Trenton Water Works – History of Trenton Reservoir

The Trenton Reservoir was constructed between 1895 and 1899. The reservoir was placed into service in 1899. At that time, the reservoir was receiving untreated river water. Then the reservoir was converted to a finished water reservoir in 1914, receiving water from the new water treatment plant. In order to convert the raw water reservoir into a finished water reservoir, it had to go through a cleaning process to remove 15 years of sediment.

The reservoir supplied 9 to 10 pressure zones in the distribution system. In 1957, the Central Pumping Station was built and the reservoir became the supply source for the Central Pumping Station - which in turn supplies the distribution system. The reservoir can hold approximately 104 million gallons of water and has a surface area of about seven acres. In 1975, there was a major water crisis in the City of Trenton due to a mechanical failure at the filtration plant. While the City was trying to repair the damage, the stored water in the reservoir was used to supply water to the residents for several days. The design for the installation of a cover over the reservoir to maintain treated water quality was completed in September of 2010.

Reservoir Cover

On March 24, 2009, the City of Trenton executed an administrative consent order with the NJDEP that would require the covering of the open finished water reservoir located in Trenton by March 1, 2013. Design of the floating cover was completed in September of 2010. Construction will be completed by March of 2013.

Trenton Water Works is a Reliable Water Provider

Trenton Water Works is one of New Jersey's largest water utilities.

Our Trenton Water Filtration Plant can treat up to 60 million gallons of water each day. The treated water is pumped into the distribution system, which supplies water for about 210,000 people in the City of Trenton and the Townships of Ewing, Hamilton, Hopewell, and Lawrence.

Source water from the Delaware River is carefully treated to bring drinking water to your tap.

For More Information:

The city of Trenton values the water utility's customers and works hard to ensure their satisfaction. If you have questions or comments about this report, please call our Water Quality Office at 609.989.3216 between 8:00 a.m. and 3:00 p.m., or contact the following sources of information:

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF SAFE DRINKING WATER
Phone: 609.292.5550 | Website: www.state.nj.us/dep/watersupply

U.S. ENVIRONMENTAL PROTECTION AGENCY SAFE DRINKING WATER HOTLINE
Phone: 1.800.426.4791 | Website: www.epa.gov/safewater

Este informe contiene información muy importante sobre su agua beber.

TRENTON WATER WORKS
P.O. Box 528
Trenton, NJ 08604-0528

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NOTICE TO LANDLORDS:

You are required by law to make this report available to all water consumers. Please post in a visible location or distribute to all tenants. Additional copies are available by calling 609.989.3208.

Quality drinking water is an essential resource.
The good news is that your tap water is top quality!

YOUR DRINKING WATER:

It's High Quality

It's Reliable

And we are continuing to make the necessary changes to keep it that way.

- Mayor Tony F. Mack
City of Trenton

2011 WATER QUALITY REPORT

TRENTON WATER WORKS

THE CITY OF TRENTON IS PLEASED TO PRESENT THE

Susceptibility Ratings for Trenton Water Department Sources

The table below illustrates the susceptibility ratings for the seven contaminant categories (and radon) for each source in the system. The table provides the number of wells and intakes that rated high (H), medium (M), or low (L) for each contaminant category. For susceptibility ratings of purchased water, refer to the specific water system's source water assessment report.

The seven contaminant categories are defined at the bottom of the page. DEP considered all surface water highly susceptible to pathogens, therefore all intakes received a high rating for the pathogen category. For the purpose of Source Water Assessment Program, radionuclides are more of a concern for ground water than surface water. As a result, surface water intakes' susceptibility to radionuclides was not determined and they all received a low rating.

If a system is rated highly susceptible for a contaminant category, it does not mean a customer is or will be consuming contaminated drinking water. The rating reflects the potential for contamination of source water, not the existence of contamination. Public water systems are required to monitor for regulated contaminants and to install treatment if any contaminants are detected at frequencies and concentrations above allowable levels. As a result of the assessments, DEP may customize (change existing) monitoring schedules based on the susceptibility ratings.

