I Opening Remarks

Joint Committee (JC) Chairperson France Lemieux called the meeting to order and welcomed everyone. M. Leslie read the antitrust statement and took attendance of those members participating by phone.

M. Leslie reviewed the current membership needs and stated three JC voting members retired/resigned in 2019: David Heumann (City of Los Angeles Dept. of Water), Mark Morrison (Sherwin Williams), and Rick Sakaji (East Bay Municipal Water District). Four new members joined the committee in 2019: Jeff Johnson (Washington State Dept. of Health), Javier Robles (ALS-Truesdail), Megan Schneider (Municipal Water District of Orange County), and Susan Teefy (East Bay Municipal Water District). The JC is currently balanced with no one interest category exceeding 28% of the committee: 9 industry representatives, 9 public health members, 8 users, and 6 certifiers/testing labs. However, M. Leslie noted that one additional member could be added per interest category as long as the group remains balanced per ANSI and NSF policies.

II Selection of JC Vice Chair

F. Lemieux stated that she had received no nominations prior to the meeting to fill the JC Vice Chair position. She stated that she would be reaching out to potential candidates after the meeting.

III Review of Agenda

Motion: The December 2019 proposed agenda is acceptable with the following modifications under Tab 3: The issue paper for normalization for section 8 devices (DWA-61-2019-1) has been withdrawn, and the 61i153r1- Table 3.1 ballot received no negative comments and will be removed from the agenda. B. Weed motioned; K. Frakes seconded.

Vote: All in favor.

Motion passed.

IV Review of Meeting Summary

Motion: Accept the 2018 Joint Committee on Drinking Water Additives- System Components (DWA-SC JC) meeting summary. F. Lemieux noted that any minor editorial corrections should be submitted to M. Leslie. J. Johnson moved to accept the summary; D. Denny seconded the motion.

Vote: All were in favor.

Motion passed.
Motion: Accept the July 2019 Joint Committee on Drinking Water Additives-System Components (DWA-SC JC) meeting summary (teleconference). B. Weed moved to accept the summary; K. Foster seconded the motion.

Vote: All were in favor.

Motion passed.

V Review of Recent and Current Ballots/Standards Administration

A. M. Leslie reviewed the recently published changes in the 2019 editions of NSF/ANSI/CAN 61 and NSF/ANSI/CAN 600. She noted that a new format for annexes is being incorporated into the 2019 edition of the NSF standards. Normative annexes will be presented first, followed by informational. Annexes are being changed from alpha characters to numeric, preceded by “Normative” or “Informative” (e.g., Normative Annex 1 (N-1)).

B. M. Leslie provided a brief overview of the NSF standards development process and highlighted ANSI and SCC requirements. While the processes are very similar, she noted SCC’s requirement for a 60-day public comment period versus ANSI’s typical 30 or 45-day requirement. Upon approval by the JC and Council of Public Health Consultants (CPHC), the new or revised standard must also be submitted to SCC for review and approval prior to publication. As part of this approval process, evidence must also be submitted that an environmental scan of related standards activities has been conducted, including a search of existing ISO and IEC projects. The purpose is to determine what (if any) activities are occurring that would have a similar focus to this new project. M. Leslie noted that this topic has been added as an agenda item to today’s meeting under committee administrative issues.

VI New Issue Papers/Current Open Ballots

A. Flux sample preparation (DWA-61-2019-2)

Motion: Ballot proposed revision as written. T. Palkon motioned; M. Schock seconded.

Discussion: P. Greiner explained how fluxes are currently evaluated under NSF/ANSI/CAN 61. At this time the fluxes are prepared by applying a thin film to a copper sheet and heated in a muffle furnace. He proposed to allow for this work to be conducted on a hot plate to be able to observe what is happening throughout the entire process. He noted the addition of 30 seconds to the time heated (for a total of 90 seconds) to account for the time it would take to raise the temperature of the copper slide to the target temperature (300 °C ± 15 °C).

It was clarified that this was for testing flux only, not solder.

Vote: All in favor.

Motion passed.

