



Want More Information?

If you have any questions about this report or need more information, please contact the Water Quality Laboratory at 757-382-3550. The following telephone numbers are provided for specific issues or questions:

Customer Service (billing) **757-382-6352**
 Laboratory (water quality) **757-382-3550**
 Water Quality Hot Line **757-382-6360**

Visit our web site for online information at www.cityofchesapeake.net then click on Public Utilities. Contact us by E-mail at water@city.chesapeake.va.us.

Our Business Office is located at City Hall, second floor, 306 Cedar Road, Chesapeake, VA 23322. It is open from 8:30 a.m. to 5:00 p.m., Monday through Friday. Address correspondence to: Chesapeake Department of Public Utilities, P.O. Box 15225, Chesapeake, VA 23328.

Utilities Director James K. Walski, P.E.
 Financial/Customer Service Administrator Markiella A. Moore
 Maintenance & Operations Administrator Mark Gemender, P.E.
 Utility Engineer S. Dean Perry, P.E.
 Water Resource Administrator A. Craig Maples

Water Works Permit Identification Numbers

Northwest River System – PWSID 3550051
 South Norfolk/Indian River System – PWSID 3550052
 Western Branch System – PWSID 3550050

Public Participation

Public Utilities is funded by customer fees, not taxes. However, it is part of the City of Chesapeake government. Our legislative body is the Chesapeake City Council, which holds hearings on budget and other financial matters, approves contracts, and considers ordinances that create or amend local laws. Some of these matters affect the operation of Public Utilities. The City Council meets on the 2nd, 3rd and 4th Tuesdays of each month at 6:30 p.m. in the City Council Chambers, First Floor of the City Hall Building, 306 Cedar Road. The meetings are televised live on WCTV Channel 48, the local government access cable channel, and on the City web site, www.cityofchesapeake.net. Agendas for upcoming meetings are available on the City web site, or may be requested from the City Clerk's office at 757-382-6151.

INFORMATION FOR SPECIAL POPULATIONS

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 transplant, 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. The Environmental Protection Agency/Center for Disease Control guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbiological contaminants is available from the Safe Drinking Water Act Hotline at 1-800-426-4791.

INFORMATION ABOUT SOURCE WATER

A detailed source water assessment was conducted in 2001 by the Hampton Roads Planning District Commission. The Northwest River, like other surface water sources, was determined to have a high susceptibility to contamination while our deep wells, like other groundwater sources, were determined to be low in susceptibility to contamination using the

criteria developed by the state in its approved Source Water Assessment Program. The report consists of maps showing the source water assessment area, an inventory of known land use activities of concern, and documentation of any known contamination within the last 5 years. The report is on file at the Public Utilities Department.

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. Substances that may be present in source water include: (1) microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife; (2) inorganic contaminants, such as salts and metals, which can be naturally-occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming; (3) pesticides and herbicides, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses; (4) organic chemical contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial process and petroleum production, and can also come from gas stations, urban stormwater runoff, and septic systems; (5) radioactive contaminants, which can be naturally occurring or be the result of oil and gas production and mining activities.

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

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 Environmental Protection Agency's Safe Drinking Water Hotline at 1-800-426-4791 or accessing the EPA web site at www.epa.gov/safewater/.

2004 WATER QUALITY TABLE

The table contains the highest level and range, if available, detected by analyses performed in calendar year 2004, or the most recent testing in accordance with the regulations. An additional 180 compounds were tested for and not detected.

