New Jersey Drinking Water Quality Institute (DWQI)
December 3, 2020, 1 PM via Microsoft Teams
Meeting Minutes

Members Present (11):

Keith Cooper	Jessie Gleason	Gloria Post	Tina Fan
Patricia Gardner	Norm Nelson	Judith Klotz	Rich Calbi
David Pranitis	Leslie Brunell	Mike Furrey	

Members Absent (1):
Anthony Matarazzo

Public Attendees:
Josephine Bonventre, Chelsea Brook, Gary Buchanan, Brandon Carreno, Ryan Compton, James Duffy, Mingzhu Fang, Sabrina Hill, Patricia Ingelido, Lee Lippincott, Ron MacGillivray, Steve Maybury, Linda Ofori, Brian Pachkowski, Kerry Pflugh, Filina Poonolly, Tyler Rowe, Kristin Tedesco (New Jersey Department of Environmental Protection)
John Kuehne (New Jersey Office of the Attorney General)
Caryn Barnes (Langan Engineering)
Scott Baxter-Green, Vincent Monaco, Laura Vancho (NJ American Water)
Bill Beattie (Park Ridge Borough)
Tracy Carluccio (Delaware Riverkeeper Network)
Stephen Ertman (HDR Inc)
Kristian Fried (Integral Corp)
Nicholas George (Household & Commercial Products Association)
Will Gray, Taylor Nelson (Woodard & Curran)
Joseph Guarnaccia (BASF)
Jon Hurdle (NJ Spotlight News)
Kuper Jones, Steve Risotto (American Chemistry Council)
Samantha Jones (Chemistry Council of NJ)
Mark LaFranconi (Environmental Resources Management)
Alexander Lehrer (McManimon, Scotland & Baumann LLC)
Andrea McElroy (Suez Water)
Kevin McGowan (Monroe TUD)
John McKeegan
Trevor Mulhall (MBI)
John Murray (Phillips Lytle)
Doug O'Malley (Environment NJ)
Steve Reduker (Integrated Analytical Labs)
Erin Rodgers (Environmental Standards Inc)
Nathan E. Sell
Kathleen Stanton (American Cleaning Institute)
Megan Steele, Jeff Tittel (New Jersey Sierra Club)

1. **Chairman's Remarks**

   - Introductions – At the request of the Chairman, Keith Cooper, members of the Drinking Water Quality Institute (Institute or DWQI) introduced themselves to the attendees.

   - Acknowledgements - Chairman Cooper thanked Dave Pranitis, who will be stepping down at the end of his term, for his years of service to the DWQI.

   - Institute – Chairman Cooper explained that the primary role of the DWQI is to evaluate the health risks, testing capability, and treatment removal techniques for the drinking water contaminants that it is considering. He reiterated that the focus of the DWQI Subcommittees is to review the available science and not to determine policy, which is at the discretion of NJDEP. In addition to developing Maximum Contaminant Level (MCL) recommendations, which are labor and time intensive, the DWQI can also serve an advisory role for the NJDEP drinking water program. He informed the attendees about a NJDEP Science Advisory Board (SAB) report published in April 2020, "Approaches for Addressing Drinking Water and Wastewater Contaminants of Emerging Concern (CECs) in a Broader Context: Identification, Ranking and Treatment Removal," which might be of interest to the DWQI. It is posted at nj.gov/dep/sab/sab_cec.pdf.

2. **Review of September 30, 2020 Meeting Minutes** – The Institute members reviewed the minutes and offered no substantive changes. Patricia Gardner moved to accept the minutes; Leslie Brunell seconded the motion. All members voted to approve the minutes via a raising of hands in Microsoft Teams.

3. **Introduction of New Members & Status of DWQI Vacancies –** Patricia Gardner provided background on DWQI membership and vacancies. Three vacancies remain, as follows: the representative of the NJDEP Commissioner, and two Environmental Health Experts to be appointed by the Governor and the Assembly. Recently appointed members were then introduced:

   Rich Calbi is the Director of Ridgewood Water, a municipal utility serving more than 61,000 customers in Bergen County. Rich is a licensed professional engineer and professional planner with over 25 years' experience. The highlight of his career has been the last five years with Ridgewood, advancing good government policies with sound engineering principles to provide safe drinking water for customers from a complex groundwater system.

