NH Department of Health and Human Services
129 Pleasant Street – Hugh Gallen State Office Park
Concord, NH 03301

NH Department of Environmental Services
29 Hazen Drive
Concord, NH 03301

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CONTACT
DHHS Public Information Office
603-271-9388
Twitter: NHDHHSPIO
Facebook: NHDepartmentOfHealthAndHumanServices

DES Public Information Office
603-271-3710

Unregulated Contaminant Found in Pease Tradeport Water System

Concord, NH – The New Hampshire Department of Health and Human Services (DHHS), Division of Public Health Services, and the New Hampshire Department of Environmental Services (DES) are today announcing a positive test result for perfluorooctane sulfonic acid (PFOS) from a well that serves the Pease Tradeport and the New Hampshire Air National Guard base at Pease. PFOS is one of a class of chemicals known as PFCs or perfluorochemicals. Because the level of PFOS exceeds the "provisional health advisory" set by the U.S. Environmental Protection Agency (EPA), the well was immediately shut down by the City of Portsmouth.

The water in the other two wells servicing Pease also contained PFCs but not above the provisional health advisory level. Out of an abundance of caution, the water system for the City of Portsmouth was also recently tested, since the systems at Pease and Portsmouth are linked, however, water from the Pease wells is rarely used to service the city of Portsmouth. The results were that no PFCs were detected in any of the other supply wells or surface water sources that serve the Portsmouth water system.

"The City of Portsmouth takes water quality and safety seriously and is working closely with the agencies to learn more about this unregulated compound. In the meantime, the Haven Well will remain off line," said Brian Goetz, the City of Portsmouth Deputy Director of Public Works who is overseeing this effort with water operations staff.

PFCs have been used for decades in many commercial products, such as stain-resistant carpeting, fire-fighting foam, nonstick cookware, fabric coatings, and some food packaging. As a result, they are found throughout the environment. They do not break down readily in the environment or in our bodies so low levels of PFCs can be detected in the blood stream of most people.

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"There is very little known about the health effects if any on people from these compounds," said Dr. José Montero, Director of Public Health at DHHS. "Some animal studies have been conducted but have not led to any recommendations for people, and further studies are needed."

The water in the wells that serve Pease Tradeport is routinely tested according to the federal Safe Drinking Water Act requirements. PFCs are not covered in the Federal Safe Drinking Water Act, although six of these compounds are being evaluated by U.S EPA to see if a drinking water standard is warranted, and EPA's Office of Water established and released a Provisional Health Advisory for PFOS. Provisional Health Advisories reflect reasonable, health-based hazard concentrations above which action should be taken to reduce exposure to unregulated contaminants in drinking water.

"DES is working closely with the City of Portsmouth to address the presence of PFCs in the Pease Tradeport wells so that all health-based standards and advisories are met for water being served to their customers," said Sarah Pillsbury, Administrator of New Hampshire's Public Drinking Water Program at DES.

The Pease Tradeport previously operated as an Air Force base from 1956 to 1991. It is suspected that firefighting foam used by the Air Force starting around 1970 for plane crashes and training exercises contained PFCs that leached into the ground and consequently contaminated the well. The Former Pease Air Force Base is currently a Superfund site being cleaned up by the U.S. Air Force with oversight by DES and EPA. Investigations into the source(s) of this well contamination will be undertaken by the Air Force and overseen by DES and EPA.

DES, in collaboration with DHHS, the Pease Development Authority, and the City of Portsmouth will continue to monitor the wells at Pease to ensure the water continues to meet all EPA and State standards. Any new findings will be made available to the public.

An informational session for the public will be held next week. A date, time and location are being finalized and will be announced. For more information, visit http://www.dhhs.nh.gov/dphs/investigation-pease.htm. For questions about the well water testing, people can call 603-271-9461. For more information about the monitoring by DES, go to http://des.nh.gov/organization/divisions/waste/hwrb/fss/superfund/summaries/pease.htm.

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New Hampshire Department of Health and Human Services
New Hampshire Department of Environmental Services

May 22, 2014

Frequently Asked Questions Regarding Perfluorooctane Sulfonic Acid (PFOS) Detected in Pease Tradeport Water System

Background Information

The New Hampshire Department of Environmental Services (DES) was notified by the U.S. Air Force on May 12, 2014 that analysis of water samples they had collected on April 16, 2014 detected levels of a chemicals known as perfluorooctane sulfonic acid (PFOS). The level was above the provisional health advisory level set by the U.S. Environmental Protection Agency (EPA) in the Haven water supply well located on the Pease Tradeport. PFOS is one of a family of chemicals known as PFCs or perfluorinated chemicals. PFOS and perfluorooctanoic acid (PFOA) were detected at the Smith and Harrison wells, the two other water supply wells located on the Tradeport, but at levels below the provisional health advisory.

