilize chlorine to disinfect their drinking water and it has been the standard water treatment since 1908. Chlorine is the only disinfectant known to protect the water from pathogens, waterborne illness, and disease from the water plant all the way to the user's tap. The World Health Organization (WHO) has emphasized the importance of having a suitable residual level of disinfectant throughout the entire water distribution system.

Did the Illinois EPA really raise the levels of chlorine required in public water systems?

Yes. The Illinois Environmental Protection Agency (IL EPA) doubled the amount of chlorine required to be present in public water distribution systems. This was enacted on July 26, 2019 and can be found in Section 604.725, Title 35, Subtitle F of the Illinois Administrative Code which clearly states that the "minimum combined chlorine residual of 1.0 mg/l must be maintained in all active parts of the distribution system at all times." The higher standard was initially proposed in 2017 and subsequently scrutinized by the Illinois Pollution Control Board. This became effective on April 17, 2020 and is intended to prevent the outbreak of illnesses or infections caused by water-borne bacteria such as Legionella. The previous standard in Illinois for combined chlorine residual levels was 0.5 mg/l.

Is chlorine dangerous?

Yes. Chlorine can be in the form of a poisonous gas or a liquid which turns to a gas when released. Chlorine gas is yellow-green in color and can act as an acid if it contacts the skin, eyes, throat, and lungs. According to the Centers for Disease Control, exposure to chlorine gas could cause burning, blisters, blurred vision, coughing, or difficulty breathing. Because of this, many people feel that chlorine in drinking water is dangerous; however, when used in water, chlorine breaks down into hypochlorous acid and hypochlorite ion which are non-toxic to humans but destroy potentially dangerous bacteria and micro-organisms. If too much chlorine is added it will not all break down in the water which is why there are limits to the amount of chlorine you can add to a water system.

What level of chlorine is safe to have in drinking water?

The WHO limits the amount of chlorine in drinking water to 5 milligrams per liter (mg/l). The U. S. Environmental Protection Agency (EPA) allows chlorine level up to 4 parts per million (ppm) which is equivalent to 4.01 mg/l. At this level there is no known or expected health risk which includes an added margin of safety over the WHO.

What is the level of chlorine in the LIA drinking water?

At 3:00 pm on Tuesday, October 20, the level of combined chlorine as tested at the southern end of the LIA drinking water system was 1.02 mg/l. ERH plans to maintain the level of chlorine between 1.1 and 1.2 mg/l in the future to comply with the IL EPA minimum guideline of 1.0 mg/l discussed earlier.

If LIA increased the level of chlorine in the drinking water back in April, why did they have to do it again?

In April, ERH raised the amount of chlorine in the water to meet the IL EPA standard of 1.0 mg/l. Initially residents noticed the increased chlorine smell and the discoloration of the water. The water at LIA maintained this level of chlorine for almost 6 months. In the last couple of weeks, the chlorine level in the LIA water distribution system dropped below the minimum standard. ERH removed the chlorine head at the water plant and cleaned the injectors which were clogged, allowing chlorine levels to drop. This week, the chlorine levels were increased to bring the level back up to the IL EPA minimum, and residents again noticed the chlorine smell and discolored water.

Were there other issues LIA was having with water quality back in the Spring?

No. All of the issues can be attributed to the increase in the amount of chlorine being added to the water.

Why is my drinking water discolored?

When chlorine is added to the drinking water, it reacts with organic, inorganic, and metal materials in the water. Sometimes these material residues and rust exist in the water mains, residential lines, or water heaters and the increase in chlorine can react with this residue breaking some of it free and discoloring the water. Some of this is from the plumbing inside a home, or in specific sections of water lines, which would explain why some residents are experiencing water discoloration and others are not. Discolored water is not necessarily an indication the water is unsafe. Yellow, orange, or brown water means there is an indication of rust in the water. Rusty water looks bad and may taste unpleasant but is not a health risk. (Google it). The LIA water plant utilizes potassium permanganate which removes manganese, iron, and color from the water as well as helping to control the taste. The best ways to remove the rust and discoloration from the water is by flushing out the lines. ERH will be flushing the LIA water mains this week and residents should do the same in their homes. This should especially be completed after the mains have been flushed to remove anything from your household plumbing. You may want to consider running the hot water from your water heater and making sure the discolored water is flushed from there as well. If your water is ever a black, green, or bluish-green color, this could indicate mold, algae, or copper pipe issues and could be hazardous.

Why does my drinking water smell and taste different?

Unfortunately, the increase in the level of chlorine can add to the chlorine odor and change the taste of your drinking water. Chlorine is recognized for removing and disguising other bad tastes but can tend to have a taste of its own. Often our bodies will adjust to this difference in odor or taste after the initial changes. Some of you may not have noticed a different taste or a chlorine smell in the water over the summer even though ERH had been operating the LIA water system at the increased chlorine levels from April through September.

When I search internet articles on chlorine why does it say it increases the risk of cancer?

A study performed in 1982 attributed to the Council on Environmental Quality (CEQ) examines the potential risk of cancer from chlorine. The paper evaluated other independent studies, one of which claimed chlorine could cause a 93% higher risk of rectal cancer; however, a causal relationship could not be established between chlorine and an increase in cancer. These studies also referred to Disinfection By-Products (DBP) and Trihalomethanes (THM) which can occur when disinfected water contains certain amounts of organic matter from the well or water source. To date, there have been numerous studies on the use of chlorine and there has been no clearly established link to cancer. The International Agency for the Research of Cancer (IARC) has concluded there is insufficient evidence to show that chlorine is a possible carcinogen. Unfortunately, many businesses who are trying to promote the use of water filters, test kits, or in-home water treatment systems among other products continue to provide misleading facts regarding the effects of chlorine. You will often see these sites claiming that chlorine increase cancer by 93% or discussing the unsubstantiated risks associated with THMs and DBPs.

Does ERH enterprises monitor and test the drinking water at LIA?

Yes. Currently, ERH tests the water quality and chlorine content daily when it leaves the water plant. They also collect samples from a residence on Chippewa in the southern part of the LIA subdivision. This location is the farthest away from the water plant and the chlorine level is tested from this location to ensure the LIA water supply is meeting the EPA requirement of at least 1.0 mg/l over the entire water distribution system. ERH has flushed the water mains by opening the fire hydrants in May, July, and plan to do so again this week. An employee of ERH is at the water plant and the sewage treatment plant to monitor and check the systems at least once per day.