

**DRINKING WATER ADDITIVES JOINT COMMITTEE**  
NOVEMBER 28 & NOVEMBER 29, 2007  
NSF INTERNATIONAL, ANN ARBOR, MICHIGAN  
DRAFT MEETING SUMMARY

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**I      OPENING REMARKS/REVIEW OF AGENDA**

Joint Committee Chair Jon DeBoer convened the meeting, and welcomed the Joint Committee members and observers. He also thanked Vice-Chair Craig Selover for running the 2006 meeting in the absence of a chairperson, and Eva Nieminski for filling in as interim chair. Joint Committee members and observers then made self-introductions. New members were acknowledged, including: Brian Bernados (CDPH), and Michael Briggs (IAPMO). J. DeBoer also noted that Charles Gross (IAPMO), Ronald Grimes (formerly Jackson County Health Department), Jack Gruber (Wheatland Tube) and Stephen Schneider (Innophos) retired from the JC in 2006.

S. Kozanecki read the antitrust statement. All agreed. She then introduced a new Standards Department staff member, Mindy Costello (Standards Specialist).

S. Kozanecki then briefly announced that a new online balloting system was to be implemented beginning in December 2007 and she instructed JC members and observers to follow the login instructions contained in an email that would be sent in the near future.

J. DeBoer reviewed the agenda with the Committee and asked if there were any changes or additions. C. Selover requested the addition of his issue paper after the California Lead Requirement issue paper. This change was approved.

**II      REVIEW OF 2006 MEETING SUMMARY**

J. DeBoer asked for any changes or additions to the 2006 Meeting Summary. D. Heumann, R. Sakaji, and C. Selover provided changes to S. Kozanecki.

**Motion:** D. Denny moved to approve the meeting summary with the recommended changes. R. Sakaji seconded.

**Vote:** All in favor.

***Motion passes.***

**III      REVIEW RECENT/CURRENT BALLOTS**

S. Kozanecki reviewed the ballots that had been sent to the Committee since the last JC meeting. The following ballots have completed the process and have been included in NSF/ANSI 61-2007a:

- **61i55, 56, 57** – inclusion of POE Devices in NSF/ANSI 61, per the recommendation of the DWTU JC. The change included:
  - Modification of the exposure test water for process media in section 7;
  - Removal the exclusion of POE devices in the scope and creation of new exposure protocols; and
  - Addition of marking and product literature and instruction requirements for consumer clarification.
- **61i70** – addition of an informative annex (Annex F) that outlines the future lowering of the lead acceptance criteria, which will become effective as a normative part of the standard July 1, 2012.
- **61i71** – amendment of Table D2 (peer-reviewed chemicals) to include STELs.

- **61i72** – the inclusion of explicit and uniform guidance for over time testing protocols in sections 4, 5, 6, 8, and 9 on multiple time point protocols.
- **61i74** – identification of flexible plumbing connectors and riser tubing (moved from section 4) in the scope of section 9.

S. Kozanecki added that 61i75, the ballot that defined “immediate return to service paint/coating systems” and added clarifications regarding testing and certification of coatings has passed at the CPHC (as of October 2007) and will be published in next version of 61. Also, the ballot for 61i76, which proposes language to add specific instructions for assembly of samples to reduce variation has been adjudicated at the JC level and will be sent to the CPHC in December.

S. Kozanecki noted that the following issues are still pending at the JC level:

- **60i38** – identification of a pH for coagulant preparation. S. Kozanecki explained that after a negative was received on the original ballot requesting an appropriate *range* of pHs for coagulants, the task group uncovered multiple complications due to the complexity of this product type. Upon further research, NSF has determined that the current wording does allow products to be tested at the manufacturer recommended pH with a note in the listing providing that pH. Therefore, the original issue seems to be resolved. If any additional issues remain, they should be brought forth in an issue paper.
- **61i38** – harmonization of the section 8 hot protocol with that in section 4. This issue received a negative at the JC level, and as a result a task group was formed. S. Kozanecki noted that Peter Greiner would be providing an update later during the meeting.
- **61i73** – proposed language to establish normalization assumptions for fire sprinklers/fittings intending to serve both drinking water and fire protection needs. This was balloted to the JC and 2 negatives were received, which were explained. This issue still needs resolution.

#### **IV     NSF/ANSI 60 ACTION ITEMS**

##### **Annual Recertification (DWA-2007-26)**

D. Heumann explained that all certification agencies are required to be accredited by the American National Standards Institute (ANSI). However, there is no requirement that annual testing of products is conducted, although that has been standard practice for NSF and UL for the past several years. He explained that these two certification agencies have relied on their certification policies, which specify the need for routine monitoring of certified products, although the test frequency is not a requirement in Standard 60 itself. D. Heumann stated his concern is that a certification agency could reduce the testing frequency. He posited that a one-year recertification cycle is the minimum that should be used. In his issue paper, he pointed out that leaving this decision up to individual certifiers could trigger a race to decrease certification cycles in order to compete on price, which could compromise the chemical purity of these products.

D. Heumann also explained that the state of California would shortly require annual testing of drinking water chemicals under NSF/ANSI 60 (which is referenced in the California Code of Regulations). He therefore recommended that this requirement be incorporated into NSF/ANSI 60, and proposed language that would incorporate this.

T. Palkon pointed out that ANSI requires annual inspection of facilities. He then asked whether the intent of stating that annual testing would be required is to say that full testing must be done on every chemical every year. D. Heumann stated that the intent is to make the requirement consistent across certification agencies. P. Greiner stated that this issue had been pursued at a previous meeting, but at the end of the day, the certification annexes did not receive enough support. He stated that a task group had been developed to come up with a process and requirements that allowed alternate approaches. However, the difficulty was mostly with products falling under NSF/ANSI 61; therefore he was supporting the current proposal, stating that products under NSF/ANSI 60 should be required to meet a higher standard because of the nature of the industry (i.e. the products are added directly to the drinking water).

D. Heumann stated that the wording could be changed to read, “annual certification testing.” J. Ballanco asked for clarification that this was a wording change only and did not cause the practice to change. D. Heumann

confirmed that this would make annual certification testing (currently done by at least two certifiers) the minimum requirement by the standard.

C. Selover expressed opposition to this proposal, stating that certification is a quality control activity that is entirely separate from the evaluation, which is a method of determining product safety. He stated that certification agencies are in business only because of the integrity of their programs (and their marks) and that this is enough incentive. He stated that this requirement was one of quality control that does not belong in the standard. D. Heumann argued that studies done on the speed of market discipline show that responses are not immediate enough – given that chemicals are produced and go into water at full strength daily, he is uncomfortable with testing done less frequently. D. Purkiss explained that there is nothing that prevents an ANSI-certified test agency from doing follow-up testing or inspections as infrequently as once every 10 years.

R. Church asked how many states require products certified to NSF/ANSI 60; D. Heumann responded that 45 states require it. J. Ballanco suggested that requiring state accreditation could alleviate states' concerns, and he stated that he was hesitant to add certification requirements to the standard. F. Lemieux responded that the value in ANSI or similar accreditations is that states do not have to take on the responsibility themselves, many of which may not have the resources for doing so.