DES immediately notified the City of Portsmouth of the lab results on May 12, and City officials immediately shut down the Haven well. DES, EPA and the Air Force are conducting additional testing and investigations. It is unclear if and when the well will be used again.

How did the Haven Well become contaminated with PFCs?

The Tradeport previously operated as an Air Force base from 1956 to 1991. It is suspected that firefighting foam used by the Air Force starting around 1970 for plane crashes and training exercises contained PFCs and leached into the ground and consequently contaminated the well. The Former Pease Air Force Base is currently a Superfund site and is monitored by DES and EPA.
(http://des.nh.gov/organization/divisions/waste/hwrb/fss/superfund/summaries/pease.htm).

Who is served by the water in the Haven Well?

The Tradeport wells primarily serve businesses located at the Tradeport, as well as the Air Force and NH Air National Guard facilities. Water from these wells can provide emergency backup to the Portsmouth water supply, but has been used infrequently. The system was also recently (4/21/2014) interconnected to portions of Newington to provide additional pressure to improve fire flow capability for their new library. Now that the Haven Well has been taken off line, water from the Harrison and Smith wells is being supplemented with water from the Portsmouth system to provide adequate supply to the Tradeport.

Who has potentially been exposed to PFCs from the Haven Well?

People who have consumed water from the Tradeport water system may have been exposed. It is unknown whether the level of PFCs in the Haven Well identified this month is due to a

recent change in groundwater conditions or was a condition existing over a longer period of time.

What if I get my drinking water from the Portsmouth water system?
Water from the Tradeport water system is rarely used to augment the Portsmouth water system. As a precautionary measure, the City's seven water sources were sampled last week and no PFCs were detected. Additionally, the water in the Portsmouth water system is routinely tested for contaminants regulated by the Federal Safe Drinking Water Act, and results from these tests have shown that the City's water supply meets Safe Drinking Water Standards. PFCs historically were not required to be tested for under the Safe Drinking Water Act.

What are PFCs?
PFCs are a family of manmade chemicals that have been used for decades as an ingredient to make products that resist heat, oil, stains, grease, and water. Many chemicals in this group, including perfluorooctanoic acid (PFOA) and perfluorooctane sulfonic acid (PFOS), are present in the environment, but do not break down easily. It was the PFOS level in the Haven Well that was above the EPA provisional health advisory level.

What are PFCs used for?
PFCs are commonly used in manufacturing nonstick cookware, stain-resistant carpets, fabric coatings, some food packaging (especially microwave popcorn bags and fast food wrappers), fire-fighting foam, and in many industrial applications.

What do we know about PFCs in the environment?
Because PFCs are so stable, they may be found in soil, sediments, water, or elsewhere. Studies indicate that some PFCs move through soil and easily enter groundwater where they may travel long distances. Some experts suggest that PFCs can also travel long distances in air, deposit on soil, and then leach into groundwater.

Are there federal or state drinking water standards/guidelines for PFCs?
There is no State of New Hampshire or EPA enforceable standard. EPA's Office of Water established and released Provisional Health Advisories of 0.4 micrograms per liter (µg/L) for PFOA and 0.2 µg/L for PFOS. Provisional Health Advisories reflect reasonable, health-based hazard concentrations above which action should be taken to reduce exposure to unregulated contaminants in drinking water.

What is the risk to people if they drink the Haven Well water?
The health effects from exposure to low levels of PFCs in the environment are not well known. PFCs can remain in the body for extended periods of time. In laboratory studies, animals that had been given large amounts of these chemicals have been shown to have problems with growth and development, reproduction, and liver damage. The data on health effects on animals cannot be assumed to predict health effects on people. There have not been any comprehensive long-term studies of the effects of these chemicals on people.

How are people exposed to PFCs?
People are most likely to be exposed to PFCs by consuming contaminated water, and food packaged in materials containing PFCs or prepared on certain "non-stick" cooking surfaces containing PFCs. They may also be exposed through the use of some consumer products that contain PFCs. Workers in the chemical industry who manufacture certain types of products may be exposed to PFCs at much greater amounts than the general public.