	Pathogens			Nutrients			Pesticides			Volatile Organic Compounds			Inorganics			Radio-nuclides			Radon			Disinfection Byproduct Precursors		
Sources	H	M	L	H	M	L	H	M	L	H	M	L	H	M	L	H	M	L	H	M	L	H	M	L
Wells – 0																								
GUDI – 0																								
Surface water intakes – 1	1			1			1			1			1					1			1	1		

- **Pathogens:** Disease-causing organisms such as bacteria and viruses. Common sources are animal and human fecal wastes.
- **Nutrients:** Compounds, minerals and elements that aid growth, that are both naturally occurring and man-made. Examples include nitrogen and phosphorus.
- **Volatile Organic Compounds:** Man-made chemicals used as solvents, degreasers, and gasoline components. Examples include benzene, methyl tertiary butyl ether (MTBE), and vinyl chloride.
- **Pesticides:** Man-made chemicals used to control pests, weeds and fungus. Common sources include land application and manufacturing centers of pesticides. Examples include herbicides such as atrazine, and insecticides such as chlordane.
- **Inorganics:** Mineral-based compounds that are both naturally occurring and man-made. Examples include arsenic, asbestos, copper, lead, and nitrate.
- **Radionuclides:** Radioactive substances that are both naturally occurring and man-made. Examples include radium and uranium.
- **Radon:** Colorless, odorless, cancer-causing gas that occurs naturally in the environment. For more information go to http://www.nj.gov/dep/rpp/radon/index.htm or call (800) 648-0394.
- **Disinfection Byproduct Precursors:** A common source is naturally occurring organic matter in surface water. Disinfection byproducts are formed when the disinfectants (usually chlorine) used to kill pathogens react with dissolved organic material (for example leaves) present in surface water.

Notification of Previous Violations at Trenton Water Works

We routinely monitor for the presence of drinking water contaminants and determined that health based and monitoring/reporting violations have occurred in the past without public notification. Although these incidents were not emergencies, as our customers, you have a right to know what happened and what we did to correct these conditions- See Below comment.

Health Based Violations: amount of contaminant exceeded safety standard (Maximum Contaminant Level (MCL)) or water was not treated properly.

Total Trihalomethanes (TTHM) or Haloacetic Acid 5 (HAA5) MCL Violations.

Testing results showed that our system exceeded the standard or maximum contaminant level (MCL) of 80 parts per billion (ppb) for TTHM and 60 ppb for HAA5 for the violation periods listed below. Levels are determined by averaging all monthly samples collected by our system over the year.

Type of Violation	Violation Period	Contaminant	Analytical Result
MCL, Average	July 1, 2009 through September 30, 2009	TTHM	82 ppb
MCL, Average	January 1, 2005 through March 31, 2005	TTHM	81.5 ppb
MCL, Average	April 1, 2004 through June 30, 2004	HAA5	67.8 ppb
MCL, Average	January 1, 2004 through March 31, 2004	HAA5	66.3 ppb

What should I do?

There is nothing you need to do. You do not need to boil your water or take other corrective actions. If a situation arises where the water is not safe to drink, you will be notified within 24 hours.

What does this mean?

These were not emergencies. If they had been, you would have been notified within 24 hours.

TTHM are four volatile organic chemicals and HAA5 are five haloacetic acid compounds which form when disinfectants react with natural organic matter in the water.

People who drink water containing trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous system, and may have an increased risk of getting cancer. People who drink water containing haloacetic acids in excess of the MCL over many years may have an increased risk of getting cancer.

What has been done?

New treatment processes were placed on line and the point of chlorination was changed with the start-up of the chlorine contact basins. Contact Dilip Patel, Acting General Superintendent at (609) 989-3208 or by mail at P.O. Box 528, Trenton, NJ 08604.

Monitoring, Reporting and Other Violations: non-health based violations involving treatment techniques, monitoring and sampling.

