PFOA pollution in the vicinity of the DuPont Chambers Works Facility, Deepwater, Salem County, New Jersey

April 28, 2009

M*ark N. Mauriello*
Office of the Commissioner
NJ Department of Environmental Protection
401 E. State Street
7th floor, East Wing
P.O. Box 402
Trenton, New Jersey 08625-0402

Re: **PFOA pollution in the vicinity of the DuPont Chambers Works Facility, Deepwater, Salem County, New Jersey**

Dear Commissioner Mauriello,

We are part of a state and national coalition of organizations to stop the manufacture and use of perfluorinated chemicals and to clean up pollution caused by these chemicals. We have expressed our concerns about perfluorooctanoic acid (PFOA) and the family of perfluorinated chemicals to the Department over the last few years. In addition, we have communicated our support for the Department's guidance level for PFOA (.04 ppb), the strictest in the nation, and the work done to produce the 2007 Occurrence Study. Most recently, we testified before New Jersey's Drinking Water Quality Institute on January 27, 2009 in support of the inclusion of PFOA in the Institute's 2009 work plan to develop a health-based water quality standard for PFOA. We agree this is essential to protect water consumers from the harmful health effects of PFOA.

We bring to your attention two pressing concerns regarding PFOA in the DuPont Chambers Works facility region and how nearby communities are being affected.

Foremost, we are troubled that drinking water tests being performed by DuPont in the vicinity of its Chambers Works facility intend to use the Federal Environmental Protection Agency's (EPA) emergency Provisional Health Advisory Value of 0.4 ppb, issued in January 2009 as the action level for providing alternative sources to residents with contaminated drinking water. New Jersey's guidance level is 10 times stricter and properly reflects the long-term exposure to PFOA from Chambers Works' chemical production that has affected area residents.

Delaware Riverkeeper Network
300 Pond Street, Second Floor
Bristol, PA 19007
tel: (215) 369-1188
fax: (215) 369-1181
drkn@delawareriverkeeper.org
www.delawareriverkeeper.org

We advocate that the Department reject DuPont's plan to use the 0.4 ppb level and that the Department require New Jersey's more protective PFOA guidance level be used.

Secondarily, we renew our request for the Department to conduct air sampling of PFOA. Recent reports show that water contamination may be driven by air emissions, not only through groundwater plumes.[1]

DuPont Drinking Water Testing

In a FAQ sheet presented to residents with notification of the availability of drinking water testing in Salem County in March 2009, it was stated, "While a NJDEP Drinking Water Guidance value of 0.04 ppb based on lifetime exposure has been published, it is a guidance level and does not carry the weight of a regulatory standard that allows the NJDEP to require or provide for treatment. DuPont has agreed to provide treatment to affected wells based on EPA's 0.4 ppb."

New Jersey's guidance level is based on New Jersey's independent scientific research. The 2007 New Jersey Occurrence Study shows the need for swift and protective action to provide clean water since PFOA has been found in residents' drinking water here; 18 of 23 water sample locations throughout New Jersey showed measurable levels of PFOA with the highest levels in the vicinity of DuPont's Chambers Works plant (0.1 ppb or above most recently).

In 2008, DuPont disclosed to the Department that eight of its nine groundwater monitoring wells showed contamination levels which exceeded the .04 ppb guidance level. In fact, six of the nine wells actually exceeded the EPA's 0.4 ppb standard, which truly magnifies the problems local residents face.[2]

EPA's Provisional Health Advisory, according to the Agency, is a value developed to provide *emergency* information due to an *urgent* threat. The action was based on a quick review by the former Administration of a review article that evaluated studies in mice for PFOA, not on first-hand analysis of scientific studies or on studies based on human health research.

By contrast, New Jersey has done more extensive scientific research and analysis to arrive at its guidance level. New Jersey's Division of Science and Research based its guidance document on a comprehensive analysis of scientific studies which included human blood studies.

The EPA study differs from the NJDEP analysis and guidance document conclusions primarily because it is a short term health advisory for acute exposure. The NJDEP guideline is for lifetime chronic exposure in order to protect water consumers over their life span.

Biological changes, according to studies, happen at very low levels of exposure to PFOA, which drives the need for a protective health-based water quality standard. A federal report by an independent scientific review panel, the Science Advisory Board, acknowledged in a report dated May 2006 that perflourinated compounds are a "likely" cause of cancer.[3] Recent studies show that PFOA may be related to infertility in women[4]. Metabolic effects are reported in mice in adulthood after prenatal exposure to PFOA[5]. Pregnancy loss, increased neonatal mortality, abnormal mammary gland growth and other developmental changes are also reported in recent studies.[6]

The Centers for Disease Control and John Hopkins[7] have reported health impacts in newborn babies such as low birth weight and reduced head circumference. Other health impacts are being studied such as organ damage, elevated cholesterol and blood triglycerides and thyroid and immune system changes.