**Motion:** D. Heumann moved to refer this issue to a task group. R. Lorenz seconded.

**Vote:** 1 opposed (F. DiFolco), the remainder was in favor.

***Motion passes.***

A task group was formed with the following volunteers: D. Heumann (chair), T. Palkon, J. Hebenstreit, R. Powell, P. Greiner, F. Sims, M. Schock, F. DiFolco, A. Ewing, J. Brennan, F. Lemieux, C. Selover, R. Sakaji, B. Bernados.

### **Sodium Chloride (DWA-2007-23)**

B. Stark explained that salt (NaCl) is a chemical used in softening and in onsite electrolytic disinfectant generators. NSF has certified salt for some time, however it is not listed in the chemical tables in NSF/ANSI 60. The proposal is to add NaCl to the table 7.1 and require a test battery, including metals and radionuclides. He noted that the test battery does not include bromides at this time, but could potentially in the future.

T. Palkon asked whether potassium chloride should also be included. B. Stark responded that the current proposal only includes NaCl, but that KCl salt could be added as well.

**Motion:** P. Greiner moved to ballot the language as proposed. J. Wailes seconded.

**Discussion:** J. Ballanco asked if a task group should be formed to address KCl. P. Greiner explained that this was a straightforward addition, and B. Stark confirmed that it has been identified as a chemical to add to Table 7.1 (along with NaCl).

R. Sakaji made a friendly amendment to the motion to include potassium chloride. P. Greiner and J. Wailes accepted the amendment.

The motion to amend passed unanimously.

**Vote:** All in favor.

***Motion passes.***

### **MUL Labeling Requirements (DWA-2007-24)**

B. Stark explained his proposal to include a reference to the Maximum Use Level (MUL) as a product labeling requirement in section 3.5, for products where an MUL is applicable.

J. Ballanco asked if the use level would be required to appear on the package label. B. Stark explained that the intent of the requirement is for the MUL to be conveyed to the product user through its inclusion on the product label or paperwork that is provided with the product shipment (such as an MSDS or Certificate of Analysis, but

not to specify the label exclusively does not specify where the information must be disclosed, and stated that the draft language could be reworded to ensure flexibility. T. Palkon and J. Ballanco maintained that the current language in this section of the Standard indicates that the requirement is for the actual product label. J. Ballanco agreed to work with B. Stark to revise the wording (to allow alternate areas where the MUL could be conveyed to the user).

B. Stark also clarified that an MUL would not be required for products that do not have a specified use level or dose (such as well sealants under Standard 60). The MUL requirement would only pertain to products with a specified maximum feed rate.

**Motion:** C. Selover moved to form task group to address this. J. Brennan seconded.

**Vote:** All in favor.

***Motion passes.***

A task group was formed with the following volunteers: B. Stark (chair), J. Ballanco, T. Palkon, J. Brennan, and J. Hebenstreit.

#### **Non-potable water testing (DWA-2007-25)**

B. Stark explained that this proposal is to add an additional battery of tests for treatment chemicals that use water (from non-potable sources) as an ingredient. The additional battery would consist of testing for regulated metals, regulated and unregulated VOCs, a GC/MS scan and target, radionuclides (gross alpha and beta), pesticides, and a dioxin/furan scan. However, he stated that, after discussing this issue with the members of the NSF Standard 60 Industry Forum (at yesterday's meeting), he would be recommending the formation of a task group to explore this issue further, prior to balloting.

After being asked if this applies only to liquid products, A. Ewing explained that while it generally would not be applicable to solid products, it could potentially apply to them, depending on the formulation. R. Lorenz suggested defining an acceptable water source as a public water supply, rather than only using the term "potable" to describe the source. This led B. Stark to inquire as to whether a well should be included as an acceptable source in this case. R. Lorenz argued that it would not. B. Bernados stated that, on the other hand, small water systems often have less quality monitoring done. In that case, then, the possible contaminants of concern would not be known. B. Bernados also suggested defining the term "unregulated chemical" (referencing the unregulated VOCs test mentioned above). B. Stark answered that there is a list of these available, which can be provided to the task group members

**Motion:** J. Ballanco moved to refer this proposal to task group for further development. F. Sims seconded.

**Vote:** All in favor.

***Motion passes.***

A task group was formed with the following volunteers: C. McLellan (chair), T. Palkon, F. Sims, J. Cleland, J. Kempic, J. Yax, J. Larson, B. Mersch, J. Hebenstreit, J. Brennan, R. Horne, and B. Stark.

#### **V     NSF/ANSI 60 OLD BUSINESS**

##### **Bromate Ballot History**

S. Kozanecki provided a brief update on the history of the existing bromate SPAC and the ballots that have been proposed to update it. The current language states that the SPAC will change from 5 ppb to 3 ppb in January 2004 unless it is demonstrated to the JC that the demand for hypochlorite chemicals cannot be met at the lowered SPAC. The first proposal was to extend the date until 2009, allowing an extension from an annual review to a 3-year review. However, since the normative part of the standard should not include a specific implementation date and because logistically it is not practical to keep changing at such a frequency, a revised ballot was proposed to state that the SPAC would be periodically reviewed, giving the JC an opportunity to determine whether the demand could be adequately met at the 3 ppb SPAC. This ballot resulted in multiple

negatives, at which time a task group was formed to propose a solution that would be acceptable to the JC. S. Kozanecki explained that P. Greiner would provide an update of the task group's progress.

### **Chlorine Institute Update**

D. Dunlap from the Chlorine Institute (CI) provided a comprehensive overview of the bromate issue affecting hypochlorite products and the status of the industry regarding reductions in the bromate levels. He stated that hypochlorite and ozonation of water containing bromide are the only known contributors of bromate to drinking water. He also explained that during the development of the single product allowable concentration (SPAC), there was a concern that the traditional safety factors (using 10% of the regulated level for the SPAC) would lead to a level that would limit the availability of hypochlorite because of the difficulties stemming from availability of low bromide ingredients used to make it. He stated that a survey done by the CI shows that lowering the SPAC to 3 ppb would eliminate about 1/3 of the hypochlorite facilities, although it is not known how this would affect product availability since the survey does not address how much product each facility manufactures or the relative number of utilities that count on those that could not comply.

D. Heumann pointed out that it is also possible that a large number of facilities would be able to meet the lower SPAC. C. Bush posited that the decision should be based on public health and questioned the risk in leaving the SPAC where it is, at 5 ppb. J. Kempic stated that bromate is a carcinogen that has a fairly high excess cancer risk level according to the EPA. He explained the EPA carcinogen risk assessment process and stated that bromate is above what the EPA considers an allowable risk. He also explained that the basis for the standard has changed since it was set. However, he informed the JC that the bromate MCL was not scheduled to be reevaluated in the near future.

F. Lemieux disagreed with the CI's conclusions that utilities are not concerned about bromate based on the fact that only utilities with ozone are required to monitor for bromate. Since others are not monitoring for bromate, she concluded, they would not have any basis for complaint. E. Nieminski pointed out that the cost of compliance is also an issue. She argued that utilities are not found in violation not because it's not an issue, but because they are not monitoring for it. K. Kells confirmed that utilities are concerned about the levels of bromate in hypochlorite. They consider it to be a problem no matter what the source, since the end result is a notice of violation if the bromate level goes above what is allowed. From the cost point of view, he suggested that people might be willing to pay for better quality water. J. DeBoer asked if the manufacturers have identified what the cost premium would be for meeting the lower level. D. Dunlap could not confirm, but he did point out that the availability of the low bromate raw material was a restriction.