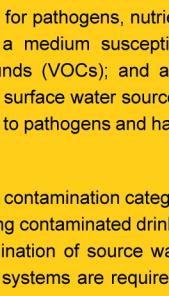
Type of Violation	Sampling Period	Contaminant
Treatment Technique Precursor Removal	April 1, 2009 through June 30, 2009	Carbon, Total
Treatment Technique Precursor Removal	January 1, 2005 through March 31, 2009	Carbon, Total
Treatment Technique Precursor Removal	October 1, 2008 through December 31, 2008	Carbon, Total

Please share this information with all the other people who drink this water, especially those who may not have received this notice directly (for example, people in apartments, nursing homes, schools, and businesses). You can do this by posting this notice in a public place or distributing copies by hand or mail.

This notice is being sent to you by Trenton Water Works. State Water System ID# 1111001.

Date distributed: 2011 CCR Release Date

Source Water Assessment



Trenton Water Works draws its source water from the Delaware River through one intake. After an assessment of the source water was performed, the susceptibility of the Delaware River for possible contamination was determined. Eight contaminant categories were evaluated in the assessment. The Delaware River received a high susceptibility rating for pathogens, nutrients, inorganics, and disinfection byproducts (DBPs); a medium susceptibility rating for pesticides and volatile organic compounds (VOCs); and a low susceptibility rating for radionuclides and radon. All surface water sources in New Jersey are considered to be highly susceptible to pathogens and have a low susceptibility to radionuclides and radon.

If a system receives a high susceptibility rating for a contamination category, it does NOT mean a customer is or will be consuming contaminated drinking water. The rating reflects the potential for contamination of source water, NOT the existence of contamination. Public water systems are required to monitor for regulated contaminants and to install treatment systems if any contaminants are detected at frequencies and concentrations above allowable levels.

NJDEP found the following potential contaminant sources within the source water assessment area for our water source:

- Agriculture, residential, urban, and commercial/industrial land use
- Sewage treatment plants
- Known contaminated sites
- Solid waste landfills, solid waste resource recovery facilities, solid waste transfer facilities, compost facilities, and Class B recycling facilities
- NJPDES permitted facilities
- Underground storage tanks

Trenton Water Works also has access to purchased groundwater as an emergency water source. This water source was not evaluated during the source water assessment because it is only an emergency water source.

If you have questions regarding the source water assessment report or summary, please contact the Bureau of Safe Drinking Water at Web site, www.nj.gov/dep/watersupply/safedrnk.htm, or by phone at 609.292.5550.

Faces of Trenton Water Works

Trenton Water Works Vehicle Maintenance Mechanics.

TWW has currently has a fleet of approximately 98 vehicles and equipment.

Understanding Quality

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 EPA's Safe Drinking Water Hotline (1.800.426.4791).

About source water prior to treatment

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, that may come from sewage treatment plants, septic systems, agricultural live stock operations, and wildlife.
- Inorganic contaminants, such as salts and metals, that can be naturally-occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.
- Organic chemical contaminants, including synthetic and volatile organic chemicals, that are byproducts of industrial processes and petroleum production and can also come from gas stations, urban stormwater runoff, and septic systems.
- Radioactive contaminants that can be naturally-occurring or 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. Food and Drug Administration regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

Acronyms and Definitions

Maximum Contaminant Level (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 (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.

Secondary Maximum Contaminant Level (SMCL): Any contaminant in drinking water which may adversely affect the taste, color, odor, or appearance of such water, or which may adversely affect the public welfare.

Maximum Residual Disinfectant Level (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 (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 contamination.

Treatment Technique (TT): A required process intended to reduce the level of a contaminant in drinking water.

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

Variances and Exceptions: State or EPA permission not to meet a MCL or a treatment technique under certain conditions.

ppm: Concentration in parts per million or milligrams per liter (mg/L); this is equivalent to $0.01 of $10,000.

ppb: Concentration in parts per billion or micrograms per liter (µg/L); this is equivalent to $0.01 of $10,000,000.

pCi/L: Picocuries per liter; a measure of radioactivity.

NLE: No Level Established

NTU: Nephelometric turbidity units (units describing how cloudy a water sample appears).

<: When seen in the table, it usually refers to below detectable levels.

≤: Less than or equal to; when seen in the table, it usually refers to below or equal to detectable levels.

Contaminant: Anything found in water (including microorganisms, minerals, chemicals, radionuclides, etc.) that may be harmful to human health.

