



April 4, 2016

Representative Todd Stephens
151st District
Pennsylvania House of Representatives
515 Stump Road
North Wales, PA 19454
4A East Wing
PO Box 202151
Harrisburg, PA 17120-2151

Re: Perfluorinated compounds – PFOA and PFOS - in Bucks and Montgomery Counties drinking water

Dear Representative Stephens,

We know you and Pennsylvania Representative Bernie O'Neill have written to the U.S. Department of the Navy (the Navy) for funding of an independent health risk assessment study of the risks of perfluorinated compounds (PFC), specifically Perfluorooctanoic acid (PFOA) and Perfluorooctane sulfonate (PFOS), in the drinking water of residents in your District. As you have pointed out, PFOA and PFOS have contaminated water in the vicinity of the former Naval Air Station at Willow Grove and the Naval Air Warfare Center in Warminster. These highly toxic compounds have been found here at high levels in groundwater and tap water through sampling required by the U.S. Environmental Protection Agency (EPA), carried out by the Navy and local water authorities.

Your concerns about the health effects to residents who have been drinking this contaminated water in the Willow Grove and Warminster areas are well placed. Delaware Riverkeeper Network (DRN) is extremely concerned about the presence of perfluorinated compounds in the drinking water surrounding these military bases.

DRN has been working on the problems posed by the presence of perfluorinated compounds in our local environment since 2005 when our staff collected tap water samples in the neighborhoods close to DuPont's Chambers Works facility in Deepwater, New Jersey on the Delaware River. We suspected that there may be a problem because of news reports about a

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lawsuit that had been brought in West Virginia against DuPont for releasing PFOA into the environment there. Our sampling revealed the presence of PFOA in the drinking water being used by people in the local community. We notified the residents and filed the information with New Jersey Department of Environmental Protection (NJDEP), setting off alarm bells and a chain of events that eventually led to NJDEP investigating the occurrence of perfluorinated compounds throughout the state and the issuance of a guidance level of .04 ppb for PFOA in 2007. Since then, much more has occurred regarding public knowledge and inquiry into this nationwide problem but, unfortunately, not enough government action has resulted.

Due to widespread presence in the environment and people's blood – PFOA has even been found in polar bears in the Arctic – and due to the highly toxic and durable nature of these compounds, the U.S. Environmental Protection Agency (EPA) took several actions to stop the use of PFCs in the United States. Of importance was the establishment of the stewardship program to phase out the manufacture and use of PFCs and the requirement by EPA that PFCs must be reported by dischargers and users to the agency. In 2012, EPA added PFOA and 5 other PFCs to the list of contaminants to be monitored in a selection of public water systems across the nation.¹ The data is reported to EPA under the Unregulated Contaminant Monitoring Rule 3 (UCMR3) and is publicly available.² As you know, this mechanism is how many local water purveyors and the public discovered the presence of PFCs in their water supplies, including your District.

The PFOS and PFOA levels found in the water in Bucks and Montgomery Counties are startling and rise to the top of the list as needing immediate action. Sampling done in Warminster, Warrington and Horsham Townships report that the groundwater that feeds public and private wells there are among the worst in the nation.³ Subsequent sampling of local water supplies have confirmed the continuing presence of high levels of these compounds, several results showing even higher levels than the UCMR3 data.

Several wells have been shut down and local authorities have reduced levels of finished water below the short term advisory level set by the EPA. But the presence of the contamination has not been removed from the groundwater aquifer and due to the durable nature of these compounds (they do not break down in the environment) the likelihood of these contaminants remaining in the local environment and moving and entering both private and public wells in the vicinity of the bases is just as great now as it was before this problem came to light. Furthermore, PFCs build up in people's blood and are very difficult to excrete, so the presence of the chemical in the human body can persist for years, posing serious health risks. This is not a "past" problem, it is ongoing and a present danger.

