



Memorandum

Memorandum No: 22-004

Date: January 11, 2022

To: Honorable Mayor and Commissioners

From: Chris Lagerbloom, ICMA-CM, City Manager

Re: Chlorination of City's Water Distribution System

Like most purveyors in the region, the disinfection of our treated water is normally achieved by adding chloramines (combined chlorine and ammonia) at the water treatment plants. Chloramines have been found to be an effective and safe disinfectant. However, over time, nitrification, a chemical reaction which results in the oxidation of ammonia in the distribution system, can reduce the effectiveness of chloramines as a disinfectant. This nitrification causes a biofilm to form inside the distribution system piping, which reduces free chlorine in potable water. The application of free chlorine, (stand-alone chlorine) for a short duration, effectively controls nitrification and removes biofilm growth from the interior of pipe surfaces. Stand-alone chlorine is a stronger disinfectant than chloramine.

The City Environmental Laboratory conducts routine monthly sampling in the distribution system and checks for free and total chlorine. Nitrite levels are also closely measured and monitored. Therefore, on an as needed basis, the Public Works Department switches from chloramines to free chlorine as a part of the City's distribution system maintenance program.

The City expects the free chlorination period to be transparent to our neighbors. However, some neighbors may notice a slight change in the taste or odor of their tap water. In addition, neighbors may see fire hydrants flushing in their neighborhoods, which is a part of this normal maintenance process. This is a recommended and common practice utilized by drinking water providers using chloramines for regular disinfection. The City's next free chlorination of the distribution system will begin at 9:00 AM on Tuesday, March 22, 2022, to 9:00 AM on Tuesday, April 12, 2022.

The Public Works and the Strategic Communications Office will widely publicize the free chlorination event as follows:

- Strategic Communications will disseminate the information through the appropriate communication tools.
- Notify our wholesale water customers
- Notify local hospitals, dialysis centers, and pet stores
- Notify the Florida Department of Environmental Protection.

Should neighbors have any questions or concerns, the phone number for the Public Works 24-hours Customer Service Call Center is (954) 828-8000. This contact information will be provided with all outreach materials. City staff in the Customer Service Call Center are trained and educated on the Free Chlorination process and are available to accommodate any neighbor inquiries. In addition, a Frequently Asked Questions (FAQ's) document was developed and provided to staff to assist.

Attachments:

- Public Notice – Water Chlorination March 2022
- Free Chlorination Outline March 2022
- FAQs

c: Tarlesha W. Smith, Esq., Assistant City Manager
Greg Chavarria, Assistant City Manager
Alain Boileau – City attorney
Jeffrey A. Modarelli, City Clerk
John C. Herbst, City Auditor
Department Directors
CMO Managers
Miguel Arroyo, Water and Wastewater Treatment Manager
Cesar Alza, Water Treatment Manager

PUBLIC NOTICE



CITY OF FORT LAUDERDALE TO CHLORINATE WATER SYSTEM

Water Treatment Scheduled for
March 22 - April 12, 2022

The City of Fort Lauderdale will temporarily switch to using free chlorine in its drinking water system beginning at 9 a.m. on Tuesday, March 22, 2022, through 9 a.m. on Tuesday, April 12, 2022.

Free chlorination is a common preventative maintenance procedure for water systems using chloramines for disinfection. The City expects the chlorination period to be transparent to our neighbors; however, some may notice a slight change in the taste or smell of their tap water. In addition, neighbors may see fire hydrants running in their neighborhoods, which is part of the normal maintenance process.



Flushing fire hydrants is a routine part of the free chlorination process.

The City of Fort Lauderdale maintains the highest standards to ensure that clean, high quality drinking water is delivered to our neighbors. The City's water meets federal, state, and local primary drinking water standards.

For more information, please contact our 24-hour Customer Service Center at (954) 828-8000 or via LauderServ at www.fortlauderdale.gov/lauderserv.



Free Chlorination Event

March 22 – April 12, 2022

City of Fort Lauderdale

Utilities Division

CITY OF FORT LAUDERDALE



WE BUILD COMMUNITY

City of Fort Lauderdale Free Chlorination Event

Dates of event: March 22, 2022 through April 12, 2022

WHAT

Free chlorination is a temporary conversion from utilizing chloramine disinfection to free chlorine disinfection at the water treatment plants and in the water distribution system as part of routine distribution system maintenance designed to help improve water quality. The drinking water will continue to be safe during the conversion, but neighbors may notice a difference in taste or smell.

WHY

The disinfection of our treated water is normally achieved by adding chloramines (combined chlorine and ammonia) at the water treatment plants. Chloramines are effective and safe. However, over time, nitrification (i.e. the oxidation of ammonia) in the distribution system can reduce the effectiveness of chloramines as a disinfectant and as a result, biofilm can form inside the distribution system piping. The application of free chlorine, (stand-alone chlorine) for a short duration, effectively controls nitrification and removes biofilm growth from the inside pipe surfaces. Stand-alone chlorine is a stronger disinfectant than chloramine.

The temporary conversion to free chlorine is helpful in removing biofilm growth and bacteria in the water distribution system and is a standard maintenance practice for water systems that normally disinfect water with chloramines

Through routine testing during the year, the City's Environmental Laboratory closely measures and monitors Nitrite levels and residual chlorine in the distribution system. Elevated Nitrite levels could lead to an increase in biofilm growth, and a decrease in the chlorine residual which could result in taste and odor problems.

Public Works Department staff in the Treatment and Distribution & Collections Division carefully evaluated the data and developed this Free Chlorination event in order to ensure our water remains safe and the quality continues to meet Federal and State drinking water standards.

