



NAVAL STATION GREAT LAKES

2017

CONSUMER CONFIDENCE REPORT

THERE WERE
NO
DRINKING
WATER
VIOLATIONS
RECORDED FOR
THE NAVAL
STATION GREAT
LAKES
WATER PLANT
DURING **2016!**

Sources of Drinking Water

Sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and groundwater 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.

The Great Lakes Water Treatment Facility, operated by PWD Great Lakes, draws its water from Lake Michigan, a surface water source.

Naval Facilities Engineering Command Mid-Atlantic (NAVFAC MIDLANT) Public Works Department Great Lakes is pleased to present to you the 20th annual consumer confidence report (CCR). This report is intended to provide you with important information about your drinking water, including information on water quality, where your water comes from, and analytical results from calendar year 2016.

The Public Works Department Great Lakes team is committed to providing our customers with the highest quality drinking water possible. In fact, we have never required an exemption or variance from the drinking water regulations set by the State of Illinois or the United States Environmental Protection Agency (USEPA).

USEPA on 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 at (1-800-426-4791).

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. USEPA/Centers for Disease Control 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).

Great Lakes Regulated Contaminants Detected in 2016

Contaminant (unit of measurement)	MCLG	MCL	Highest Level Detected	Range of Levels Detected	Violation?	Likely Source of Contamination
Inorganic Contaminants						
Nitrate (as N) (ppm)	10	10	0.35	0.35 - 0.35	NO	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Barium (ppm)	2	2	0.021	0.021- 0.021	NO	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Fluoride (ppm)	4	4	0.448	0.448 - 0.448	NO	Erosion of natural deposits; water additive which promotes strong teeth; fertilizer discharge
Sodium (ppm)	n/a	n/a	8.0	8.0 – 8.0	NO	Erosion of naturally occurring deposits; used in water softener regeneration
Arsenic (ppb)	0	10	1.2	1.2-1.2	NO	Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes
Disinfectants & Disinfection By-Products						
Chlorine (ppm)	MRDLG= 4	MRDL= 4	1.3	0.7-1.3	NO	Water additive used to control microbes
Total Haloacetic Acids (HAA5)* (ppb)	n/a	60	21.3	17.0 –21.3	NO	By-product of drinking water disinfection
Total Trihalomethanes (TTHMs)* (ppb)	n/a	80	36.3	23.2– 36.3	NO	By-product of drinking water disinfection
TURBIDITY	Limit (Treatment Technique)		Lowest Monthly % Meeting Limit		Violation?	Likely Source of Contamination
	0.3 NTU (Population served >9,999)		100%		NO	Soil Runoff
	Limit (Treatment Technique)		Highest Single Measurement		Violation?	Likely Source of Contamination
	1 NTU (Population served >9,999)		0.138		NO	Soil Runoff
Lead and Copper 2014 (unit of measurement)	MCLG	Action Level (AL)	90th Percentile	# of Sample Sites Over AL	Likely Source of Contamination	
Lead (ppb)	0	15	< 2	0	Corrosion of household plumbing systems; Erosion of natural deposits	
Copper (ppm)	1.3	1.3	0.181	0	Corrosion of household plumbing systems; Erosion of natural deposits	
Total Organic Carbon (TOC): The percentage of TOC removal was measured each month. We met all TOC removal requirements set by IEPA.						
Definition of Terms:						
Definitions: The tables in this CCR contain scientific terms and measures, some of which may require some explanation. (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. (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. Highest Level Detected: The single highest result of all samples collected during the Water Quality Report (WQR) calendar year. In some cases, it may represent a single sample if only one sample was collected. Range of Levels Detected: The range of individual sample results, from lowest to highest, that were collected during the WQR calendar year. (MRDL) Maximum Residual Disinfectant Level: The highest level of disinfectant allowed in drinking water. (MRDLG) Maximum Residual Disinfectant Level Goal: The level of disinfectant in drinking water below which there is no known or expected risk to health. MRDLGs allow for a margin of safety. (AL) Action Level: The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow. (ALG) Action Level Goal: 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. (TT) Treatment Technique: A required process intended to reduce the level of a contaminant in drinking water. n/a: Not applicable.						
Definition of Terms (continued): Level I & II assessments may be required if a positive coliform sample is detected during routine sampling. 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 the water system. Level 2 Assessment: 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 why total coliform bacteria have been found in the water system on multiple occasions. Turbidity: 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. *TTHM and HAA5: The maximum contaminant level (MCL) for TTHM and HAA5 is 80 ppb and 60 ppb respectively and is currently only applicable to surface water supplies that serve 10,000 or more people. Some people who drink water containing trihalomethanes in excess of the MCL over many years may experience problems with their livers, kidneys, or central nervous systems, and may have increased risk of getting cancer. Avg: Regulatory compliance with some MCLs are based on a running annual average of monthly samples. Unit of Measurement Definitions: ppm: Parts per million, or milligrams per liter (or one ounce in 7,350 gallons of water). ppb: Parts per billion, or micrograms per liter (or one ounce in 7,350,000 gallons of water). NTU: Nephelometric Turbidity Unit, used to measure cloudiness in drinking water. mrem: Millirems per year.						