The Courier Times/Intelligencer, a local news organization, reported "...private wells reached as high as 3.8 ppb for PFOS, or 19 times higher than the EPA's provisional health advisory, according to the EPA. Levels for PFOA reached 5 ppb, or more than 12 times higher

¹ <https://www.epa.gov/dwucmr/third-unregulated-contaminant-monitoring-rule>

² <https://www.epa.gov/dwucmr/fact-sheets-about-third-unregulated-contaminant-monitoring-rule-ucmr-3>

³ <https://www.epa.gov/sites/production/files/2015-09/ucmr-3-occurrence-data.zip>

than the EPA level.”⁴ Illnesses reported in news media in the vicinity of the bases make the need for action to remove all of these toxic substances from the water even more urgent. This data also supports your call for a health study.

Sampling for the UCMR3 report that revealed the presence of PFCs in Bucks and Montgomery Counties (not all are in your legislative district) at levels above specific reporting levels (for PFOA UCMR3 reporting level is 0.02; for PFOS it is 0.04), all in parts per billion or ppb⁵ include:

- Warminster Municipal Authority Well 2 PFOA 0.034, PFOS 0.057
- Warminster Municipal Authority Well 5 PFOA 0.023
- Warminster Municipal Authority Well 9 PFOA 0.02
- Warminster Municipal Authority Well 10 PFOA 0.089, PFOS 0.19
- Warminster Municipal Authority Well 13 PFOA 0.122, PFOS 0.16
- Warminster Municipal Authority Well 14 PFOA 0.025, PFOS 0.065
- Warminster Municipal Authority Well 26 PFOA 0.35, PFOS 1.09
- Warrington Township Water and Sewer Wells 1, 2, and 6 treatment plant PFOA 0.12, PFOS 0.67
- Warrington Township Water and Sewer Well 3 PFOA 0.02, PFOS 0.062
- Warrington Township Water and Sewer Well 9 PFOA 0.029
- Quakertown Borough Well 13, PFNA 0.035 and 0.032
- Doylestown Municipal Utilities Authority Cross Keys PFOA 0.21 and 0.13, PFNA 0.026
- Ambler Borough Water Department PFNA 0.029
- Horsham Water and Sewer Authority Well 10 PFOA 0.026, PFOS 0.045
- Horsham Water and Sewer Authority Well 17 PFOA 0.026 PFOS 0.097
- Horsham Water and Sewer Authority Well 21 PFOS 0.14

⁴ http://www.theintell.com/news/local/well-contamination-by-bucks-county-and-montgomery-county-military-bases/article_2024621a-a727-5ddd-9280-2bc969244a94.html

⁵ DRN is only reporting here results for PFOA, PFOS and PFNA; some wells show presence of other PFCs; all data available at UCMR3 occurrence text file for method 537 at <https://www.epa.gov/sites/production/files/2015-09/ucmr-3-occurrence-data-by-method-classification.zip>

- Horsham Water and Sewer Authority Well 26 PFOA 0.29, PFOS 0.7
- Horsham Water and Sewer Authority Well 40 PFOA 0.063, PFOS 1
- Aqua PA, Bristol PFOA 0.02 and 0.026

The U.S. Environmental Protection Agency issued provisional health advisories for PFOA of 0.4 ppb and PFOS of 0.2 ppb in 2009⁶. This is based on short term exposure and is not a valid level to use as a measurement of what is safe for drinking water; it only applies for those drinking the contaminated water for a very short period. EPA says they are developing a lifetime health advisory level but it has not yet been issued. And the current advisory does not mandate that water suppliers remove PFOA or PFOS from drinking water; it is just an advisory, not a federal enforceable standard. Because the EPA PFOA advisory level is so high at 0.4 ppb and for PFOS at 0.2 ppb, those water systems that show levels below EPA's advisory levels are under the mistaken impression that their water supply is safe and they don't need to take any action. These toxic compounds, now known to be a likely cause of cancer and are correlated with several other very dangerous health effects, are to this day unregulated at the federal level and here in Pennsylvania. And that means people in your District are likely still drinking contaminated water.