REGULATED SUBSTANCES

Substance (Unit)	MCL	MCLG	NWR Highest Level & Range	N Highest Level & Range	P Highest Level & Range	Likely Source	Meets EPA Stds.
Antimony (ppb)	6	6	0.11 ND-0.11	ND	ND	Discharge from petroleum refineries; fire retardants; ceramics; electronics; solders.	Yes
Arsenic (ppb)	50	NA	0.07 ND-0.07	ND	ND	Erosion of natural deposits; runoff from orchards, glass and electronics production wastes.	Yes
Barium (ppb)	2000	2000	24 ND-24	37 27-37	31	Erosion of natural deposits; discharge from metal refineries.	Yes
Cadmium (ppb)	5	5	3.7 ND-3.7	ND	ND	Corrosion of galvanized pipes; erosion of natural deposits, discharge from metal refineries; runoff from waste batteries and paints.	Yes
Chlorine, Total (ppm) *highest quarter avg.	MRDL 4	MRDLG 4	2.88* 0.01-5.56	2.8* 0.10-4.62	2.45* 0.20-3.96	Water additive used to control microbes.	Yes
Nitrate (ppm)	10	10	0.95 0.09-0.95	0.41 0.09-0.41	0.37	Runoff from fertilizer use, leaching from septic tanks, sewage, erosion of natural deposits.	Yes
Total Organic Carbon (TOC) (ppm)	TT (1.00 annual average removal ratio)	NA	1.54 1.40-1.82	6.23 1.62-6.23	1.27 1.19-1.42	Naturally present in environment.	Yes
Selenium (ppb)	50	50	1.6 ND-1.6	NA	NA	Discharge from petroleum and metal refineries; erosion of natural deposits; discharge from mines.	Yes
Fluoride (ppm) *highest monthly average	MCL / MCLG 4	NWR Entry Point #1 1.1* 0.6-1.2		N 1.07* 0.14-1.24	P 0.78* NA	Naturally present in environment, water additive which promotes strong teeth	Yes

RADIONUCLIDES

Substance (Unit)	MCL	MCLG	NWR		N	P	Likely Source	Meets EPA Standards
			EP #1	EP #2				
Beta/Photon emitters ¹ (pCi/L)	50	Zero	3.48 2.3-4.5	6.0 NA	3 2.8-3.0	1.8	Decay of natural and man-made deposits	Yes
Gross alpha particle (pCi/L)	15	Zero	0.28 ND-1.1	ND NA	0.4 0.3-0.4	ND	Erosion of natural deposits	Yes
Combined radium-226/228 ² (pCi/L) [tested every 4 years]	5	Zero	0.7 ND-1.2	0.1 NA	0.6 0.2-0.6	0.4	Erosion of natural deposits	Yes

1. The MCL for Beta particles is 4 mrem per year. EPA considers 50 pCi/L to be the level of concern for Beta particles.
 2. Some people who drink water containing radium 226 or 228 in excess of the MCL over many years may have an increased risk of getting cancer.

Substance (Unit)	MCL	MCLG	NWR	N	P	Likely Source	Meets EPA Standards
Turbidity - Clarity (NTU) *combined filter effluent	Max. TT, 1	NA	Max. 0.30*	Max. 0.26	Max. 0.80	Soil runoff	Yes
	Min. TT, less than or equal to 0.3, greater than 95%	NA	Min. greater than 99%	Min. greater than 99.05%	Min. 100%		

Substance (Unit)	MCL	MCLG	NWR		N		P		Likely Source	Meets EPA Stds.
			Range at Sampling Sites	Highest Running Average	Range at Sampling Sites	Highest Running Average	Range at Sampling Sites	Highest Running Average		
TTHM – Total Trihalomethanes (ppb)	80*	0	28-80	52	37-67	53	31-63	56	By-product of drinking water chlorination	Yes
HAA – Haloacetic Acids (ppb)	60*	0	4-51	25	20-46	37	14-46	38	By-product of drinking water chlorination	Yes

*MCL is the highest annual average allowed for the year

MICROORGANISMS

Substance	MCL	MCLG	NWR	N	P	Likely Source	Meets EPA Standards
Total Coliform Bacteria	5% or less of monthly samples are positive	0	2.0% March	ND	3.9% July	Naturally present in the environment	Yes

Monitored Substance (Unit)	MCL	MCLG	NWR/Wells	N	P	Likely Source
<i>Cryptosporidium</i> (organisms/liter)	None	None	ND	ND	NA	Warm-blooded animals living in the watershed
<i>Giardia</i> (organisms/liter)	TT	0	ND	ND	NA	Warm-blooded animals living in the watershed

Since 1994 the Utilities Department has tested quarterly for *Cryptosporidium* and *Giardia* in the Northwest River system. The organisms have never been detected in the raw or finished water.

LEAD AND COPPER (90TH PERCENTILE)

Substance (Unit)	MCL	MCLG	NWR 90th % Range	N 90th % Range	P 90th % Range	Likely Source	Meets EPS Standards
Copper (ppm) [house tap]	AL=1.3	1.3	0.140 0.009-0.252	0.136 0.001-0.250	0.152 0.004-0.216	Corrosion of household plumbing	Yes
Lead (ppb) [house tap]	AL=15	0	4.9 ND-8.5	2.3 ND-11.0	1.4 0.1-4.2	Corrosion of household plumbing	Yes
# of samples above AL of 1.3 ppm for copper # of samples above AL of 15 ppb for lead			0 out of 34 0 out of 34	0 out of 30 0 out of 30	0 out of 31 0 out of 31		Yes

*System is on Reduced Monitoring. This means after meeting 3 consecutive years of lead and copper monitoring with results below the AL, EPA reduces sampling frequency to once every three years. The next testing for N will be in 2005 and NWR and P in 2006.

