Overview of Testing Results for Perfluorinated Compounds (PFCs), May 2016 Lifetime Health Advisories, and Follow-On Actions for NALF Fentress

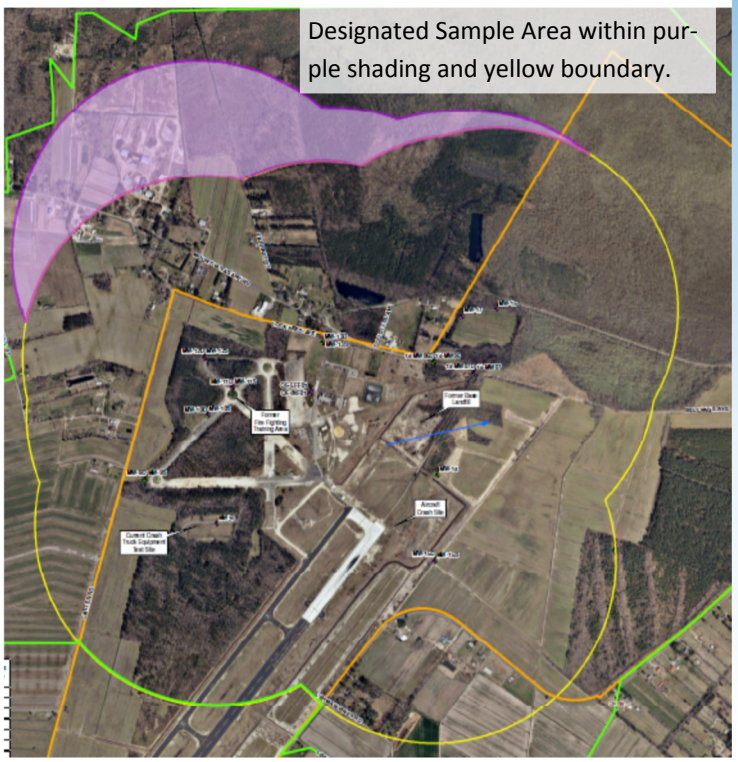
June 2016

INTRODUCTION

In late January 2016, the U.S. Navy requested to sample drinking water based on findings from water sampling conducted at nearby NALF Fentress (see figure below). At the request of property owners, the Navy tested their drinking water and provided the results of each sample to individual property owners in March 2016. In late April 2016, the Navy requested to sample drinking water at several additional properties; those samples were collected in May 2016 and the results were provide to individual property owners in June 2016. The Navy would like to inform the community that ***the U.S. Environmental Protection Agency (EPA) issued new lifetime health advisory levels on May 19, 2016. The Navy would also like to inform the community of the actions the Navy is taking in response to the new EPA lifetime health advisory levels.***

BACKGROUND: PFCs AND NAVY POLICY

PFCs are man-made chemicals, which have been used since the 1950s in many household and industrial products because of their stain and water repellant properties. PFCs are now present virtually everywhere in the world because of the large amounts which have been manufactured and used. Once these compounds are released to the environment they break down very slowly.



Currently, PFCs are classified as unregulated or "emerging" contaminants, which have no Safe Drinking Water Act regulatory standards. PFCs are being studied by the EPA to determine if regulation is needed. The EPA's Office of Water developed a short-term provisional health advisory establishing health-based hazard concentrations above which action should be taken to reduce exposure to certain PFCs, in particular perfluorooctane sulfonate (PFOS) and perfluorooctanoic acid (PFOA). The science has evolved since then and on May 19, 2016, the ***EPA replaced the 2009 provisional health advisories with new, lifetime health advisories of 70 parts per trillion (ppt).***

While awaiting a regulatory decision on PFOS and PFOA or other PFCs to be made by EPA, the Navy proactively developed a policy to ensure drinking water has not been impacted by PFC contamination at installations where there has been a nearby known or suspected release of PFCs to the environment. The drinking water and groundwater on NALF Fentress was tested in December 2015 in response to the Navy policy because a commonly used fire-fighting foam, aqueous film-forming foam (AFFF), containing PFCs was released to the ground surface during training exercises in past years. PFC-containing foam is no longer used in training activities at NALF Fentress.

Results received in January 2016 from samples of the NALF Fentress on-base groundwater monitoring wells show that the water contains both PFOS and PFOA above the EPA health advisory levels. The Navy has started an investigation under our Environmental Restoration Program to determine how far PFCs have moved off

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Health Information

Exposure to PFOA and PFOS appears to be widespread. Studies have found both compounds in the blood samples of the general human population and wildlife nationwide. Exposure to PFOS and PFOA through ingestion is the primary health concern for people. Studies on exposed human populations indicate PFOS and/or PFOA may cause elevated cholesterol levels and possibly low infant birth weight. When laboratory animals are given large doses, they exhibit developmental, reproductive and liver effects. Other studies suggest a link with certain cancers.

