



# LITTLE HOCKING WATER ASSOCIATION, INC.

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## U.S. EPA SCIENCE ADVISORY BOARD DRINKING WATER COMMITTEE ADVISORY ON CONTAMINANT CANDIDATE LIST (CCL3) April 23-24, 2008

### COMMENTS

#### THE LITTLE HOCKING WATER ASSOCIATION, INC. LITTLE HOCKING, OHIO

My name is Bob Griffin. I am a civil engineer and the general manager of The Little Hocking Water Association (LHWA), a non-profit rural water system located in southeast Ohio. I am here to support the inclusion of perfluorooctanoic acid (PFOA or “C-8”) on the EPA’s third drinking water Contaminant Candidate List (the “CCL 3”).

The information revealed and discovered about C-8 during the last several years underscores the need for its inclusion on the CCL 3:

- PFOA is highly persistent in the environment;
- PFOA is bioaccumulative in living organisms, including the blood of people, and remains in the human body for years;
- Exposure to PFOA has caused adverse effects in laboratory studies in animals; and
- The multiple sources and pathways of PFOA exposure are not yet understood. This makes it difficult to limit incremental exposure.

As a result of the scope and complexity of the science and health issues, PFOA and other perfluorinated compounds have been recognized by US EPA and other federal agencies as emerging issues. The public needs scientific guidance that is not subject to interference by those who have a financial interest in the outcome of the research.

LHWA is a prime example of the impact of PFOA on drinking water supplies. LHWA serves approximately 12,000 people from an approximately 45-acre wellfield adjacent to the Ohio River. In 2002, we first learned that PFOA, a perfluorinated compound (used in industry and the manufacture of consumer products) had contaminated our drinking water supply. We now know that our wellfield has the dubious distinction of having the highest level of C-8 measured in a public water system of which we are aware.

What is worse, LHWA customers have the highest non-worker C8 blood levels of any subpopulation tested to date. C8 blood levels as high as 390 times the national average of approximately 5 ppb have been found in LHWA customers. The average C8 blood level found in LHWA customers ranges from 40-45 times the national average or 70-80 times the national average, depending on the data set used. In August 2006, Dr. Ted Emmett et al. published the PFOA results of blood testing for residents primarily in the LHWA service area. *The study concluded that drinking water is the primary source of the PFOA found in the blood.* □

In addition to substantial exposure from drinking water, scientific data indicates that people are also exposed to C8 through, for example, house dust and food cooked in fluoropolymer-coated pans (even in newer pans). These incremental additional amounts are particularly significant with respect to immunotoxicology and other non-cancer impacts for which every additional amount of PFOA can increase threats to health.

As a result of the high levels of PFOA in LHWA's drinking water and customers, over 80 percent of our customers were using bottled water as part of an emergency bottled water program that we urged DuPont to fund. The emergency bottled water program terminated after an interim and experimental granular activated carbon (GAC) treatment plant, that is intended to remove PFOA from the water entering our distribution system, began operation in November 2007. Obviously, the environment, including LHWA's wellfield, is not being cleansed of C-8. We are trying to evaluate the operation of the GAC system and to evaluate the cost and availability of a permanent alternate water supply. The CCL is also aimed at evaluating such technology and alternatives.

The presence of PFOA and other perfluorinated chemicals is not limited to just Ohio. Perfluorinated compounds have been found worldwide – in such wide-ranging venues as polar bears in Greenland to pandas in China. They are found in surface water and ground water in Europe and Japan. To date, in the United States, PFOA has been detected in ground water in Minnesota, New Jersey, Virginia, North Carolina, Alabama, West Virginia, Georgia and Ohio. Both public and private drinking water wells are affected.

In order to protect the health and welfare of the consumers of the LHWA water, the LHWA has closely followed relevant regulatory efforts and public recognition that PFOA may pose a threat to human health and the environment. LHWA actively participated in the ECA process (started in June 2003 by US EPA) that highlighted the importance of understanding pathways for exposure to PFOA. Although many studies spawned from this process are ongoing, formal ECA meetings were discontinued in 2006. Among other actions taken by US EPA on PFOA, a draft risk assessment was prepared and a SAB panel was formed to review the document. This SAB review was completed in May 2006 and recommended that PFOA be classified as a "likely carcinogen". In November, 2006 the US EPA announced an interim, negotiated "action level" of 0.50 ppb and concluded that C8 levels at or above 0.50 ppb in drinking water may present an imminent and substantial endangerment to human health. In February, 2007 the State of New Jersey announced a 0.04 ppb preliminary guidance level for C8 – more than an order of magnitude less than the USEPA action level.

Since the U.S. EPA and DuPont negotiated the 0.50 ppb action level, additional scientific research has been conducted on the health impacts of PFOA. For example:

- 1) An animal study conducted by scientists at the National Institute for Occupational Safety and Health (NIOSH) released in March 2007 suggests that C8, upon dermal contact, has multiple immune system effects, including suppression of the human immune system and the potential increase in the likelihood of developing asthma and allergies.<sup>1</sup>
- 2) On June 1, 2007, Benjamin Apelberg et al. published the results of a study by Johns Hopkins University and the Centers for Disease Control in Environmental Science and Technology.<sup>2</sup> This study showed the ubiquitous presence of PFOA in babies cord blood. Nine other PFCs were also detected. Of particular significance, the study showed a negative correlation between birth weight and head circumference and PFOA and PFOS concentrations in the cord blood.

