Consumer Confidence Report

Naval Support Activity South Potomac
Naval Support Facility Dahlgren
Dahlgren, VA

Virginia Public Water System: VA6099340

Your tap water meets all Environmental Protection Agency (EPA), State of Virginia, and Navy drinking water health standards.

Source:drinkingwaterfountain.co.uk

2021 Consumer Confidence Report

Annual Drinking Water Quality Report

Naval Support Activity South Potomac is pleased to present the 2021 Naval Support Facility Dahlgren (NSFDL) annual water quality report, or Consumer Confidence Report (CCR), as required by the Safe Drinking Water Act (SDWA). This CCR includes testing performed between January 1 and December 31, 2021. **Testing indicates NSFDL's drinking water supply was in full compliance with federal and state of Virginia SDWA standards during 2021.** NSFDL is committed to providing high-quality, safe, and reliable drinking water service to you every day, while also working hard to provide details about where your water originates, what constituents it contains, and how it measures up to safe drinking water standards set by regulatory agencies. The 2021 drinking water monitoring schedule established by the Virginia Department of Health, included collection of routine monthly bacteria samples, annual nitrate/nitrite samples, and monitoring chlorine disinfectant residuals, disinfection byproducts, and the like.

Special Precautions and Health Information

(Note: This statement is required by the Virginia Department of Health Waterworks Regulations and 1998 EPA CCR Rule.)

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/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.

Source: Image by Pezibear from Pixabay

Substances Expected to be in 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 (800) 426-4791. https://www.epa.gov/ccl/types-drinking-water-contaminants

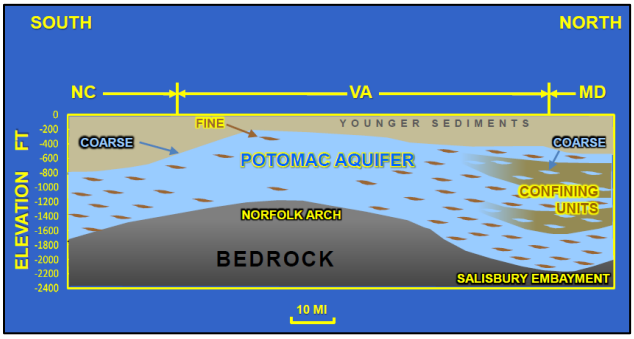
The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity.

Potential 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 livestock operations, and wildlife; 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; pesticides and herbicides, which may come from a variety of sources such as agriculture, urban stormwater 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 stormwater runoff, and septic systems; and radioactive contaminants, which can be naturally occurring or be the result of oil and gas production and mining activities. In order to ensure that tap water is safe to drink, EPA developed regulations that limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

Water Source Information

Drinking water produced by NSFDL is comprised entirely of groundwater. No surface water enters the drinking water system. Water is pumped from 600 to 800 feet below ground from the Potomac Aquifer, which is a deep geologic feature that primarily recharges with the slow downward percolation of rainwater. This rate is so slow, that if rain fell today, it would take nearly one thousand years to reach the aquifer.



The source of your drinking water is the Potomac Aquifer. Source: Randy McBride, US Geological Survey, The Potomac Aquifer of the Virginia Coastal Plain

Source: Image by congerdesign from Pixabay

A system of three water wells, all located on the southern portion of NSFDL, are used to bring groundwater to the surface where it is treated by disinfection, pressurized or sent to water towers for storage, and distributed to NSFDL consumers. Disinfection of the groundwater is done by the addition of chlorine to kill any bacteria and microorganisms that may be in the water and it continues to disinfect water as it travels through pipes. Disinfection is considered one of the major public health advances of the 20th century. If you object to the chlorine taste of your tap water, try placing the water in an uncovered pitcher in the refrigerator overnight. This will reduce the chlorine taste.

Source Water Assessment and its Availability

The Virginia Department of Health conducted a source water assessment of the NSFDL's drinking water system in April 2020 and determined it to be of high susceptibility to contamination based on using State-developed criteria in their approved Source Water Assessment Program. The assessment 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 five years prior. The report is available by contacting the NSFDL Public Works Drinking Water Program Manager at (540) 653-2341.