   Mike Furrey is currently the owner/president and private consultant for his own company, Agra Environmental and Laboratory Services, after spending 12 years with a major public water utility, the North Jersey District Water Commission. He is a 1987 graduate of Cook College, Rutgers University, with a BS in Environmental Chemistry. He served as the Chair of the Information Technology Committee for the NJ Section AWWA. He also served on the Advisory Board for Licensing of Water and Wastewater Operators and was the chair of the NJAWWA Education Committee from 1996 to 1998. He currently holds a T4/W3 Water license and is an instructor for the Introductory and

Advanced Water Treatment Courses in NJ. He has also coordinated many accredited seminars for organizations including as an Adjunct Professor for Rutgers University, NJIT, NJWEA, NJWA, NJWC and the AWWA-NJ. Mr. Furrey was the AWWA-NJ section chair in 2015 and currently serves as the NJ legislative liaison for the section. He also served as Environmental Commission and Greenway Chair for Vernon Township, NJ, and is currently the chair of the Vernon Township Municipal Utility Authority. He was a member of the New Jersey Future Lead in Drinking Water Task Force.

Leslie Brunell has 14 years of experience as a Water Resources Engineer in the state of NJ, having worked at The RBA Group, Buck, Seifert & Jost and Medina Consultants. She has been a teaching faculty member at Stevens Institute of Technology for 20 years, teaching Water Resources Engineering, Fluid Mechanics, and Surveying. She is the coordinator and advisor for all Civil Engineering Capstone Design projects and makes sure each of the projects is sponsored by industry. She is the director of the Water Resources Graduate Program and has taught graduate level courses including Stormwater Management, Water Distribution Systems, and Advanced Hydraulics

Patricia Gardner noted that NJDEP staff have submitted information on potential candidates for the current vacant positions to the Commissioner, and it is expected that this information will be sent to the Governor's office within a week.

4. **Status of Public Comments on Draft 1,4-Dioxane Subcommittee Reports -** Filina Poonolly, NJDEP Division of Water Supply & Geoscience, provided an update on the DWQI's evaluation of 1,4-dioxane. The Subcommittee presentations from the September 30, 2020 meeting have been posted to the DWQI website, and the meeting minutes will be posted soon. The draft Subcommittee reports were posted for a 60-day public comment period which ends on December 21, 2020. Comments may be submitted to watersupply@dep.nj.gov. The DWQI Subcommittees will review these comments. Responses will be presented at a future meeting and any necessary revisions to the draft documents will be made prior to a vote on the final MCL recommendation.

   Chairman Cooper requested that NJDEP support staff forward comments as they are received to the chairs of the appropriate Subcommittees. After the comment period closes, all of the comments should be compiled and sent to the DWQI members as a single package.

5. **New Business** – Chairman Cooper discussed future scheduling of DWQI meetings, suggesting that public meetings should be held once every 4 months, possibly in a set schedule for April, August, and December. Subcommittees can meet independently more frequently, as needed.

   Patricia Gardner presented a list of contaminants compiled by NJDEP for possible DWQI consideration. Contaminants were suggested based in part on an internal DWQI member survey, and in part on occurrence in NJ drinking water.

   - Radon was evaluated by the DWQI in 2009, and additional work has been done by NJDEP on this contaminant, with the potential of moving forward with an MCL consistent with the DWQI's recommendation. A follow-up DWQI evaluation of radon that focused on private well

testing to supplement DWQI's previous work on radon in public water systems is an option for potential consideration by the DWQI.

- Cyanotoxins, such as microcystins, cylindrospermopsin, and anatoxin-a, are contaminants of concern in New Jersey drinking water. NJDEP has done work on these cyanotoxins, including development of toxicity factors (Reference Doses), and recreational exposure guidelines. Due to the short term time course of their occurrence, it might be more appropriate to regulate these toxins through a treatment technique or best management practices rather than through an MCL.

- Chlorate was identified in the DWQI survey as a contaminant of concern. Best management practices, rather than an MCL, may be the most appropriate approach to address this contaminant.

- Perchlorate, strontium, and unregulated PFAS were also mentioned as possible candidates for DWQI evaluation.

- An additional possibility is re-evaluating the technical basis of existing MCLs and/or previous DWQI MCL recommendations, including reviewing more recent scientific information from USEPA IRIS and other sources.