The dangers of PFOA are now well established and are becoming better understood with further studies and evidence. All Americans have approximately 4 ng/mL (nanogram/milliliter) of PFOA in their blood. The infinite half-life of the chemical, the tendency of the chemical to build up in humans, its water solubility, the widespread presence of the chemical in the environment - even found in the most remote corners of the world - and its long standing and continued use in a wide range of consumer products (such as cooking utensils and other slick coatings) translates into an ubiquitous and threatening presence in the modern world.

In 2006, the USW tested the blood of DuPont members and retirees in New Jersey who came in contact with PFOA and related chemicals. The results showed their exposure levels to be hundreds of times higher than the general public. Blood tests of 97 Chambers Works workers conducted by DuPont in December 2007 show a median PFOA blood level of 24 ppb with a high of 645 ppb. However, blood tests of 46 workers of DuPont Performance Elastomers, which is located on the Chambers Works plant site, revealed a median PFOA blood level of 292 ppb with a high of 4400 ppb.[8]

Studies have shown that workers who contact these chemicals are more prone to prostate and bladder cancer and higher than normal levels of cholesterol - a risk factor for heart attack and stroke.[9]

Additionally, related chemicals (fluorotelomer alcohols), also made and used by DuPont, eventually break down into PFOA. Fluorotelomers are used widely in products such as food packaging, microwave popcorn bags, fire-fighting foams carpet and upholstery, stain resistant clothing and even cosmetics.

Fluorotelomers have been manufactured at DuPont's Chambers Works plant for decades. While DuPont has agreed with the U.S. Environmental Protection Agency (EPA) to slowly phase out the manufacture of PFOA over many years (by 2015), fluorotelomer alcohols are not included in the phase out. And testing of fluorotelomers was just extended by the outgoing federal administration for three more years, delaying until December 2011 the deadline for DuPont to purify its fluorotelomer products.[10] This extends the exposure of the community surrounding the Chambers Works Plant to these PFOA-producing chemicals, making immediate action by the Department to require clean drinking water there even more urgently needed.

Human health impacts, discussed above, are magnified because PFOA bioaccumulates from drinking water to blood (by about 100:1 ratio) and is not metabolized by humans, building up in blood with a half life in the body of about 4 years.

Because of human health impacts and the presence of PFOA in New Jersey's drinking water, New Jersey's Drinking Water Quality Institute is developing a water quality standard for PFOA now. We recognize the development of a drinking water quality standard is a long and considered process that requires several levels of administrative and technical work. The process that New Jersey's Drinking Water Quality Institute carefully follows is consistently thorough and has a goal of providing a MCL treatment level that all water suppliers must monitor for statewide. The standard that results is based on health effects and occurrence. Looking at other standards that have been developed by the Drinking Water Quality Institute, this process could take several years.

But the Department does not have to wait to take protective action for its residents. New Jersey can take further action immediately in order to enforce its guidance level by adopting a Class II A Interim Specific groundwater criterion for PFOA in the Chambers Works area where elevated PFOA levels exist. This can be done as part of the clean up program for the Chambers Works site that is being done under the Department's Site Remediation Program. The method for developing an interim specific criterion is the same as that for a drinking water standard; it is based on health effects and occurrence. The elevated levels of PFOA in the Chambers Works region warrant immediate action by the Department to set an interim groundwater standard to protect residents who are drinking and using the water there.

According to Ground Water Quality Standards (GWQS), N.J.A.C. 7:9C, "Interim specific ground water quality criteria are posted on the Department's Web site in the Interim Ground Water Quality Criteria Table. The Department generally establishes new ground water quality criteria through amendments to or readoption of the GWQS rules. However, the GWQS rules at N.J.A.C. 7:9C-1.7(c) allow the Department to establish new ground water quality criteria on an interim basis prior to rulemaking. The Department may establish interim specific ground water quality criteria for constituents that are not listed on Appendix Table 1 when sufficient health-based information is available to derive a criterion and practical quantization limit (PQL) in accordance with the methodologies or risk assessment approach discussed in N.J.A.C. 7:9C-1.7(c) 2, 3 and 4."[11]

We advocate that the Department immediately develop a Class II A Interim Specific Ground Water Quality Criteria for PFOA in the region influenced by the Chambers Works facility where there are elevated PFOA levels. This process is fast and can be accomplished based on New Jersey's existing research and findings and on the information developed by the Department's Site Remediation Program for the Chambers Works facility. It will be the first step in rulemaking that will

eventually result from the deliberations of the Drinking Water Quality Institute. And it will provide urgently needed clean water now to those who are being exposed to the highest levels of PFOA pollution in the State.

