This year, as in years past, your tap water met all USEPA and state drinking water health standards. Our system vigilantly safeguards our water supply, and we are able to report that the department had NO violation of a contaminant level or of any other water quality standard in 2016. This report summarizes the quality of water that we provided last year, including details of where your water comes from, what it contains, and how it compares to standards set by regulatory agencies. We are committed to providing you with this information because informed customers are our best allies.

This report is intended to provide you with important information about your drinking water and the efforts made by the Department of Utilities to provide safe drinking water. This report includes drinking water facts and contaminants detected in your drinking water supply for the period of January 1 through December 31, 2016. Each year, we will provide you a new report. If you need help understanding this report or have general questions, please contact the person listed below.

Este informe contiene información muy importante sobre el agua que usted bebe. Tradúzcalo ó hable con alguien que lo entienda bien.

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We want our valued customers to be informed about their water quality. If you would like to learn more, please feel welcome to attend any of our regularly scheduled Utilities Committee meetings. Utilities Committee meetings are held the first Thursday of each month at 4:00 PM in City Hall (730 Maine Street, Quincy, Illinois). Before we begin listing our unique water quality characteristics, here are some important facts you should know to help have a basic understanding of drinking water in general.

Sources of Drinking Water

Quincy's water comes from the Mississippi River, which is a surface water. Illinois EPA considers all surface water sources of community water supply to be susceptible to potential pollution problems, hence, the reason for mandatory treatment for all surface water supplies in Illinois. Mandatory treatment includes coagulation, sedimentation, filtration, and disinfection. Within the Illinois portion of the Mississippi River Watershed, many commodities, including manufactured goods, petrochemicals, and pesticides are transported along the river system. The production, storage, and transportation of these commodities are a major concern, especially when occurring near surface water intakes. In addition, agricultural runoff within the Illinois portion of the Mississippi River Basin contributes to the susceptibility of the Quincy intakes. With high flow rates and long distances of travel on the Mississippi River, critical areas can be extensive. The critical area for the Quincy intake was determined using data from a joint U.S. Environmental Protection Agency/U.S. Geological Survey project. This project used a computer modeling program (SPARROW) to determine travel times on major rivers in the United States. Accidental spills of hazardous materials into navigable waterways are a major concern because of their frequency in the United States in recent years. Illinois has access to 1,116 miles of inland waterway that can handle commercial barge traffic. These include the Upper Mississippi River, Illinois River Waterway, and the Ohio River. Along these waterways are numerous facilities that load and unload hazardous materials. Analysis of reported spills indicate that between 1974 and 1989, 794 accidental spills of hazardous materials occurred along Illinois waterways. Approximately 92% of these spills occurred along the Mississippi and/or the Illinois River. Figure 2 shows the critical area of concern (Zone 1) for the Quincy surface water intake. Spills occurring in this critical area will travel to the intake in five hours or less, making contingency planning and spill reporting a major concern in this watershed. Further information concerning spill response planning on the Mississippi River may be found in U.S. EPA's website at www.epa.gov/region5/oil and at U.S. Geological Survey's website ftp://ftp.umesc.er.usgs.gov/pub/gis_data/oil_spill.

The source water assessment for our supply has been completed by the Illinois EPA. If you would like a copy of this information, please call the Department of Utilities. To view a summary version of the completed Source Water Assessments, including: Importance of Source Water; Susceptibility to Contamination Determination; and documentation/recommendation of Source Water Protection Efforts, you may access the Illinois EPA website at: http://www.epa.state.il.us/cgi-bin/wp/swap-fact-sheets.pl.

Other Facts about Drinking Water

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the USEPA's Safe Drinking Water Hotline (1-800-426-4791).

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. USEPA/CDC guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the USEPA's Safe Drinking Water Hotline (1-800-426-4791).

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally-occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity. Contaminants that may be present in the source water include:

- Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations and wildlife.
- Inorganic contaminants, such as salts and metals, which can be naturally occurring or result from urban storm water runoff, industrial, or domestic wastewater discharges, oil and gas production, mining, or farming.
- Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban storm water runoff, and residential uses.
- Organic chemical contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban storm water runoff, and septic systems.
- Radioactive contaminants, which can be naturally-occurring or be the result of oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, EPA prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. FDA regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. We cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at http://www.epa.gov/safewater/lead.

2016 Regulated Contaminants Detected

The next several tables summarize contaminants detected in your drinking water supply. Here are a few definitions and scientific terms which will help you understand the information in the contaminant detection tables.