Source: Image by PublicDomainPictures from Pixabay

Note to Users of Infrequently Used Facilities

Some of the NSFDL facilities have low or infrequent water use. To ensure that drinking water in these low-use facilities maintain proper chlorination, the Public Works Water Utilities operators regularly exercise the fire hydrants to keep chlorination levels elevated and fresh water moving through the system. First thing in the morning or after long periods without use, it may be desirable to allow fixtures to flow for a few minutes before water use. If you require assistance regarding infrequently used facilities, please call NSFDL Public Works Drinking Water Program Manager at (540) 653-2341.

Note to Sodium Sensitive Groups

The drinking water at NSFDL contains levels of sodium that measured between 109 and 127 milligrams per liter (mg/L) in 2020. U.S. Department of Agriculture and the Department of Health and Human Services jointly publish the Dietary Guidelines for Americans every five years with the current version of the Guidelines being from 2021 and recommends individuals reduce daily sodium intake to less than 2,300 milligrams (mg). Each individual should always consult his or her health care provider before adopting any dietary regimen.

Additional Information for Lead

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. https://www.epa.gov/ground-water-and-drinking-water/basic-information-about-lead-drinking-water

The law currently allows end use fixtures, such as faucets, with less than 0.25% lead to be labeled as "lead free." Visit the National Sanitation Foundation (NSF) website to learn more about lead-containing plumbing fixtures.

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. Use water only from the cold-water tap for drinking, cooking, and especially making baby formula, as hot water may contain higher levels of lead. 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 at (800) 426-4791 or at http://www.epa.gov/safewater/lead.

Water Recycle Droplet. Source: ClipArt.com

Drinking Water Definitions

Units	Definition
ppm	parts per million, or milligrams per liter (mg/L)
ppb	parts per billion, or micrograms per liter (µg/L)
pCi/L	picocuries per liter (a measure of radioactivity)
positive samples/month	Number of samples taken monthly that were found to be positive
% positive samples/month	Percent of samples taken monthly that were positive
NA	Not applicable
ND	Not detected
NR	Monitoring not required, but recommended
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.
TT	Treatment Technique: A required process intended to reduce the level of a contaminant in drinking water.
AL	Action Level: The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.
Variances and Exemptions	State or EPA permission not to meet an MCL or a treatment technique under certain conditions.
MRDLG	Maximum residual disinfection level goal. 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.
MRDL	Maximum residual disinfectant level. 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.
MNR	Monitored Not Regulated
MPL	State Assigned Maximum Permissible Level

Table 1. Detected Contaminants

Contaminants	MCLG or MRDLG	MCL, TT, or MRDL	NSFDL Water	Range		Sample Date	Violation	Typical Source
				Low	High			
Disinfectants & Disinfection By-Products								
Chlorine (as Cl2) (ppm)	4	4	1.9	0.2	1.9	2021	No	Water additive used to control microbes
TTHMs [Total Trihalomethanes] (ppb)	NA	80	16.0	11.0	16.0	2021	No	By-product of drinking water disinfection
Haloacetic Acids (HAA5) (ppb)	NA	60	5.0	3.0	5.0	2021	No	By-product of drinking water disinfection
Inorganic Contaminants								
Fluoride (ppm)	4	4	1.0	0.8	1.0	2020	No	Erosion of natural deposits; Water additive which promotes strong teeth;
Barium (ppm)	2	2	0.008	ND	0.008	2020	No	Discharge of drilling wastes; Discharge from metal refineries;
Radioactive Contaminants								
Alpha emitters (pCi/L)	0	15	6	ND	6	2020	No	Erosion of natural deposits
Combined Radium (pCi/L)			0.9	0.5	0.9	2020	No	Erosion of natural deposits

Lead and Copper	MCLG	AL	NSFDL Water	Sample Date	Typical Source
Lead - action level at consumer taps (ppb)	0	15	2	2019	Corrosion of household plumbing systems; Erosion of natural deposits
Copper - action level at consumer taps (ppm)	1.3	1.3	0.2	2019	Corrosion of household plumbing systems; Erosion of natural deposits

In an effort to ensure the safest water possible, the State required NSFDL to monitor some contaminants not required by Federal regulations. Of those contaminants only the ones listed below were found in your water.