Chairman Cooper noted that data for cyanotoxins may be available from other states that are active in addressing health effects of cyanotoxins. Gloria Post noted that NJDEP has done extensive evaluations of these contaminants over the past few years and has developed expertise on the subject. The NJDEP Division of Science and Research (DSR) has developed toxicity factors (Reference Doses) and recreational advisories for several cyanotoxins which were peer reviewed and have been finalized by NJDEP. G. Post added that the cyanotoxin evaluations were developed using the same methodology used by the Health Effects Subcommittee in determining Health-based MCLs. NJDEP is also working on a Reference Dose for saxitoxin, which is currently undergoing peer review by outside experts. G. Post shared a link to the NJDEP website on HABs, which includes extensive information on the topic, including the risk assessments mentioned above (see https://www.nj.gov/dep/hab/download/NJHABResponseStrategy.pdf).

6. **Public Comments -** Chairman Cooper then opened the meeting up for comments from both members and the public.

Tracy Carluccio asked if the DWQI intends to evaluate any replacement PFAS. She and her organization are very concerned, particularly in light of recently released reports which show that the replacement PFAS chemicals used by Solvay in West Deptford and found in the environment in that vicinity are toxic. She stated there is reason to suspect human toxicity based on a study of these PFAS in exposed workers. She noted that people who live in the areas affected by PFNA contamination are now being informed of their exposure to replacement PFAS compounds that are potentially just as

toxic or more toxic than the original PFNA. She asked whether there will be state regulation or a ban on these substances, in the current absence of federal action.

Chairman Cooper indicated that he and other DWQI members were broadly aware of this newly available information on the replacement PFAS compounds. Part of the reason that he suggests that interested parties read the NJDEP SAB report on water contaminants of emerging concern is that it evaluates the idea of treating entire classes of compounds using existing infrastructure, a topic that the DWQI is starting to look at. The SAB report also recommends conducting a life cycle analysis of compounds, including costs related to public health, when analyzing their fate after use. Although such an analysis has not always been done in the past, the results of such analysis could possibly prevent a compound from being used if the costs related to the public health risk is substantive. Chairman Cooper also noted that occurrence data are currently being collected for a number of unregulated PFAS. He firmly agrees that these compounds are important, but he stated that they are difficult to address on an individual basis due to factors outside of the DWQI's jurisdiction.

Gloria Post stated that some emerging contaminants may have very localized occurrence, such that a statewide approach may not be appropriate. NJDEP can develop human health risk assessments and has tools that can be used to address more localized contamination.

T. Carluccio noted the difficulties in discovering these new PFAS compounds, for which analytical methods for testing may not be generally available. She stated that she appreciates the work NJDEP has done to investigate the contamination by these newly identified PFAS thus far. However, she stated, their health risks are still largely unknown and there could be additional information held by Solvay. Additionally, she noted that occurrence could be much broader than is currently known due to transport of these compounds through air. T. Carluccio indicated that NJ needs to undertake a wider investigation of occurrence of these newly identified PFAS, and that NJDEP then should take action to remedy the contamination and prevent the release of these substances into the environment.

Doug O'Malley reiterated the significance of PFAS on the local, state, and national level. He appreciates the work done by T. Carluccio, DWQI, NJDEP, and USEPA to research these compounds and investigate PFAS contamination in the past. He mentioned the work that NJDEP has done using the NRDA and in pursuing groundwater damages, particularly in Gloucester County. He stressed that the replacement compounds are potentially even more toxic than the compounds they are replacing. Therefore, NJDEP needs to continue their work in evaluating damages and investigating occurrence, especially since the replacements are potentially worse. Additionally, he noted, NJDEP should not allow the continued use of these compounds until there is better understanding of their impact. Chairman Cooper added that investigation of a specific compound often illuminates the need for further examination of an entire class of similar compounds.

Mike Furrey mentioned he was on the Jersey Water Works Task Force for Lead in Drinking Water. One of the recommendations made by the Task Force, which he believes the DWQI should consider, is a DWQI evaluation of lead in drinking water, including its health effects.

Chairman Cooper recognized that lead in drinking water has been a concern for a long time. He stated that developing best management practices may be the best approach, since health-based levels are at or near zero for this contaminant.

Jon Hurdle asked whether the regulation of PFAS as a class is under consideration and if it is a feasible approach.