The group discussed the historical information leading up to the original decision to set the SPAC at 5 ppb, including how the MCLs are set and how they influence a product's SPAC. B. Bernados explained that the MCL was set based partly upon feasibility rather than public health risk alone, and there have been discussions about lowering it. He stated that many California utilities would be switching to ozone in the future. D. Heumann mentioned that some studies have suggested that another possible source of bromate may be UV sunlight (which is important to open reservoirs). J. Cleland added that one could possibly consider two additional sources of bromate: raw water upstream from the utility and the water used to make the hypochlorite, which could potentially have residual bromate (or bromide). M. Schock added that a large number of utilities use caustic soda to adjust the pH, which is another consideration for bromate.

D. Heumann stated that the L.A. Department of Water and Power would make a good faith effort to source low bromate hypochlorite in order to help create more of a demand for it. R. Sakaji also stated that he would talk with utilities in his region about working towards using a low-bromate hypochlorite. J. Wailes informed the group that AWWA is in the process of finishing a disinfection survey, which will be published in their journal in 2008. He stated that based on the initial response from 311 water suppliers serving 36 million people, chlorine gas is being used for final disinfection by 55% of utilities; bulk liquid hypochlorite is being used by 29% of utilities; onsite generated hypochlorite is being used by 7.5%; and calcium hypochlorite is being used by 6.5%. He stated that they are seeing a trend towards converting to hypochlorite and/or ozone. The switch from gas chlorine to hypochlorite may be an increasing trend, since it involves less capital investment expense than switching to on-site generation.

P. Greiner suggested to the JC that the original purpose of the extending a time period prior to lowering the bromate SPAC was based on the presumption that manufacturers would be able to modify their processes and to reduce the level of bromate in the finished product. He argued that based on the results presented, there does not appear to be process changes under development that will be lowering bromate concentrations other than by sourcing lower bromide/bromate containing raw materials. For this reason, he suggested that one

option to resolve this issue could be to change the “low bromate hypochlorite” designation’s SPAC from 1 ppb, which none have met at this time, to 3 ppb. This would provide a platform that some manufacturers could meet now, enabling utilities to locate those product sources now.

**Motion:** P. Greiner moved to ballot a change to the requirements for low bromate hypochlorite from a SPAC of 1 ppb to a SPAC of 3 ppb. D. Heumann seconded.

**Discussion:** A. Ewing explained that a difficulty with this proposal is that the levels vary, and therefore Listings could potentially change from year to year because the difference between the two levels is so small. P. Greiner stated that this same problem occurs under the current requirements at 1 ppb.

F. Lemieux expressed concern over the fact that there may be more than 2 sources of bromate in drinking water. She argued that this solution does not address the issue of lowering the SPAC itself or get closer to the level that yields the desired acceptable risk. D. Heumann agreed in principle with France’s statement, however he stated that the benefit in this proposed approach is that it will help everyone get momentum moving forward in lowering the SPAC. C. Selover stated that since hearing about the growing health concerns and regulatory changes that are pushing more utilities to change their disinfection practices, the question he had is whether it actually makes more sense to leave the low-bromate level at 1 ppb and lower the regular SPAC to 3 ppb. He suggested that those manufacturers who could not meet the lower bromate levels could target a different market for the product’s use. J. Kempic shared F. Lemieux’s concern with the motion since there are possibly additional (previously unidentified) sources of bromate.

**Vote:** 8 opposed, 17 in favor.

***Motion passes.***

#### **Bromate Task Group Update (DWA-2007-15)**

S. Kozanecki reported that a task group was created in mid-2007 to draft new language for Standard 60 to address the issue of how the continuing requirements for bromate review and potential reduction of its SPAC appears in the standard. P. Greiner explained that an “informative” annex was under development in a fashion similar to that used under Standard 61 relative to the reduction in lead criteria (annex F), and introduced the basic contents of each section. He ended his presentation by asking the JC what the date of the potential SPAC reduction should be. He stated that, as an alternative, the annex could simply say “At a date to be identified by the DWA JC”

C. Selover stated that if the chlorine industry were never told what the demand is for low-bromate hypochlorite, manufacturers would not be able to address the issue of availability. P. Greiner explained that the previous motion was intended to help address that issue by making it known which hypochlorites can meet the 3 ppb requirement now. C. Selover pointed out that there is a fundamental problem with the language as proposed as it requires demonstration that the “drinking water industry demand for low-bromate hypochlorite cannot be met” which the CI may not have the information to determine. J. Cleland agreed that the demand should be made known. C. Selover asked if the CI could determine this information. D. Dunlap stated that it should not be the onus for them to make that projection and suggested that it should be established by the water industry. J. Wailes explained that part of what is hoped for from the AWWA survey (on disinfectant usage by utilities) will lead to some kind of projection of what the demand is.

K. Kells suggested deleting the clause “unless it is demonstrated by the manufacturers of hypochlorite treatment chemicals that the drinking water industry demand for hypochlorite chemicals cannot be adequately met unless the SPAC remains at 0.005 mg/L” and leaving just the first part of the sentence “Beginning \_\_\_\_\_, the Single Product Allowable Concentration for bromate will be lowered to 0.003 mg/L”.

J. Ballanco agreed that a firm date should be set. The group discussed possible regulation changes and how they would affect this requirement and the implementation date. J. Kempic suggested a five-year time frame. He stated that this, in conjunction with the previous proposal (raising the low-bromate designation’s SPAC to 3 ppb), gives more incentive for industry to make changes to lower bromate levels.

**Motion:** J. Ballanco moved that the proposal be changed to include an exact date that the new SPAC of 3 ppb will take effect, and that the date be January 1, 2013. J. Kempic seconded.

**Vote:** All in favor.

***Motion passes.***

## **VI     NSF/ANSI 61 ACTION ITEMS**

### **California Lead Requirements (DWA-2007-4)**

R. Sakaji introduced himself and informed the JC that he was giving this presentation on behalf of Richard Sykes (East Bay MUD), the author of the issue paper. He began by giving the background history leading up to the signing of Senate Bill AB1953 which determines that products designated “lead-free” must have a 0.25% or less lead content. R. Sakaji explained that the compliance date for that requirement is January 1, 2010. He noted that there is no specified testing required under the statute. The purpose of this proposal is to amend NSF/ANSI 61 to include a voluntary certification to meet the California definition of “lead-free”. He pointed out that it is proposed as an Annex to emphasize the fact that it is voluntary, but what this does is provides a protocol for the verification of the lead content. It does not, however, contain any additional leachate testing requirements. R. Sakaji explained that alloys containing less than 0.25% lead do not require the use of the calculation for verification.

R. Sakaji addressed some questions regarding homogeneity and lead distribution in components. He confirmed that this certification does assume that lead is evenly distributed throughout the component, and therefore no specific point would be examined. Rather, products are evaluated on their maximum lead content in the alloy used for each component. He also stated that the intent was to evaluate the product based on the component composition as given by manufacturer; and further, it would also be sufficient to use alloy information from alloy provider. Tom Palkon noted that these products would still be required to meet the requirements of Standard 61 for certification.

Another question that was raised was regarding product compliance as addressed by the statute. R. Church asked if the statute was silent on the subject of compliance, to which R. Sakaji responded that the responsibility of determining compliance was given to the California Department of Public Health (CDPH). It also requires the plumbing code to be changed, details of which were provided in the issue paper. The note in the statute references the California Health and Safety Code, which in turn references NSF/ANSI 61. Therefore, in order to meet the plumbing code, NSF/ANSI 61, and the proposed annex, would have to be met.

