Consumer Confidence Report 2022

Naval Air Facility Misawa
Drinking Water System

DFSP Hachinohe, Japan

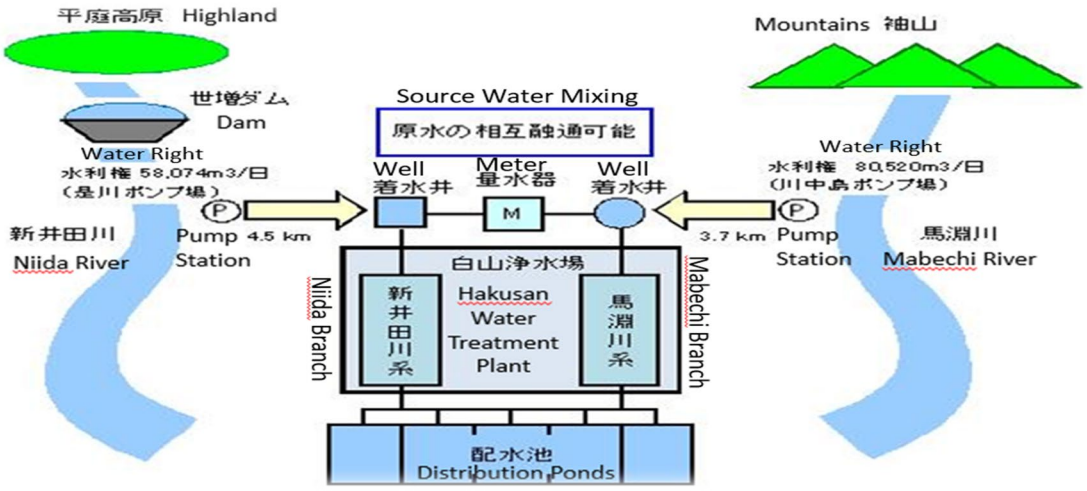
Issued in accordance with Commander, Navy Installations Command Instruction 5090.1B, N4, 15 Mar 2021.
This report reflects monitoring data collected in 2022 and will be updated annually.

Naval Air Facility Misawa is pleased to provide you with this annual report on drinking water quality for Defense Fuel Support Point (DFSP) Hachinohe. This report provides information about the water delivered to DFSP Hachinohe in 2022. It describes where our water comes from, what it contains, and how it compares to standards set by the U.S. Navy's Overseas Drinking Water Program and the Japanese Environmental Governing Standards.

Source of Water

Drinking water at DFSP Hachinohe is purchased from the Hachinohe Regional Water Supply Authority (HRWSA), which owns and operates the Hakusan Water Treatment Plant (HWTP). HWTP treats surface water from the Mabechi River and the Niida River with conventional treatment and chlorine disinfection processes. In 2019, HWTP was visited by the Navy Water Quality Oversight Council. A schematic of the HRWSA system serving DFSP Hachinohe is shown below.

Water Distribution System



Water distribution networks at the three DFSP Hachinohe pump stations are administratively managed together as one water distribution system because all three stations receive treated water from the same source. The Naval Air Facility (NAF) Misawa Public Works Department (PWD) operates the water distribution system within the bounds of DFSP Hachinohe and manages compliance actions with all water quality requirements.

Compliance with Drinking Water Requirements

U.S. military installations overseas are required to meet all criteria established in the latest Japan Environmental Governing Standards (JEGS), which are intended to ensure DoD activities and installations in Japan protect human health and the environment through specific environmental compliance criteria.

Navy installations are required to meet or exceed U.S. National Primary Drinking Water regulations, under the Safe Drinking Water Act of 1974, to ensure overseas drinking water systems meet the same water quality as required in the U.S. These standards require monitoring and testing of the drinking water for contaminants on a regular basis to ensure it is safe to drink. PWD regularly conducts environmental audits to verify compliance, and a Sanitary Survey (SS) is conducted every three years by an external team. During the SS conducted in March 2019, 14 deficiencies were identified; however, 13 of the deficiencies were resolved, and only one remain in the final state of closure. As a result, the Regional Water Quality Board granted DFSP Hachinohe a Conditional Certificate To Operate (CTO). A full CTO will be awarded when closure of the remaining deficiency is achieved.

Important Health Information

Some individuals may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised people, such as those undergoing chemotherapy, those who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, the elderly, and infants can be particularly at risk from infections. These individuals should seek advice about drinking water from their health care providers. The U.S. Environmental Protection Agency (EPA) and the Center for Disease Control and Prevention have established guidelines on the appropriate means to lessen the risk of infection by cryptosporidium and other microbial contaminants. This information can be obtained by calling the EPA Safe Drinking Water Hotline at 1-800-426-4791.

