

Annual Drinking Water Quality Report

CAHOKIA IL1630200

Annual Water Quality Report for the period of January 1 to December 31, 2016.

This report is intended to provide you with important information about your drinking water and the efforts made by the water system to provide safe drinking water.

The source of drinking water used by CAHOKIA is Purchased Surface Water.

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

Source of Drinking Water

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 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.

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 EPAs Safe Drinking Water Hotline at (800) 426-4791.

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.

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.

EPA/CDC guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline (800-426-4791).

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>.

Source Water Assessment

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 meetings. The source water assessment for our supply has been completed by the Illinois EPA. If you would like a copy of this information, please stop by City Hall or call our water operator at (618)332-1222. 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>.

Source of Water: IL AMERICAN-EAST ST LOUIS 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, which is illustrated in Figure 3, 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 IAWC-East St. Louis intakes. With high flow rates and long distances of travel on the Mississippi River, critical areas can be extensive. The critical area for the IAWC-East St. Louis 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 indicates 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 IAWC-East St. Louis 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. Information concerning spill response planning on the Mississippi River may be found at the U. S. EPA website www.epa.gov/region5/oil, and additional data can also be downloaded at the U. S. Geological Survey's FTP site

Source Water Information

Source Water Name	Type of Water	Report Status	Location	
CC 01-MASTER METER 1	FF IL1635030 DS	SW	<u>ACTIVE</u>	IN PIT AT INT-FIRST AND CHURCH STS
CC 02-MASTER METER 2	FF IL1635030 DS	SW	<u>ACTIVE</u>	ST WILLIAM DR AT PAUL LANE

2016 REGULATED CONTAMINANTS DETECTED

Lead and Copper

Definitions:

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.

Action Level: The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

Lead and Copper	Date Sampled	MCLG	Action Level (AL)	90th Percentile	# Sites Over AL	Units	Violation	Likely Source of Contamination
Copper	09/08/2014	1.3	1.3	0.197	0	ppm	N	Erosion of natural deposits; Leaching from wood preservatives; Corrosion of household plumbing systems.

Water Quality Test Results

Definitions: The following tables contain scientific terms and measures, some of which may require explanation.

Avg: Regulatory compliance with some MCLs are 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 or MCL: The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

Maximum Contaminant Level Goal or 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 or MRDL: The highest level of a 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 or MRDLG: The level of a drinking water disinfectant 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.
na: not applicable.

mrem: millirems per year (a measure of radiation absorbed by the body)

ppb: micrograms per liter or parts per billion - or one ounce in 7,350,000 gallons of water.

ppm: milligrams per liter or parts per million - 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.

Village of Cahokia Water and Sewer Regulated Contaminants

Disinfectants and Disinfection By- Products	Collection Date	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation	Likely Source of Contamination
Chloramines	12/31/2016	2	1 - 3	MRDLG = 4	MRDL = 4	ppm	N	Water additive used to control microbes.
Haloacetic Acids (HAA5)	2016	17	11.6 - 22.9	No goal for the total	60	ppb	N	By-product of drinking water disinfection.
Total Trihalomethanes (TTHM)	2016	26	13.9 - 30.9	No goal for the total	80	ppb	N	By-product of drinking water disinfection.

2016 Annual Water Quality Report: ILLINOIS AMERICAN East St Louis District PWS ID: IL1635040

Source Water Information

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. The East St. Louis Water Treatment Facility draws surface water for treatment from the Mississippi River. The Mississippi River is subject to a variety of influences including agricultural, municipal, and industrial activities. Farm chemicals may be seasonally elevated in the river. Extensive monitoring and treatment ensure high-quality water service regardless of variations in the source water.

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. 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. Information concerning spill response planning on the Mississippi River may be found at the U. S. EPA website www.epa.gov/region5/oil, and additional data can also be downloaded at the U. S. Geological Survey's FTP site ftp://ftp.umesc.er.usgs.gov/pub/gis_data/oil_spill.

The Illinois Environmental Protection Agency (IEPA) has completed a source water assessment for the East St. Louis system and a copy is available upon request by calling Rachel Bretz, Water Quality Supervisor at 618-465-6736 ext4. 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>.

Cryptosporidium
Cryptosporidium is a protozoan found in untreated surface waters throughout the United States (the organism is generally not present in a ground water source). Although filtration removes *Cryptosporidium*, the most commonly used filtration methods cannot guarantee 100% removal. Ingestion of *Cryptosporidium* may cause cryptosporidiosis, an abdominal infection. Symptoms of infection include nausea, diarrhea, and abdominal cramps. Most healthy individuals can overcome the disease within a few weeks. However, people with severely weakened immune systems have a risk of developing life-threatening illness. We encourage such people to consult their doctors regarding appropriate precautions to take to avoid infection. *Cryptosporidium* must be ingested to cause disease, and it is spread through means other than drinking water.

