

TERMS and DEFINITIONS

Action Level (AL) is the concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.

Contaminant is any physical, chemical, biological, or radiological substance or matter in water, which may or may not be harmful depending upon the concentration.

Maximum Contaminant Level (MCL) is 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) is 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) is the highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for the control of microbial contaminants.

Maximum Residual Disinfectant Level Goal (MRDLG) is 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.

Nephelometric Turbidity Unit (NTU) is a measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

Picocuries per Liter (pCi/L) is a measure of radioactivity in water.

Secondary Standards are guidelines pertaining to certain contaminants that may cause cosmetic effects, such as skin or tooth discoloration, or taste, odor, or discoloration in drinking water.

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

Parts per million (ppm) or milligrams per liter (mg/l)
One part per million is equivalent to one minute in two years or a single penny in \$10,000.

Parts per billion (ppb) or micrograms per liter. One part per billion corresponds to one minute in 2,000 years or a single penny in \$10,000,000.

Why are there contaminants in my water?

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants; however bottled water companies are not required to comply with drinking water regulations. The presence of contaminants does not necessarily indicate that water poses a health risk. For more information about contaminants and potential health effects, contact EPA's Safe Drinking Water hotline at (800) 426-4791.

Do I Need to Take Special Precautions?

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's Centers for Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Water Drinking Hotline (800) 426-4791.

How Can I Get Involved?

Our Board of Commissioners usually meets on the second Monday of each month at 1:30 p.m. at the utility office, located at 3745 Cunningham Road. Customers are always welcome to attend these meetings. Customers can also get involved in watershed protection efforts. Remember that your drinking water comes from area water bodies and it is important to safeguard our water supply.

Is Our Water System Meeting Other Rules That Govern Our Operations?

The State of Tennessee and the Environmental Protection Agency (EPA) require us to analyze our water and report the results on a regular basis to ensure its quality. We have met all these requirements and continually strive to deliver a high quality product. We want you to know that we pay attention and adhere to all rules governing our system. For more information, contact EPA's Safe Water Drinking Hotline (800) 426-4791 or visit: www.epa.gov/safewater.

Other Information:

The Commissioners of Hallsdale-Powell Utility District serve four-year terms. The remaining Commissioners make recommendations to the County Mayor after receiving input from the public. The Mayor selects Commissioners from a list submitted by the Board. Decisions by the Board on customer complaints brought before them under the District's Customer Complaint Policy may be reviewed by the Utility Management Review Board of the Tennessee Department of Environment and Conservation pursuant to Section 7-82-702(7) of the Tennessee Code Annotated.

Contact Information:

For more information about the data in this report, or to answer specific questions about the quality of your drinking water, contact Todd Dykes, Water Quality Supervisor at (865) 945-2860.

Este informe contiene informacion muy importante.
Traduscalo o hable con alguien que lo entienda bien.

We are blessed to live in an area where water is plentiful. Many people all around the world can only envy our good fortune.

But it is not a blessing we can take for granted.

It is up to all of us to help protect the water. As a utility that provides water to this region, it is even a greater responsibility for HPUD. We take this responsibility very seriously, as this report indicates.

The men and women of HPUD work hard every day at protecting the environment, both in the way we operate and the role we play in the community. We are happy to help support organizations focused on protecting the watershed that serves this area.

We depend on clean water to drink and for many of us our lakes and rivers are also an important part of our quality of life, whether it is fishing, boating, swimming or just having a picnic near the water.

We're doing all we can to make sure that people can enjoy this same quality of life for generations to come.

About Your Water

Currently, your public drinking water comes from two sources: The Melton Hill Water Treatment Plant is supplied by surface water taken from Melton Hill Lake in Anderson County. The Norris Water Treatment Plant is supplied by surface water taken from Norris Lake in Union County. The Tennessee Department of Environment and Conservation (TDEC) has prepared a Source Water Assessment Program (SWAP) Report for all untreated water sources serving our water system. According to the report, surface water from Melton Hill Lake is determined to be moderately susceptible to potential contamination. The surface water from Norris Lake water supply is determined to be low to moderately susceptible to potential contamination. An explanation of TDEC's Source Water Assessment Program, susceptibility scorings and the overall report to the U.S. Environmental Protection Agency (EPA) may be viewed online at: <http://www.state.tn.us/environment/dws/dwassess.shtml>.



Microbiological Contaminants	Violation Y/N	Range or Max Level Detected	Average	Unit	MCLG	MCL	Likely Source of Contamination
Total Coliform Bacteria	N	0	0	CFU	0	5%	Naturally present in the environment
E. Coli	N	0	0	CFU	0	0	Human and animal fecal waste
Turbidity (Melton Hill)	N	0.04-0.23	0.05	NTU	N/A	TT	Soil Runoff
Turbidity (Norris)	N	0.03-0.27	0.08	NTU	N/A	TT	Soil Runoff

We met the treatment technique for turbidity with 100% of monthly samples below the turbidity limit of 0.3 NTU. Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of the effectiveness of our filtration system.