Some members questioned whether the levels set for “lead-free” were health based. J. Bourque suggested that the JC make decisions only when data from a current study at Health Canada is published. F. Lemieux stated that the study looks at health effects data for the purpose of deriving lead reduction strategies. R. Sakaji stated that the way the annex is written, it references any content-based standard. It was currently structured for California, but other states are not precluded from taking a similar approach. He stated that other references used when writing the proposal were the CDC and EPA, who from a health standpoint take the stance that there is no “safe” level of exposure.

Regarding other states adopting a similar practice, R. Sakaji stated that there has been indication that other states will adopt content standard, but it is unsure it will be the same limit of 0.25%. However, the annex was written to allow flexibility for other states’ levels. C. Selover expressed concern that a national standard such as NSF/ANSI 61 would include an annex with requirements specific to one state. He suggested that a note that other requirements may apply would be more appropriate. R. Sakaji stated that the body of the standard would reference Annex G. J. DeBoer clarified that the annex is generic in that it does not explicitly refer to California, and therefore could be used for other states if they were to adopt similar legislation. I. Moch asked if another state published a similar law whether another annex would have to be written. R. Sakaji explained that if the lead content level were the same as written, it would not require an additional annex. I. Moch expressed the opinion, however, that California should not mix political and technical requirements. He suggested that waiting for a national consensus on a lead content standard would be desirable.

When asked how the requirement applies to plastic pipe, R. Sakaji stated that plastic pipe would also require verification that there is no lead. T. Palkon asked how the components included are determined. R. Sakaji stated that all wetted surface areas must be included in the calculation, including all hoses, side sprayers, etc. While this may lead to a high number of possible combinations for different products, each combination would be required to get separate certification to the lead content requirement.

C. Selover noted that currently there are some definitions that say "lead free" is 4% lead content and others at 8%, which creates confusion in the market. He stated that this legislation was a logical approach to fix the definition. However, the problem is that nothing in statute speaks to compliance. He explained that he was involved in the introduction of another bill this year to deal with that issue, which addressed other things used to meet performance requirements, including issues such as the formula, washing processes, etc. He stated that the benefit of third party certification is in having a stronger position to deal with lawsuits that might arise. He agreed that while East Bay MUD is trying to address these problems, the proposal still needs some work, and he recommended referring it to the existing lead task group for revision.

L. Mercer inquired as to whether it has been agreed that the exemptions will be tied back to law, since AB1953 does not exclude products such as those used in bathing applications. R. Sakaji stated that there have been discussions within the CDPH drinking water program and the opinion is that they are committed to seeing certification follow those exemptions in order to expedite meeting the 2010 deadline. B. Bernados clarified that what little jurisdiction there is being vague, they have relied on the water works standards, which do cite NSF/ANSI 61. He also stated that in legal matters, the attorney generals seek the opinion of the CDPH, so their opinion will preside. R. Sakaji added that anything falling under the water works standards, therefore, would be required to meet NSF/ANSI 61. Regardless of one's opinion on the law, B. Bernados reminded the group that it is in effect and that all faucets must meet the criteria by January 2010. He is in support of the annex because it allows for consistency to meet that standard.

Franco DiFolco expressed his discomfort in adding design requirements to a performance standard such as NSF/ANSI 61. He asked if the manufacturers would be relied on to provide surface area and lead content data and whether that leads to increased liability on the part of the certifier. He also added that if it were not verified, it might have no value. R. Sakaji confirmed that the idea is that the role of the certifier is indeed to verify. F. DiFolco suggested clarifying that in the language.

J. Ballanco stated that he was also concerned about the effects of adding politically driven requirements to a health effects standard. He stated that he would support this effort if it were proposed as a separate document. He also stated that when he first read the bill, he interpreted it as meaning that each component would have to be less than 0.25% lead, and opined that attorneys would also read it this way. He suggested defining "lead-free" in the definition section of the standard.

S. Martin agreed that this is a necessary step, and added that the industry has found it encouraging that the annex covers some of the things that proposed legislation. He stated that there are still issues, including location of lead and jurisdiction over this requirement. On the most recent Lead Task Group (LTG) conference call, it was stated that the jurisdiction of the California DPH ended at the meter. Jurisdiction downstream of the water meter should also be consulted such as the California Building Commission.

The group discussed the politics of the proposal. J. Kempic explained that the MCLG for lead is zero. This, while a mechanism to reduce lead exposure from the approach of a content standard, is still very much a health effects issue. He reminded those present that much of the section 9 requirements were driven by requirements set in 1996. J. Kempic recommended that there be a differentiation between "no lead" and "lead-free".

R. Church stated that while the idea of putting a prescriptive requirement in the standard does not appeal to him, he acknowledged the need for it. He stated that it is the case that lead issues are tied to politics, and this is not any different an approach than has been taken in the past. He proposed adding additional information to the annex regarding the health effects of lead. On the contrast, it was argued that if it is thought that this is not a beneficial law, the JC should not support it by adding a compliance protocol to the standard. R. Sakaji stated that since the law will be taking effect in January 2010, this is the best way to help manufacturers meet the requirement.

R. Sakaji stated that he was asked to get a motion from the committee to ballot this item. J. DeBoer asked C. Selover to present his related issue paper before further deciding what action to take.

#### **Lead Requirements for Products with Coatings (DWA-2007-31)**

C. Selover explained his issue, and suggested that one of the other related items that the JC needs to address with regard to the proposal for annex G is how it will deal with coatings. In his proposal, he suggested 1) proof of durability as a criterion, and 2) reconciliation of exclusions with what is included in sections 4, 8, and 9 so that all are in harmony. He suggested the lead task group be charged with following up on this.



**Motion:** C. Selover moved to send this issue to a task group. R. Church seconded.

**Discussion:** R. Sakaji stated that he would prefer this be balloted first and then referred to a task group later if necessary. J. Ballanco stated his preference to direct the task group to develop a document independent of NSF/ANSI 61.

Concern was expressed that this does not address anything beyond faucets adequately. It was predicted that other product types would have a difficult time complying since they are only one component.

A. Kireta, Jr. stated that he would like to see the California Building Commission involved in the work of the task group. S. Remedios stated that many additional task group members should be included as well.

L. Mercer stated that the language needs to address acid washing. B. Chapin stated that he would like to see specific language excluding plastic products from this option.

R. Sakaji expressed great concern that the deadline would be more likely met if this did not go to a task group. He asked the manufacturers to keep in mind the compliance date in mind. C. Selover reassured the Committee that there is a high sense of urgency among manufacturers as well who will need to comply. He stated that he would amend his motion to include all of the comments made.

P. Greiner stated that one benefit of balloting is obtaining the opinions of all members (including those not present); however, the benefit in establishing a task group immediately is that they can begin resolving issues immediately. R. Church suggested a straw poll to get everyone's comments up front. C. Selover seconded the idea, stating that the task group could request comments without a ballot.

B. Bernados stated that he would prefer to know if this approach was not going to be viable so that CDPH can determine if it needs to take another approach (yet another reason a ballot is favored). R. Weed stated that as a member of the Lead Task Group, he would prefer the task group make the necessary modifications before going to ballot in order to increase approval by the JC.

