Approved May 25, 2018

New Jersey Drinking Water Quality Institute (DWQI)
November 28, 2017, 1 pm

Meeting Minutes

Members Present:

Gloria Post	Sandy Krietzman	Anthony Matarazzo
Jessie Gleason	Judith Klotz	Norm Nelson
Keith Cooper	Bahman Parsa	Patricia Gardner
Dave Pranitis	Dan Salvito	

Members Absent:
Sheng-lu Soong
George Van Orden

Public Attendees:
Kati Angarone, Linda Bonnette, Alan Stern, Brian Pachkowski, Kevin Giberson, Kristin Tedesco, Nina Odunlami, Kelly Hullen, Angela Cappetti, Brandon Carreno, Filina Poonolly, Erica Bergman, Gary Buchanan (NJ Department of Environmental Protection)
Phil Festa (H2only)
Tracy Carluccio (Delaware Riverkeeper Network)
Doug O'Malley (Environment NJ)
Kristi Sorrentino (PS&S)
Sam Jones (Chemistry Council of New Jersey)
Lydia Work (Env. Std.)
Mark Theiler (Middlesex Water Company)
Garth Moyle (Atlantic City MUA)
Alexei Walus, Eric Kovac (New Brunswick Water Utility)
Liz Taggert (NJ Department of Health)
Jon Hurdle (NJ Spotlight)

1. **DWQI Chair Remarks:** Chairman Cooper reviewed the meeting agenda. He said that all presentations will be posted to the DWQI Website this week, and he asked all attendees to sign in for future communication. Introductions were made by members of the Institute. Dave Pranitis was introduced as a new member of the Institute who will be on the Testing subcommittee. Chairman Cooper reviewed and explained the Public Participation in MCL Development Process flow chart. This process allows for public input at multiple points and is helpful in allowing the Institute to receive and evaluate new information. This is important because hundreds of papers are published daily, and staying current with this information is critical in making recommendations using the best science available. After the draft PFOS documents discussed at today's meeting are posted, there will be a 60-day public comment period.

2. **Review of March 27, 2017 Minutes:** Chairman Cooper asked members to review the minutes of the March 27, 2017 meeting. Sandy Krietzman asked a question regarding a quote from Anthony Matarazzo on the second page of the minutes. She wanted to clarify a point regarding how use of both ozone and GAC by surface water systems results in unintended treatment of some contaminants from UCMR3, such as estrogens. Mr. Matarazzo stated that the practice is somewhat rare, and that only a handful of systems use this process. No other questions were raised. Chairman Cooper asked for a recommendation for acceptance made. Dan Salvito made the motion, and it was seconded by Jessie Gleason. The motion passed, with Dave Pranitis, who was not a DWQI member at the time of the last meeting, abstaining.

3. **Presentation of Draft Subcommittee Reports on PFOS**

   a. **Introduction (Keith Cooper)** – Chairman Cooper extended thanks to Alan Stern and Brian Pachkowski of the NJDEP Division of Science, Research and Environmental Health for their assistance in evaluation of health effects information on PFOS. Their evaluation was integral in developing the Health Effects Subcommittee document. Chairman Cooper asked the audience to hold comments and questions until after all subcommittees had presented.

   b. Health Effects Subcommittee (Jessie Gleason) – Jessie Gleason presented on the sources, occurrence, health effects, and development of Health-based MCL for PFOS. She also provided an overview of the subcommittee role and process in developing an MCL. The recommended Health-based Maximum Contaminant Level is 13 ng/L (ppt). Ms. Gleason also presented a comparison of the subcommittee's recommended Health-based MCL to the USEPA health advisory for PFOS of 70 ng/L (ppt).

   c. Testing Subcommittee (Bahman Parsa) – Bahman Parsa presented on the practical quantitation limit (PQL) for testing of PFOS, as well as the process used by the subcommittee to develop their recommendation. The PQL is the level to which PFOS can be consistently and reliably measured by the drinking water laboratory community.

   d. Treatment Subcommittee (Anthony Matarazzo) – Anthony Matarazzo presented on the Treatment Subcommittee's work to identify new information since the release of the subcommittee's 2015 on report on treatment options for PFCs, and the PFOA addendum released in 2016. Mr. Matarazzo identified GAC, reverse osmosis, and ion exchange as being effective tools for systems seeking to treat for PFOS. He noted that, as time has passed, these emerging technologies are becoming both more economical, as well as more efficient at treatment removal.

4. **Public Comments**
   In response to a question from Tracy Carluccio (Delaware Riverkeeper Network) about a Purolite sidestream pilot project, Anthony Matarazzo indicated that he would share the data from this study with NJDEP. Ms. Carluccio also asked about the end product of resin-based treatment

technologies (i.e. solid or liquid). Mr. Matarazzo responded that the resultant solid is removed, not regenerated.

Garth Moyle (ACMUA) inquired about disposal (e.g. burial or incineration) of the end product. He followed up this question by asking whether this end product would be disposed by incineration or burial. He thought that burial would likely result in collected PFOS returning to the groundwater supply. Mr. Matarazzo stated that more would be learned as the study continued.

Mr. Moyle also expressed concern that the recommended MCL was very low, much lower than the USEPA Health Advisory, which is already low. He indicated that differing numbers from USEPA and NJDEP create difficulties, particularly when dealing with a federal agency (i.e. the Federal Aviation Administration). He indicated that he thought implementation of the draft MCL for PFOS would be difficult for water systems.