Action Level (AL)	The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.
Action Level Goal (ALG)	The level of a contaminant in drinking water below which there is no known or expected risk to health. ALGs allow for a margin of safety.
Avg	Regulatory compliance with some MCLs is based on running annual average of monthly samples.
Level 1 Assessment	A Level 1 assessment is a study of the water system to identify potential problems and determine (if possible) why total coliform bacteria have been found in our water system.
Level 2 Assessment	A Level 2 assessment is a very detailed study of the water system to identify potential problems and determine (if possible) why an E. coli MCL violation has occurred and/or why total coliform bacteria have been found in our water system on multiple occasions.
Maximum Contaminant Level (MCL)	The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the Maximum Contaminant Level Goal as feasible using the best available treatment technology.
Maximum Contaminant Level Goal (MCLG)	The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.
Maximum Residual Disinfectant Level (MRDL)	The highest level of disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.
Maximum Residual Disinfectant Level Goal (MRDLG)	The level of disinfectant in drinking water below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.
N/A	Not Applicable
NTU	Nephelometric Turbidity Units
pCi/L	picocuries per liter (a measure of radioactivity)
ppb	parts per billion or micrograms per liter (ug/L) - or one ounce in 7,350,000 gallons of water.
ppm	parts per million or milligrams per liter (mg/L) - or one ounce in 7,350 gallons of water.
Treatment Technique or TT	A required process intended to reduce the level of a contaminant in drinking water.

Lead and Copper								
	Date Sampled	**MCLG**	**Action Level (AL)**	**90th Percentile**	**# Sites Over AL**	**Units**	**Violation**	**Likely Source of Contamination**
Copper	06/28/14	1.3	1.3	0.062	0	ppm	No	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead	06/28/14	0	15	1.3	0	ppb	No	Corrosion of household plumbing systems; erosion of natural deposits.

Regulated Contaminants								
Disinfectants & Disinfection Byproducts	**Collection Date**	**Highest Level Detected**	**Range of Levels Detected**	**MCLG**	**MCL**	**Units**	**Violation**	**Likely Source of Contamination**
Chloramines	12/31/16	2.4	2– 3	MRDLG = 4	MRDL = 4	ppm	No	Water additive used to control microbes.
Haloaecetic acids (HAA5)	2016	38	2.3 – 72.7	No goal for total	60	ppb	No	By-product of water disinfection.
Total Trihalomethanes (TTHM)	2016	53	36 – 74.7	No goal for total	80	ppb	No	By-product of water disinfection

Note: Compliance for Disinfection Byproducts (HAA5 and TTHM) is measured based on the running annual average, i.e. the average of all samples taken within the 12-month period preceding the sample date. The Highest Level Detected for Disinfection Byproducts (HAA5 and TTHM) is the highest of the running annual averages for 2016, not the highest single measurement.

Inorganic Contaminants								
Barium	2016	0.014	0.014 – 0.014	2	2	ppm	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Fluoride	2016	0.6	0.633 – 0.633	4	4.0	ppm	No	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories.
Nitrate (measured as Nitrogen)	2016	4	3.8 – 3.8	10	10	ppm	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits/silver1
Sodium	2016	11	11 – 11			ppm	No	Erosion from naturally occurring deposits; Used in water softener regeneration.

Radiological Contaminants	Collection Date	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation	Likely Source of Contamination
Combined Radium 226/228	04/19/11	1.128	1.128 – 1.128	0	5	pCi/L	No	Erosion of natural deposits.
Gross alpha excluding radon and uranium	09/15/15	1.67	1.67 – 1.67	0	15	pCi/L	No	Erosion of natural deposits.
State Regulated Contaminants								
Iron	2016	0.01	0.01 – 0.01		1.0	ppm	No	This contaminant is not currently regulated by the USEPA. However, the state regulates it. Erosion of natural deposits.

Note: The state requires monitoring of certain contaminants less than once per year because the concentrations of these contaminants do not change frequently. Therefore, some of this data may be more than one year old.

Turbidity

	Limit (Treatment Technique)	Level Detected	Violation	Likely Source of Contamination
Lowest Monthly % Meeting Limit	0.3 NTU	100%	**No**	Soil Runoff
Highest Single Measurement	1 NTU	0.3 NTU	**No**	Soil Runoff

Note: Turbidity is a measurement of the cloudiness of the water caused by suspended particles. We monitor it because it is a good indicator of water quality and the effectiveness of our filtration system and disinfectants.

Total Organic Carbon

The percentage of Total Organic Carbon (TOC) removal was measured each month and the system met all TOC removal requirements set by IEPA.

Cryptosporidium

Cryptosporidium is a microbial parasite found in surface water throughout the United State. Although filtration removes cryptosporidium, the most commonly used filtration methods cannot guarantee 100 percent removal. Treatment processes have been optimized to maintain low turbidity and remove particles from water to greatly reduce the threat of cryptosporidium cysts getting through the treatment process and into the drinking water system. In 2016, monitoring of the untreated source water indicated the presence of this organism. A level of 0.2 oocysts per liter was detected in one of three untreated source water samples collected and analyzed in 2016. In the remaining two source water samples analyzed in 2016, no cryptosporidium organisms were detected. Current test methods do not enable us to determine if the organisms that were detected in the untreated source water sample were dead or if they were capable of causing disease. Symptoms of cryptosporidium infection (cryptosporidiosis) include nausea, diarrhea, and abdominal cramps. Most healthy individuals can overcome the disease within a few weeks. However, immuno-compromised people are at greater risk of developing life-threatening illness. Immuno-compromised individuals are encouraged to consult their doctors regarding appropriate precautions to avoid infection. Cryptosporidium must be ingested to cause disease and it may be spread through means other than drinking water, such as poor sanitation practices.