B. Nanotechnology (DWA-61-2019-3)

Motion: Reinitiate the nanotechnology task group from 2013 to establish nanomaterial disclosure requirements in the standard, extractive analysis process, appropriate nomenclature, minimum data requirements human health risk assessment, and health effects criteria. M. Schock motioned; K. Foster seconded.
**Discussion:** K. Magurany presented the latest information on nanotechnology in drinking water treatment. New technologies are emerging for DWTUs and in NSF/ANSI/CAN 61 certified products. K. Magurany reported that the DWA and DWTU JC’s had originally approved the formation of a task group to address the evaluation of nanotechnology within these NSF/ANSI drinking water standards in 2013. This proposal was prompted by an increase in requests for certification of products containing nanotechnology. There was recognition by the scientific community that the unique properties of nanoforms of materials may result in differential toxicity that was not yet well understood. Given the challenges associated with analytical methodology and the ambiguity of nanomaterial properties associated with health hazards in 2013, the task group was never successfully initiated. K. Magurany stated that since then, however, much work has been done and active scientific research supports a consensus on the key properties of nanomaterials associated with adverse human health effects: size distribution, shape, surface area to mass, surface treatment, and surface functionalization (e.g. charge).

K. Magurany noted that disclosure of nanomaterials is not currently required by any NSF/ANSI drinking water standard. She added that the presence of nanomaterials is not captured by current extraction testing, and that the safety of nanomaterials may not be adequately assessed by existing risk assessment approaches. She proposed that the task group be reinitiated to address these issues.

K. Magurany reviewed the recent regulatory actions on health effects evaluations. The question was raised on whether nanomaterials are being detected in water right now. K. Magurany confirmed that a lot of research is being done and labs have a good handle on the analytical methods at this time.

Several members expressed support to reform the task group. It was noted that this group originally included members from the DWTU JC and industry as well. M. Leslie stated that she would solicit members from the DWTU JC. She reviewed the previous task group roster and noted that it appeared to have only included volunteers from the DWA JC at that time.

**Vote:** All in favor.

*Motion passed.*

**TG:** Kelly Magurany (chair); Rick Sakaji; Richard Carrier; Kristin Licko; Douglas Frederick; Tom Palkon; Andy Olah; Tim Reski; Clif McLellan; Kyle Frakes

C. **RGAC PFAS (DWA-61-2019-4)**

**Motion:** Form a task group to explore analytical methods suitable to detect a broad spectrum of PFAS compounds in regenerated GAC. K. Foster motioned; M. Schock seconded.

**Amended motion:** M. Schneider suggested that the task group also look at the application of activated carbon by utilities, temperatures, and needs around those analytical methods. K. Foster agreed to the amended motion; M. Schock seconded.

**Discussion:** S. Randall reported that perfluorinated and polyfluorinated (PFAS) compounds have been identified in increasing numbers of ground water and surface water sources. Activated carbon has been identified as one treatment method for capturing them and removing them from the water but have specific capacity limits. S. Randall stated that it is unclear whether the reactivation processes used for spent granular activated carbon (GAC) material is sufficient to remove these compounds. He added that water utilities may not always be disclosing the accumulation of these compounds in the media to the reactivation facility because of analytical limitations on the source water. He proposed that a task group be formed to consider analytical methods suitable to detect a broad spectrum of PFAS compounds in regenerated GAC.

C. McLellan raised the question of whether it should first be confirmed that these compounds do indeed leach back into the water after the carbon treatment reactivation. He stated that there are
other possibilities, such as pesticides and herbicides that could cause the same thing. S. Randall agreed that there is concern about those other compounds (e.g., herbicides), and they are currently being monitored under NSF/ANSI/CAN 61. PFAS compounds are not yet included the standard’s test batteries.

Members discussed the possibility that the high heat used in treatment would be sufficient to break down these compounds. J. Springer stated that these are incredibly stable compounds and it is not known if the heat is enough to break them down. He added that from the studies he has reviewed there appears to be limited information and a lot of variation reported on recovery.