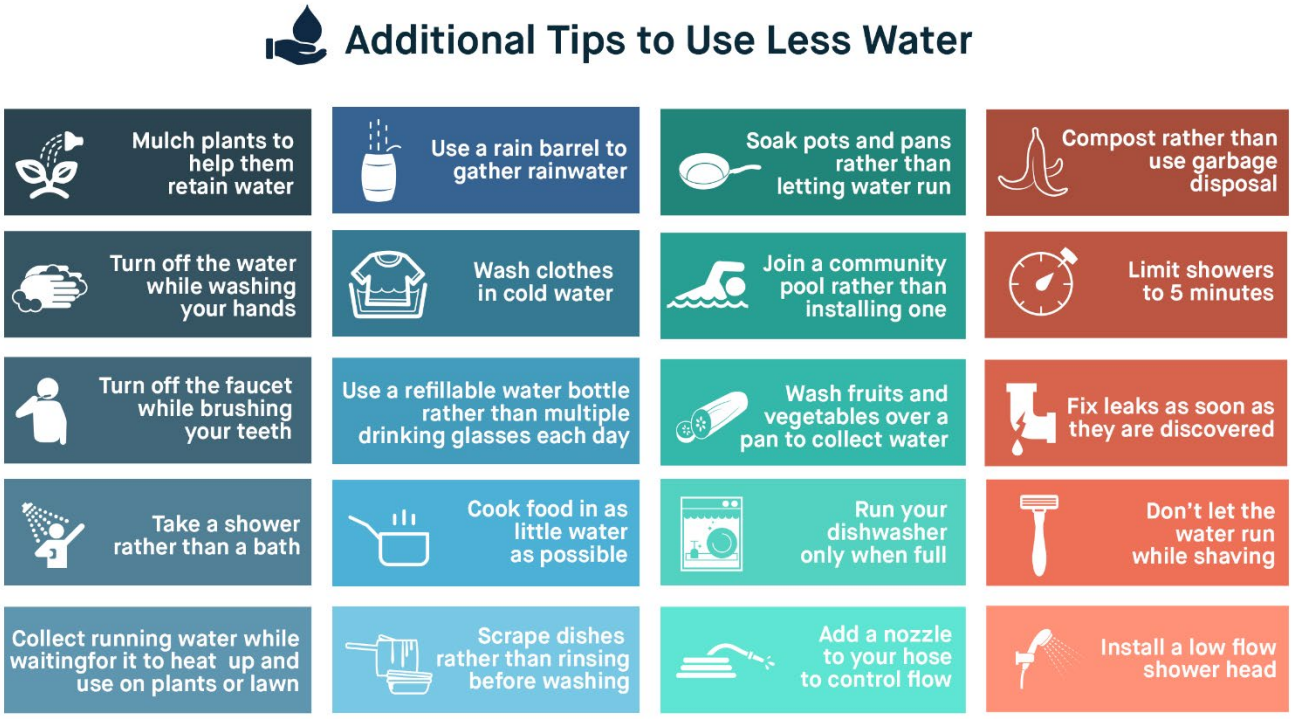
Table 2. Additional Contaminants

Contaminants	State MCL	NSFDL Water	Violation	Sample Date	Explanation and Comment
Chloride (ppm)	250	6.8	No	2020	Erosion of natural deposits
Sulfate (ppm)	250	37.3	No	2020	Erosion of natural deposits
Sodium (ppm)	*	127	No	2020	Erosion of natural deposits

*State and federal agencies recommend sodium levels in water not exceed 20 milligrams per liter (mg/L) for people on very low sodium diets and 270 mg/L for people on moderately restricted sodium diets.

The following contaminants were monitored for, but not detected, in your water.

Table 3. Undetected Contaminants						
Contaminants	**MCLG or MRDLG**	**MCL, TT, or MRDL**	**NSFDL Water**	**Sample Date**	**Violation**	**Typical Source**
Nitrate [measured as Nitrogen] (ppm)	10	10	ND	2021	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Nitrite [measured as Nitrogen] (ppm)	1	1	ND	2021	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Microbiological						
Total Coliform (positive samples/month)	0	1	ND	2021	No	Naturally present in the environment



Additional Tips to Use less Water. Source: Expertise.com

Source: Image by Arek Socha from Pixabay

What's New in the World of Water? PFAS

Perfluorinated compounds or perfluoroalkyl substances (PFAS) are a class of man-made chemicals. PFAS have been used for many years to make products that resist heat, stains, grease and water. For example, PFAS may be used to keep food from sticking to cookware, to make sofas and carpets resistant to stains, to make clothes and mattresses more waterproof, and in some food packaging, as well as in some firefighting materials. Commercial and consumer products containing PFAS were first introduced in the 1940s. Within DON's operations, PFAS are most commonly associated with aqueous film-forming foam (AFFF) used primarily for firefighting, but can also be contained in some other materials (e.g., degreaser vapor suppression) and wastes/mixed wastes.

