Approved March 27, 2017

New Jersey Drinking Water Quality Institute (DWQI)
February 16, 2017, 1 pm
Meeting Minutes

Members Present:

Keith Cooper (Chair)
Patricia Gardner
Jessie Gleason
Judith Klotz
Sandra Krietzman
Anthony Matarazzo
Norm Nelson
Bahman Parsa
Gloria Post
Daniel Salvito
Sheng-Lu Soong
Carol Storms
George Van Orden

Members Absent:

None

Non-members Present:

Kati Angarone, Kristin Tedesco, Eric Best, Lorraine Salamanca, Gary Buchanan, Lee Lippincott (NJ Department of Environmental Protection)
Erin Palko (Integral)
Tom Leach (Chemistry Council of New Jersey)
Pierre Lacombe, Tom Imbrigiotta (USGS)
Doug O'Malley (Environment NJ)
Tracy Carluccio, Ed Rodgers (Delaware Riverkeeper Network)
Perry Cohn
Eric Panhorst, Vishal Shah (Arcadis)
Patrick Cole (H2M)
Alan Sklarsky (Williams, Cuker, Berezofsky)
Bob Koto, Al Smith (Langan)
Margaret Gorman (American Chemistry Council)
Chengyue Shen, Lisa Voyce (HDR, Inc.)
Lia Domia (Remington Vernick Engineers)
Joe Guarnaccia (BASF)
Robert Karl (Brick MUA)
Dave Brogel, Mark Theiler (Middlesex Water Co.)

1. Drinking Water Quality Institute (DWQI) Chair: The chairman reminded attendees to sign in and that the USGS requests that visitors do not wander the halls. He asked the members to introduce themselves. He also explained that the Institute has three subcommittees: Health Effects, Testing, and Treatment, and he noted that these are the areas that the Institute evaluates when developing a recommended Maximum Contaminant Level (MCL).

The chairman reviewed the agenda and noted that the next meeting would be held on March 27, 2017. He reviewed the MCL development process.

2. **Review of September 22, 2016 Minutes** – No amendments were made. The draft minutes were unanimously approved.

3. **Comments on draft PFOA Subcommittee Reports**: The Chairman reviewed NJDEP and DWQI work on PFOA and other perfluorinated chemicals from 2007 – to present. He also noted, with regard to the Health Effects Subcommittee's response to comments on its draft PFOA document, that:

> "As the Drinking Water Quality Institute (DWQI) serves as an advisory body which makes recommendations to the NJ Department of Environmental Protection and DWQI's recommendation is not a rulemaking subject to the requirements of the Administrative Procedure Act, a formal response to public comments received on draft subcommittee documents is not required. However, the subcommittee would like to address public comments in detail in order to provide clarification with respect to our draft document and to address any changes made to the document based on those comments when appropriate."

Health Effects Response to Comments – Jessie Gleason presented a summary of the comments received on the Health Effects Draft PFOA MCL document as well as the Health Effects Subcommittee responses. She noted that more detailed responses, including the responses to comments from USEPA on the DWQI review of the USEPA PFOA Health Advisory, can be found in the full response document that will be posted online.

Testing Subcommittee Response to Comments –Bahman Parsa presented the comments from two organizations and the Testing Subcommittee responses.

Treatment Subcommittee Response to Comments – Anthony Matarazzo presented the comments and the Treatment Subcommittee responses.

4. **Public Comments**

Tracy Carluccio – The Delaware Riverkeeper Network submitted comments prepared by an expert stating that the MCL for PFOA should be 1 ng/L, but in any case, not higher than 6 ng/L, as the Riverkeeper believes that this lower MCL would be more protective of sensitive populations and more sensitive endpoints. She said that the Riverkeeper is supportive of use of reverse osmosis with granular activated carbon for treatment. They are glad to hear in the response from the Treatment Subcommittee that they are open to accepting this type of treatment. The Riverkeeper also supports the

use of a lower PQL to achieve a lower MCL. They are concerned that the five-laboratory approach is restricting the sensitivity of the PQL. They believe that, based on knowledge of how toxic PFOA is, that there should be more latitude in the approach used to develop the PQL. She thanked the Institute for its excellent response to comments and stated that she looks forward to reading the response to comments submitted by USEPA. They support NJDEP moving quickly to adopt an MCL because people are drinking polluted water, and they are very concerned that there have been years of waiting for NJDEP to act on this issue. It has taken 12 years since PFOA was first reported in NJ drinking water for the DWQI to recommend an MCL for it. They hope that NJDEP does its due diligence at this time, especially after the Institute was shut down for several years in 2010, as there is now ample evidence for NJDEP to move forward with an MCL.

She indicated that there was a $675 million settlement recently by 70,000 people in Ohio and West Virginia who were exposed to elevated levels of PFOA in drinking water. Rather than lawsuits, we should use the government system to address PFOA by adoption of an MCL. She said that she is very appreciative of the Institute's work, and that it is leading the way for the nation on PFOA, PFNA, and PFOS.

Chairman Cooper replied that with respect to the analytical limitations, the Testing Subcommittee looked at other labs, but at present the available information does not support a PQL below the one that was recommended. The recommended PQL assures that the health-based goal of 14 ppt can be reached. He noted that the Institute will move the PFOA recommendation to the Commissioner. He further noted that it was necessary for the DWQI to review a tremendous amount of information in developing the PFOA recommendation.