The question was raised on whether there is much of a demand for regenerated GAC. It was suggested that the manufacturers be contacted first. S. Randall stated that one issue is that these PFAS compounds are found at very low concentrations and analytical techniques are difficult. Therefore, utilities may not know that they have a low concentration. It is not currently known how much has been removed from the media, and how much is absorbed. S. Randall reiterated that the current analytical techniques are limited on these compounds. The task group could also contact the reactivation companies, as it would be important to understand if they are using tests to look at the whole spectrum of compounds or just a portion.

M. Schneider suggested that to expand the scope of the proposed task group to look at utilities and determine which use reactivated carbon. S. Randall agreed. It was clarified that the intent would be to use an analytical method to detect PFAS masses, not to pinpoint individual compounds. It could be done as a broad-based scan, but that would be something for the task group to decide. T. Palkon stated his support for looking at a broad-based scan for PFAS but reiterated that the first step should be to confirm that there is a problem. S. Randall stated that the issue is that the labs need to be able to measure the compounds to know whether or not there is an issue.

**Vote:** 27 in favor; 2 abstentions (A. Olah; G. De Jarlais)  
Motion passed.

**2nd Motion:** E. Nieminski proposed that the scope of the task group be limited to the EPA UCMR data to make it more manageable. No second motion.

No vote.

**3rd Motion:** K. Licko motioned to include DWTU members and other manufacturers in the industry to join the task group. B. Weed seconded.

**Vote:** 27 in favor; 2 abstentions (A. Olah; G. De Jarlais)  
Motion passed.

**TG:** Scott Randall (chair); Tom Palkon; Kristin Licko; Doug Frederick; Megan Schneider; Jim Springer; Javier Robles; Clif McLellan; Brian Bernados (Rick Sakaji)

**C. Microbial growth test (DWA-61-2019-6)**

**Motion:** Form a task group to investigate the addition of a microbial growth test for materials under NSF/ANSI/CAN 61. K. Foster motioned; B. Weed seconded.

**Discussion:** P Gurian reported that the National Academy of Sciences recently published the report, *Management of Legionella in Water Systems*, in April 2019 that suggested the addition of a microbial growth test to NSF/ANSI/CAN 61. This would enable the selection of materials that would not promote the growth of microorganisms such as legionella and other pathogens. P. Gurian proposed that a task group be formed to investigate the addition of this type of test. He noted that
there are currently three microbial growth tests in EN 16421, that may be suitable for reference in NSF/ANSI/CAN 61. Another option that has been suggested is to consider the development of a separate standard. P. Gurian also noted that other issues from the subject matter expert interviews in the report included thermostatic mixing valves, electric water heaters, and automatic faucets.

T. Palkon suggested that P. Gurian may want to reach out to ASSE regarding thermostatic valves and the other products mentioned. There may be an opportunity to add a microbial test in those standards.

Members discussed the difficulty in tackling this issue, as GAC does support microbial growth. Several members stated their opinions that the tests in the European standards are problematic. The question was raised on whether the proposal would be to look at legionella only, or include a broader scope of organisms (e.g., biofilm, nonpathogenic microbes, etc.). E. Nieminski expressed concern on whether a task group would be able to make any progress at this time. She stated her opinion that there is not enough expertise on this committee or at the National Academy of Science to address this issue. The industry barely understands microbial activity in the water. She stated an opinion that if the experts involved in the effort of the National Academy of Sciences could not develop a test for characterizing microbial growth then it would be hard to assume that the members of the JC committee could accomplish such mission. T. Reski stated that any hydrophobic surface would be able to support growth, and this would be huge effort. G. De Jarlais noted that in the U.S. there are residual disinfectants used. This is not always the case in other countries. P. Gurian noted other factors that could affect the effectiveness of these residuals (i.e., northern vs. southern exposure, hot vs. cold water, etc.)

D. Purkiss stated that he believed it would be worthwhile for a task group to consider this issue, as it is a current criticism of NSF/ANSI/CAN 61. The cases of Legionnaires' disease are growing in the U.S., and there are test methods currently being used.

M. Schock expressed concern over trying to evaluate any material in drinking water that can support biofilm. He stated that he believed it would be difficult to separate those components from the background, as there is biofilm everywhere.