Since their introduction in the late 1940s, PFAS have entered and spread throughout the environment. Many PFAS, including PFOS and PFOA, breakdown very slowly in the environment and can travel long distances over time many people are concerned about the potential impacts of PFAS on human health. Research is currently ongoing to evaluate the potential health impacts of PFOS, PFOA, and other PFAS. In many animal studies, exposure to PFAS has been shown to cause changes in the function of the liver, thyroid, pancreas, and hormone levels. The impacts of PFAS in humans are less well understood and considered uncertain, though studies of exposed populations have shown possible links between PFAS and some harmful health effects.

3M® ceased manufacturing AFFF with PFOS (this formulation also included about 1-2% PFOA) in 2002. However, legacy 3M® AFFF remains in some DON systems and inventory. DON is in the process of identifying these locations and preparing to remove this AFFF for proper disposal/destruction. AFFF produced after 2002 may also contain PFOA and/or precursor PFAS, which can degrade to PFOA. DON is in the process of testing the newest formulations of AFFF, which were developed to comply with the EPA 2010/2015 PFOA Stewardship Program, to verify whether there are trace amounts of PFOA and, if so, at what level. Once PFOA-level compliant formulations can be identified and certified to meet MILSPEC performance criteria, old stocks will be replaced with these newer formulations.

Firefighters Using AFFF Foam

Source: civilian.exposure.org@civlianexposed

Currently, PFAS are classified as unregulated or "emerging" contaminants, which have no Safe Drinking Water Act (SWDA) regulatory standards or routine water quality testing requirements. PFAS are being studied by the EPA to determine if regulation is needed. On 19 May 2016, the EPA's Office of Water issued health advisory levels (HAs) for two PFAS,

perfluorooctane sulfonate (PFOS) - Publication EPA 822-R-16-004 and perfluorooctanoic acid (PFOA) - EPA 822-R-16-005. Health advisory levels are not regulatory standards. They are health based concentrations above which the EPA recommends action should be taken to reduce exposure. The EPA HA levels are 0.07 parts per billion (ppb) for both PFOS and PFOA, individually or as the sum of the two.

Per EPA Unregulated Contaminant Monitoring Rule (UCMR3) requirements, Navy was required to sample at 17 installations and Marine Corps was required to sample at 7 installations within the United States. None of the systems exceeded the EPA Health Advisory (HA) for PFOS and PFOA. DON policy further required sampling at installations where there was a known or suspected release of PFAS with a potential to impact drinking water sources. This required Navy to sample 10 additional installations and Marine Corps to sample 1 additional installation within the United States. Only NALF Fentress had PFOA or PFOS detected above the EPA HA in drinking water and alternative water was immediately provided upon receipt of sample results. Earle Colts Neck (MSC Fire School) had PFAS detected in ground water monitoring wells associated with an environmental restoration site, but not in the Navy drinking water supply. https://www.secnav.navy.mil/eie/pages/pfas.aspx

The Naval Support Facility Dahlgren drinking water system sampled for PFAS in 2020 and 2021. In all samples, PFAS were not detected. Additional investigations and testing will continue and results reported to the consumers and in future CCRs.

Home Filtration or Treatment Devices

While the drinking water at NSFDL is safe to drink and complies with federal and state regulations, some individuals prefer to use an additional at-home or office filtration or treatment device. If you purchase a treatment device for private home use, we strongly recommend that it is maintained and that active maintenance is provided according to the manufacturer's instructions. Failure to maintain the equipment properly may create the potential for contamination.

Source: Image by Mees Groothuis from Pixabay

Water Conservation Tips

Did you know that the average U.S. household uses approximately 400 gallons of water per day or 100 gallons per person per day? Luckily, there are many low-cost and no-cost ways to conserve water.

Small changes can make a big difference - try one today and soon it will become second nature.