Tracy Carluccio spoke in support of a strict MCL for PFOS. In the Riverkeeper's view, the MCL should be low, in consideration of sensitive subpopulations. The goal of the MCL is to protect public health. The Riverkeeper intends to hire an expert to review the draft PFOS reports and will submit their findings into the record. Establishment of an MCL by NJDEP is not redundant, since the USEPA Health Advisory does not establish an enforceable MCL for the State. New Jersey should be responsible for protecting its citizens. She stated that, due to the high population density in New Jersey, more people are being exposed to PFOS than anywhere else in the country. She urged the Institute to move forward through the process of finalizing the PFOS MCL recommendation as quickly as possible. NJDEP has taken far too long to move forward on PFNA, and people are drinking water today that is contaminated by PFOS. It is unacceptable that NJDEP has not moved forward more quickly. While she does recognize that the DWQI follows a very important and highly respected public process, Ms. Carluccio asked that DWQI and DEP do not repeat such a delay again. She concluded by thanking DWQI for their pending action.

Garth Moyle spoke again following this, referencing that the presentations noted that he believes that drinking water represents 20% of people's exposure. He believes that the MCL is unnecessarily targeting a minimal exposure source. He again expressed concerns about the increased costs of treatment for PFOS.

Chairman Cooper addressed Mr. Moyle's point by recognizing that PFOS and PFOA are present in what seems to be very low concentrations. He emphasized that the Institute is dealing with a public health issue. In developing the Health-based MCL, the Institute reviewed many studies, some of which evaluated the levels of PFOS in blood. The Health Effects Subcommittee is considering the internal dose of PFOS that is present in blood. PFOS directly interacts with receptors in the body. In children, these compounds are associated with decreased efficacy of inoculation. This loss of vaccination effectiveness is a population effect, which may have an associated cost to the public. He indicated that concentrations in the blood at low levels may be impacting public health. The MCL that the DWQI is recommending is based on the best science

available, and includes a process that allows for stakeholders' input. Water systems are both engaged and assisting with MCL development. He stated that water systems do not want anyone to be drink tainted water, and he noted that new technologies are driving the cost of treatment removal down. By implementing these types of treatment, utilities are not just removing out PFOS, but they are also removing other contaminants that are not fully understood. Chairman Cooper again mentioned that NJ is a very densely populated state, which makes drinking water treatment at the source critical to protect all citizens.

Gloria Post clarified the point made by Garth Moyle regarding relative source contribution. She explained that exposure to low levels of PFOS and other PFCs in drinking water results in their building up to much higher levels in the body. This is because the half-life of PFOS in the human body is several years. Due to its pharmacokinetics, ongoing exposure to a very low concentration of PFOS in drinking water raises the blood level substantially (200 times higher in blood than what is in the water). That is part of the reason why the Health-based MCLs for PFOS and other PFCs are low. Very low levels of PFOS in drinking water overwhelm other sources of exposure such as from food or consumer products.

Phil Fester, a master plumber, spoke about his experience in installing treatment at the consumer side of drinking water. He noted that a great deal of treated water goes to uses that do not need such a high grade of water, which is to him, a waste. He has been working with a real estate developer to incorporate purification (primarily distillation) at the entry points of buildings. This way, treated water only goes to taps where people consume water. He suggested that treatment be incorporated into individual buildings.

Janine Zazaria (Sierra Club) thanked the Institute for their research into PFOS. The Sierra Club supports the recommendation and hopes that NJDEP acts in accordance with it.

Doug O'Malley (Environment NJ) thanked the Institute for their efforts, and said that they were a long time coming. He criticized the Christie administration for the years when the Institute didn't meet. He noted that it was incumbent upon incoming Governor Murphy's administration to adopt these DWQI recommendations. The fact that PFOS increases in the first few months of an infant's life indicates that the greatest potential health impacts are for the youngest. One of the first things that happens after birth is a vaccination, which can have diminished effectiveness with high levels of PFOS. Therefore, standards must be in place that are as protective as possible. He applauded the fact that these standards are far stricter than those recommended by USEPA, and stated that states have to act on their own now. He hoped other states listen to NJ and begin to implement their own PFOS standards. He said that the Institute is doing tremendous work. He continued to say that the entire PFC family of chemicals is hazardous, and that NJ can't stand idly by; therefore, he encourages NJDEP to act.

Sam Jones (Chemistry Council of New Jersey) indicated that her comment is lengthy and therefore would be submitted as a written comment as well. She read the following points from her comments: CCNJ continues to advocate for an open and thorough review of a Rutgers study and underlying Paulsboro blood data. It is the only available human data on PFOS in blood. She

stated that the Institute does not acknowledge that this data exists, despite it being relevant data. CCNJ urges the Institute to include the Rutgers study in their recommendation document, which doesn't include a single mention of Paulsboro and the blood data. CCNJ's concern is that the Institute is failing to consider this data because it may conflict with their conclusions. The MCL recommended by the Institute is far lower than that of EPA. The actual level of blood serum level is lower than the level the Institute used to calculate their MCL, while the study participants were drinking water with 100 ppt. If this level is codified, the losers will be consumers and small water utilities who will bear the financial costs of treatment. The Institute should do a full evaluation of the Rutgers study. CCNJ has always followed the science and supports new regulations (as they have in the past with revised NJDEP soil standards based on updated IRIS values) when the science supports it.

Chairman Cooper asked that the CCNJ submit a written version of this comment to the Institute, to make sure it is adequately addressed.

5. **New Business and Next Meeting Topics -** None

6. **Adjourn –** Chairman Cooper adjourned the meeting at 2:40