Several members noted that NSF/ANSI/CAN 61 is not a performance standard and is limited to health effects of contaminants leaching into the water. A microbial growth test would be outside the scope of the standard.

It was suggested that the issue proponent may want to contact the ASHRAE committee on the development of its new standard, Standard 514 (previously NSF 444). D. Purkiss clarified that the new ASHRAE standard is for building water management (e.g., best practices); it does not cover materials. J. Wallace stated that he would provide Dr. Gurian with the contact information for the ASHRAE committee.

Vote: 9 in favor (D. Denny; T. Reski; A. Olah; P. Olson; J. John; G. De Jarlais; K. Foster; B. Weed; R. Carrier); 19 opposed (J. Springer; R. Lorenz; M. Schock; E. Nieminski; D. Frederick; M. Schneider; G. Lai; T. Palkon; M. Sigler; C. Haldiman; K. Frakes; J. Johnson; R. Sakaji; S. Teefy; J. Robles; B. Hatton; J. Kempic; C. McClain; B. Manning); 1 abstention (K. Licko)

Motion failed.

D. 61i52r1 – New optional lead requirement (ballot update) and alternate proposal for optional lead requirement (DWA-61-2019-5)
**Motion:** Expand the scope of the current task group to address comments from the ballot including other possible ways to address a lower lead level requirement. T. Palkon motioned; B. Weed seconded.

**Discussion:** M. Schock provided a summary of the current JC results and comments for the ballot that proposes a new optional lower lead requirement in an annex under NSF/ANSI/CAN 61. Eighty-one percent of eligible voters submitted a vote (27 of 33), with the following results: 9 affirmative votes (37.5%), 15 negative votes (62.5%), and 3 abstentions. M. Schock noted that 3-4 votes would have supported a lower Q value but opposed the additional Day 3 requirement. He added that it was not enough to change the outcome of the vote, but it would have been much closer. There were two comments that suggested using an alternative approach to the Q value and developing a new Day 19 value. Some commenters recommended that the optional requirement be listed within the body of the standard with a phase in period (3 years). Several comments raised the concern that states would treat this new optional criterion as mandatory. A comment also recommended the exemption of commercial kitchen faucets that have large area of lead contact that releases a large proportion of the lead in the first few days, but would likely meet the Q value requirement with the full 19-day test and normalization.

The group discussed concerns with including the criteria alongside the current mandatory requirements within the body of standard. Old products remain on store shelves for years, particularly in small stores and communities. There would be the need to include a new listing requirement for visible packaging to differentiate products from prior Section 9 certifications. The Day 19 test also conflicts with the public expectation of low lead release immediately upon installation. Instructions are lacking on how much flushing should be done for different water qualities.

M. Sigler reported that manufacturers have provided feedback that they agree that a new optional requirement needs to be incorporated into the 2020 edition of NSF/ANSI/CAN 61. He suggested an optional requirement that could be phased-in over 5 years. The question was raised on whether manufacturers have provided any feedback on the current Day 19 test. T. Palkon stated that originally there was a lot of leaded brass being tested and there was a good reason to do this. He stated his opinion that the JC should consider relooking at the existing protocol. M. Sigler agreed that the Day 19 value should be open for discussion but expressed concern over making such a significant change at this time. It would delay addressing the issue until a much later version of the standard.

The question was raised if the labs would be able to measure a Q-value of 0.5. K. Foster confirmed that this is achievable for the NSF lab. She explained that the reporting limit for lead is 0.5 ppb, but the sample gets a boost from normalization up to a 1-liter sample (the sample collected is 250 ml). M. Schock noted that the EPA lab is easily able to measure the Q value at 0.1. T. Palkon suggested that it may be less confusing to simply list the actual value instead of a Q value.

It was suggested that a three-year phase-in period might be more reasonable. M. Sigler agreed that some manufacturers are ready to meet the lower requirement now but explained that some manufacturers have laid out why it will take them five years to get the lower Q value.

The group continued to discuss how to make this optional requirement discernable to consumers. It was suggested that a temporary marking could be used. There was general agreement among the group that this should be done on the packaging only, rather than on the product itself.