In further support of LHWA's request to have PFOA included on the CCL 3, I have included the following annotated history and references for consideration by the Science Advisory Board in formulating their recommendation:

- 1) On April 16, 2003, the USEPA announced the beginning of the Environmental Consent Agreement process (known as ECA) to look at PFOA. The attached Federal Register notice summarizes the basis for concern about PFOA, but specifically excludes discussions of blood levels during this process.<sup>3</sup> The ECA process is a voluntary effort by industry in concert with the Agency.
- 2) In November and December 2005, the Little Hocking Water Association tested blood of some of its customers for PFCs. The results show levels of PFOA ranging from 112 ppb to 1040 ppb as compared to the national average of approximately 5 ppb.<sup>4</sup> The results also show the presence of other perfluorinated compounds.
- 3) On August 8, 2006, Dr. Emmett et al. published the PFOA results of blood testing for residents primarily in the LHWA service area in the Journal of Occupational and Environmental Medicine.<sup>5</sup> This study was funded by the National Institute of Health Sciences. The highest median blood level was 374 ppb for customers drinking Little

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<sup>1</sup> Fairley, Purdy, Kearns, Anderson, and Meade 2007. Exposure to the Immunosuppressant, Perfluorooctanoic Acid, Enhances the Murine IgE and Airway Hyperreactivity Response to Ovalbumin. *Toxicological Sciences* 97(2), 375-383.

<sup>2</sup> Apelberg, B.J., Goldman, L.R., Calafat, A.M., Herbstman, J.B., Kuklennyik, Z., Heidler, J., Needham, L.L., Halden, R.U., and Witter, F.R. 2007. Determinants of Fetal Exposure to Polyfluoroalkyl Compounds in Baltimore, Maryland. *Environmental Science and Technology* 41(11):3891-3897.

<sup>3</sup> Environmental Protection Agency, 2003. Perfluorooctanoic Acid (PFOA), Fluorinated Telomers; Request for Comment, Solicitation of Interested Parties for Enforceable Consent Agreement Development, and Notice of Public Meeting, *Federal Register* 68 (73):18626-18633. April 16.

<sup>4</sup> <http://www.regulations.gov/fdmspublic/component/main> USEPA Docket EPA-HQ-OPPT-2003-0012-0990.

<sup>5</sup> Emmett, E.A., Shofer, F.S., Zhang, H., Freeman, D., Desai, C., and Shaw, L.M. 2006. Community Exposure to Perfluorooctanoate: Relationships Between Serum Concentrations and Exposure Sources. *Journal of Occupational Environmental Medicine* 48 (8):759-770.

Hocking water. As I noted earlier, the study concluded that drinking water was the primary source of PFOA in the blood.

- 4) After three years of negotiation under the ECA process, EPA had not received commitments by industry to perform studies in all desired arenas. At the June 8, 2006 Non-ECA PFOA Information Forum, USEPA provided updates on Agency-led initiatives including: the Office of Research and Development (ORD) telomer biodegradation research on soil and sewage sludge; ORD research in toxicity testing and pharmacokinetics; the Center for Disease Control's inclusion of PFOA and PFOS in the National Biomonitoring Program with data to be included in the 2007 National Report; and the National Toxicology Program's tiered research on perfluorochemicals with chain lengths from C-4 to C-12, including pharmacokinetics, mechanistic studies, reproductive toxicity and carcinogenicity. The agenda for that meeting is attached.<sup>6</sup>
- 5) In May 2007, Kellyn Betts published an article in Environmental Health Perspectives on Perfluoroalkyl Acids.<sup>7</sup> This article summarizes many of the research studies and presents many of the yet-to-be answered questions about these chemicals.

In summary, PFOA and other perfluorinated compounds have been recognized as chemicals of concern that have garnered increasing attention over the last several years. They have very high potential to occur in public and private water systems and may cause serious adverse human health effects.

We acknowledge that under the EPA's "PFOA Stewardship Program", chemical companies agreed to work toward eliminating emissions and product content levels of PFOA. However, this program is voluntary, unenforceable, and does not address existing environmental contamination. More importantly, DuPont and others have not committed to eliminating the use of products, such as fluorotelomers, that may break down to PFOA. Once again, I respectfully request that the SAB recommend that PFOA be included on the EPA's third drinking water Contaminant Candidate List (CCL 3).

I want to thank the Science Advisory Board for this opportunity to comment on the inclusion of PFOA on the EPA's third drinking water Contaminant Candidate List (CCL 3) and for carefully considering the comments of the Little Hocking Water Association.

Robert L. Griffin, General Manager  
Attachments (6)

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<sup>6</sup> U.S. EPA, June 8, 2006. Agenda for Perfluorooctanoic Acid (PFOA) Enforceable Consent Agreement (ECA) Process Ninth Plenary Session and Non-ECA PFOA Information Forum, 2 pages.

<sup>7</sup> Betts, K.S. 2007. Perfluoroalkyl Acids. What is the Evidence Telling Us? Environmental Health Perspectives 115 (5):A250-A256.