Naval Support Activity Souda Bay

2013 Drinking Water Consumer Confidence Report

1 July 2014

About this Report

This Consumer Confidence Report (CCR) is prepared in accordance with the Greece Final Governing Standards (FGS), CNIC Instructions 5090.1 and 5090.3, and COMNAVREGEUR Instruction 11330.1. This CCR provides valuable information on water quality and supports the Navy's commitment to provide high quality drinking water to our service members, their families, local installation staff and other DoD personnel. Presented in this report is information regarding the source of our water, its constituents and the health risks associated with any contaminants detected in quantities exceeding a drinking water regulatory maximum contaminant level (MCL) or an action level (AL) during the calendar year 2013.

What standards apply to drinking water overseas?

DoD water systems in Europe must comply with country specific Environmental FGS and CNIC Instruction 5090.1, which requires compliance with certain sections of the U.S. Environmental Protection Agency (USEPA) Safe Drinking Water Act (SDWA). The FGS were developed after a comprehensive review and comparison of SDWA and Greek drinking water standards. When Greek and USEPA standards are different, the most protective requirement was adopted into the FGS. This assures U.S. personnel and Greek employees receive drinking water which meets or is above the nation's requirements. The applicable SDWA standards are also compared directly.

Where does my water come from?

NSA Souda Bay purchases potable water from the Chania Water Authority (DEYACh). The sources of the drinking water are deep wells and natural springs at the foot of the White Mountains. DEYACh chlorinates the water prior to distribution. NSA Souda Bay provides additional chlorination before the water is distributed around the base. The last sanitary survey of the drinking water system was conducted in February 2011. Additional information about the source water is available from the Public Works Environmental Office at 266-1973.

Is my water safe?

Tap water provided to Naval Support Activity (NSA) Souda Bay meets health-based Environmental Final Governing Standards-Greece (GrFGS) and based on analyses performed by the US Army Public Health Command Region – Europe, has been declared potable. The chemical and biological analyses are below the MCLs established in the GrFGS and USEPA Maximum Contaminant Level Goal.

On 14 October 2013, an earthquake caused soil to enter one of DEYACh's wells, which lead to increased turbidity at NSA Souda Bay. Turbidity is a measure of the cloudiness

of the water. Turbidity has no health effects. However, turbidity can interfere with disinfection and provide a medium for microbial growth. Turbidity may indicate the presence of disease-causing organisms. These organisms include bacteria, viruses, and parasites that can cause symptoms such as nausea, cramps, diarrhea and associated headaches. NSA immediately issued a precautionary boil water and completed extra bacteria tests, all of which indicated that the water did not contain bacteria. DEYACh resolved the problem, turbdity levels returned to normal and the precautionary boil water notice was lifed on 17 October.

Why are there contaminants in my 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 from the Safe Drinking Water website, www.epa.gov/safewater/sdwa. The sources of your drinking water are groundwater and natural springs. As water travels 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 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.

How can I get involved?

Customers should always observe water conservation practices. Water is a scarce resource and everyone's cooperation in conserving water is greatly appreciated. If you have any questions, concerns, or ideas, please contact the Public Works Utilities and Energy Management Office at 266-1441.

For what compounds is NSA Souda Bay drinking water tested?

Drinking water at NSA Souda Bay is tested at least monthly and analyzed according to standards established by the GrFGS. The water is analyzed for inorganics, volatile organics, pesticides, disinfection by-products, radionuclides, microbiological contaminants, coliform bacteria, and residual chlorine (residual disinfectant). Information on the specific compounds tested and the testing frequency is available from the Public Works Environmental Office at 266-1973.

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. Some people who drink 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.

USEPA/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 website, www.epa.gov/safewater/sdwa.

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. PWD 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 thirty seconds to two minutes before using water for drinking or cooking. If you are concerned about lead in your water, please contact PWD Environmental Office at 266-1973. Information on lead in drinking water and the steps you can take to minimize exposure is available from the USEPA Safe Drinking Water website, www.epa.gov/safewater/lead.