B. Bernados made a friendly amendment for the motion to include a time frame for the task group. K. Kells seconded the amendment. C. Selover accepted the amendment and stated that the goal should be to ballot the language no later than the end of June 2008. It was stated that this also left open the option of creating a standard separate from NSF/ANSI 61.

**Revised motion:** to refer this issue to the Lead Task Group with a deadline for a recommendation to ballot by June 30, 2008.

**Vote:** All in favor.

Additional volunteers for the Lead Task Group included: B. Bernados, B. Chapin, J. Bourque, J. Hebenstreit, J. Baldwin, L. Mercer, J. Wallace, R. Sykes, S. Tefft. B. Bernados agreed to recruit a representative from the California Building Standards Commission.

### **Evaluation of Joining and Sealing Materials (DWA-2007-18)**

Abbie Batog explained the proposal that all Joining and Sealing Materials shall be evaluated and exposed based on their proposed end use and answered questions about how it would be implemented. She explained that the current exposure treats joining and sealing materials as if they are a unique part of the system. The proposed protocol would include exposing and evaluating joining and sealing materials in the same manner the end use product would be. She also explained that for products with multiple end uses, the worst-case exposure would be used.

It was asked how products would be evaluated if used for different end uses. A. Batog explained that the product would be listed to the section under which it was evaluated, but footnotes would be added to show whether it was also suitable for other uses. Therefore, there was no change to the ability to normalize results of a product so that it is found to be approved for use in other applications.

It was then asked whether this proposal would remove section 6 entirely. C. McLellan clarified that the product would still be certified to the section 6, but the protocol would be that of another section. There was some discussion about determining the worst-case exposure scenario. Specifically, a question was raised regarding chlorinated water as the worst-case scenario for chlorinated compounds. C. McLellan stated that until it had been definitively established that this was the worst-case, the protocols would remain as they are currently written. A. Batog explained that the worst-case scenarios would be spelled out explicitly based on what is currently in the standard to eliminate confusion from problems of interpretation. She also pointed out that C. McLellan would later be making another presentation on addressing questions of variability.

**Motion:** M. Briggs moved to ballot this proposal. P. Greiner seconded.

**Vote:** All in favor.

***Motion passes. Language will be balloted.***

#### **Non-repeating Fitting Clarification (DWA-2007-14)**

S. Randall explained that his issue paper and proposal. He stated that currently, whether a fitting is classified as “repeating” is based on its design, rather than the material from which it is made. He explained that his proposal was to change it so that the definition of “repeating” is based on the material.

J. Ballanco expressed concern that this requirement is only for PVC and CPVC. He also pointed out that unions were not addressed, which typically have a large surface area to volume ratio. Therefore, he suggested that unions remain under this requirement even though they are not necessarily used repeatedly in a plumbing system. He also suggested changing the term “brass” to “copper alloy” so that bronze is included in the definition. S. Randall agreed to all proposed changes.

Several members posed additional questions about product types and materials that would be subject to this requirement per the recommended change. B. Chapin asked why only PVC or CPVC fittings were addressed. S. Randall informed him that transition fittings that are made of non-repeating materials are those mentioned. Brass fittings are repeated in material type only. M. Clark clarified the use of unions and specified that they are not intended for repetition.

S. Randall suggested meeting with M. Clark and B. Chapin to massage the language into something that addressed all of these points. M. Briggs recommended also reconciling this language with the riser tubing language (from 61i74) that had recently been balloted to the JC.

**Motion:** P. Greiner moved to ballot the proposal, including the language changes proposed by J. Ballanco; also, language from the recent ballot on volume should be referenced to address the situation with unions. K. Kells seconded.

**Discussion:** M. Clark suggested that this instead go to a task group for further development. P. Greiner countered that the issue with unions would be relatively easy to address and that a simple update to the proposal would suffice. A. Kireta, Jr. agreed that the changes should be further reviewed, saying that there may have been some incorrect assumptions made.

**Vote:** All in favor.

***Motion passes. Language will be revised and balloted.***

#### **Cement Materials pH (DWA-2007-9)**

R. Boileau explained that in 2005, NSF began monitoring cement material-type barriers for aluminum, which revealed aluminum from his company’s product at levels high enough to cause the product to fail. He explained that his company began doing research to better understand the problem, and found no clinically supported data linking aluminum to health effects. They also did testing of water heater products in the field that were coated with these cements and found them to be well below the referenced limit of 2000 µg/L in all cases.

R. Boileau also stated that the testing procedure calls for testing at a pH of 10. He explained that this pH is outside of the recommended use for the product. He also stated that the leaching rates of metal elements from cements are variable, which leads to additional discrepancy. He requested that the JC discuss aluminum health

effects and that the protocol be returned to that used by NSF prior to 2005. Secondly, R. Boileau also requested that testing at the pH of 10 not be required for barrier materials – cement type when the application is at a pH of less than 10.

The Committee discussed the implications of this product failure. D. Purkiss pointed out that section B.2.5.1 allows manufacturers to choose an alternate exposure water as long as the pH is noted in the listing. However he said NSF is hesitant to pursue this option unless it is clear that it will not cause any confusion in the marketplace. Since this material is used by water heater manufacturers and contractors who do not know what the pH of water will be at each installation there was a high probability for market confusion. The JC also discussed the reasons for monitoring for aluminum. J. DeBoer suggested that it is possible that aluminum should have been monitored before 2005 by NSF but was not in error. D. Purkiss confirmed that this was the case.

M. Briggs asked if the problem is with the exposure water or the pH of the water. He pointed out that the pH 10 water is high in borate and suggested that this could potentially cause problems. Other members argued that it might in fact be the higher pH leading to high levels of aluminum extraction.

He agreed that manufacturers should be able to specify a pH at which their product should be tested. R. Boileau further explained the problem with the leaching of aluminum: he stated that the worst of it occurs in the first ninety days. He also explained that a longer cure time is desirable for meeting the aluminum criteria, but is not feasible in the field.

M. Schock suggested that aluminum is in fact a health concern that is very relevant in other drinking water applications. However, he stated that this is a unique situation because this product is not a major drinking water source. C. McLellan confirmed that there are some concerns with acute toxicity. However, it is a complex issue since there are many variables affecting its extraction.

R. Boileau requested that the language allow a 90-day cure time prior to testing at pH 8.5. C. McLellan argued that this was not appropriate since that was not consistent with the product's use. Clif suggested additional research and perhaps developing a STEL for aluminum, which then might allow for a 90-day overtime test, if the initial leachate levels were below the STEL value. R. Boileau explained that NSF currently uses the EPA limit of 2000 ppb. B. Bernados pointed out that California's primary MCL is 1000 ppb.

R. Boileau agreed to continue to work with NSF to resolve this issue.

### **Section 3 Modifications (DWA-2007-27)**

C. McLellan made a presentation of several proposed changes to section 3 of NSF/ANSI 61.

The first proposal was one to change the language in order to clarify and to emphasize the information requirements and formulation-dependent analyte selection procedure. The following changes were proposed:

- Requirement that the complete formulation information be equal to 100.0%
- Definition of a material as "a combination of ingredients used to: manufacture (mold, extrude, stamp, cast, machine, mix etc.) a part or component used in the assembly of a device. To include but not be limited to plastics, elastomers, metallic components, media, lubricants, adhesives, process aid, preservatives, coatings and surface treatments.
- Requirement that the complete formulation shall include identity by CAS# or chemical name for each component.
- Requirement that when not available from the manufacturer, the chemical composition of an ingredient/component be provided by the certifier from the ingredient supplier.
- Allowance of percents of parts by weight or reference to a standardized material specification for non-organic based materials.

