

Status of NJDEP PFOA Activities - 8/8/09

Background

Perfluorooctanoic acid (PFOA) is an industrial chemical used to make fluoropolymers for products such as non-stick cookware and water- and stain-resistant products. PFOA is persistent in the environment and is detected in the blood of the general population worldwide. The science and toxicology of PFOA and other perfluorinated compounds is rapidly advancing.

PFOA has been detected at low levels in public water systems throughout New Jersey. This website provides information about the Department's current activities to address PFOA in New Jersey's environment.

New Jersey Health-based Drinking Water Guidance

The Department developed a health-based drinking water guidance level of 0.04 ug/L (parts per billion) for PFOA in 2007. In January 2009, USEPA developed a Provisional Short Term Drinking Water Health Advisory of 0.4 ug/L (parts per billion) for PFOA which was developed quickly to address a situation of contamination in Alabama. The primary difference between the New Jersey guidance and the USEPA Provisional Health Advisory is the timeframe for which these guidance values are intended to protect.

The New Jersey health-based drinking water guidance level of 0.04 ug/L is intended to protect for lifetime exposure, normally defined as 70 years, as are all drinking water guidance values, drinking water standards, and ground water criteria developed by the Department. The basis for the guidance has been published in the peer-reviewed journal, [Environmental Science & Technology](#) and is posted on the [Department's Division of Water Supply](#) web page.

USEPA Short Term Drinking Water Health Advisories are normally intended to protect for one day or ten days of exposure; however the specific timeframe for the Short Term Provisional Health Advisory of 0.4 ug/L for PFOA was not specified by USEPA. The USEPA Advisory is posted at [EPA's Drinking Water Health Advisories](#) page.

Development of New Jersey Drinking Water Standard for PFOA

[The New Jersey Drinking Water Quality Institute \(NJDWQI\)](#) is an advisory body established by New Jersey's drinking water law which is charged with recommending drinking water standards to the Commissioner of the Department. The DWQI has added PFOA to the list of contaminants for which it plans to recommend a drinking water standard (Maximum Contaminant Level, MCL) to the Department. The current New Jersey health-based guidance level was developed in 2007 and is based on studies identified by USEPA in its 2005 draft risk assessment for PFOA. Since that time, many additional studies on the effects of PFOA in humans and experimental animals have become available. These newer studies will be considered by the DWQI while developing a health-based drinking water standard (Health-based MCL) recommendation for PFOA. The DWQI will consider the Health-based MCL recommendation along with analytical limitations and available treatment removal technologies to develop the final MCL recommendation.

The Department believes that the development of an MCL recommendation for PFOA should be given top priority by the DWQI and is determined to move ahead with this process as quickly as possible.

Testing of Private Wells Near DuPont Chambers Works

Currently, private wells within two miles of Dupont's Chambers Works facility in Carneys Point Township, Salem County, are being sampled and analyzed for PFOA. DuPont has agreed to voluntarily conduct this sampling and to provide treatment to those private wells that exceed the USEPA Provisional Health Advisory level of 0.4 ug/L. Because the Department does not have a promulgated drinking water standard or an interim specific ground water criterion for PFOA, the Department currently does not have regulatory authority to require DuPont to provide treatment to wells impacted by PFOA to 0.04 ppb.

In order for the Department's Site Remediation Program to provide public funding to provide alternate water supply or treatment, the contaminant of concern (PFOA) must be listed as a hazardous substance under the Spill Compensation and Control Act or in another regulation referenced by this Act. At this time, PFOA does not meet this requirement. However, adding PFOA and other perfluorinated chemicals to the list of compounds for which reporting is required under the New Jersey Community Right-to-Know (RTK) list regulations will provide regulatory authority to use a public funding source for remediation, if necessary.

New Jersey Interim Specific Ground Water Quality Criterion for PFOA

New Jersey Ground Water Quality Standards regulations provide for the development of an interim specific ground water criterion if there is sufficient information available to derive a health-based criterion and an analytical practical quantitation limit. Ground water criteria developed by the Department are based on the same risk assessment approaches and assumptions as drinking water standards and guidance, as they are intended to protect from potential health effects resulting from potable use of ground water for a lifetime of exposure. The Department is currently evaluating how to address remediation of private wells with PFOA concentrations that exceed the New Jersey 0.04 ppb guidance level but are below the USEPA 0.4 ppb Advisory level. This evaluation includes the potential enforcement benefits of developing an interim specific ground water criterion for PFOA. The Department anticipates development of a final strategy on this issue during the fall of 2009.

