



August 23, 2013

Commissioner Bob Martin
New Jersey Department of Environmental Protection
P.O. Box 402
401 E. State Street, Floor 7
Trenton, New Jersey 08625

Re: Perfluorinated Chemicals, including PFNA, in New Jersey communities

Dear Commissioner Martin,

On July 25, Delaware Riverkeeper Network sent you a letter regarding our continuing concerns about New Jersey water supply contamination caused by perfluorinated chemicals (PFCs), an issue we have been communicating with the Department about since 2006.

We write today because we have not yet received a response and want to encourage the Department to take action. We reiterate all of our requests in the July 25 letter (attached). One specific request we want to emphasize at this time is the need for further and broader sampling for PFCs.

We urge the Department to conduct a third Occurrence Study for PFCs that includes PFNA, PFUnA, and higher homologues. It is clear from the literature that toxicity seems to increase with the longer carbon chain PFCs.^{1 2} We are very concerned about the health effects of PFNA and other PFCs on people who drink water that may be contaminated with these chemicals. The fact that sampling results from the Department's research for a second Occurrence Study in 2009 revealed a very high level of PFNA in the raw groundwater that supplies drinking water for Paulsboro is reason enough to conduct further sampling to ascertain the extent of the problem.

As discussed in our July 25 letter, the Solvay plant that used PFCs, specifically PFNA and PFUnA, is the suspected source of this pollution, which has been released for many years at the West Deptford/Thorofare facility, according to EPA and scientific papers. In 1985, Pennwalt filed

¹ **Environ Health Perspect.** 2010 Feb;118(2):197-202. doi: 10.1289/ehp.0901165.

² <http://www.omicsonline.org/2161-1459/2161-1459-S4-002.php?aid=14207>

a patent (US Patent 4,569.978) as the original user of Surfion S111, a fluorinated surfactant. The EPA Region 2 Fact Sheet on Solvay Solexis Polymers USA LLC states that new operations to manufacture vinylidene fluoride monomers, fluoropolymers, and fluorocarbons began in this same year, 1985.³ PFNA (also known as APFN or C9) is the main component of Surfion 111, with lesser amounts of longer chain perfluorinated compounds C11 and C13. PFNA is used to make PVDF (polyvinylidene fluoride) from vinylidene fluoride monomers, in the same way that PFOA is used to make PTFE (DuPont's Teflon). PFNA and PFOA act to "solubilize fluoromonomers to facilitate their aqueous polymerization" (<http://pubs.acs.org/doi/abs/10.1021/es0512475> p. 34).

The second highest production capacity for PVDF (2002) in the world was found at Solvay Solexis in Thorofare at 7.7 ktonne/year. Even if not operating at full capacity, PFNA was used extensively at the Solvay Solexis facility in West Deptford/Thorofare and thousands of metric tons of PVDF were produced. Of the three commercial PFCA products analyzed, only Surfion S111 contains a significant amount of PFNA.

(<http://pubs.acs.org/doi/abs/10.1021/es0512475> Supporting Information Table S2 and pages 17-18). This results in up to several metric tons of PFNA emitted yearly at the Solvay facility, calculated at approximately 60% emitted during the manufacture of PVDF.

(<http://pubs.acs.org/doi/abs/10.1021/es0512475> Supporting Information, page 19).

In the 2008 Report from Solvay Solexis to EPA a Mass Balance graphic illustrates that of the total PFNA used, 3-10% goes into the product, but most is either exhausted to the air (25-32%) or released into wastewater (62.7%).

(<http://www.epa.gov/opptintr/pfoa/pubs/Solvay%20Solexis%20report.pdf>). Release of PFNA occurred for several years.

Since we know that these chemicals do not degrade in the environment their presence in the soil and water in the region are more than likely still present and an ongoing source of pollution. Yet no sampling has been conducted of the nearest water sources to Solvay and, as we suggested in our July 25 letter, it appears that PFCs can travel through both air and water for quite a distance so we urge that sampling be done of all drinking water sources within a 10 mile radius. Surface water sampling of the Delaware River and adjacent tributaries is also warranted, based on Delaware River Basin Commission findings of extremely high levels of PFNA and PFUnA in the Delaware River.⁴ This could be part of the scope of a third Occurrence Study. As we pointed out previously, several other sampling results from the Department's 2009 sampling showed PFCs at significant levels in both ground and surface water in many places in New Jersey. An Occurrence Study that includes these and other potential hot spots is urgently needed.

The important issue for the public is clean drinking water and family health, not the ins and outs of why nothing has been done or who is responsible for it. We urge the Department to move ahead promptly with a third Occurrence Study for PFCs in New Jersey with broad sampling of water sources. We urge the Department to make PFNA sampling and action a priority in and around the Delaware River, particularly the ten mile radius around the Solvay facility.

³ <http://www.epa.gov/region02/waste/fsausimo.htm>

⁴ www.state.nj.us/drbc/library/documents/contaminants-of-emerging-concernAug2013rev.pdf

Thank you for your prompt consideration of these matters.

Sincerely,



Maya van Rossum
the Delaware Riverkeeper

Tracy Carluccio
Deputy Director

Attachment: July 25, 2013 letter to NJDEP from DRN