Possible Source Contaminants

The presence of contaminants does not necessarily indicate that the water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the EPA Safe Drinking Water Hotline at 1-800-426-4791 or visiting the EPA website at https://www.epa.gov/dwstandardsregulations/drinking-water-contaminant-human-health-effects-information

As water travels over the surface of the land or through the ground, it dissolves naturally-occurring minerals and, in some cases, radioactive material. It can also pick up other contaminants resulting from the presence of animals or human activity. Contaminants that may be present in source water include:

- **Microbial contaminants**, such as viruses and bacteria, which 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 byproducts of industrial processes and petroleum production. They can also come from gas stations, urban stormwater runoff, and septic systems.
- **Radioactive contaminants**, which can be naturally occurring or be the result of oil and gas production and mining activities.

The U.S. Environmental Protection Agency (EPA) established a three tier public notification plan for drinking water, which is summarized in Table 1 below. We follow this outline to ensure that you are notified in a timely manner if notifications are necessary.

Table 1. The 3 Tiers of Public Notification*		
	Required Distribution Time	Required Distribution Time
Tier 1: Immediate Notice	Any time a situation occurs where there is the potential for human health to be immediately impacted, water suppliers have 24 hours to notify people who may drink the water of the situation.	Should a Tier 1 notification be necessary, we will notify you via an All Hands E-mail message and Facebook.
Tier 2: Notice as Soon as Possible	Any time a water system provides water with levels of a contaminant that exceed EPA or state standards or that hasn't been treated properly, but that doesn't pose an immediate risk to human health, the water system must notify its customers as soon as possible, but within 30 days of the violation.	We will notify you of a Tier 2 concern through an All Hands E-mail message and Facebook.
Tier 3: Annual Notice	When water systems violate a drinking water standard that does not have a direct impact on human health (For Example, failing to take a required sample on time) the water supplier has up to a year to provide a notice of this situation to its customers.	Tier 3 notifications are published annually in this document, the Consumer Confidence Report.

*Definitions taken from EPA website.
See http://water.epa.gov/lawsregs/rulesregs/sdwa/publicnotification/basicinformation.cfm for more information.

Other Potential Contaminants

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. When your water has been sitting for several hours, you can further minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using the water for drinking or cooking. Drinking water samples are collected from consumer taps including family housing units to analyze for lead annually. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available at http://www.epa.gov/safewater/lead

Disinfection By Products

Chlorine or other chemicals are added to drinking water during the treatment process to disinfect it from microbial contaminants such as viruses and bacteria. These chemicals also react with dissolved organic

matter to produce chemical byproducts that may be harmful. As with other contaminants, these are carefully monitored to ensure consumer health.

Per- and Polyfluoralkyl Substances

What are per- and polyfluoroalkyl substances and where do they come from?

Per- and polyfluoroalkyl substances (PFAS) are a group of thousands of man-made chemicals. PFAS have been used in a variety of industrial and consumer products around the globe, including in the U.S., for decades. Due to their widespread use and environmental persistence, most people in the United States have been exposed to certain PFAS. PFAS have been used to make coatings and products that are used as oil and water repellents for carpets, clothing, paper packaging for food, and cookware. They are also contained in some foams (aqueous film-forming foam or AFFF) used for fighting petroleum fires.

Is there a federal regulation for PFAS in drinking water?

There is currently no federal drinking water standard for any PFAS compounds. In May 2016, the U.S. Environmental Protection Agency (EPA) established a lifetime drinking water health advisory (HA) level at 70 parts per trillion (ppt) for individual or combined concentrations of perfluorooctanoic acid (PFOA) and perfluorooctanesulfonic acid (PFOS). Both chemicals are types of PFAS.

The Department of Defense (DoD) issued policies in 2020 to monitor drinking water for PFAS at all DoD owned or DoD operated water systems. DoD monitors for PFAS at a minimum of every three years. The DoD policy states that if water sampling results confirm that drinking water contains PFOA and PFOS at individual or combined concentrations greater than the 2016 EPA HA level of 70 ppt, water systems would 1) take immediate action to reduce exposure to PFOS or PFOA, to include providing alternative drinking water; and 2) undertake additional sampling to assess the level, scope, and localized source of contamination.

Japan promulgated a water quality safety guideline of 50 ppt for PFAS in drinking water in April 2020 applicable to our host nation suppliers.