Raw Water: Water in its natural state prior to any treatment for drinking.

Source Water: Water in its natural state originating from the watershed that supplies a water system with its raw water.

Watershed: The land area from which water drains into a stream, river, or reservoir.

Treated Water: Water to be used by a public water system that has received the application of approved water treatment chemicals.

Drinking Water: Water that has been treated to comply with EPA regulations and is pumped to the water customer for use.

Turbidity: Turbidity is a measure of the cloudiness of the water, which is a good indicator of water quality. High turbidity can hinder the effectiveness of disinfectants.

TABLE OF DETECTED CONTAMINANTS – DELAWARE RIVER 2010 DATA [4]

VULNERABLE POPULATIONS STATEMENT

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 people, and some 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 (1.800.426.4791).

METALS—TESTED AT CUSTOMERS' TAPS [1]

	Units	EPA's Action Level at 90th Percentile	Ideal Goal (EPA MCLG)	**2008** Sample results at the 90th Percentile	Number of Samples Exceeding Action Level	Violation	Source
Copper	ppm	1.3	1.3	0.06	0 out of 50	NO	Corrosion of household plumbing; erosion of natural deposits.

DISINFECTION BYPRODUCTS IN TAP WATER [2]

	Units	Highest Annual Average Allowed (EPA MCL)	Ideal Goal (EPA MCLG)	Highest Detected Level	Range of Values	Violation	Source
Total Trihalomethanes (TTHMs)	ppb	80	N/A	70 [3]	23-100	NO	Byproduct of drinking water disinfection.
Haloacetic Acids (HAAs)	ppb	60	N/A	41 [3]	12-64	NO	Byproduct of drinking water disinfection.

CLARITY CHARACTERISTICS—TESTED AT WATER TREATMENT PLANT

	Units	Highest Level Allowed (EPA MCL)	Ideal Goal (EPA MCLG)	Highest Reported Level	Level Range	Average Level for the Year	Violation	Source
Turbidity	NTU	95% of monthly samples must be at or below 0.3 NTU	0	0.38 (99.5% of samples ≤ 0.3 NTU)	0.04—0.38	0.10	NO	Soil runoff; river sediment.

INORGANIC CHEMICALS IN TAP WATER

	Units	Highest Level Allowed (EPA MCL)	Ideal Goal (EPA MCLG)	Reported Constituent Level	Violation	Source
Fluoride	ppm	4.0	2.0	0.95	NO	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories.
Nitrate (as Nitrogen)	ppm	10	10	1.0	NO	Runoff from fertilizer use; leaching of septic tanks, sewage; erosion of natural deposits.

TOTAL CHLORINE RESIDUAL

	Units	EPA MRDL	MRDLG	12 Month Average	Highest Monthly Average	Violation	Source
Total Chlorine	ppm	4.0 as Cl_2	4	**0.79**	1.07	NO	Additive used to control microbes.

RADIOACTIVE CONSTITUENTS IN TAP WATER [1]

	Units	Highest Level Allowed (EPA MCL)	Ideal Goal (EPA MCLG)	Highest **2006** Level	**2006** Range	Violation	Source
Combined Radium	pCi/L	5	0	1.08	ND—1.08	NO	Erosion of natural deposits.

Table Footnotes and Content Notes

TABLE FOOTNOTES

1. In accordance with 40 CFR 141.86(d), NJDEP has granted Trenton Water Works reductions in sampling frequencies for some contaminants because the concentrations do not change frequently. Some of our data, though representative, are more than one year old and do not represent the current sampling year; 50 Lead and Copper samples were collected and analyzed in the year 2008 and will be sampled and analyzed in 2011; Radionuclide samples were collected and analyzed in the year 2006 and will be sampled and analyzed in 2014.
2. These chemicals are regulated based upon the running annual average of quarterly samples.
3. The Highest Detected Level is the maximum running annual average.
4. Substances not listed in this table were not found in the treated water supply.

CONTENT NOTES:

The NJDEP has waived requirements to test for Synthetic Organic Compounds and pesticides because surface-water testing results indicate that they are not expected to occur in surface-water supplies in this area.

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. Trenton Water Works is 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 and 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.