Coliform Bacteria Sampling

Maximum Contaminant Level Goal (MCLG)	Total Coliform Maximum Contaminant Level MCL	Highest No. of Positive Samples	Fecal Coliform or E. Coli Maximum Contaminant Level	Total No. of positive E. Coli or Fecal Coliform samples	Violation	Likely source of contamination
0	1 positive monthly sample	1	SEE BELOW	0	NO	Naturally present in the environment

Revised Total Coliform Rule Information

Water treatment and the delivery of treated water to consumers has received heightened public attention recently. Regulatory bodies such as the Environmental Protection Agency and the Illinois Environmental Protection Agency review treatment processes, look for new contaminants, and other related issues that can be added or modified to better protect public health. A part of this process involves reviewing current regulations. As new technologies or better analytical methods are developed regulatory bodies amend regulations imposed on public water supplies. As of calendar year 2016, IEPA instituted the Revised Total Coliform Rule, (RTCR). Coliform testing is a routine analytical procedure that checks for fecal bacteriological contamination. The goal is to disinfect treated water to render these bacterium harmless if consumed. That is why the maximum contaminant level goal is established at zero. When reviewing this consumer confidence report you may notice that PWD Great Lakes had one positive sample. However this is not a violation because the repeat sampling was negative. Possible causes for positive samples vary. These include but are not limited to false positives, sample collection error, or lab error. When a positive sample occurs supplies must repeat the sampling process at the positive site. Additional sampling must accompany the repeat sample. These include sampling of one service connection upstream and one downstream. If the repeat samples are negative the sample site is cleared. If repeat samples indicate the presences of bacteria, the water supply must issue a boil order and continue repeat sampling until the samples are negative for contaminants. Utilizing Level I or Level II assessment processes, supplies must attempt to identify the source of contamination and if identified, attempt to rectify the cause. ■

Possible Source Water Contaminants

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.

Lead in Drinking Water

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>. As part of our ongoing concern for the health risks these contaminants pose, PWD Great Lakes will be conducting lead and copper sampling this calendar year 2017. ■

Source Water Assessment Summary

The 1996 amendments to the Safe Drinking Water Act require that state agencies conduct source water assessments for all public water supplies in their state. The source water assessment process includes potential contaminant source inventories, and determining the susceptibility of the source waters to contamination. The Illinois Environmental Protection Agency (IEPA) conducted this assessment for the Naval Station Great Lakes' (NAVSTA) water source in May 2003. According to the assessment, our water intake has a low sensitivity to potential contamination and therefore greater protection from shoreline contaminants due to mixing and dilution. Although there are no potential contaminant sources within the noted critical assessment zone, there are several within the immediate source water area. However, it should be stressed that treatment employed by PWD Great Lakes is protective of their consumers, as demonstrated by our finished water history. Illinois Environmental Protection Agency along with public water supplies continue to monitor water sources for contaminants like cyanotoxins or harmful algal blooms. In 2016, Cyanotoxin and algal bloom samples were collected by the state. Analytical results were negative, indicating that those contaminants were not present at our intake or located in close proximity to our intake. ■



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Unregulated Contaminants Sampling UCMR3 2013

Contaminant & (unit of measurement)	Highest Level Detected	Range of Levels Detected	Violation?	Likely Source of Contamination
Hexavalent Chromium (ppb)	0.22	0.11-0.22	No	Naturally present in the environment
Chromium (ppb)	0.27	0.20-0.27	No	Naturally present in the environment
Strontium (ppb)	130	110-130	No	Naturally present in the environment
Vanadium (ppb)	0.29	0.15-0.29	No	Naturally present in the environment
Molybdenum (ppb)	1.1	0.0-1.1	No	Naturally present in the environment
Cobalt (ppb)	0.040	0.035-0.040	No	Naturally present in the environment

Unregulated Contaminants Sampling UCMR4 2018

Unregulated contaminant sampling is part of the 1996 Safe Drinking Water Act (SDWA) amendments. The amendment requires that a list of no more than 30 unregulated contaminants be developed every five years. The results of these samples aid protection agencies with the future development of regulatory requirements. If a contaminant is found in elevated levels that pose risks when consumed, new regulatory requirements are developed to keep the public safe. Detection does not necessarily indicate a risk. Extensive testing is performed to determine if a contaminant poses a risk to the public and at what threshold it may pose a risk after a life time of exposure. Round 4 sampling for new unregulated contaminants is scheduled for 2018.

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PWD Great Lakes is continually updating and developing long-term strategies to improve the treatment plant and equipment. Some equipment deployed in the water treatment industry have useful working lives of several decades. Other assets like piping and valves can last nearly 100 years. As part of our plant modernization we replaced pneumatic actuators and valves with electrically powered actuators and valves. This upgrade replaced degraded equipment with a new control panel capable of providing constant feedback to our operators.

Contact Us!

Water Plant Supervisor & Individual/Group Tours:

Denzel Jines

(847) 688-2121 x139

Water Plant Operators:

24 hours

(847) 688-2121 x138

Water Complaints:

PWD Great Lakes Service Desk

24 hours

(847) 688-4820

We want our valued customers to know that we take their water quality seriously. If you have water related concerns, questions, or comments let us know by calling the numbers listed above. We are working hard everyday to ensure the integrity of the water source, treatment plant, and distribution system. We will continue to adopt new and proven technologies to ensure we are delivering the safest and esthetically pleasing drinking water possible.