Listing PFOA and Related Compounds in New Jersey Community Right-to-Know Regulations

The Department recognizes the concerns about potential environmental and human health impacts which may result from the manufacture and use of PFOA and other perfluorinated chemicals at DuPont Chambers Works. The Department is investigating adding perfluorinated chemicals, including telomer alcohols and other compounds which may degrade to PFOA in the environment, to the list of compounds for which reporting is required under the RTK regulations. Adding these chemicals to the RTK regulations will allow the Department to learn more about their use in facilities throughout the State, as well as their impact on New Jersey's environment.

Reporting of Air Emissions for PFOA and Related Compounds

The Department has used air deposition modeling in its investigation of the potential occurrence of PFOA in private wells in the Chambers Work vicinity. The Department is also currently

considering adding PFOA and related compounds to the list of regulated contaminants for which reporting of air emissions is required.

Occurrence of PFOA in New Jersey Public Drinking Water Systems

PFOA has been detected in New Jersey public water supplies in the vicinity of DuPont Chambers Works as well as in other parts of the state. In 2006, PFOA was detected at up to 0.19 ppb and 0.0179 ppb in ground water samples from two different public water systems near the Dupont Chambers Works Facility. Also in 2006, the Department conducted a study of PFOA and a related chemical, perfluorooctane sulfonate (PFOS), in 23 other New Jersey public water supplies. This study has been published in a peer reviewed journal, [Environmental Science & Technology](#) and is posted on the [Department's Division of Water Supply](#) web page. Of the 23 public water systems sampled in this study, the highest level detected was 0.039 ppb.

Based on recommendations by the Department, PFOA and PFOS were analyzed in 2007-2008 in over 200 samples collected by 18 public water systems throughout the state, including 12 systems sampled in the 2006 study. PFOA concentrations ranged from non-detectable (<0.01 ppb) to 0.14 ppb in water from an unconfined well near Chambers Works. PFOA was detected above the Department's health-based guidance level of 0.04 ppb in at least one sample from five systems. Results of quarterly sampling of several systems have consistently exceeded the health-based guidance of 0.04 ppb in one or more points-of-entry.

In order to gain further knowledge of the occurrence of perfluorinated chemicals in New Jersey drinking water, the Department has planned an additional study of 30 sampling stations from 29 public water systems located in 19 of 21 New Jersey counties. In this study, samples will be analyzed for a suite of 11 perfluoroalkylates and perfluorosulfonates detected by the analytical method. Sampling for this study was initiated in July of this year.

Actions Taken to Address PFOA in New Jersey Public Water Systems

To date, the Department has sent letters to the four public water systems with annual average PFOA levels exceeding the guidance level of 0.04 ppb, recommending that the water system continue to monitor and develop a plan to reduce PFOA levels: New Jersey American- Pennsgrove, United Water - City of Orange, New Jersey American - Logan; and United Water - Rahway. These water systems are located in four different counties: Essex, Gloucester, Salem and Union.

At this time, one system has taken action to minimize PFOA levels in the water delivered to its customers. New Jersey American-Pennsgrove is currently blending water from wells with lower PFOA levels with water from the wells exceeding the guidance value in order to reduce PFOA concentrations in its finished water delivered to consumers. United Water-City of Orange continues to monitor on a quarterly basis, as requested by the Department. United Water – Rahway has proposed a plan to evaluate their source water and determine the fate of PFOA in their existing treatment plan and optimize design and operation parameters accordingly. NJDEP awaits response from the other system. The Department continues to receive data from these four systems as well as other public water systems that have elected to monitor on a voluntary basis.

For Further Information:

Division of Water Supply – PFOA website: <http://www.state.nj.us/dep/watersupply/pfoa.htm>

Site Remediation Program - General Website: <http://www.state.nj.us/dep/srp/>

Water Monitoring and Standards - Ground Water Quality Standards Website:
<http://www.state.nj.us/dep/wms/bwqsa/gwqs.htm#1>

Community Right-to-Know - General Website:
<http://www.nj.gov/dep/opppc/crtk/crtkindex.html>