What about the EPA's 2022 interim Health Advisories or proposed regulations?

EPA issued interim Health Advisories for PFOS and PFOA in 2022. However these newer levels are below quantifiable limits (i.e., below detection levels). EPA is expected to issue a proposed regulation on PFAS drinking water standards for public comment in the next few months. DoD looks forward to the clarity that a nationwide regulatory standard for PFOS and PFOA in drinking water will provide.

In anticipation of this EPA drinking water regulation and to account for emerging science that shows potential health effects of PFOS and PFOA at levels lower than 70 ppt, DoD is evaluating its efforts to address PFAS in drinking water, and what actions we can take to be prepared to incorporate this standard, such as reviewing our current data and collecting additional sampling where necessary. DoD remains committed to communicating and engaging with our communities throughout this process.

Has NAF Misawa tested its water for PFAS?

Yes. In November 2022 samples were collected from Pump Station #1.

Below MRL

We are pleased to report that drinking water testing results were below the Method Reporting Limit (MRL) for all 18 PFAS compounds covered by the sampling method, including PFOA and PFOS. This means that PFAS were not detected in your water system. In accordance with DoD policy, the water system will be resampled every three years for your continued protection.

Table 2: PFAS Results	Health Advisory Level (HA)	Location sampled on 11/17/2022
Constituent (ppt)		PS #1
1 Hexafluoropropylene oxide dimer acid (GenX)	NA	ND
2 N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	NA	ND
3 N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	NA	ND
4 Perfluoro-1-butane sulfonic acid (PFBS)	NA	ND
5 Perfluoro-n-decanoic acid (PFDA)	NA	ND
6 Perfluoro-n-dodecanoic acid (PFDoA)	NA	ND
7 Perfluoro-n-heptanoic acid (PFHpA)	NA	ND
8 Perfluorohexane sulfonic acid (PFHxS)	NA	ND
9 Perfluoro-n-hexanoic acid (PFHxA)	NA	ND
10 Perfluoro-n-nonanoic acid (PFNA)	NA	ND
11 Perfluorooctane sulfonic acid (PFOS)	50	ND
12 Perfluoro-n-octanoic acid (PFOA)	50	ND
13 Perfluoro-n-tetradecanoic acid (PFTeDA)	NA	ND
14 Perfluoro-n-tridecanoic acid (PFTrDA)	NA	ND
15 Perfluoro-n-undecanoic acid (PFUdA)	NA	ND
16 11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11CL-PF3OUdS)	NA	ND
17 9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9Cl-PF3ONS)	NA	ND
18 4,8-dioxa-3H-perfluorononanoic acid (ADONA)	NA	ND
https://www.cnic.navy.mil/om/base_support/environmental/water_quality/Testing_for_Perfluorochemicals.html		

Drinking Water Monitoring

PWD Misawa uses Japanese and EPA approved laboratory methods to analyze our drinking water, and monitors drinking water for the following constituents. Table 3 lists the contaminant and required sampling frequency.

Table 3: Monitoring Frequency	
Constituent	**Frequency**
Coliform Bacteria, pH, Chlorine, Temperature	Monthly
Inorganic Chemicals, Volatile Organic Chemicals, Disinfection Byproducts, Pesticides/PCBs	Annually
Lead and Copper	Triennial
Radionuclides	Once every three years for gross alpha activity, and once every nine year for gross beta particles and photon radioactivity
Asbestos	Once every nine years

Water Quality Data

The following section lists constituents detected during the latest round of required sampling. Only those constituents detected are listed in Table 4. The presence of a contaminant does not necessarily indicate the water poses a health risk. As such, DFSP Hachinohe drinking water is safe and fit for human consumption.

Table 4: Detected Constituents in Drinking Water					
Inorganic Chemicals					
Contaminant and Unit	Range	MCL	MRDL	Violation	Typical Sources of Contaminants
Barium (ppm)	0.0052	2	NA	No	Erosion of natural deposits
Nitrate (ppm)	0.95 - 1.3	10	NA	No	Runoff from fertilizer use; leaking from septic tanks, sewage, erosion of natural deposits
Sodium (ppm)	7.7	None	NA	No	Salt present in the water that is generally naturally occurring
Disinfectant/Disinfection Byproducts					
Contaminant and Unit	Range	MCL	MRDL	Violation	Typical Sources of Contaminants
Residual Chlorine (ppm)	0.30-0.66	4	4*	No**	Disinfectant water additive to control microbes
Total Trihalomethanes (ppm)	0.023	0.08	NA	No	By-product of chlorination
Halo Acetic Acids [HAA5] (ppm)	0.010-0.011	0.06	NA	No	By-product of chlorination
Lead and Copper (2020 Data)					
Lead and Copper	90^{th} Percentile	AL	Samples > AL	Violation	Typical Sources of Contaminants
Copper (ppm)	0.057	1.3	0	No	Corrosion of household plumbing system, erosion of natural deposits
Lead (ppm)	0.0045	0.015	0	No	Corrosion of household plumbing system, erosion of natural deposits