Members discussed the new LCR draft proposal for schools and daycares. The question was raised on how this change in NSF/ANSI/CAN 61 would affect the school 3T sampling. M. Schock stated that he believed a new Q value would go a long way to solving the problem with those specific products. However, even with section 9 products that do meet it, the 250 ml sample will depend on the type of product (commercial faucet vs. valve, etc.). The 3T sampling should allow for making a common-sense adjustment to the volume of sampling.
C. Haldiman stated that the 3T sampling is good program but expressed concern that it falls short because not everyone is following protocol correctly. One is supposed to pull two different samples to determine if lead is coming from the endpoint device or somewhere upstream.

There was general agreement among the group that if the task group can come to a consensus on the 4-5 issues raised in the ballot comments, a revised ballot could be presented to the JC for consideration in 2020.

**Vote:** All in favor.

**Motion passed.**

**2nd Motion:** Form a separate task group to investigate the existing Day 19 protocol to determine if any modifications should be made in the future. M. Schock motioned; T. Palkon seconded.

**Discussion:** M. Schock asked the JC if there was any interest in investigating the use of something other than the Q value to evaluate products in the future. T. Palkon stated that he was in favor of forming a second task group to look at the existing protocol. G. De Jarlais stated that this could include the use of the direct Day 19 numbers (not normalized) and show how that affects results.

**Vote:** All in favor.

**Motion passed.**

**TG:** T. Palkon (chair). M. Leslie will send out an email to the JC to solicit membership. NSF policies specify a recommended maximum of 15 members, so if there is an abundance of interest some people may need to participate as observers.

### VII Informational

#### A. Health Advisory Board updates

**Discussion:** K. Cox provided an update on the pass/fail criteria based on the ongoing efforts of the NSF Health Advisory Board (HAB) and Joint Peer Review Steering Committee (JPRSC).

T. Palkon and F. Lemieux thanked Kevin and the other certifiers that participate on the JPRSC. It was noted that prior to this work certifiers often had different pass/fail levels for the non-regulated contaminants. Harmonizing these criteria provides tremendous value to both the labs and the certification customers.

#### B. Extraction water chemistries

**Discussion:** F. Lemieux reported that the Extraction Water Chemistries Task Group held a meeting in April to review Table B3b water revisions prior to ballot; those revisions were approved and have been included in the recently published 2019 edition of NSF/ANSI/CAN 61. This group also met the previous day (December 4th) and discussed normalization for section 8 devices. There was also some initial discussion on pH 5 water for brasses and bronzes but the group determined that it requires further discussion.

F. Lemieux reminded the committee that the task group has also had an ongoing project to look at water conditions and provide guidance under Informative Annex 6 (previously Annex H). She noted that the group has additional materials to review, and that with several recent retirements, they are in need of a few new members.
New TG members: Mike Briggs (Tom Palkon); Megan Schneider

VIII New Business/Administrative Issues

A. R. Sakaji raised the question of whether 2,4-diterbutylphenol is covered under the minimum test battery. K. Foster confirmed that is covered under the GCMS scan.

R. Sakaji asked why phthalates are not currently included in Table 3.1 for PEX piping materials. K. Licko explained that from the information provided through the Extraction Testing Parameters Task Group, all participating certifiers have confirmed that some phthalates are looked at under EPA 625 scan, even though it is not specifically listed under Table 3.1. J. Brown noted that it also never seen it in the formulation. The standard requires a formulation review, and if it indicates such the lab will look for it. [Note - After the meeting C. McLellan also provided the following response: PEX material formulation do not have phthalates added in any PEX formulation that I have seen. In fact, if it was it would interfere with the cross linking of the material. If it was identified in a PEX material test I would suspect that it would be due to contamination during the exposure process. Phthalates are a common contaminant and pervasive in our environment. In particular, if the compound was DEHP I would definitely suspect contamination. If we had that in our lab (which we do from time to time) I would re-test the product and see if it could be produced. Having said that if a phthalate was present in a material it would be identified using the GC/MS Base/Neutral/Acid analysis which is part of the required analysis.]