ADDITIONAL WATER QUALITY PARAMETERS

These substances are not considered harmful, but some can affect the taste and odor of drinking water.

Substance (Unit)	Suggested Limit	NWR highest level and range	N highest level and range	P highest level and range	Likely Source
Aluminum (ppm)	0.05-0.2	0.091 0.039-0.091	0.28	0.20	Erosion of natural deposits
Ammonia (ppm)	None	0.58 ND-0.58	0.76 0.05-0.76	NA	Runoff from fertilizer use, byproduct of drinking water chloramination
Chloride (ppm)	250	83 73-83	20 16-20	23	Erosion of natural deposits, saltwater intrusion
Color (CU)	15	4 ND-4	NA	NA	Erosion of natural deposits
Hardness – total (ppm)	None	46 28-46	42 30-55	28	Erosion of natural deposits
Manganese (ppm)	0.05	0.007 0.003-0.007	0.039 ND-0.039	NA	Erosion of natural deposits, byproduct of drinking water treatment process
ph (pH units)	6.5-8.5	7.19 avg. 6.22-7.79	7.3 6.6-8.6	7.7	Drinking water treatment process
Sodium (ppm)	250	96 95-96	19 9-19	57	Erosion of natural deposits, salt-water intrusion, byproducts of drinking water treatment process
Sulfate (ppm)	250	103 39-103	27 20-27	NA	Erosion of natural deposits, salt-water intrusion, byproduct of drinking water treatment
Zinc (ppm)	5	0.197 0.018-0.197	0.191 0.072-0.191	NA	Erosion of natural deposits

Table Definitions

Substances in your drinking water are routinely monitored by the Virginia Department of Health according to Federal and State Regulations. The 2004 Water Quality Table shows the results of our monitoring for the period of January to December, 2004 unless otherwise stated. In the table and elsewhere in this report you will find many terms and abbreviations you might not know. The following definitions are provided to help you better understand these terms:

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

CU (Color Units) – a measure of the color of water.

Detected Substances – compounds detected in Chesapeake's drinking water during calendar year 2004. The SDWA requires that the highest value detected and the range, if available, during the calendar year be provided in the report. An additional 180 compounds were tested for and not detected. A full list of these test results is available from the Chesapeake Water Quality Laboratory at 757-382-3550.

HAAs (Haloacetic Acids) – byproducts of disinfection.

Likely Source – the major sources of the compounds detected in finished water.

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.

MFL – Million Fibers per Liter.

MRDL (Maximum residual disinfectant level) – a level of disinfectant added for water treatment that may not be exceeded at the consumer's tap without an unacceptable possibility of adverse health effects.

MRDLG (Maximum residual disinfectant level goal) – the maximum level of a disinfectant added for water treatment at which no known or anticipated adverse effect on the health of persons would occur, and which allows an adequate margin of safety. MRDLGs are nonenforceable health goals and do not reflect the benefit of the addition of the chemical for control of waterborne microbial contaminants.

Microbial Substance – disease-causing organisms that may be harmful at certain levels. More information about *Cryptosporidium* and *Giardia* is supplied in this report.

mrem/year – Millirems per year is a measure of radiation.

N (Norfolk System Results) – the highest level and range, if available, of the compounds detected in the finished water supplied by the City of Norfolk for Chesapeake customers

NA – not available.

ND – not detected, lab analysis indicates that the contaminant is not present or was below the level of detection.

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

NWR (Northwest River System Results) – The highest level and range, if available, of the compounds detected in the finished water processed at the Northwest River Water Treatment Plant (Entry Point #1), a combined surface and brackish well water source, and the Western Branch Well #1 and Aquifer Storage and Recovery (ASR) water source. The Western Branch auxiliary source is used during heavy demand on the Northwest River system and is identified as Entry Point #2.

P (Portsmouth System Results) – the highest level and range, if available, of the compounds detected in the finished water supplied by the City of Portsmouth for Chesapeake customers.

pCi/L (Pico-curies per Liter) – a measure of radioactivity in water.

ppb (parts per billion) – One part per billion is the equivalent of one minute in 2,000 years or one penny in \$10,000,000.

ppm (parts per million) – One part per million is the equivalent of one minute in 2 years or one penny in \$10,000.