**Motion:** P. Greiner moved to ballot the proposed language clarifications. I. Moch seconded.

**Discussion:** R. Church stated that he would like to see more explicitly explained the need for the proposed language changes. (His suggestion was that each change be tied to a rationale in the balloted language). C. McLellan explained that the intent of the language is to make the information gathering process more consistent among certifiers.

**Vote:** All in favor.

***Motion passes.***

The second proposal was that the diluted surface area approach be simplified to make it clearer to what product types it applies. The proposed language follows:

- complete formulation information for each water contact material as applicable;

NOTE – The complete formulation information may be omitted for a component material if the generic material type is contained in Table 3.1 ~~and its diluted surface area in the application is less than or equal to 0.001 or 0.0001 for static or flowing conditions respectively.~~ and it is used in a high flow device exclusively used at water treatment plants that will treat or pump a minimum of 100,000 gallons of water per day. High flow devices include pumps (high volume), chemical feeders, pressure gas injection system pumps, vacuum injection systems, disinfection generators (chlorine dioxide, hypochlorite, ozone and ultraviolet), aeration technologies, clarifiers, electrodialysis technologies, microfiltration technologies, mixers, reverse osmosis technologies, screens, strainers and ultrafiltration technologies.

**Motion:** I. Moch moved to ballot the proposed language. D. Denny seconded.

**Discussion:** R. Church asked for clarification that this note only applies to the products listed. C. McLellan confirmed. J. Ballanco asked about the 100,000-gallon requirement. P. Greiner stated that this might need some clarification so that it reads “exclusively of 100,000 gallons.” C. McLellan explained that the intent was not to change anything, but rather clarify. He explained that this is the typical use for a very small community in terms of average flow, not capacity.

**Vote:** All in favor.

***Motion passes.***

The third change language to set a de minimus level for ingredients in formulations that would exclude activators, antioxidants, co-solvents, fillers, curing agents, initiators, peroxides, inorganic pigments, polymers, plasticizers, process aids, solvents, surfactants, stabilizers, and terminators, or their impurities, degradation products, and hydrolysis products when present at less than 0.10% of the formulation; and antimicrobials and inorganic pigments, or their impurities, degradation products, and hydrolysis products, when present at less than 0.010% of the formulation.

**Motion:** K. Kells moved to ballot the proposed language. P. Greiner seconded.

**Vote:** All in favor.

***Motion passes.***

The fourth change proposed was to add additional metals to table 3.1 so that it includes (in addition to the current metals) chromium III and VI, nickel, zinc, and bismuth.

**Motion:** T. Palkon moved to ballot the proposed language. P. Greiner seconded.

**Discussion:** F. DiFolco suggested adding a footnote to clarify that the intent for chromium is not to measure the total, rather to determine if speciation if needed.

**Vote:** All in favor.

***Motion passes.***

The fifth change was to add polytetrafluoroethylene, quartz, silicone, and tetrafluoroethylene to table 3.1 with minimum requirements.

**Motion:** P. Greiner moved to ballot the proposed language. Bruce Manning seconded.

**Discussion:** T. Palkon asked whether there was a method for the analysis of perfluorooctanoic acid. C. McLellan confirmed that there was. He also explained that this is not a change as this was being done prior under the formulation-dependent review. The proposal is to set it as a minimum for transparency.

**Vote:** All in favor.

***Motion passes.***

The next change proposed was to add test parameters to concrete and polyurethane. The parameters for concrete were changed to match the requirements for cements.

**Motion:** P. Greiner moved to ballot the proposed language. B. Manning seconded.

**Vote:** All in favor.

***Motion passes.***

The final proposal for change to section 3 was the requirement that the NIST-EPA-HIH and Wiley mass spectra libraries be utilized (under B.7.4.2.1, General requirements for GC/MS analysis).

**Motion:** I. Moch moved to ballot the proposed language. J. Kempic seconded

**Vote:** All in favor

***Motion passes.***

#### **Criteria for Chemical Feeders/Generators (DWA-2007-29)**

D. Purkiss presented this issue paper on behalf of J. Brennan of Arch Chemicals, who had to leave the meeting early. He stated that the goal of the proposal is to increase the value of certification to NSF 61 by adding a uniformity of output test for chemical feeders and generators. The current standard goes to great lengths to ensure trace contaminants do not leach out of the plastic and metal materials in a chemical generator, but it does not test that the chemicals are produced at consistently safe levels. Jim Brennan proposed adding the uniformity of output test that is current required for chemical generators under NSF Standard 50 for pool and spa applications. This would increase the length of the test by only 20 minutes and add an additional 4 chlorine analyses to the test, therefore the effort for certifiers and cost to manufacturers would be minimal. However it would increase the value of the certification by a great deal and keep faulty and dangerous products out of the marketplace. The proposal also included requirements that manufacturers' operation and installation instructions state what the manufacturers recommended use chemicals are.

M. Schock asked if the proposal was intended to cover simple chemical feed pumps. D. Purkiss said he thought it was aimed more at products like electrolytic chlorinators, or calcium hypochlorite feeders, but that could be clarified in the proposal. T. Palkon suggested it might be better to certify products to both NSF 50 and NSF 61 rather than adding these performance requirements to NSF 61 since it has always been a health effects only standards. D. Purkiss responded that it this issue is directly related to health since the performance and consistency of chemical concentration output is directly related to the product's safety. Oleh Dzydzora stated that he would be in favor of adding life cycle tests as well to the requirements

I. Moch suggested tabling this issue until the concerns of the JC are addressed. It was agreed that, while the JC understood and appreciated the concern that prompted this issue paper, further work was necessary. All willing to participate were encouraged to work with J. Brennan on addressing the JC's concerns.

#### **Clarifications in sections 4, 8, and 9 (DWA-2007-28)**

C. McLellan explained that the interpretation of NSF/ANSI Standard 61, Section 4.4.1, 8.3.2, and 9.3.2 is critical when determining a product family for testing and subsequent determination of whether a product meets the requirements of NSF/ANSI Standard 61. In addition, public listings assist in public understanding about how a product was tested and evaluated. He stated that some definitions are needed to clarify these sections for consistency's sake. He explained this three-fold proposal:

- Addition of language to specify that a metallic product must be certified to the section that it is tested against due to the difference in Q statistic and Total Allowable Concentration.
- Addition of language to specify that non-metallic components can be approved for use for another section of the Standard provided it meets other requirements (i.e. temp, dwell time of test, surface area, TAC vs SPAC).
- Addition of explanations, by material type, of what constitutes an analogous process for metals, plastics and rubber materials.

J. Ballanco questioned the language for nonmetallics as “approved”. C. McLellan explained that the problem arises from the difference necessary between that term and “certified” since there are different test procedures

**Motion:** J. Ballanco moved to send to this language to letter ballot. D. Denny seconded.

**Vote:** all in favor.

***Motion passes. The language will be balloted. J. Ballanco offered to help with wordsmithing.***

#### **Valve Position in Sections 8 and 9 (DWA-2007-30)**

J. Hebenstreit explained that his issue arises from the lack of guidance in the standard on valve evaluations. He explained that there are multiple positions that a valve could be exposed in; half open/closed would expose different surfaces than open or closed. He requested that a task group be formed to explore this and come up with a recommendation that would consider valve positions.