HOW

Water Treatment Plants:

The Fiveash and Peele Dixie water treatment plants will stop the addition of Ammonia into the finished water, and increase the dose of chlorine until a Free Chlorine value can be measured and maintained leaving the plant.

Laboratory:

- ❖ The City Environmental Laboratory and support staff will conduct routine sampling at predetermined sample sites in the distribution system and check for free and total chlorine.
- ❖ Nitrite levels will be measured following the conversion back to chloramines from free chlorination to evaluate the effectiveness of the program.

Distribution and Collections:

- ❖ The Distribution & Collections staff will sample a predetermined set of hydrants throughout the City to check for free chlorine. If the hydrant value is below 1.5 mg/l free chlorine, the hydrant will be flushed until the free chlorine level improves. Once the proper levels are attained, the hydrant will be shut off to minimize street and/or property flooding.
- ❖ All the chlorine values will be recorded and given to the event coordinator for documentation.

Administrative/Strategic Support:

The Utilities Division will be coordinating all outreach information and communications for the City's customers through advertising, US mail, E-mail, Strategic Communication Department, etc. They will also be routing all phone calls from customers during the event to the appropriate staff.

The Florida Department of Environmental Protection (FDEP) and pertinent businesses such as: dialysis centers, pet stores and hospitals will be notified in advance of the upcoming event, along with all consecutive systems receiving water from the City of Fort Lauderdale.

The Customer Service 24/7 Call Center will have responses for Frequently Asked Questions (FAQ's) available to all call takers to address free chlorination inquires.

Frequently Asked Questions about Free Chlorination

1. What is Free Chlorination?

Free chlorination is a **temporary** process that distributes free chlorine in place of combined chlorine (chloramine) throughout the water distribution system as part of routine distribution system maintenance.

Free chlorination is a common practice used by water producers using the chloramine treatment method. It is typically performed once or twice per year over a three-week time-period to remove biofilms from inside the distribution pipes.

2. What is Free Chlorine?

Free Chlorine is the use of chlorine only, which is a stronger disinfectant than chloramines.

3. What is Chloramine?

Chloramine is a disinfectant used in drinking water made up of chlorine and ammonia together.

4. How is chlorine added to drinking water?

Water treatment operators may chlorinate drinking water using either chlorine gas, liquid sodium hypochlorite solution (bleach) or dry calcium hypochlorite.

5. How long has U.S. drinking water been chlorinated?

Chlorine has helped provide safe drinking water in the United States for more than 100 years.

6. How common is chlorine disinfection of drinking water?

Chlorine is by far the most commonly used drinking water disinfectant in all regions of the world. Today, about 98 percent of U.S. water treatment systems use some type of chlorine disinfection process to help provide safe drinking water. The U.S. Environmental Protection Agency requires treated tap water to contain a detectable level of chlorine to protect against germs as it flows from the treatment plant to consumers' taps.

7. Is chlorine in drinking water safe?

The small amount of chlorine added to disinfect drinking water in accordance with U.S. Environmental Protection Agency regulations is safe for consumption. According to the EPA, allowable chlorine levels in drinking water (up to 4 parts per million) pose "no known or expected health risk."

8. How long will the free chlorination process last?

This is a temporary process for three weeks – **March 22, 2022 – April 12, 2022.**

9. Is this the first time the City of Fort Lauderdale has used free chlorination?

No. This is done on average every 6 months for approximately three weeks.

10. Do other cities perform free chlorination?

Yes. This is a common industry practice. There are many utilities throughout the country that use chloramines as a distribution system disinfectant which convert to free chlorine on a periodic basis. In Broward County, 30 out of 31 municipalities conduct free chlorination events on a regular basis.

11. Does free chlorination change or affect water quality?

No, the drinking water still meets all State and Federal water quality standards.

12. Will I notice a change in my water?

Some people may notice a change in the taste or odor of the drinking water during this time, but the change to free chlorination does not have any adverse health effects.

13. Why does my water taste/smell different?

Your water may taste or smell different because the City of Fort Lauderdale is temporarily changing its disinfection process. From March 22 to April 12, 2022, there will be a change from chloramines (a combination of chlorine and ammonia) to chlorine only. Water systems using chloramines periodically change to chlorine as part of a maintenance program within the water distribution system. During this temporary change to chlorine, you may notice a slight difference in the taste or smell of your tap water.

14. What can I do to improve the water taste/smell?

We suggest storing water in an open pitcher and placing it in your refrigerator. The chlorine will naturally dissipate from the water, and will become less noticeable. Also, colder water tastes better.

15. Why are you doing this during this time of the year?

As part of our commitment to provide safe and reliable water, the Utilities plant staff always monitor the water to determine when the system might need treatment change to help maintain the best water quality.

16. What are the methods for removing chlorine/chloramines from fish aquariums?

Just as with chlorine, chloramines can harm all saltwater and freshwater fish, reptiles, shellfish, and amphibians that live in water. Commercial establishments and hobbyists involved in fish rearing need to take precautions. There are two methods that can be used to remove or neutralize chloramines before adding water to a fish tank, pond, or aquarium: (1) Granular Activated Carbon (GAC) filtration system specifically designed to remove chloramines, or (2) conditioner or additive that contains a de-chlorinating chemical for both ammonia and chlorine. These products are available at local pet and aquarium supply stores. The residential and commercial fish owners are advised to verify which method is best for them with their pet store or aquatic/aquarium retailer.

17. I notice the hydrant on my street flowing, is this part of the free chlorination process?

Flushing fire hydrants is a routine part of the free chlorination process. This will occur in various parts of the City, as a result, increased flushing may be observed during this time.



Flushing fire hydrants is a routine part of the free chlorination process.

18. Who can I contact with additional questions or concerns?

Please call the **24-Hour Neighbor Call Center at 954-828-8000**.