USEPA issued a new rule in 2006 that requires systems with higher *Cryptosporidium* levels in their source water to provide additional treatment. In 2016, our monitoring of the Mississippi River raw untreated water indicated the presence of this organism. The Mississippi River cryptosporidium levels ranged from not detected to 0.500 oocysts/L, with an average of 0.089 oocysts/L. Although this organism is present, it is at levels low enough that no supplemental treatment is required by our facility per USEPA standards.

How to Read the Data Tables

Illinois American Water conducts extensive monitoring to ensure that your water meets all water quality standards. The results of our monitoring are reported in the data tables. While most monitoring was conducted in 2016, certain substances are monitored less than once per year because the levels do not change frequently. For help with interpreting these tables, see the "Table Definitions" section and footnotes.

Table Definitions and Abbreviations

- Action Level (AL): The concentration of a contaminant that, if exceeded, triggers treatment or other requirements that a water system must follow.
- Compliance Achieved: Indicates that the levels found were all within the allowable levels as determined by the USEPA.
- Highest Level Detected: In most cases this column is the highest detected level unless compliance is calculated on a Running Annual Average or Locational Running Annual Average. If multiple entry points exist, the data from the entry point with the highest value is reported.
- MCL (Maximum Contaminant Level): The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.
- MCLG (Maximum Contaminant Level Goal): 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.
- MRDL (Maximum Residual Disinfectant Level): The highest level of disinfectant routinely allowed in drinking water. Addition of a disinfectant is necessary for control of microbial contaminants.
- MRDLG (Maximum Residual Disinfectant Level Goal): The level of drinking water disinfectant 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 contamination.
- NA: Not applicable
- ND: Not detectable at testing limits
- pCi/L (picocuries per liter): Measurement of the natural rate of disintegration of radioactive contaminants in water (also beta particles).
- ppm (parts per million): One part substance per million parts water, or milligrams per liter.
- ppb (parts per billion): One part substance per billion parts water, or micrograms per liter.
- Range Of Detections: The range of individual sample results, from lowest to highest, that were collected during the sample period.

2016 Water Quality Information

For your information, we have compiled a table showing what substances were detected in your drinking water during 2016. Although all of the substances listed are under the Maximum Contaminant Level (MCL) set by the U.S. Environmental Protection Agency (USEPA), we feel it is important that you know exactly what was detected and how much of the substance was present in your water.

Water Quality Results

2016 Regulated Substances Detected

The next several tables summarize contaminants detected in your drinking water supply.

Coliform Bacteria	MCLG	Total Coliform MCL	Highest Number of Positive Samples	Fecal Coliform or <i>E. coli</i> MCL	Total No. of Positive <i>E. coli</i> or Fecal Coliform Samples	Violation	Likely Source of Contamination
Total Coliform ¹	0	MCL: presence of coliform bacteria in > 5% of monthly samples (for systems that collect 40 or more samples/month).	0.8%	Fecal Coliform or <i>E. coli</i> MCL: A routine sample and a repeat sample are total coliform positive, and one is also fecal coliform or <i>E. coli</i> positive	0.0%	No	Naturally present in the environment

¹ Coliforms are bacteria that are naturally present in the environment and are used as an indicator of the general bacteriological quality of the water. We are reporting the highest percentage of positive samples in any month. For the entire year, 0.07% of all samples collected were positive for total coliform.

Lead and Copper								
	Date Sampled	MCLG	Action Level (AL)	90 th Percentile	# Sites Over AL	Units	Violation	Likely Source of Contamination
Copper	2016	1.3	1.3	0.191	0	ppm	No	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead ²	2016	0	15	2	0	ppb	No	Corrosion of household plumbing systems; erosion of natural deposits.

² 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 are responsible for providing high quality drinking water, but 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.

Disinfectants & Disinfection Byproducts	Collection Date	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation	Likely Source of Contamination
HAAs (Halolacetic Acids)	2016	21	5.2 – 33.3	No goal for the total	60	ppb	No	By-product of drinking water disinfection.
TTHMs (Total Trihalomethanes)	2016	26	15.9 – 35.1	No goal for the total	80	ppb	No	By-product of drinking water disinfection.
Chloramines ³	2016	2.6	2 – 3	MRDLG = 4	MRDL = 4	ppm	No	Water additive used to control microbes.

³ Chlorine and chloramines are disinfecting agents added to control microbes that otherwise could cause waterborne diseases or other water quality concerns. Most water systems in Illinois are required by law to add either chlorine or chloramines. Levels well in excess of the MRDL could cause irritation of the eyes or nose in some people. The values reported reflect multiple locations in the service area.

Inorganic Contaminants	Collection Date	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation	Likely Source of Contamination
Arsenic	2016	1	1 - 1	0	10	ppb	No	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes.
Fluoride ⁴	2016	0.8	0.73 – 0.77	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) ⁵	2016	5	3.50 – 5.05	10	10	ppm	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.
Sodium ⁶	2016	16	16 – 16.2	N/A	N/A	ppm	No	Erosion from naturally occurring deposits: Used in water softener regeneration.