Other places are taking action to catch all of this contamination, action we need here. The Vermont Department of Health has set a health level of 0.02 ppb or 20 parts per trillion (ppt) for PFOA and a new interim groundwater quality enforcement standard of 0.02 ppb for drinking water and a new interim preventive action level of 0.01 ppb⁷, much lower than the EPA short term level. The Vermont Department of Health points out that they based their calculations on the same science that EPA used but "...Vermont accounts for exposure to children early in life", not solely on exposure to adults like EPA does.⁸

The current guidance level recommended of .04 ppb set by New Jersey almost 10 years ago is now out of date and not protective of public health considering the considerable amount of toxicology data and reports since the guidance level was set by NJDEP in 2007. Up to that time, only developmental effects in rats had been studied and rats are not a good model for humans due to differences in blood. New Jersey is researching all the scientific information available and, according to the New Jersey Drinking Water Quality Institute, will be making a recommendation based on updated evidence in the near future.⁹ It will most likely be a stricter standard than .04 ppb and it will definitely be far below the EPA provisional standard of 0.4 ppb. A recent study on PFOA at Harvard University has recommended a safe level much lower (.001 ppb)¹⁰ than NJDEP's guidance level.

Chief among the new bodies of data and findings available for PFOA are those from the court-ordered C8 Health Panel and the C8 Health Project in West Virginia, related to the Dupont

⁶https://www.epa.gov/sites/production/files/2014-04/documents/factsheet_contaminant_pfos_pfoa_march2014.pdf

⁷http://drinkingwater.vt.gov/dwrules/pdf/interimgwqstandards_2016.pdf

⁸http://healthvermont.gov/enviro/pfoa/PFOA_health_facts.pdf

⁹http://www.nj.gov/dep/watersupply/g_boards_dwqi.html

¹⁰<http://m.new.sagepub.com/content/25/2/147.long>

facility there. Among the conclusions of this multi-year study of human subjects, their blood and scientific reports, it was found that PFOA is correlated with **Kidney Cancer, Testicular Cancer, Thyroid Disease, High Cholesterol, Pregnancy-Induced Hypertension/Preeclampsia, and Ulcerative Colitis**.¹¹ In addition to the six diseases with probable links, the study also verifies probable links to decreased birth weight and decreased response to vaccines. A report reviewing all of the studies on low birth weight concluded that PFOA does reduce human birth weight¹².

The scientific studies on PFOA make it very clear that low levels of exposure to PFOA build up in the body over time. That means that even very low drinking water exposure increases blood levels over the levels found in the general population, risking disease and adverse health effects. Infants are exposed through breast milk and also through formula that uses contaminated water. Since infants and children are susceptible to developmental effects, the impact is even greater than on adults. These facts show us that extremely vulnerable fetuses, infants, and children are being exposed to the risk of disease and developmental abnormalities from ingesting even low levels of PFOA.

There is no question or uncertainty about the risks people are being exposed to if they drink water contaminated with PFOA. It is a fact that people who have PFOA in their blood at dangerous levels are more likely to develop these diseases than those who do not. The concern for those in the region around the bases who have been drinking water contaminated with PFOA and PFOS for years is very real and children who have been drinking this water, even at low concentrations, during their short lives are at great risk.

We also know that the reporting levels set by the U.S. Environmental Protection Agency (EPA) UCMR3 Rule of .02 ppb for PFOA and .04 ppb for PFOS are set too high; laboratories can test well below that level and, considering current scientific reports, they should because of the toxicity of these compounds. Many water systems may have PFOA and PFOS in the water they provide to consumers but they do not know it because the water is not tested to or reported at a low enough level to find where it is occurring. Combined with the problem created by the EPA advisory level being so high at 0.4 ppb for PFOA and 0.2 ppb for PFOS, contaminated water is “falling between the cracks” and making its way to the taps in people’s homes. Those wells that have PFCs below the UCMR3 reporting levels and those wells that show levels below EPA’s drinking water advisory level are simply not recognized so nothing is done about them.