Joe Guarnaccia introduced himself as a citizen and inquired about the uncertainty related to extremely low levels of contaminants in drinking water. He asked whether the methods used to assess risk at higher levels apply at these lower levels. He was concerned that the science might fall apart at the lower levels. He also asked how the presence of other contaminants affects the derivation of an MCL based on very low levels.

Gloria Post replied that the risk assessment methods are not specific to high or low levels. They are based on the levels at which effects occur in animal toxicology studies, and the same approach is used whether the effects occur at high or low doses. She also noted that long-chain PFASs bioaccumulate because of their long half-lives. The risk assessment for long-chain PFASs is based on internal doses, using blood serum as an indicator of the amount found in tissues, not on the administered dose. In layman's terms, the concentration to which a person is exposed to in drinking water "multiplies" in the blood serum. Other compounds that the DWQI looked at have a shorter half-life, and much higher doses of these compounds result in lower internal doses than for PFOA. Considerable human health effects data are available for PFOA. While it was not the primary basis for the DWQI's PFOA risk assessment, the human data do support the Health Effects Subcommittee's conclusion.

With respect to his second question, Dr. Post replied that all toxicologists, epidemiologists, and public health scientists are aware of the potential for interactions when there is exposure to multiple

chemicals. However, the approach used by the DWQI considers contaminants one by one, and DWQI risk assessments are based on health effects of single compounds.

Chairman Cooper also noted that the serum level provides a good indication of internal dose. Benchmark Dose modeling of the serum levels at which effects occur in animals is used to develop the point of departure. Uncertainty factors are then applied to develop the Health-based MCL. He indicated that he is very comfortable with the Health-based MCL that is being recommended.

Mr. Guarnaccia then stated that there is an inconsistent use of regulatory authority. Many other compounds used in other aspects of life are being ignored. By focusing on one compound at a time, much is being missed. He was concerned that we are no safer by having an MCL for a single compound, such as the one being recommended for PFOA.

Chairman Cooper replied that he agrees that we are exposed to many contaminants. He added that other parts of the Department deal with other types of exposures. He also noted that NHANES biomonitoring data demonstrates that residents of the U.S. are exposed to a large variety of compounds. That being said, we need to start somewhere. He also noted that the use of reverse osmosis or granular activated carbon has the added benefit, which is often overlooked in cost-benefit analysis, of removing many additional non-target compounds from drinking water. Implementation of these treatment methods will address the issue of multiple drinking water contaminants on a broader scale. Although the Institute does not look at treatment through from the perspective of cost-benefit, this point is worth noting.

Doug O'Malley thanked the members and especially Dr. Post for their many years of work on PFOA, and for the DWQI's participatory and transparent process. He noted that Environment New Jersey supports the Delaware Riverkeeper's position that the MCL should be lower than the value recommended by the DWQI. He indicated that PFOA contamination is a larger statewide issue, like a slow-moving Toms River in all of our taps, and he said that, unlike the Toms River situation, PFOA in drinking water is not confined to just one region of New Jersey. If parents, and grandparents were shown the science on this issue, their eyes would light up. The health risks of PFOA include cancer, and it is found in seminal fluid, umbilical cord blood, and breast milk. He noted that there is a large increase in serum PFOA levels in the first four months of infants' lives. He also noted that treatment provides benefits, and that it is currently available and does not need to be invented. He urged members to vote "yes" on recommending this MCL. He said it is imperative that the Commissioner and Governor move to adopt an MCL for PFOA. NJDEP should look at the science and consider what is happening at the national level, such as the vote to confirm Pruitt as USEPA Administrator. In this era, we need to depend on the states in a way that we never have before. New Jersey will be adopting an MCL that is more stringent than the levels developed nationally. He indicated that the eyes of the nation are upon us in New Jersey.

Chairman Cooper responded that he and Dr. Post, as well as former Institute member Dr. Perry Cohn who is now retired, had felt strongly about the need to address PFOA in NJ drinking water for a number of years. He noted that the Commissioner has been supportive of the Institute's work, and that the Institute's ability to work freely and unencumbered is important and is a result of the provisions of the

enabling statute. He noted that NJDEP will be invited to the next meeting on March 27th to discuss upcoming rule proposals.

Bahman Parsa also replied with respect to the PQL that his experience in the Department of Health laboratory has shown that the type of equipment being used for analysis of PFAS is highly sensitive. His lab is currently doing work to validate methods for PFAS analysis as part of a CDC grant. He notes that most labs cannot achieve such low levels.

Chairman Cooper echoed Dr. Parsa's comments by noting that in his experience with dioxin, there are only a few labs in the world that are free from contamination such that they can achieve extremely low levels. He noted that the PQL must account for such contamination.

5. **Further discussion and vote -** The Chairman asked if there were any comments from the members, and there were none. George Van Orden made a motion to recommend an MCL of 14 ng/L as supported by the draft PFOA documents to the Commissioner of DEP. The motion was seconded by Sheng-Lu Soong. The Chairman asked for an indication of all that were in favor. The vote was unanimous in favor of recommending an MCL of 14 ng/L as supported by the draft PFOA documents to the Commissioner.

6. **Next Meeting Topics – The Chairman indicated that the next meeting would include the following topics:**

- Discussion of the status of MCL recommendations for several contaminants that are currently being evaluated by the Institute;
- The DWQI workplan; the Chairman noted that the next compound to be evaluated is PFOS and that work on this compound is already underway.
- Judy Klotz recommended that the status of Institute vacancies be discussed.

8. **Adjourn Meeting**

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

Minutes taken by Katrina Angarone