

Approved February 16, 2017

New Jersey Drinking Water Quality Institute (DWQI)  
September 22, 2016, 1 pm  
**Meeting Minutes**

Members Present:

Keith Cooper (Chair)	Anthony Matarazzo	Carol Storms
Patricia Gardner	Bahman Parsa	George Van Orden
Judith Klotz	Gloria Post	
Sandra Krietzman	Sheng-lu Soong	

Members Absent:

Jessie Gleason	Norm Nelson	Daniel Salvito
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Non-members Present:

Yin Zhou (NJ Division of Law)  
Eugene Callahan, Kati Angarone, Kristin Tedesco, Lorraine Salamanca, Sandra Goodrow, Lee Lippincott, Leslie McGeorge, Erica Bergman, Gary Buchanan, Daniel Millemann (NJ Department of Environmental Protection)  
Matt Peterson (NJ- Office of Legislative Services)  
Tin Fan (NJ Department of Health)  
Patricia McIsaac (Test America)  
Erin Palko (Integral)  
Charles Neslund (Eurofins Lancaster)  
Sam Jones, Tom Leach (Chemistry Council of New Jersey)  
Lydia Work (Environmental Standards)  
Lisa Voyce (HDR)  
Alan Klarsky (William Cuker)  
Ted Toskos (AMEC)  
Paul Norian (Woodman & Curran)  
Pierre Lacombe, Tom Imbriotta (USGS)  
Barker Hamill  
Steve Havlik (BASF)  
Doug O'Malley (Environment NJ)  
Tracy Carluccio, Ed Rodgers (Delaware Riverkeeper Network)  
Ron MacGillivray (DRBC)  
Jeff Tittel (NJ Sierra Club)  
Irene Kropp  
Jon Hurdle (NJ Spotlight)  
Perry Cohn

The meeting was open to the public. All attendees were asked to sign in and provide contact information.

**1. DWQI Chair: Welcoming remarks and introduction of the DWQI members present**

The Chairman asked attendees to sign in with name and email. Also, because the meeting is held in a place of business and a federal facility, he asked that people please use their cell phones outside. He also asked that attendees not roam the halls. Finally, he asked that speakers announce themselves when making a comment so that note takers can attribute comments accurately in the minutes.

**2. Review and Acceptance of previous meeting minutes**

The Chairman asked members to review the minutes of the June 30, 2016 meeting. There were no substantive changes. The minutes were approved. He announced that they would be posted in a week.

**3. Review of [Public Participation in the MCL Development Process](#) –**

The Chairman described the public participation process and showed the status of various compounds with respect to the [flow diagram](#). He noted that the DWQI considers all comments and where appropriate, incorporates them into the final documents. He also reminded attendees that DWQI performs a science driven evaluation in order to advise DEP. Whenever possible, DWQI tries to post documents as early as possible in advance of meetings.

**4. [1,2,3-Trichloropropane: Discussion of responses to public comments and DWQI vote on MCL recommendation](#)** -

Chairman Cooper addressed the review of the submitted comments by one commenter (see slide 4 of presentation at link above) and then asked DWQI members if there were any additional comments. Hearing none, the Chairman called for a vote to finalize the MCL recommendation of 30 ng/L for 1,2,3-trichloropropane. All members were in favor. The Chairman indicated that the recommendation would be forwarded to the Commissioner

**5. Presentation of Draft Subcommittee Reports on PFOA**

The Chairman announced that the draft PFOA subcommittee reports and presentations will be posted on the DWQI website, and that there will be a 60-day comment period on the draft reports. This is a longer period than DWQI has had for previous documents because of the length of the Health Effects subcommittee document.

**a. Health Effect Subcommittee** - Since the Health Effects Subcommittee Chair, Jessie Gleason, was unable to attend, Gloria Post presented the "[Health-based Maximum Contaminant Level Support Document: Perfluorooctanoic Acid \(PFOA\)](#)," Topics in the presentation included the process used to develop the draft document, occurrence of PFOA in NJ public water supplies, human biomonitoring and exposure sources, the relationship between blood serum PFOA levels and exposure from drinking water in adults and infants, human epidemiology and animal toxicology data reviewed by the Health Effects Subcommittee, and mode of action evaluation. The proposed Health-based MCL is based on animal

toxicology data, while human epidemiology data provide strong support for a public health protective approach and justify concerns about a substantial increase in serum PFOA levels from drinking water exposure. Quantitative risk assessment was conducted for cancer and non-cancer endpoints. For both types of endpoints, animal to human comparisons were based on internal dose (e.g. blood serum levels) rather than administered dose. For non-cancer endpoints, Reference Doses were developed for delayed mammary gland development and increased liver weight. Review of both of these endpoints concluded that they are appropriate as the basis for risk assessment. Although delayed mammary gland development was the most sensitive endpoint, it was not used as the primary basis for risk assessment since there is no precedent for doing so. Instead, the Health-based MCL was based on increased liver weight with an uncertainty factor to account for more sensitive effects from developmental exposure including delayed mammary gland development and persistent liver toxicity. Using default exposure assumptions, a Health-based MCL of 14 ng/L was derived. The Health-based MCL for carcinogenic effects based on testicular tumors in rats at the one in one million risk level was also 14 ng/L. At the request of NJDEP, the Health Effects Subcommittee reviewed the scientific basis of the USEPA Health Advisory for PFOA (70 ng/L) and compared it to the basis of the Health-based MCL (14 ng/L). This review is presented in Appendix 2 of the document.