For instance, if the EPA advisory level is being used as the trigger for actions such as closing down contaminated wells or the level that private well owners are being told to use as an action level (such as to stop using their well, to go on bottled water or to connect to public water), water that has these compounds is not removed from use, even if the levels are high, as long as the EPA advisory level is not reached. What has been found so far may only be the tip of the iceberg.

¹¹ <http://www.c8sciencepanel.org/newsletter10.html>

¹² <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC4181929/pdf/ehp.1307893.pdf>

Why is this important for Willow Grove and Warminster? The Navy, National Guard Bureau and local water providers are using incomplete data and inadequate standards to identify contamination that should be addressed. (In addition, Doylestown Township Municipal Authority had the sixth highest PFOA sample report in the nation but reportedly is not taking action because the level was less than the EPA's 0.4 ppb; Bristol Township's water provider, Aqua PA, is also reportedly not taking action based on the EPA advisory standard.)

And the water replacements and treatment being paid for by the military in the area around the Bucks and Montgomery County bases is likely not nearly what they, as the responsible party, should be covering. For instance, the \$3.9 million dollar agreement reached between Warminster Municipal Authority and the Navy could be falling far short of what will be needed to address the full extent of the contamination and, in the meantime, some people are still drinking contaminated water.

Important efforts to accurately assess the damages that must be repaired and how to clean up these toxics from the groundwater and soils at contaminated sites are being held back if the complete picture is not known. The effect of using outdated and inadequately protective advisory levels, i.e. the EPA's 0.4 ppb for PFOA, leaves much of the extent of this public health and environmental problem out of the picture, handicapping a complete understanding of the problem and the action needed.

EPA's advisory level of 0.4 ppb is simply not protective enough and should not be used as a trigger for action. In fact, this has been acknowledged by EPA in another PFC contamination incident in Hoosick and Hoosick Falls, New York, where EPA recommended that residents not use water that exceeds 100 parts per trillion (0.1 ppb) and to substitute bottled water instead.¹³ It seems logical that the Navy would follow the advice of EPA and revise its action level from 0.4 ppb to 0.1 ppb. It is also reported that the New Hampshire Department of Environmental Services is now providing bottled water near a Portsmouth PFOA contaminated Air Force facility for anyone whose wells test above 100 parts per trillion (0.1 ppb) because the EPA level is only a short term value.¹⁴ 0.1 ppb should be used immediately as the level that requires action to cut off consumption. This is the first step that should be taken without another day of delay. This is not the only action needed, just the first interim action that can be taken by you today to remove the highest levels of PFOA from the water residents are drinking.

Furthermore, Dupont and 3M, as the corporations that invented and manufactured perfluorinated compounds that went into the products discharged to the environment at these facilities must be investigated as the ultimate responsible parties. Are these wealthy corporations being probed for culpability to identify all parties responsible that should contribute funds to address this crisis? Cleanup of the contamination shouldn't be stymied by or excused from immediate action by a lack of available money.

¹³ <http://bit.ly/1MeWLjv>

¹⁴ <http://www.fosters.com/article/20160403/NEWS/160409844>

Recent national investigative news articles have highlighted the toxic legacy of Dupont, 3M and other sources of PFC pollution. A series by Sharon Lerner in The Intercept chronicles PFC pollution, corporate responsibility, and government inaction¹⁵. An investigation of the Bucks County situation was included recently in Lerner's report "Poisoning the Well" about the effects of toxic firefighting foam used here¹⁶. On January 10, 2016 the New York Times featured an article by Nathaniel Rich about attorney Robert Bilott who has spent his career battling Dupont to expose the truth about the dangers of PFOA¹⁷. Another investigation by reporter Mariah Blake, published in the Huffington Post, told the Parkersburg, West Virginia story in detail¹⁸. And the well-researched and valuable reporting by the Bucks County Courier Times and the Intelligencer has focused attention on the complex issues involved with the alarming contamination here in Bucks County.