P. Greiner agreed that this is an issue, and showed support for the recommendation. J. Ballanco stated that the testing should follow the use intentions. M. Briggs pointed out, however, that manufacturer intent does not always equate to consumer use.

**Motion:** M. Briggs moved to refer this issue to a task group. R. Sakaji seconded.

**Vote:** All in favor.

***Motion passes.***

A task group was formed with the following volunteers: J. Hebenstreit (chair), B. Chapin, M. Briggs, F. DiFolco, P. Greiner, M. Anderson, M. Clark, C. Selover, and T. Palkon.

#### **Chromium Screening Level (DWA-2007-21)**

A. Batog explained her proposal to use the chromium VI level as a screening level instead of the level for total chromium. She explained that the labs would still use the same method and report the results as total chromium. However, if the level detected were to exceed the action level, then the species would be differentiated. She outlined and explained the proposed changes, which also include adding a method for chromium VI and updating the tables as needed to reflect the changes.

M. Schock asked to which sections this would be applied. A. Batog responded that this was being proposed for all products. M. Schock pointed out that Cr (III) changes to Cr (VI) in the presence of chlorine. He and C. McLellan discussed making the test conditions “realistic” to reflect the Cr-Cl interactions, but it was not clear how to define “realistic” conditions. P. Greiner pointed out that the Cr (VI) level is first only used as an action level, and only if the detected level exceeds that would there be a need to speciate. M. Schock posited that this still needed additional investigation.

**Motion:** P. Greiner moved to ballot the proposal. F. DiFolco seconded.

**Vote:** All in favor.

***Motion passes. Language will be balloted.***

#### **In-line Device Exposure (DWA-2007-19)**

A Batog explained that this proposal is to remove the option of exposing in-line devices for 16 hours and normalizing to 12 hours. She explained that the 16-hour exposure option was initially put in the Standard to allow laboratories flexibility in their scheduling and at the time, the fact that lead does not exhibit linear extraction rates was not considered. Given that this is true, the 16-hour exposure, if normalized to 12 hours, would underestimate the potential at-the-tap concentration. She requested that this proposal go to ballot.

**Motion:** J. Kempic moved to ballot the proposal. O. Dzydzora seconded.

**Vote:** All in favor.

***Motion passes. Language will be balloted.***

#### **Exposure Controls (DWA-2007-11)**

P. Greiner stated that a question was raised about the procedure of control samples. Typically, NSF subtracts value of control from that of sample to determine what contaminants leached from a product itself. NSF 61 currently discusses method blanks and standards, which are commonly used in analytical procedures. In those procedures, however, generally the method blanks are not subtracted. The use in that case is to ensure that there are no contaminants from sources other than the sample being tested. He proposed language to clarify the intent of the controls in the exposure of products, including a definition of controls and clarification that the results of the control sample are to be subtracted before normalizing the results.

**Motion:** J. Ballanco moved to ballot the language as proposed. I. Moch seconded.

**Vote:** All in favor.

***Motion passes.***

#### **Manifold Clarification (DWA-2007-18)**

S. Randall explained that there are different manifold types, and he described each. His proposition is to add definitions of the different types for clarification.

I. Moch stated that the term “home-run style” is not fitting and should either be put in quotes or redefined with the words in the definition. J. Ballanco explained that the term is borrowed from the electrical industry, and while widely used, is considered to be a slang expression. He also explained the use of manifolds when pipe is run further than 60 feet from the source. He explained that while he did not have any issues with the concept, the definitions need wordsmithing, as there are some loopholes in the proposed language.

B. Chapin explained that mini-manifolds are not easily defined as they depend on the use. S. Randall agreed, but stated that there is a need to define them so that products being called manifolds that are not used as such are tested as fittings rather than manifolds (according to their use). C. Selover suggested that the language should be consistent with other areas that use the terms (e. g., water conservation).

J. Ballanco and B. Chapin agreed to help S. Randall with wordsmithing before the proposal is balloted.

#### **Dual Chamber Manifolds (DWA-2007-16)**

S. Randall explained that some manifolds have dual chambers, which are noncontiguous and deal separately with hot and cold water; however, NSF 61 is silent on this type of device. He shared the proposed language. The proposed testing would address each side differently according to its use (i. e., hot water protocol would be used for the hot water side and vice versa).

S. Martin asked if there were any problems anticipated due to the fact that either side could be used at either water temperature. J. Ballanco pointed out that both sides are made of the same material, but that the cold side usually has more ports. S. Randall responded that it would be up to the certifier how to test the product; however, most likely the larger side would be evaluated under the most stringent conditions.

J. Ballanco and B. Chapin agreed to help S. Randall with wordsmithing before the proposal is balloted.

#### **Definition of Flexible Versus Rigid (DWA-2007-17)**

A. Batog explained that currently, NSF/ANSI Standard 61, section 4, does not specify materials that are considered “flexible”. However, designating a product as rigid or flexible determines the field surface area assumptions used during normalization and should be clarified to ensure accurate and consistent normalization of fittings. Therefore, she recommended balloting a note to clarify in section 4 to specify how to determine flexible versus rigid, which would read:

“Determination of flexible and rigid is material and size dependent. Polyurethane, ethylene-propylene-diene monomer (EPDM), flexible PVC and CPVC, and thermoplastic elastomer materials are considered flexible at all nominal sizes. Polypropylene, polyethylene, polybutylene, and cross-linked polyethylene (PEX) are considered flexible at nominal sizes ½” and smaller and considered rigid at nominal sizes ¾” and greater. All other materials are considered rigid.”

J. Ballanco suggested adding “tubing” to the second sentence. M. Clark suggested defining whether a product is flexible or rigid based on its ability to bend rather than its material type so that it is not material-specific (should other product types come to the market). A. Batog explained that this is difficult to do since the ability to bend is subjective. J. Ballanco added that since this is a note, it is advisory. B. Chapin suggested adding a method to define the average number of fittings in a system to determine when that reaches a certain percentage since use of fittings is not dependent on flexibility. A. Batog explained that the proposal removes the ¾” limit and creates a requirement be below 3%.

**Motion:** J. Ballanco moved to ballot the language. R. Odette seconded.

**Vote:** All in favor.

***Motion passes. Language will be balloted.***

#### **Cement Humidity Tolerance (DWA-2007-12)**

P. Greiner explained that when concrete admixtures and cements are evaluated to Standard 61, samples are fabricated into mortar cubes, which during preparation are cured in moist cabinet for an extended period (up to 28 days), removed, and air dried at 23 +/- 2°C and a relative humidity of 50 +/- 2% for 7 days. He stated that the tolerance in NSF/ANSI 61 is too tight, and is likely a typo. He explained that review of the standards development file supports this as the cube preparation protocol recommended by the Portland Development Association did contain the +/- 5%.

**Motion:** J. Ballanco moved to ballot the language proposed to increase tolerance to +/- 5%. K. Kells seconded.

**Vote:** All in favor.

***Motion passes. Language will be balloted.***

### **VII NSF/ANSI 61 TASK GROUP UPDATES**

#### **Nitrosamine Task Group (DWA-2007-5)**

T. Palkon updated the Committee on the progress of this task group, which was charged with recommending a modification to the NSF 61 test protocol to determine if ion exchange resins leach NDMA above safe levels. He explained that some round robin testing was being done, and that the laboratory at the State of California would be doing the analysis. The group expects analysis to be done at some time during the first quarter.