Annual Declaration of Potability

The Naval Support Activity Souda Bay, Crete, Greece, drinking water is declared POTABLE. This declaration is based on the NSA Souda Bay Annual Drinking Water Monitoring Report dated 28 June 2013, NSA Souda Bay, Crete, Greece results, which was conducted by US ARMY PUBLIC HEALTH COMMAND ,REGION EUROPE and current U.S. Naval Support Activity Souda Bay, Crete, Greece, Public Works Department, Utilities and Energy Management Branch Laboratory water analysis and test results.

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Water Quality Data Table

Although over 100 parameters were tested for, only a few were detected and thus reportable. The following two tables list the levels of drinking water contaminants regulated by the GrFGS and USEPA SDWA which were detected during the latest Annual Drinking Water Sampling event. The presence of contaminants in the water does not necessarily indicate that the water poses a health risk. The GrFGS requires monitoring for certain contaminants less than once per year because the concentration of these contaminants does not change frequently.

Parameter	GrFGS MCL	MCLG	Concen-tration	Testing Frequency	Violation	Typical Source
Turbidity (NTU)	1	NA	8.5*	Twice Hourly	No	Soil runoff
TTHMs (total trihalomethanes) (ppm)	100	Zero	0.0022	Annually	No	By-product of drinking water disinfection.
Barium (ppm)	2	2	0.072	Annually	No	Erosion of natural deposits.
Cadmium (ppm)	0.005	0.005	0.0004	Annually	No	Corrosion of galvanized pipes; Erosion of natural deposits
Sodium (ppm)	No upper limit	NA	7.1	Annually	No	Erosion of natural deposits, leaching.
Fluoride (ppm)	1.2	1.2	0.2	Annually	No	Erosion of natural deposits, leaching.
Nitrate (as Nitrogen) (ppm)	10	10	0.5	Annually	No	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits.

Parameter	GrFGS MCL	Recorded levels	Testing Frequency[1]	Sample Date	Violation	Typical Source
Gross Alpha Activity (pCi/L)	15	0.8±1	Every 4 years	March 2012	No	Naturally Occuring
Gross Beta Activity (pCi/L)	50	0.85±0.95	Every 4 years	March 2012	No	Naturally Occuring
Combined Radium 226/228	5	<0.23	Every 4 years	March 2012	No	Naturally Occuring

Parameter	GrFGS AL	MCLG	90th percentile	Sample Date[1]	Samples Exceeding AL	Violation	Typical Source
Copper – action level at consumer taps (ppm)	1.3	1.3	0.084	July 2010	0	No	Corrosion of household plumbing systems.
Lead – action level at consumer taps (ppb)	15	zero	3.6	July 2010	1	No[2]	Corrosion of household plumbing systems.

* Caused by an earthquake. Precautionary boil water notice issued 14-17 October. No positive bacteria samples were recorded during this time.
[1] Sampling and analsyis is required every four years
[2] One of 10 samples above MCL is allowed. This sample was at 16 ppb

Unit Descriptions	
Term	**Definitions**
NTU	Nephelometric Turbidity Unit – A unit for measuring turbidity. Turbidity is a measure of the cloudiness of the water. Turbidity has no health effects. However, turbidity can interfere with disinfection and provide a medium for microbial growth. Turbidity may indicate the presence of disease-causing organisms. These organisms include bacteria, viruses, and parasites that can cause symptoms such as nausea, cramps, diarrhea and associated headaches.
pCi/L	Picocuries per liter – A unit for measuring radioactivity.
ppb	Parts per billion, or micrograms per liter (µg/L).
ppm	Parts per million, or milligrams per liter (mg/L).
NA	Not Applicable.

Important Drinking Water Definitions	
Term	**Definitions**
AL	Action Level – The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow
MCL	Maximum Contaminant Level – The highest level of a contaminant that is allowed in drinking water. MCLs are set by the USEPA or Greek water standards, and the most conservative (lowest) value is adopted by the GrFGS.
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 are set by USEPA, and include a margin of safety.
MRDLG	Maximum Residual Disinfectant 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.

This Consumer Confidence Report is required by COMNAVREGEUR Instruction 11330.1 (30 July 2007) and CNIC Instruction 5090.1 (04 FEB 2013)

For more information, please contact the Public Works Environmental Office, who are members of the Installation Water Quality Board, at 266-1973.