We support your request for a health study and suggest that the state's cancer registry can be fully analyzed right away at little cost by Pennsylvania's Department of Health's epidemiologists for occurrences of linked diseases in this area. Additionally, there needs to be testing of human blood of residents who have been drinking this water and living near or working on land that has been contaminated at and in the vicinity of Willow Grove and the Naval Air Warfare Center. Ultimately the state needs to work with federal agencies to stop the release and/or migration of these pollutants and oversee the removal of PFCs from our environment; we ask you to advocate for that.

We ask that you advocate that EPA utilize the abundant scientific studies and data currently available to propose and adopt a federal safe drinking water standard for PFOA and for PFOS based on chronic, lifetime exposure. This is essential federal action that is urgently needed to mandate that these compounds are removed from drinking water. We also urge you to advocate for a groundwater cleanup standard that will apply to the regions around the military bases here so these compounds must be taken out of the environment by and at the expense of those responsible for the contamination. We suggest Vermont's health and environmental standards and the scientific studies mentioned above provide ample information and guidance to require that these highly toxic compounds be removed. We ask you to advocate for this at the state level and in your communications with the Navy and EPA.

We propose that one action is so obvious that it should be taken immediately, today – that you request the Navy to apply 0.1 ppb for PFOA. This action will uncover where private wells or tap water in your District contain dangerous concentrations of PFOA that are below the inadequate EPA 0.4 ppb level but hit the short term 0.1 ppb level being used by EPA elsewhere.

¹⁵ <https://theintercept.com/search/?s=Teflon%20toxin>

¹⁶ <http://bit.ly/119DJcz>

¹⁷ http://www.nytimes.com/2016/01/10/magazine/the-lawyer-who-became-duponts-worst-nightmare.html?_r=0

¹⁸ <http://highline.huffingtonpost.com/articles/en/welcome-to-beautiful-parkersburg/>

The Warminster Environmental Advisory Council has officially requested this action of Warminster Township.¹⁹

There are many other actions that need to be taken, especially considering that the distribution of PFCs is not over; this is an ongoing contamination issue. PFCs, by design, are resilient to breakdown by natural processes – that is why they are used in plastics and other products like firefighting foam and consumer products that need to be resilient, heat resistant and durable. So they stay for years in the environment, moving into different media such as groundwater, surface water, soils, sludge at waste treatment facilities, and even into the air. From these media they make their way into our blood and there they can cause disease.

There needs to be more thorough analysis of these base sites to identify the migration of the contamination plumes by a thorough sampling of all drinking water sources and other media to locate these compounds, where they have migrated to and the specific locations of the sources of contamination at the lowest levels that can be detected. In the meantime, while further sampling is being done and a more protective standard to trigger action is employed, we ask that you advocate that the Pennsylvania Department of Environmental Protection provide alternative sources of safe water to residents, such as New Hampshire and Vermont are doing with bottled water there.

To make this happen we need all hands on deck, all agencies and officials involved, and all responsible parties participating in the cleanup and the cost of making our water and environment safe from these toxic compounds. We have written to Governor Wolf and three of our U.S. Congressman who have expressed concern to ask for a cooperative action effort. Your leadership in calling for a health investigation illustrates your concern and commitment to see action. We ask you to call for truly protective long term and short term water quality standards based on science to be used to establish the breadth of the contamination and to spur the action needed to address it – not EPA's 0.4 ppb PFOA short term advisory level and not the currently limited testing that leaves many people in the dark about the safety of their water. We need to get people off contaminated water now and we PFCs removed from our drinking water and our environment.

Thank you for your consideration.

Sincerely,



Maya van Rossum
the Delaware Riverkeeper



Tracy Carluccio
Deputy Director

¹⁹ http://www.theintell.com/news/local/fitzpatrick-warminster-environmental-council-say-navy-should-be-doing-more/article_50536141-0008-532d-9179-a47e2f293b54.html