B. International standards/regulatory review

Motion: Form a task group to conduct a periodic environmental scan of related standards activities, including a search of existing ISO and IEC projects. M. Schock motioned; T. Palkon seconded.

Discussion: K. Licko noted that WQA also has a list of regulatory and international efforts related to drinking water on its website that this group can refer to.

Vote: All in favor.

Motion passed.

TG: Mike Schock; Tom Palkon, Kristin Licko, Tim Reski, Katie Foster, Doug Frederick, Jamie Wilkes

M. Leslie proposed the next annual meeting date of Thursday, December 3, 2020. J. Springer asked if the JC would be willing to consider a few other available dates. M. Leslie stated that she could send out a Doodle poll in early January. The group would need to consider feedback from the DWA-TC JC as well.

K. Foster motioned to adjourn the meeting; K. Frakes seconded. The meeting was adjourned.
Meeting Participants

Joint Committee Members

Chairperson, France Lemieux (Health Canada)  
Richard Carrier (Health Canada)  
George De Jalrais (Badger Meter)  
Dean Denny (Lavelle Industries)  
Kathryn Foster (NSF)  
Kyle Frakes (Tnemec)  
Douglas Frederick (UL)  
Jacob John (Uponor)  
Jeff Johnson (Washington State Dept. of Health)  
Jeff Kempie (USEPA, Office of Groundwater and Drinking Water) – via phone  
George Lai (Ontario Ministry of the Environment)  
Kristin Kicko (WQA)  
Richard Lorenz (City of Westerville)  
Bruce Manning (CH2M HILL) – via phone  
Clifford McIlain (Moorhead Public Service) – via phone  
Eva Nieminski (Utah Dept. of Environmental Quality)  
Andy Olah (Lubrizol)  
Paul Olson (AWWA)  
Tom Palkon (IAPMO)  
Tim Reski (Minnesota Rubber)  
Javier Robles (ALS-Truesdail)  
Megan Schneider (Municipal Water District of Orange County)  
Mike Schock (USEPA)  
Matt Sigler (PMI)  
Jim Springer (Greater Cincinnati Water Works)  
Susan Teefy (East Bay MUD)  

Proxies

Brook Hatton for Franco DiFolco (CSA)  
Chris Haldiman (Watts Water Technologies) for Nate Buzard (Viega)  
Rick Sakaji for Brian Bernados (California Waterboards Division of Drinking Water)  
Bob Weed for Andy Kireta (Copper Development Association)

Joint Committee Members not in attendance

Julius Ballanco (J.B. Engineering)  
Brian Bernados (California Waterboards Division of Drinking Water)  
Nate Buzard (Viega LLC)  
Suzanne Cupal (Genesee County Health Dept)  
Franco DiFolco (CSA)  
Andrew Kireta (Copper Development Assn.)  
Oleh Dzydzora (United Water Suez)  

Observers

Jeff Baldwin (T & S Brass & Bronze Works, Inc.)  
Soncea Braden-McCann (ALS-Truesdail)  
Siying Chen (Masco)  
Lars Christensen (RWC)  
Don Connolly (AY McDonald)  
Adam Dahlquist (SWF North America, Inc.)  
Tina Donda (IAPMO) – via phone  
Gene Fasse (T & S Brass & Bronze Works, Inc.)  
J.P. Fay (Viega)  
Randy Moore (Tnemec Co., Inc.)  
Larry Muller (Chase Brass)  
Alan Olson (Westlake Science & Technology, Inc.)  
Stacie Ott (WQA)  
Daniel Pierce (RWC)  
Sally Remedios (Remedios Consulting) – via phone  
Brenda Rogers (Moen, Inc./GPG)  
Derek Scott (American) – via phone  
Colby Smith (Calgon Carbon)  
Don Stark (Cambridge Brass) – via phone  
Rick Stock (Uponor)  
Megan Toparlak (Master Meter)  
Dyane Tyner (Franklin Electric)  
Joe Wallace (A.O. Smith Water Products Co.)  
Erik Warg (Uponor)  
Jamie Wilkes (A.O. Smith)  
Joe Wolff (Elkay Manufacturing) – via phone

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