Chairman Cooper referred back to the aforementioned NJDEP SAB report, which concluded that because of the sheer number and types of PFAS, it would not be possible to regulate them as a group. However, subgrouping them based on similarities in chemical and physical characteristics may make sense. The report also states that a tiered approach may work, with compounds being ranked based on their level of health risk. Chairman Cooper expressed that, in his opinion, expanding the life cycle analysis approach would greatly help to address this group of contaminants. He also stated that he believes that the onus should be placed back on the industries who produce these contaminants. He stated that if industries were required to maintain their chemical footprints within their own properties, it would help mitigate a great deal of the harm. In response to J. Hurdle's request for clarification on how that might be accomplished, Chairman Cooper expressed his opinion that a regulatory approach in which producers of these compounds had the responsibility to ensure the compounds did not leave their premises might be effective.

Jeff Tittel commented that he appreciates the public DWQI meetings and supports the suggestion that they be conducted quarterly. He indicated the importance of moving forward with regulatory standards, including for 1,4-dioxane, and he stated that delays allow contamination to continue without proper safeguards. He noted the importance of addressing PFAS as a class because, as we learn how prevalent these substances are, it is critical to put the onus back on manufacturers. He also noted perchlorate as a contaminant that is overdue for regulation, and he stated that strontium and radon should be evaluated as well. J. Tittel went on to say that there are serious problems with environmental contamination in NJ, including 3500 contaminated sites within a 10 year time-of-travel of drinking water wells. The large universe of unregulated compounds poses a challenge, and he indicated that a holistic approach is therefore needed. In addition to preventing and addressing sources of contamination, water purveyors should be proactive in addressing unregulated contaminants and consider the impacts of multiple contaminants. J. Tittel also stated that NJ's lead regulations should be more stringent. He noted that, at present, there is a disparity between the Action Level for lead in public water systems of 15 µg/L and the lead limit recommended in the Private Well Testing Act of 5 µg/L. He also noted tetrachloroethylene (TCE) and perchloroethylene (PCE) as contaminants that the state should address.

Chairman Cooper indicated that, in regard to lead, infrastructure management, especially in older cities, is a part of solving the issue. In regard to a holistic approach, he noted that the focus is often on treatment technologies for removal of contaminants from drinking water. However, pre-treatment prior to discharging from industrial sites should be considered as part of the approach for addressing drinking water contamination. There are also a number of treatment systems that can remove

contaminants to very low levels. Treatment is multifaceted, and consideration should be given to best management practices, unregulated contaminants, and treatments which address multiple contaminants. He stressed that water quality has improved over the years, and he hopes that this momentum of improvement continues in the future.

J. Tittel responded that the State needs to revisit the idea of pretreatment before discharging to sewers. He noted that the cleaner the water entering a drinking water treatment plant, the easier it is to treat. He also stressed broadening the scope of contamination that is controlled before entering drinking water, and he is concerned about the impacts of incinerating treatment plant waste material, including lead and mercury from coal.

J. Hurdle asked how the DWQI will decide which contaminants to focus on next and when that decision will be made.

Chairman Cooper responded that, part of the reason for this meeting is to receive feedback on next steps. The DWQI may be able to tackle evaluations that center on best management practices or a treatment-based approach more quickly than those that require development of an MCL. The SAB report provides a methodology for ranking contaminants based on specific criteria, including occurrence, which is important in deciding whether a statewide drinking water regulation is necessary. Point source contamination may result in high local concentrations of specific contaminants, but it may be possible to address such situations without rulemaking.

J. Hurdle asked if any comment could be made on the relative urgency of evaluating replacement PFAS. Chairman Cooper replied that no comment could be made on that at this time.

J. Hurdle asked where the SAB report could be found and when the report was published. Chelsea Brook provided the link through Microsoft Teams (see https://www.nj.gov/dep/sab/sab_cec.pdf). Chairman Cooper responded that the report was finalized on April 22, 2020.

Mark LaFranconi introduced himself as toxicologist with ERM. He indicated that there is a new publication on mode of action for 1,4-dioxane tumor occurrence in mice and a companion document on toxicogenomic endpoints. He stated that these studies indicate there is a clear threshold mode of action in tumor formation in mice from drinking water.

Chairman Cooper responded that this report could be sent into DWQI as a public comment on the draft 1,4-dioxane reports through email.

7. Adjourn Meeting - 2:16 PM