



March 23, 2016

The Honorable Tom Wolf
Governor, Commonwealth of Pennsylvania
225 Main Capitol Building
Harrisburg, PA 17120

Re: Perfluorinated Chemicals in Pennsylvania

Dear Governor Wolf,

Delaware Riverkeeper Network (DRN) is extremely concerned about the presence of perfluorinated compounds (PFC), specifically Perfluorooctanoic acid (PFOA) and Perfluorooctane sulfonate (PFOS), in the environment and drinking water in Pennsylvania. Of the sampling results available, the extremely high levels of these compounds in the vicinity of the former Naval Air Station at Willow Grove and the Naval Air Warfare Center in Warminster, both in Bucks County, are of particular concern. However, sampling of drinking water in other parts of the state have revealed contamination problems as well and there could well be more places, as yet undetected, where people are currently drinking highly contaminated water containing PFCs.

Recently Governor Andrew Cuomo of New York, Governor Peter Shumlin of Vermont and Governor Maggie Hassan of New Hampshire wrote to the U.S. Environmental Protection Agency (EPA) asking for federal action on PFOA, which has been found in drinking water in all three states. The Governors wrote: "It is clear that PFOA contamination is not a state problem or a regional problem – it's a national problem that requires federal guidelines and a consistent, science-based approach."¹ They also call on the federal government to fully fund the Drinking Water State Revolving Fund and the Clean Water Revolving Fund and to make polluters accountable for their actions. We are writing to you, as Governor of Pennsylvania, to take similar action and more to protect residents and drinking water here.

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

¹ <https://www.governor.ny.gov/news/ny-governor-cuomo-vt-governor-shumlin-and-nh-governor-hassan-urge-us-environmental-protection>

Delaware River. We suspected that there may be a problem because of news reports about a 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.² The data is reported to EPA under the Unregulated Contaminant Monitoring Rule 3 (UCMR3) and is publicly available.³ This mechanism is how many local water purveyors and the public discovered the presence of PFCs in their water supplies in Pennsylvania.

The PFOS and PFOA levels found in the water in Bucks County 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.⁴ 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. 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 than the EPA level."⁵ 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.

Sampling for the UCMR3 report that revealed the presence of PFCs in Pennsylvania 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 ppb⁶ include:

² <https://www.epa.gov/dwucmr/third-unregulated-contaminant-monitoring-rule>

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

⁴ <https://www.epa.gov/sites/production/files/2015-09/ucmr-3-occurrence-data.zip>

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

⁶ 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

- Aqua PA, Bristol PFOA 0.02 and 0.026
- 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
- 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
- EMMAUS Borough Public Water PFNA 0.022
- United Water PA Airport (PWS ID# PA7220015, Harrisburg) PFOA 0.038, PFOS 0.363, PFNA 0.047

But these few steps by EPA have not been enough to protect the public and our environment. These toxic compounds, now known to be a likely cause of cancer and several other very dangerous health effects, are to this day unregulated at the federal level and no federal safe drinking water standard has been established. Without that, water suppliers are not required to remove this pollutant from the water they deliver to customers.

The U.S. Environmental Protection Agency issued provisional health advisories for PFOA of 0.4 ppb and PFOS of 0.2 ppb in 2009⁷. 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. 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.

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

⁷https://www.epa.gov/sites/production/files/2014-04/documents/factsheet_contaminant_pfos_pfoa_march2014.pdf

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.⁸ 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)⁹ 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 facility there. Among the conclusions of this multi-year study of human subjects, their blood and scientific reports, it was found that PFOA is linked to **Kidney Cancer, Testicular Cancer, Thyroid Disease, High Cholesterol, Pregnancy-Induced Hypertension/Preeclampsia, and Ulcerative Colitis**.¹⁰ 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 weight¹¹.

The scientific studies on PFOA make it very clear that low levels of exposure to PFOA build up in the body over time because the compound is not broken down by the body and takes years to excrete. 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.