What do we know about PFCs in people?
Studies show that nearly all people have some PFCs in their blood, regardless of age. People are exposed through food, water, or from using commercial products. Some PFCs stay in the human body for many years.

Is it safe to bathe, swim, and fill my pool with water that has PFCs?
There are no known studies to show that swimming or bathing in water with PFCs can be harmful to your health. PFCs are not easily absorbed through the skin, and accidentally swallowing water while swimming will not result in a significant exposure. Also, because there is very little evaporation of PFCs from water into the air, breathing them in while swimming or bathing is not a health concern.

How are PFCs in drinking water regulated?
PFCs in drinking water are not currently regulated by the federal government or the state of New Hampshire. Under the Federal Safe Drinking Water Act, EPA maintains an active program to identify contaminants in public drinking water that warrant detailed study to determine if a drinking water standard should be established for them. Currently, six PFCs are being monitored and studied by EPA including PFOS, PFOA, perfluorononanoic acid (PFNA), perfluorohexanesulfonic acid (PFHxS), perfluoroheptanoic acid (PFHpA), and perfluorobutanesulfonic acid (PFBS). Water suppliers in New Hampshire and elsewhere serving more than 10,000 people are required to monitor for these contaminants by 2015.

I heard PFCs can cause cancer, is that true?
One study of people exposed to high levels of PFCs, either through their job or from contaminated drinking water, suggested that a high level of exposure may be associated with increases in certain cancers, such as kidney and testicular cancer. The EPA states that the evidence is too limited to support a strong link between PFCs and cancer in people. Studies in animals given large amounts of PFCs found liver, testicular, and pancreatic cancers. It is not known if the studies in animals mean that the same risks exist in people. Additional studies are needed to determine the risk of cancer from exposure to PFCs in people. We still do not fully understand the health effects of PFC exposure on people. Most of the animal studies were at higher exposure levels than those typically experienced by people, and using research findings in animals to predict human health effects can be difficult.

Are children more susceptible to any potential health effects from PFCs?
There is very little information available at this time that relates to health effects in humans. It is not known if children are more susceptible to PFC exposure than adults. To make up for the current limitation, EPA developed its provisional health advisories to ensure that they are protective of children.

Are there medical tests to see if I have been exposed to PFCs?

Exposure to PFCs can be measured through a blood sample, but it is not a routine doctor's office test. Finding measurable amounts of PFCs in your blood does not necessarily mean that the level is harmful to your health. Currently, there are no set values for what level of PFCs is "safe" or "unsafe." Therefore, DHHS is not recommending that people be tested for exposure to PFCs.

How can I reduce my exposure to PFCs?

PFCs have been found in drinking water in other parts of the country. If you are not part a large community water system and are concerned about the quality of your own well water supply, you can have your well water tested. To see a list of labs that will do this testing using the Unregulated Contaminant Monitoring Rule (UCMR) laboratory list using EPA Method 537, visit http://water.epa.gov/lawsregs/rulesregs/sdwa/ucmr/ucmr3/upload/lablist.pdf.

Filters containing activated carbon or reverse osmosis membranes have been shown to be effective at removing PFCs from water supplies. The State of Minnesota completed and published a study that determined the effectiveness of several point-of-use treatment systems in removing PFCs from drinking water (http://www.health.state.mn.us/divs/eh/wells/waterquality/poudevicefinalsummary.pdf).

People should be aware that in addition to exposure through drinking contaminated water, PFC exposure can occur from consumer products such as: 1) foods that may be packaged in grease-repellent paper wrappers or containers containing PFCs; 2) certain carpets and other items that are labeled "stain-resistant" that may contain PFCs; and 3) certain waterproofing sprays and carpet cleaning solutions that contain PFCs. Limiting contact from these sources can help to reduce your exposure to PFCs.

What is being done to help ensure these compounds do not end up in the environment and drinking water in the future?

EPA has developed an action plan to address the manufacturing and use of certain types of PFCs that are considered to persist and/or to be potentially toxic to the environment. See http://www.epa.gov/oppt/existingchemicals/pubs/actionplans/pfcs.html for more information.

Who can I call to talk to if I have health concerns?

The New Hampshire Department of Health and Human Services has established a public inquiry line. Please call 603-271-9461 Monday–Friday 8:00 am–4:00 pm if you have additional questions.