TOC (Total Organic Carbon) **TT** – This value represents the waterworks' ability to meet TOC percent removal requirements based on an annual average of the monthly percent removal ratios. TOC percent removal requirements are met when the value is greater than or equal to 1.00.

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

TTHMs (Total Trihalomethanes) – compounds formed during the chloramination disinfection of drinking water.

A Word About Fluoride

The supplemental water supplied to customers in the Northwest River Service Area from the Western Branch Well Field (Entry Point #2) during the period July through September, 2004, exceeded the 2.0 mg/L secondary standard for fluoride with readings of 2.1 mg/L in August and 2.2 mg/L in September. Even though Entry Point #2 contributed less than 5% of the total water consumed in the Northwest System during this period, the City is still considered to have violated the secondary fluoride standard because all of a system's water sources are required to be evaluated individually for fluoride compliance regardless of the percentage of total water provided by a given source. During this same period water from the NWRWTP (over 95% of the water supplied in the Northwest River Service Area during this period) met the fluoride standard.

The elevated fluoride occurred as a result of increasing water demand which required more frequent pumping from the Western Branch Wells. At the same time, less water was available for injection into the ASR. When elevated fluoride was discovered with withdrawal from the Western Branch Wells and the ASR ceased until the ASR could be replenished. As of November 2004 the fluoride level from this source has been in compliance.

When the secondary fluoride standard is exceeded by a water supplier, the time period allowed to notify customers is one year from the time of the exceedance. Secondary standards are based on aesthetic considerations and not health hazards. Additionally, problems that may occur as a result of drinking water with fluoride at concentrations greater than 2.0 mg/L are based on long-term continuous consumption.

Even though a small percentage of the total water supplied in Chesapeake during 2004 exceeded the secondary fluoride standard, the Virginia Department of Health requires that the public notification contains specific, wording. The required language is as follows:

Important Information About Your Drinking Water Elevated Fluoride Levels Detected

"This is an alert about your drinking water and a cosmetic dental problem that might affect children under nine years of age. At low levels, fluoride helps prevent cavities, but children drinking water containing more than 2 milligrams per liter (mg/L) of fluoride may develop cosmetic discoloration of their permanent teeth (dental fluorosis). The drinking water provided by the Northwest River system at the entry point of our ASR and Western Branch wells (Entry Point #2), had a running average fluoride concentration during the period July through October, 2004 of 2.1 mg/L in July, 2.1 mg/L in August, 2.2 mg/L in September and 2.1 mg/L in October.

"Dental fluorosis, in its moderate or severe forms, may result in a brown staining and/or pitting of permanent teeth. This problem occurs only in developing teeth before they emerge from the gums. Children under nine should be provided with alternate sources of drinking water or water that has been treated to remove fluoride to avoid the possibility of staining and pitting of their permanent teeth. You may also want to contact your dentist about proper use by young children of fluoride-containing products. Older children and adults may safely drink the water.

"Drinking water containing more than 4 mg/L of fluoride (the U.S. Environmental Protection Agency's drinking water standard) can increase your risk of developing bone disease. Your drinking water does not contain more than 4 mg/L of fluoride, but we are required to notify you when we discover that the fluoride levels in your drinking water exceed 2 mg/L because of this cosmetic dental problem.

"For more information, please call the Violee Deluna of the Northwest River Water Treatment Plant at 382-3550. Some home water treatment units are also available to remove fluoride from drinking water. To learn more about available home water treatment units, you may call NSF International at 1-877-8-NSF-HELP.

"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."

High Water Quality = A Top Priority

The City of Chesapeake provides this report. You will find important information about Chesapeake's water sources that tells about how we purify the water you receive at your tap. The results of the testing we perform to ensure the high quality of Chesapeake's drinking water supply are also included. The federal Safe Drinking Water Act (SDWA) sets the standards and this annual water quality report is one of the provisions of those standards.

In order to produce the approximately 16 million gallons a day for about 59,000 accounts, more than 118,000 analyses throughout the treatment process are performed annually for treatment of drinking water. Water quality sampling in approximately 500 homes and businesses around the city tells the story of how well we are doing.