Health effects from exposure to low levels of PFOS and PFOA are not well known and studies are continuing. At this time, it is not possible to link exposures to PFOS and PFOA in water to a person's individual health issues. Blood tests are not routinely done because the results can be inconclusive and test results do not predict health effects. ***Based on what is known and still unknown about PFOS and PFOA, the EPA recommends people not use water that contains PFOS and/or PFOA above the lifetime health advisory levels for drinking or cooking.***

the NALF Fentress property in the groundwater. The Navy's first priority in this investigation has been determining if PFCs are present in the drinking water of nearby residents and taking appropriate action as needed.

OFF-BASE DRINKING WATER SAMPLING

The Navy began notifying residents in the designated sampling area on January 28, 2016 to request to sample their drinking water. At the request of property owners, the Navy tested their drinking water and provided the results of each sample to individual property owners in March 2016. In late April 2016, the Navy requested to sample drinking water at several additional properties; those samples were collected in May 2016 and the results were provided to individual property owners in June 2016.

The sampling process took approximately 30 – 45 minutes, and involved a team of two technicians coming into the home to collecting a sample from an unfiltered discharge point. Prior to collecting the sample, the technicians also went over a homeowner questionnaire that was provided with the sampling notification packet. The questionnaire was designed to gather information about the drinking water well and any filtration systems being used which helped with selecting the appropriate tap to sample and assist when evaluating the sampling results and developing follow-on investigation plans as needed.

ACTIONS BASED ON RESULTS FOR DRINKING WATER

Results of private drinking water sampled in February were received in March 2016. The Navy provided notification to each resident sampled of their personal drinking water results on March 22, 2016 as well as notification of follow on actions if needed for their home. Additional sampling was conducted in May 2016 and results of this additional sampling provided to individual property owners in June 2016. The following is a summary of planned actions based on all drinking water sampling results:

Provide Alternate Drinking Water: The Navy will provide alternate water sources (e.g. bottled water) for drinking and cooking to residents within the designated sampling area if their drinking water sample is found to contain PFOS or PFOA above the EPA health advisory level of 70 ppt*. The Navy will continue to provide alternate water at no cost to these residents until a long term solution can be put in place. In the interim, the Navy is requesting permission from affected property owners to install individual drinking water treatment systems to reduce PFOA and PFOS concentrations in drinking water.

*Please note the new EPA lifetime health advisory level is sometimes expressed in 'parts per trillion,' 'parts per billion', or 'micrograms per liter'. 70 parts per trillion is equal to 0.070 parts per billion and is also equal to 0.070 micrograms per liter.

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Quarterly Drinking Water Sampling: ***The Navy will no longer conduct quarterly monitoring***. The properties where the Navy previously requested quarterly monitoring will now be provided bottled water due to exceedances of the new EPA lifetime health advisory levels.

No Additional Action Needed: No additional sampling or other action will be required for homes where PFOS and PFOA are not detected in the drinking water or where concentrations are detected at concentrations less than the new EPA lifetime health advisory level for both (i.e. PFOS or PFOA alone, or a combination of both) of these compounds.

ACTIONS BASED ON RESULTS FOR GROUNDWATER INVESTIGATION

Monitoring Well Installation

Photo of a drilling rig Used for monitoring well installation. Please do not approach the rig during operations.

The Navy recognizes the potential for the PFCs to continue to move off the NALF Fentress property in the groundwater, which could impact the quality of drinking water for nearby residents who are not currently already impacted. In order to ensure the safety of surrounding residents and to evaluate alternatives for corrective action, the Navy in conjunction with the EPA and VDEQ have developed a strategy for installation of a monitoring well network, which will help define the horizontal and vertical boundaries of the groundwater plume and will allow for continued monitoring of migration potential. Proposed monitoring wells are shown on the figure included on the last page of this fact sheet. Wells are anticipated to be installed June to July 2016, sampled in July to August2016, and results will be received in late summer 2016. The monitoring wells will continue to be monitored periodically until a remedial action to address PFOA and PFOS contamination in groundwater is implemented. **If at any time, the monitoring well data indicates additional well installation or drinking water sampling is necessary, the public will be notified and updated.**

The Navy will continue to use the data collected to further develop the ongoing groundwater investigation. Additionally, the Navy is working with the EPA and VDEQ to identify and evaluate long-term solutions to PFCs in groundwater.

The Navy and our partnering agencies recognize that you will likely have questions, so we will be holding an Open House Public Meeting in June 14, 2016 at Butts Road Intermediate School (1571 Mount Pleasant Road) in Chesapeake, Virginia between 4 p.m. and 7 p.m. The meeting format will consist of an open schedule in which participants can come and go at their convenience, and will include information displays with representatives from the Navy and partnering agencies to answer your questions.

The Navy and City of Chesapeake have set up a water station at **1564 Mount Pleasant Road, Chesapeake, Virginia 23322** (across the street from Butts Road Intermediate School), where residents can take containers to fill with potable drinking water treated by the City of Chesapeake.

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FOR MORE INFORMATION

To answer any questions you may have on the sampling program, please call **757-433-3132** or email at *fentressinfo@navy.mil*.

The Navy has also established a website at *www.cnic.navy.mil/FentressInfo*, which we will continue to update as more information becomes available.