**Technical Questions:**

- Tracy Carluccio asked if the slides would be available on the website.
- Erin Palko asked a series of questions about the uncertainty factors, the reference dose and assumed body weight, and the Relative Source Contribution factor. Dr. Post responded to her questions that the standard equation was used, and that this was different than the approach used for PFNA because a clearance factor, as such, has not been developed for PFNA. She also asked about whether the assumptions used to develop Health-based MCLs for PFCs would be reconsidered based on the results of the NJDOH PFC biomonitoring study. Dr. Post responded that she is not involved with the NJDOH study and could not address questions related to it.
- Doug O'Malley thanked the Institute for the opportunity to comment. He asked if infant development was an implicit part of the analysis. Dr. Post clarified that she had stated that higher exposures to infants are implicitly considered through the use of a 20% Relative Source Contribution factor. Chairman Cooper explained that it was considered with respect to exposure and health effects. He explained that kinetics in infants are very complicated.

**b. Testing Subcommittee** – Bahman Parsa presented the [“NJ DWQI Testing Subcommittee Report on Development of Practical Quantitation Level \(PQL\) for Perfluorooctanoic acid \(PFOA\) in Drinking Water.”](#) Dr. Parsa described the development of the practical quantitation limit (PQL).

**Technical Questions:**

- Ted Toskos stated that generally DEP requires that when labs are analyzing a sample, the method used is capable of reporting an order of magnitude lower than the MCL. Sandy Krietzman indicated that although the PQL is often an order of magnitude lower than the MCL, the PQL and MCL are generally independent of each other. It is not required that the PQL be this much lower than the MCL. Dr. Parsa further explained that in gathering data, the subcommittee took into account what the labs could achieve in reality. Mr. Toskos asked how the labs responded in terms of accuracy?

Dr. Parsa asked Mr. Toskos to clarify his question (e.g. whether he was asking about uncertainty, the reporting limit, etc.) Dr. Lee Lippincott (DEP support staff to both the Testing and Treatment Subcommittees) responded that when labs calibrate, they use a control chart of +/- 2 or +/-3 standard deviations as a threshold to determine if the continuing calibration standard is valid, or if recalibration is required. That is the level of accuracy.

- Chuck Neslund stated that almost all labs will vary but in general, for quality control, uncertainty is around  $\pm 30\%$ . At the PQL, that may be broader, but the statistical regression of lab confidence rule of thumb is  $\pm 30\%$ .
- Pat Mclsaac wanted to clarify language regarding the reporting limit. She indicated that the higher reporting limit is prescriptive in method 537. In order to get a lower reporting limit, one must modify Method 537. Mr. Neslund concurred. Sandy Krietzman indicated that labs were interviewed via phone in order to gather data for the Testing subcommittee report. She asked that Ms. Mclsaac send her comment in writing so that the Testing subcommittee could investigate it. She noted that the modified method that can reach lower levels cannot be called Method 537. The Chairman noted that he was thankful for the comment and emphasized that this is why we have a comment period. Dr. Lippincott noted that the subcommittee used the bootstrap method, in part, to establish an upper confidence limit (95%) and determine whether there was sufficient laboratory capacity. He also noted that the Testing Subcommittee report acknowledges that there are different methods. Pat Mclsaac also stated verbally that Test America could calibrate to 2 ppt.

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**c. Treatment Subcommittee** – Anthony Matarazzo presented the “[Addendum to the 2015 Treatment Subcommittee MCL Support Document](#).” Mr. Matarazzo explained that the Treatment Subcommittee reviewed new relevant literature and also the case studies in the 2015 document to ensure that the identified treatment methods could achieve the draft Health-based MCL. The Subcommittee drafted an addendum to address new and clarified data and to state their draft conclusion regarding the technical ability to remove PFOA to the recommended health-based MCL.

**Technical Comments:**

- Tracy Carluccio indicated that the evidence presented at the meeting was nothing short of horrifying, and that PFOA was found 15 times more frequently in New Jersey than in the US. She indicated that the Delaware Riverkeeper Network (Riverkeeper) supports going forward with a comment period and will themselves be providing comments. She said that there should be no PFOA, and no PFCs, in our drinking water. The Riverkeeper advocates for complete removal of PFCs and noted that PFOA is only in our drinking water because of responsible parties. She agreed that the EPA Health Advisory value is not protective of human health. The Riverkeeper supports New Jersey adopting an MCL for PFOA once the recommendation is made and notes that they are impatiently awaiting an MCL for PFNA because the DWQI recommendation is over a year old.
- Jeff Tittel said that he wished today’s meeting had occurred in 2010 so that we would be further along on this issue. He emphasized the urgency of moving the State forward. He noted that we have the tools necessary to bring levels below 14 ng/L if that is what the health effects indicate is appropriate. He also noted that treatment technologies such as granular activated carbon and reverse osmosis can be protective for other contaminants as well. Use of these treatment technologies should be considered to upgrade water treatment to protect against a list of contaminants including hexavalent chromium. He concluded that scientific study is only as good as implementation, and that he hopes for an adoption of an MCL soon.

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- Doug O'Malley noted that there is a slow moving crisis, equivalent to Toms River. It is terrifying for parents and infants. In 2006, EPA labelled PFOA as a likely carcinogen. At around that time, 64 ppt was found in Pennsgrove drinking water. We have had a decade of science since then. One study showed 1.3 million New Jersey residents are drinking water contaminated with PFOA; this is an underestimate as it was based on 2006 data. The Health Advisory level set by EPA is not health protective, and New Jersey should take action. Action is appropriate because PFOA is found here in NJ. Mr. O'Malley referenced a bill sponsored by Senator Ray Lesniak and indicated that part of the crisis is that DWQI recommendations have not been acted on. He finished by indicating that these were issues that affect all of us.

**6. Adjourn meeting – 3:40 pm**

Minutes taken by Katrina Angarone and Kristin Tedesco