Public Utilities is committed to continuous improvement. Membership and participation in national and international professional organizations keeps the City up-to-date on the industry innovations. We are members of the American Water Works Association (AWWA) and its Partnership for Safe Water (PSW), an association of water utilities and government entities committed to drinking water quality that is superior to that required by federal regulations. We provide financial support to the American Water Works Association Research Foundation (AWWARF), which funds and publishes the results of many projects every year aimed at improving management and treatment of water and wastewater facilities. We belong to the Association of Metropolitan Water Agencies (AMWA), whose membership is limited to utilities with at least 50,000 customer accounts. We are also members of the American Membrane Technology Association (AMTA), and the Water Environment Federation (WEF).

On the local scene, the City provides financial and technical support to the regional Hampton Roads Planning District Commission (HRPDC), which coordinates many research, public education and information programs. Some of these programs are the Hampton Roads Water Efficiency Team (HR WET), Hampton Roads Stormwater (HR Storm), Hampton Roads Clean (HR Clean), the Groundwater Committee, the Water Supply Committee, Help 2 Others (H2O), Southern Watershed Area Management Program (SWAMP) and Source Water Assessment Program (SWAP). We are members of the Hampton Roads Utility and Heavy Contractors Association (HRUHCA) and the Virginia Cross-Connection Control Association (VCCCA)

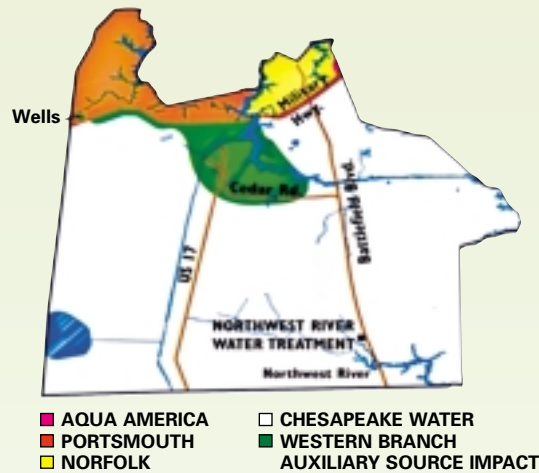
Public Utilities is always looking for another good idea through QualServe, a program initiated by the AWWA. Last year a Task Force developed a policy in the Employee Incentive Program to recognize groups of employees as well as individuals who do an outstanding job. Another Task Force developed a cross-training program with an eye to reduce turnover and help retain excellent employees.

The City of Chesapeake's "The City That Cares" motto is recognized by Public Utilities in meeting the needs of both external and internal customers. We strive to go beyond the expected to the excellent in customer service by being responsive, courteous and effective. Customer Service stands ready at 382-6352.



Reliability = 3 Sources Plus

To provide water to the City's increasing population, there are three major water sources: the Northwest River Water Treatment Plant and the cities of Norfolk and Portsmouth, plus one auxiliary source, which is used during peak demand periods. These sources are described below.



The City's Northwest River Water Treatment Plant, located at 3550 South Battlefield Boulevard, treats up to 10 million gallons a day (mgd) from the Northwest River. The plant also treats brackish ground water from four wells located along South Battlefield Boulevard. The plant capabilities include both the conventional processes of coagulation, sedimentation, and filtration as well as reverse osmosis (RO) membrane treatment. This supply generally serves customers south of Military Highway, but is subject to periodic adjustment depending on consumption patterns.

Customers in the Indian River and South Norfolk areas north of Military Highway receive treated water from the city of Norfolk. Water customers in Western Branch and Deep Creek north of Military Highway receive treated water from the city of Portsmouth. These sources are of excellent quality and meet or exceed the SDWA standards.

The Western Branch Auxiliary Source is located near the Hampton Roads Airport. This source contains groundwater from the Western Branch Well #1 blended with Aquifer Storage and Recovery (ASR) water. This source is used to meet peak demand and serves roughly the Deep Creek area below Military Highway with a maximum reach to the City Hall Complex on Cedar Road.

A private water company, Aqua America of Virginia, has a franchise area in the Norfolk Highlands neighborhood, which serves approximately 450 customers. Inquiries may be addressed to Mr. Dale Kyser, Project Manager, at 804-448-3770.

Treatment and Testing = Quality Control

The Northwest River Water Treatment Plant sources are both river water and brackish well water. The river water is treated first through the conventional process of coagulation, flocculation, sedimentation, and filtration. Then the water is filtered through the reverse osmosis (RO) membrane plant, as necessary, to maintain high quality and to mitigate salt-water intrusion events. One hundred percent of the brackish well water is treated with the RO membranes and blended with treated surface water.