Notes:

*Residual Chlorine - Maximum Residual Disinfectant Level.
**Chlorine residual should be maintained at a minimum of 0.2 ppm to ensure against bacteriological growth in the distribution system. No bacteria has ever been detected in the drinking water.

Abbreviations and Definitions

AL: Action Level. The concentration of a contaminant in water that establishes the appropriate treatment for a water system. AL is based on a 90^{th} percentile value.

MCL: Maximum Contaminant Level. The highest level of a contaminant 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 contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

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.

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.

NA: Not applicable.

ND: Not Detected.

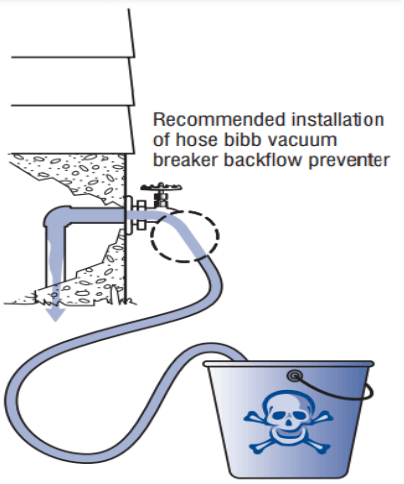
ppm: parts per million, or milligrams per liter (mg/L).

ppb: parts per billion, or micrograms per liter (µg/L).

ppt: parts per trillion, or nanograms per liter (ng/L).

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

90th percentile: Represents the highest value found out of 90 percent of the samples taken. If the 90th percentile value is greater than the AL, a treatment evaluation and/or mitigation actions must be conducted on the water system.



Cross-connection and Backflow Prevention

Did you know that any connection between a public drinking water system and a separate source of questionable quality is considered a cross-connection?

For example, an ordinary garden hose submerged in a bucket of water, car radiator, or swimming pool can result in backflow contamination. To protect our water supply, a simple screw-on vacuum breaker must always be attached to the faucet when a garden hose is used.

Vacuum Breaker

Frequently Asked Questions

Why is this Consumer Confidence Report needed?

Each U.S. Navy overseas installation is required to provide its customers with a water quality report also known as a Consumer Confidence Report. This report is a general overview of the water quality delivered by your drinking water system. This report lists the regulated contaminants detected in the treated water and the level at which they were found for the preceding calendar year. Any exceedances of applicable regulations or guidance will be reported.

Why does the water sometimes look rusty?

Rusty or reddish tinted water may occur when a sudden change in pressure in the water distribution system causes rust in the distribution pipes to become dislodged. Iron causes the discoloration and is not a health risk. If the water looks rusty, flush your tap for three minutes, or until clear, before using the water. If hot tap water is rusty, the water heater may need to be flushed.

I don't like the taste/smell/appearance of my tap water. What is wrong with it?

Even when water meets standards, you may still object to its taste, smell, or appearance. Taste, smell, and appearance are aesthetic characteristics and do not pose health risks. Common complaints about water aesthetics include temporary cloudiness (typically caused by air bubbles) or chlorine taste (which can be improved by letting the water stand exposed to the air). If you want to improve the taste, smell, and appearance of your water, you can install a home water filter. Please keep in mind that filters require regular maintenance and replacement, and if ignored, these aesthetic characteristics may return.

Monitoring Violations

In October 2022, we became aware that our system failed to collect the Disinfectant-By-Product annual sample during the month of warmest water temperature, August, as required by the JEGS.

Samples were collected on 09 September 2022. There were no exceedances and all results were below the MCL. Our drinking water monitoring schedule and plans have been updated to include the correct monitoring requirements.

Public Participation Opportunities and Contacts

The Installation Commanding Officer has established an Installation Water Quality Board tasked with ensuring there is a reliable supply of drinking water for all people using DFSP Hachinohe facilities.

Please contact the NAF Misawa Public Affairs Office at DSN 226-4363 or the NAF Misawa Environmental Division at DSN 226-2497 for questions on drinking water in general.