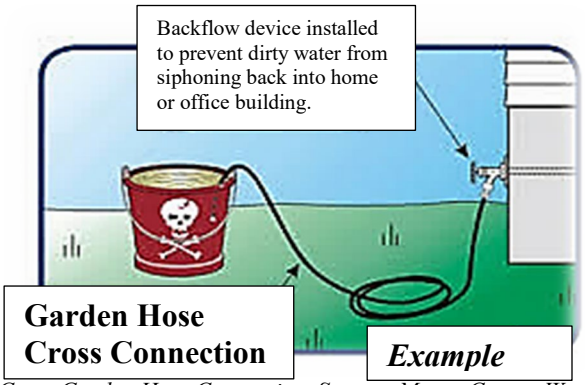
- Take short showers - a 5-minute shower uses 4 to 5 gallons of water compared to up to 50 gallons for a bath.
- Shut off water while brushing your teeth, washing your hair and shaving and save up to 500 gallons a month.
- Use a water-efficient showerhead. They are inexpensive, easy to install, and can save you up to 750 gallons a month.

- Run your washing machine and dishwasher only when they are full. You can save up to 1,000 gallons a month.
- Water plants only when necessary.
- Fix leaky toilets and faucets. Faucet washers are inexpensive and take only a few minutes to replace. To check your toilet for a leak, place a few drops of food coloring in the tank and wait. If it seeps into the toilet bowl without flushing, you have a leak. Fixing it or replacing it with a new, more efficient model can save up to 1,000 gallons a month.
- Adjust sprinklers so only your lawn is watered. Apply water only as fast as the soil can absorb it and during the cooler parts of the day to reduce evaporation.
- Teach your kids about water conservation to ensure a future generation that uses water wisely. Make it a family effort to reduce next month's water bill!
- Visit www.epa.gov/watersense for more information.

Cross Connection Control Tips

Drinking water normally flows from the source through the distribution (plumbing) system to the consumer. However, under certain conditions, contaminated water can flow in the reverse direction or "backflow" into the drinking water supply. The point at which this occurs is known as a cross connection. Cross connections can be either direct physical piping connections or potential connections such as garden hoses and faucets. Cross connections occur in many places throughout the distribution system. Examples of common cross connections in residences include dishwashers, garbage disposal units, hand-held showerheads, whirlpool tubs, toilets, faucets, and any unit onto which a hose may be attached. Common commercial and/or industrial cross connections occur at boiler units, fire sprinkler systems, and auxiliary water supply systems.

Backflow of potentially contaminated water is caused by a pressure differential---either back-siphonage or backpressure. Back-siphonage is the presence of a partial vacuum or lack of pressure in the supply line causing the contents further downstream to be siphoned or sucked back into the supply line. Back-siphonage may occur when the water pressure coming into your home suddenly drops due to a water main break, flushing, or pump failure. Back pressure occurs when there is greater pressure downstream (as caused by pumping, elevation, steam or air pressure) in the distribution system pushing contaminants back into the supply line. Backflow of contaminated water through unprotected cross connections has led to outbreaks of illness. Chemical and microbiological contaminants introduced via backflow may have acute health effects including gastrointestinal illness, organ damage, and neurological effects such as blurred vision, headache, and paresthesia. Backflow is controlled by the use of backflow prevention (BFP) devices. There are numerous types of BFP devices, and applicability depends on the cross connection, water use, and plumbing structure. These devices are installed on the plumbing system or incorporated into the design of the plumbing fixture.



Cross Garden Hose Connection. Source: Maury County Water System, Backflow Prevention

NSFDL is in accordance with applicable Federal and State laws and regulations, and has a program in place to control cross connection and prevent backflow of contamination into the drinking water supply. This program consists of

routine surveys to identify and address actual and potential cross connection hazards and annual inspections of backflow prevention devices to ensure proper functioning. As consumers of the drinking water, all users play a vital role in protection of the drinking water supply.

Here are some tips you can use to control cross connections and prevent backflow:

- Do not leave hoses submerged in buckets, sinks, puddles or other containment units.
- Do not use hoses to unclog blocked toilets, sewers, etc.
- Never install plumbing hardware onto the supply system without obtaining prior approval of the device(s) from the Navy's Public Works Waterworks.
- Notify NSFDL Public Works Drinking Water Program Manager immediately if there is any indication or suspicion that contaminated water has entered the water supply system by backflow.

For more information or to report an issue regarding cross connection control and backflow prevention, contact the NSFDL Public Works Drinking Water Program Manager at (540) 653-2341.

Water Quality Information

In order to ensure that tap water is safe to drink, EPA require regulations, which limit the amount of contaminants in water provided by public water systems. Tables 1, 2 and 3 on the following pages list all of the drinking water contaminants detected during the calendar year of this report. Older data is included since the EPA or the state of Virginia requires us to monitor for certain contaminants less than once per year because the concentrations of these contaminants do not vary significantly from year to year, or the system is not considered vulnerable to this type of contamination.