Radioactive Contaminants

Gross Alpha (Norris)	N	0.55	0.18	pCi/L	0	15	Erosion of natural deposits
Radium 226 (Norris)	N	0.17	0.06	pCi/L	0	3	Erosion of natural deposits
Radium 228 (Norris)	N	0.53	0.18	pCi/L	0	2.5	Erosion of natural deposits

Inorganic Contaminants

Fluoride	N	0.64-1.23	0.97	ppm	4	4	Erosion from natural deposits; water additive which promotes strong teeth
Nitrate (Melton Hill)	N	0.8	0.8	ppm	10	10	Runoff from fertilizer use, leaching from septic tanks, sewage, erosion of natural deposits
Nitrate (Norris)	N	<0.056-0.81	0.27	ppm	10	10	Runoff from fertilizer use, leaching from septic tanks, sewage, erosion of natural deposits

Volatile Organic Contaminants

Total Trihalomethanes (TTHM's)	N	RAA: 34.5 (2nd quarter) Individual site range: 13-95	48.9	ppb	N/A	80	By-product of drinking water chlorination
Total Haloacetic Acids (THAA5's)	N	RAA: 43 (2nd quarter) Individual site range: 3-77	32.3	ppb	N/A	60	By-product of drinking water chlorination

Compliance is determined by calculating a Running Annual Average (RAA) of all sample results obtained quarterly at required sampling sites. RAA compliance is calculated with four consecutive quarters of data. Individual site range includes additional monitoring as required by EPA. This additional monitoring is a one time study called the Initial Distribution System Evaluation (IDSE). The IDSE study is intended to determine new Stage 2 monitoring sites. TTHM's have been designated a possible human carcinogen based on animal toxicology studies and have been linked to liver, kidney and central nervous system problems in animals. THAA5's are also designated possible human carcinogens based on animal studies. Only people who drink more than 2 liters of water per day exceeding the MCL for their lifetime are expected to have increased risk of cancer or adverse effects from TTHM's and THAA5's.

Other Contaminants

Aluminum	N	0.015	0.015	ppm	N/A	N/A	Naturally present in the environment
Chloride	N	22	22	ppm	N/A	N/A	Runoff, leaching from natural deposits
Manganese	N	0.002	0.002	ppm	N/A	N/A	Naturally present in the environment
Sodium (Melton Hill)	N	13.8	13.8	ppm	N/A	N/A	Erosion of natural deposits, used in water treatment
Sodium (Norris)	N	16.6	16.6	ppm	N/A	N/A	Erosion of natural deposits, used in water treatment
Sulfate	N	28.2	28.2	ppm	N/A	N/A	Naturally present in drinking water
Total Dissolved Solids	N	187	187	ppm	N/A	N/A	Runoff, leaching from natural deposits
Zinc	N	0.005	0.005	ppm	N/A	N/A	Naturally present in the environment

Lead and Copper Study—2008 Test Results Contaminants

Contaminant	Violation Y/N	Range or Max Level Detected	90 th Percentile Level	Unit	MCLG	MCL	Likely Source of Contamination
Copper	N	0-0.52	0.33	ppm	1.3	AL= 1.3	Corrosion of household plumbing systems
Lead	N	0-0.004	0	ppm	0	AL= 0.015	Corrosion of household plumbing systems

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. Halfsdale-Powell Utility is responsible for providing high quality drinking water at the customer tap, but cannot control the variety of materials used in home plumbing. 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 www.epa.gov/safewater/lead. During the most recent round of lead and copper testing, 0 out of 30 households sampled contained concentrations exceeding the action level.

Cryptosporidium and Giardia

Source Water Monitoring	Violation Y/N	Range or Max Level Detected	Unit	MCLG	MCL
Melton Hill (Cryptosporidium)	N	<0.1-1.1	oocysts/L	N/A	N/A
Norris (Cryptosporidium)	N	No Crypto Detected	oocysts/L	N/A	N/A
Melton Hill (Giardia)	N	No Giardia Detected	cysts/L	N/A	N/A
Norris (Giardia)	N	<0.1-0.2	cysts/L	N/A	N/A

HPUD is not required to monitor its drinking water for Cryptosporidium or Giardia, but does have to meet stringent treatment requirements for their removal from the source water. HPUD met or exceeded all treatment requirements in 2008 for Cryptosporidium and Giardia removal. Cryptosporidium is a microbial parasite which is found in surface water throughout the U.S. HPUD uses state-of-the-art membrane filtration at both of our water treatment plants. These plants are tested daily and proven to provide > 99.99% removal of Crypto and Giardia from source water. Studies have shown > 99.99999% removal of these organisms from water when using membrane filtration treatment systems. HPUD is currently conducting a 24-month study at each water plant intake. Our monitoring study indicated low levels of these organisms in our source water with 4 of 33 samples having positive results for either Cryptosporidium or Giardia. Current test methods do not allow us to determine if the organisms are dead or if they are even capable of causing disease. Ingestion of Cryptosporidium may cause cryptosporidiosis, an abdominal infection. Symptoms of infection include nausea, diarrhea, and abdominal cramps. Most healthy individuals are able to overcome the disease within a few weeks. However, immuno-compromised people have more difficulty and are at greater risk of developing severe, life threatening illness. Immuno-compromised individuals are encouraged to consult their doctor regarding appropriate precautions to avoid infection. Cryptosporidium must be ingested for it to cause disease, and may be passed through means other than drinking water.

Disinfection By-Products Contaminants

Contaminant	Violation Y/N	Range and/or Max Level Detected at Entry Point	Max Level Detected in Distribution System	Unit	MCLG	MCL	Likely Source of Contamination
Total Organic Carbons (raw)	N	1.7-2.7	N/A	ppm	N/A	TT	Naturally present in the environment
Total Organic Carbons (tap)	N	1.5-1.8	N/A	ppm	N/A	TT	Naturally present in the environment
Chlorine (Melton Hill)	N	1.0-2.4	1.8	ppm	4	4	Used in water treatment to control microbes
Chlorine (Norris)	N	0.9-3.3	1.8	ppm	4	4	Used in water treatment to control microbes
Chlorine Dioxide (Norris)	N	0.0-0.20	N/A	ppm	0.8	0.8	Used in water treatment to control microbes
Chlorite (Norris)	N	0.09-0.78	0.55	ppm	0.8	1	By-product of drinking water disinfection

We met the Treatment Technique requirement for Total Organic Carbon in 2008.