Action by Water Companies

It was publicly reported that letters were sent to water companies in the vicinity of the Chambers Works facility by the Department urging that plans be made to treat and/or provide drinking water to their customers to meet New Jersey's guidance level of 0.04 ppb. As far as we know, no action has been taken or reported by these water purveyors to the Department outside of DuPont's testing protocol.

We support swift and effective action by the Department to provide clean drinking water to the communities that have had their water supply polluted by PFOA. We do not support state-funded treatment systems or alternative water sources to remedy the problem. We believe that DuPont must cover all costs of providing clean drinking water and is also fully responsible for cleaning up all sources of PFOA and perflourinated chemical pollution. Further, we advocate that the Department do all in its power to ensure that PFOA and fluorotelomers that break down into PFOA are removed from manufacture and use at the Chambers Works facility. We suggest an alliance with EPA may be fruitful at this time.

Finally, regarding air testing, we had asked in 2006 that the Department consider adding testing for PFOA and perflourinated chemicals to DuPont's air permit. We renew our request. We also advocate that the Department conduct air sampling similar to its water sampling that was done for the Department's Occurrence Study.

Thank you for your attention to this critical human health and environmental issue. We await your response.

Sincerely,

M*aya van Rossum, the Delaware Riverkeeper*
Tracy Carluccio, Deputy Director, Delaware Riverkeeper Network

Cheryl Reardon, Project Director, Association of NJ Environmental Commissions

Amy Goldsmith, Director, New Jersey Environmental Federation

Denise Patel, Campaign Organizer, Chemical Safety and Security, New Jersey Work Environment Council

Roy Jones, Coordinator, South Jersey Environmental Justice Alliance

James T. Rowe, President, United Steelworkers of America (USW) Local 4-943

---

[1] Davis et al., 2007. Transport of ammonium perfluorooctanoate in environmental media near a fluoropolymer manufacturing facility. Chemosphere 67: 2011-2019.

[2] "Perfluorooctanoic Acid Groundwater Investigation Report, Dupont Chambers Works, Deepwater, NJ, Table 3, Summary of Groundwater Analytical Results", May 2008 Project No. 507626, 18984416, CORPORATE REMEDIATION GROUP, *An Alliance between DuPont and URS Diamond,* Barley Mill Plaza, Building 19, Wilmington, Delaware 19805.

[3] EPA-SAB-06-006 SAB Review of EPA's Draft Risk Assessment of Potential Human Health Effects Associated with PFOA and Its Salts

[4]Chunyuan Fei1,5, Joseph K. McLaughlin2,3, Loren Lipworth2,3, and Jørn Olsen1,4. Maternal levels of perfluorinated chemicals and subfecundity. Human Reproduction, Vol.1, No.1 pp. 1-6, 2009.

[5]Hines, E.P.; Gibbs-Flournoy, E.A.; Stanko, J.P.; Newbold, R.; Jefferson, W.; Fenton, S.E. Testing the uterotrophic activity of perfluorooctanoic acid (PFOA) in the immature CD-1 mouse. The Toxicologist 2009, 108, 297.

[6]Hines, E.P.; White, S.S.; Stanko, J.P.; Gibbs-Flournoy, E.A., Lau, C., Fenton, S.E. Phenotypic dichotomy following developmental exposure to perfluorooctanoic acid (PFOA) in female CD-1 mice; Low doses induce elevated serum leptin and insulin, and overweight in mid-life. Mol. Cell. Endocrinol. 2009, doi:10.1016/j.mce.2009.02.021.

[7] Benjamin Apelberg, Department of Epidemiology, Bloomberg School of Public Health, John Hopkins University, August 2007.

[8] Perfluorooctanoic Acid (PFOA) Updated Occupational Serum Sampling, Chambers Works Facility, Deepwater, New Jersey; submitted to EPA June 4, 2008 by DuPont Corporation

[9] Dupont Council, "Facts not Fiction", The Case of C8, http://www.dupontcouncil.org/About_Us.htm

[10] Andrew Eder, Environmental Appeals Board extends federal deadline three years", The News Journal, February 10, 2009.

[11] http://www.state.nj.us/dep/wms/bwqsa/gwqs.htm