As such, some of NSFDLs' data, though representative, may be more than one-year-old. Although the Public Works Drinking Water Program tested for many contaminants, only those listed in Table 1 and 2 were found in your water.

All sources of drinking water contain some naturally occurring contaminants. At low levels, these substances are generally not harmful in NSFDL's drinking water system. Removing all contaminants would be extremely expensive, and in most cases, would not provide increased protection of public health. A few naturally occurring minerals may actually improve the taste of drinking water and have nutritional value at low levels.

Within Table 1, 2, and 3 you may find terms and abbreviations that are familiar to you. To help you better understand these terms, NSFDL has provided a definitions chart

Source: Image by Muhammad Naufal Subhiansyah from Pixabay

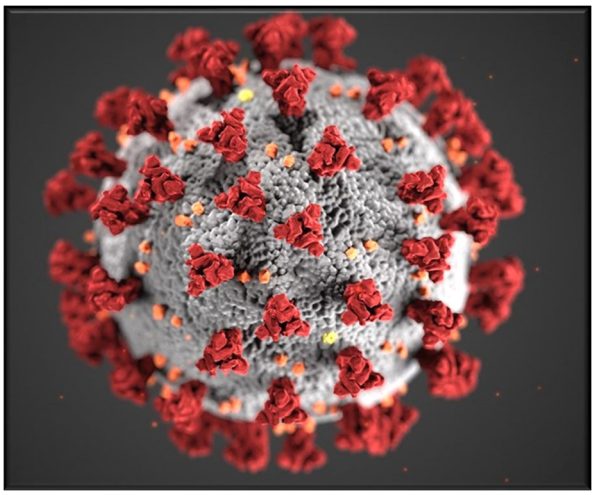
COVID-19 Pandemic Drinking Water Emergency Action Plan

Effective: April 10, 2020

In response to COVID-19 NSFDL updated the existing Water Emergency Action Plan to detail specific requirements established by the Centers for Disease Control, Department of Navy and other health-focused agencies to ensure continued protection of human health. With support of mission essential personnel in the Utilities Department, NSFDL maintained staffing and met all requirements of the Safe Drinking Water Act. We continue adapting as we

move through the phased reopening plans. As consumers return to work, NSFDL will implement a flushing plan to include flushing from the main lines and local flushing within each building. Additional information will be sent to building managers to include specific actions and timelines.

Corona Virus



Source: National Park Service

Lead in Priority Areas

Lead exposure from drinking water pipes, fittings or faucets is a particular concern for children. The EPA recommends schools and childcare facilities test the lead content of drinking water. The Navy adopted the recommendation as policy and tests the Dahlgren School, Child Development, Youth Activity and Teen Centers every five years.

Between August 10 and October 17, 2019, NSFDL tested 170 water outlets for lead in accordance with established sampling protocols. Of those outlets, six exceeded the EPA established 15 parts per billion (ppb) action level for lead. These outlets were seldom used sources of drinking water. Personnel removed or replaced each fixture that exceeded the 15 ppb level with a new lead-free fixture to ensure the safety of children and staff. NSFDL plans to complete sampling again in 2024 and will provide advance notification to parents, caregivers and staff. To learn more about lead in drinking water in schools and day care centers visit the following EPA website: https://www.epa.gov/dwreginfo/lead-drinking-water-schools-and-child-care-facilities.

Unregulated Contaminants Monitoring Rule 4 (UCMR4)

The 1996 amendments to the Safe Drinking Water Act (SDWA) require that once every five years, the U.S. Environmental Protection Agency (EPA) issue a new list of no more than 30 unregulated contaminants to be monitored by public water systems (PWSs). Contaminants detected during the 2020-2021 sampling period and additional information can be obtained from the NSFDL Drinking Water Program Manager.

Utilities, Water Leaks, or Related, Please Contact:

Utilities Branch Head
Kevin Burgess, Utilities
Address: 18329 Thompson Rd, Bldg. 120M
Dahlgren, VA 22448
Phone: (540) 653-7518
Email: kevin.d.burgess.civ@us.navy.mil

For More Consumer Confidence Report Information, Please Contact:

Drinking Water Program Manager
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Phone: (540) 653-2341
Email: adrian.k.mood.civ@us.navy.mil