Public Utilities operates 24 hours a day, seven days a week, to produce a reliable supply of quality drinking water, as well as to ensure a sufficient quantity of water, to meet customer satisfaction, and to protect the environmental integrity of our source water.

Spotlight on the Water Laboratory

Testing to provide clean, clear water happens at the Northwest River Water Treatment Plant Laboratory. There, chemists, biologists and technicians, all with either a degree in chemical engineering, chemistry, biology or related

fields, analyze your water with state-of-the-art equipment, instruments and computer software. You expect your water to be the highest quality and that is achieved by testing, detecting



and correcting the treatment process. Samples are collected and tested from the source to the consumer's tap, including water at numerous process locations in the plant and throughout the distribution system service area. The laboratory is certified by the Virginia Division of Consolidated Laboratories to perform metals, organics and microbiology testing that is required by the Safe Drinking Water Act. Once the Lake Gaston Water Treatment Plant is running, the laboratory will be the main lab for both plants. The staff is committed to making the high quality water you use every day. After all, they drink it too!

Lake Gaston Water Treatment Plant Update

The **NEXT STEP** in providing 8 MGD of new water for the City, the Lake Gaston Water Treatment Plant, is about three-fourths complete and on schedule to start up in the spring of 2006. The plant, located west of the Hampton Roads Airport on VA Rt. 58, is designed to pump up to 13.6 million gallons a day and will meet expected changes to the EPA Safe Drinking Water Act. Besides the treatment plant, the project includes improvements to the In-Town Lakes site in Deep Creek and new pipelines to carry raw and treated water. The project will cost about \$66 million and will be completed as scheduled. Updates and pictures of these projects may be seen at www.cityofchesapeake.net, then click on Public Utilities. Public Utilities is expected to meet our projected water demands to the year 2040 through contracts with the neighboring cities of Norfolk and Portsmouth and the new Lake Gaston Water Treatment Plant.



What's New?

EPA REGULATORY INITIATIVES

Radionuclides – The revised radionuclides rule became effective on December 8, 2003. The Rule specifies sampling requirements of individual radionuclides instead of simply testing for gross alpha and beta emitters. The rule establishes an MCL for uranium and retains the existing MCLs for combined radium-226/228, gross alpha and beta particles and photon radioactivity. The rule sets the MCLG at zero. It updates the specific health effects language and likely source information for the regulated radionuclides. Decay of natural and man-made deposits or erosion of natural deposits are the major sources of these elements. Long-term exposure to levels above the MCL of these elements may cause some people to have an increased risk of getting cancer.

Arsenic – Arsenic is a naturally occurring mineral in soil, water, air, plants, and animals. Studies have linked long-term, chronic exposure to arsenic in drinking water to cancer. Compliance with the 0.010 ppm MCL is required in January, 2006. Water providers will begin including health information and arsenic concentrations in annual reports for water that exceeds 5 ppb (one-half of the MCL). Arsenic levels in all of Chesapeake's water sources are below the MCL.



Stage 1 Disinfectants and Disinfection Byproducts (DBP) Rule – This rule is the first of a staged set of rules that will reduce the allowable levels of DBPs in drinking water. The deadline for compliance was January 1, 2002. The purpose of the rule is to improve public health protection. Under the rule Chesapeake is monitoring five haloacetic acids (HAA5) and total trihalomethanes (TTHM). HAA5s have an MCL of 60 parts per billion. TTHMs have an MCL of 80 parts per billion.

Unregulated Contaminants Monitoring Regulation (UCMR) Rule – This rule was finalized in January, 2001 to determine the MCLs for selected compounds. The rule applies to all large systems serving more than 10,000 persons. Surface water systems such as the Northwest River Water Treatment plant must monitor during four consecutive quarters. The City of Chesapeake started the program in August, 2001 and the Virginia Department of Health (VDH) has approved the sampling schedule. All results were submitted to the VDH and the



EPA. You can find more information about EPA's regulations on the Internet at www.epa.gov/safewater/ or by calling the Safe Drinking Water Hotline at 1-800-426-4791.

Chesapeake
VIRGINIA
Department of Public Utilities
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Chesapeake, VA 23328

Postal Customer



2004 Water Quality Report

City of Chesapeake
Department of Public Utilities



LAKE GASTON WATER TREATMENT PLANT CONSTRUCTION.

Chesapeake
VIRGINIA

Water...For Today And Tomorrow

PRSRT STD
US POSTAGE
PAID
NORFOLK VA
PERMIT #427