⁴ Fluoride is added to the water supply to help promote strong teeth. The Illinois Department of Public Health recommends a fluoride level of 0.7 mg/L. Highest Detect is an annual average.

⁵ Nitrate in drinking water at levels above 10 ppm is a health risk for infants less than 6 months of age. High nitrate levels in drinking water can cause blue baby syndrome. Nitrate levels may rise quickly for short periods of time because of rainfall or agricultural activity. If you are caring for an infant you, should ask advice from your health care provider.

⁶ There is no state or federal MCL for sodium. Monitoring is required to provide information to consumers and health officials that are concerned about sodium intake due to dietary precautions. If you are on a sodium-restricted diet, you should consult a physician about this level of sodium in the water.

Radiological Contaminants	Collection Date	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation	Likely Source of Contamination
Combined Radium 226/228	2014	0.9	0.9 – 0.9	0	5	pCi/L	No	Erosion of natural deposits.
Beta/photon emitters ⁷	2014	4.4 pCi/L	4.4 – 4.4 pCi/L	0	4	mrem/y	No	Erosion of natural deposits.
Gross Alpha emitters	2014	1.5	1.5 – 1.5	0	15	pCi/L	No	Erosion of natural deposits.

⁷ The MCL for Beta/photon emitters is written as 4 millirem/year (measure of rate of radiation absorbed by the body). Laboratory results are reported in pCi/L as we have on the table above. EPA considers 50 pCi/L as the level of concern for beta emitters.

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	0.16 NTU	No	Soil Runoff

Turbidity is a measure of the cloudiness of the water caused by suspended particles. We monitor it because it is a good indicator of the effectiveness of our filtration system, water quality, and disinfectants. The treatment technique requires that at least 95% of routine samples are less than or equal to 0.3 NTU, and no sample exceeds 1 NTU. We are reporting the percentage of all readings meeting the standard of 0.3 NTU, plus the single highest reading for the year.

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. TOC has no health effects but contributes to the formation of disinfection by-products. Reduction of TOC can help to minimize disinfection by-product formation.

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.

Advisory Summary: The following advisory occurred during 2016. We included a brief summary of the actions we took following notification.

We received a 2016 Consumer Confidence Report (CCR) Advisory for CCR Adequacy/Availability/Content starting July 1, 2016 and ending July 19, 2016. Due to a computer issue, there were errors in the data tables that were not consistent with IEPA. The errors were corrected immediately and the CCR was reposted to the website July 19, 2016. The IEPA acknowledged the corrected report was posted online and that the deficiencies were corrected and the advisory had been returned to compliance.

Violations Table

Chloramines

Some people who use water containing chloramines well in excess of the MRDL could experience irritating effects to their eyes and nose. Some people who drink water containing chloramines well in excess of the MRDL could experience stomach discomfort or anemia.

Violation Type	Violation Begin	Violation End	Violation Explanation
MONITORING, ROUTINE (DBP), MAJOR	01/01/2016	03/31/2016	We failed to test our drinking water for the contaminant and period indicated. Because of this failure, we cannot be sure of the quality of our drinking water during the period indicated.
MONITORING, ROUTINE (DBP), MAJOR	04/01/2016	06/30/2016	We failed to test our drinking water for the contaminant and period indicated. Because of this failure, we cannot be sure of the quality of our drinking water during the period indicated.

Consumer Confidence Rule

The Consumer Confidence Rule requires community water systems to prepare and provide to their customers annual consumer confidence reports on the quality of the water delivered by the systems.

Violation Type	Violation Begin	Violation End	Violation Explanation
CCR ADEQUACY/AVAILABILITY/CONTENT	07/01/2016	09/13/2016	We failed to provide to you, our drinking water customers, an annual report that adequately informed you about the quality of our drinking water and the risks from exposure to contaminants detected in our drinking water.

Revised Total Coliform Rule (RTCR)

The Revised Total Coliform Rule (RTCRC) seeks to prevent waterborne diseases caused by E. coli. E. coli are bacteria whose presence indicates that the water headaches, may be contaminated with human or animal wastes. Human pathogens in these wastes can cause short-term effects, such as diarrhea, cramps, nausea,

Violation Type	Violation Begin	Violation End	Violation Explanation
MONITORING, ROUTINE, MINOR (RTCRC)	05/01/2016	05/31/2016	We failed to test our drinking water for the contaminant and period indicated. Because of this failure, we cannot be sure of the quality of our drinking water during the period indicated.

Total Coliform

Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially-harmful, bacteria may be present. Coliforms were found in more samples than allowed and this was a warning of potential problems.

Violation Type	Violation Begin	Violation End	Violation Explanation
MONITORING (TCR), ROUTINE MINOR	02/01/2016	02/29/2016	We failed to complete all the required tests of our drinking water for the contaminant and period indicated.