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

⁸ http://www.nj.gov/dep/watersupply/g_boards_dwqi.html

⁹ <http://m.new.sagepub.com/content/25/2/147.long>

¹⁰ <http://www.c8sciencepanel.org/newsletter10.html>

¹¹ <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC4181929/pdf/ehp.1307893.pdf>

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 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 may only be the tip of the iceberg.

Why is this important for Pennsylvania? The Navy, National Guard Bureau and local water providers in Bucks County, where the PFOA and PFOS are so alarmingly high, are using incomplete data and inadequate standards to identify contamination that should be addressed. In Doylestown Township, the 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 for PFOA and 0.2 ppb for PFOS; Bristol Township's water provider, Aqua PA, is also reportedly not taking action based on the EPA advisory standard. This mistake could be occurring in other places in the state where PFCs are being found. As you can see in the list of the data reported above, several wells sampled for the UCMR3 database showed levels below 0.4 ppb for PFOA but above 0.04 ppb (the current guidance level for New Jersey) and above 0.001 ppb (the standard recommended by the Harvard study). Yet water suppliers are not taking action unless the levels reach the EPA short term advisory of 0.4 ppb for PFOA, which we know is not protective.

And the water replacements and treatment being paid for by the military in the area around the Bucks 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.

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.

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 inaction¹². An investigation of the Bucks

¹² <https://theintercept.com/search/?s=Teflon%20toxin>

County situation was included recently in Lerner's report "Poisoning the Well" about the effects of toxic firefighting foam used here¹³. 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 PFOA¹⁴. Another investigation by reporter Mariah Blake, published in the Huffington Post, told the Parkersburg, West Virginia story in detail¹⁵. 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.

EPA's advisory level 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.¹⁶ This was mentioned by the three governors in the letter they wrote to EPA. It seems logical that Pennsylvania would insist that those in charge of addressing this contamination would follow the advice of EPA and revise its action level from 0.4 ppb to 0.1 ppb.

This is the first step that should be taken immediately. 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 Pennsylvanians are drinking. We also ask that you, as Governor, advise your administration's government agencies, including the Pennsylvania Department of Environmental Protection (PADEP) and Pennsylvania Department of Health (PADOH), that are in a position to take action in the communities with this problem to apply .1 ppb for PFOA now and that you make this request of the responsible parties such as the military and private companies.

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 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.

We ask that you join with your fellow governors to 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.

¹³ <http://bit.ly/1I9DJcz>

¹⁴ http://www.nytimes.com/2016/01/10/magazine/the-lawyer-who-became-duponts-worst-nightmare.html?_r=0

¹⁵ <http://highline.huffingtonpost.com/articles/en/welcome-to-beautiful-parkersburg/>

¹⁶ <http://bit.ly/1MeWLjv>

There needs to be more thorough sampling across the Commonwealth of all drinking water sources and other media to locate these compounds and the specific sources of contamination at the lowest levels that can be detected. To provide a timely and thorough assessment we ask that you require PADEP and PADOH to take a more active role in addressing this crisis by conducting further sampling of drinking water where these compounds may be present and conducting investigations to identify the responsible parties and hold them accountable for their actions.

Where contamination is discovered but no responsible party is yet identified, the state should be providing alternative sources of safe water to residents. The state can pursue reimbursement from those responsible but immediate action should not be delayed. The three governors requested in their letter that the federal government fully fund the Drinking Water State Revolving Fund and the Clean Water Revolving Fund; we ask that you join this call for funding.

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 highly contaminated (such as Willow Grove, the Naval Air Warfare Center and other sites in Bucks County with extremely high levels of PFCs such as Doylestown). The state's cancer registry should be fully analyzed by PADOH's epidemiologists for occurrences of linked diseases in PFC contaminated regions. 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.

To make this happen we need all hands on deck, all agencies involved, and all responsible parties participating in the cleanup and the cost of making our water and environment safe from these toxics. Your leadership as Governor can accomplish this.

Thank you for your consideration.

Sincerely,



Maya van Rossum
the Delaware Riverkeeper



Tracy Carluccio
Deputy Director