#### **Regenerated and Reactivated Media Task Group**

D. Purkiss gave a presentation to update the JC on the progress of this task group. His presentation walked through the proposed draft language that the task group had been working on since the 2006 JC meeting. He also pointed out that many requirements came from AWWA standard for reactivated carbon. He explained that he hoped to send the draft out for ballot within the next few months.



R. Lorenz stated that there is a section that specifies that certain media can have had no exposure to certain compounds, including herbicides. He stated that a large part of country has herbicides in the drinking water and asked if there is a limit or if that is an absolute. D. Purkiss explained that this became an issue for the task group because it is unknown if these compounds can be removed during regeneration, and the cost of testing every lot of regenerated media would be cost prohibitive. Therefore, this requirement is an absolute. S. Butterworth stated that this exclusion does not apply to reactivated carbon since it is well known that reactivation can remove herbicides, and most utilities should be using activated carbon ahead of other medias if they have a pesticide or herbicide problem. J. Cleland asked whether there would be limits to commingling. D. Purkiss stated that the standard only allows commingling of media from public drinking water supplies and any media that is commingled is clearly labeled as such.

#### **Copper Pipe and Tubing Task Group (DWA-2007-6)**

The charge of this task group was to look at temperature, pH drift, and overall challenge water protocols for testing of copper pipe and tubing in an attempt to understand, and therefore eliminate, variability between testing laboratories. A. Kireta, Jr. explained that some testing had been done at various certification laboratories and the results were inconclusive. He explained that he would be doing an audit of the participating labs to compare test protocols, water makeup, etc., in an effort to understand what caused the differences in the results between labs. The goal is to have that completed within the first quarter 2008.

#### **Lead Task Group Update (DWA-2007-7)**

L. Agness briefly stated that there were several sub-task groups working under the task group that had been meeting to accomplish specific goals over the past year. He stated that he would allow each sub-task group chair to present an update on their specific accomplishments.

#### **Variability**

C. McLellan stated that there are many factors that contribute to variability in lead extraction results. He began by identifying some of these, including alloy composition, processing (extrusion, casting, machining), and other treatments, including washing, coatings, impregnation resins, and part polishing. He also explained that there is some variability in the test procedure that can lead to variability in lead extraction results. His recommendation was that for sections 4 and 8 for products less than 3" nominal diameter tested for metals at pH 10, products should be tested in triplicate and that the water be pooled prior to analysis.

B. Chapin asked a question about what variability exists now in testing a single lead bar split in several pieces. P. Greiner explained that a similar test had been run for benchmarking, and even during that test, they had to do "grouping" to identify high and low extractors. He stated that the results could be shared.

#### **Q Review**

P. Greiner reviewed the charge of the task group, which was to 1) review the basis of the Q statistic given the expected lower extraction of lead values, and 2) review the plausibility of creating a shorter exposure protocol as recommended at the 2006 meeting. To address the first charge, Leonora Marro (biostatistician, Health Canada) was provided with 317 data sets from products tested at NSF International. She did an analysis, which was provided to the Committee and explained by P. Greiner. L. Marro's report found that the Q statistic is performing as expected and included an a simulation study based on the 317 data set provided to try to explain the distribution of the Q, how confident we should be in the results, and if increasing the sample size would improve the Q. Leonora summarized the findings of the study in a table with seven simulations representing a range of conditions from low lead emitting faucets with a small standard deviations to those with higher results and higher standard deviations and also reported the percentage of the 317 test data sets that fell into each. In each of the seven cases considered Leonora established a mean and standard deviation typical of that group and ran a simulation of the Q calculations based on n values of 3, 5, 10, and 15. The simulation was repeated 1000 times and the results table reported the proportion of times the Q was  $\leq 11$  and proportion  $\leq 5$ . The analysis demonstrated the significance of the mean and standard deviations in calculation of the Q and that when the requirements for the Q are lowered from 11 to 5 that the number of faucets needed test to be assured of a high probability of passing will increase. Depending on the variability between faucets, the analysis showed that the sample sizes might need to be 10-15 or greater.

J. Kempic summarized by stating that, depending on the variability in a product line, more samples may be needed for testing in order to show that one sample that falls outside of the expected range is truly an outlier. C. Caruana stated that it would be difficult for certifiers to test such a great number of samples for each product type. F. Lemieux reiterated that the project was still in the analysis phase and that the group would not be making any recommendations at this time.

### **Extraction Water Chemistry**

P. Greiner explained that this sub-task group had put forth a research approach in 2007 in response to a concern that the extraction waters currently used are not reflective of any real-world drinking waters. It was designed to get an analysis of the water chemistry across the U. S. so that they could be bracketed and used to make a decision about the extraction water buffers used for the Standard. R. Weed submitted it to a contractor to get some feedback on the practicality and estimated cost of the approach. At that point, the LTG will reconvene to review it and make any necessary changes. Ultimately, it will be administered through the LTG. It was noted that AWWARf is interested in participating as well.

### **Elevated Temperatures Task Group Update (DWA-2007-10)**

P. Greiner updated the JC on this task group. He stated that his original proposal was to incorporate intermittent hot testing in section 8 (which harmonizes it with section 4). Since that time, P. Greiner explained that he has rewritten ballot, which was sent to the task group for review and feedback. He expected to send a proposal for ballot shortly.

### **Section 9 Components Task Group Update (DWA-2007-8)**

S. Remedios explained the history of the task group (assembled at the JC meeting 2006 to address discrepancies in results between testing of components and assembled products). The group met several times in 2007 to discuss variables that may be causing the problem. C. McLellan presented a proposal earlier that addresses some of the issues (DWA-2007-28); however, there are still additional questions. At this time, there are no other proposals other than C. McLellan's. The task group intends to continue meeting in 2008 to resolve this issue further.

### **Goodness of Fit Task Group Update**

F. DiFolco stated that this task group has come up with some values and language on the process and criteria for the generation of multiple time points and is now attempting to determine where to put the language. He stated that the next meeting would be to address this. The task group's goal is to have something to ballot in 2008.

### **Submersible Well Pumps Task Group Update**

J. Hebenstreit updated the JC on this task group in the absence of the chair, Richard Winton. He stated that the group had had one meeting to identify areas that need clarification. However, at this time there was not much participation from manufacturers. Therefore, the task group is requesting participation from manufacturers or others knowledgeable in pump sizing. K. Kells volunteered. J. DeBoer asked J. Wailes to aid in the search for additional participants. He also suggested contacting the Groundwater Association. C. Caruana also volunteered to help find additional manufacturers to participate.

## **VIII ADJOURNMENT**

### **Review of Action Items**

J. DeBoer reviewed the action items generated during the meeting and also reminded everyone that they would also be summarized in the meeting summary.

### **Next Meeting**

J. DeBoer asked for recommendations on when to hold the next JC meeting. The group conceded that the meeting should be kept to the week following Thanksgiving. The next meeting will be held December 3-4, 2008.

J. DeBoer thanked the committee for their hard work.

**Motion:** M. Briggs moved to adjourn. J. Ballanco seconded.

**Vote:** All in favor.

***The meeting was adjourned at 3:15 pm.***

## **Attendance:**

### **Joint Committee Members:**

Ackroyd, Rand (*Rand Engineering, Inc.*)  
Ballanco, Julius (*J.B. Engineering*)  
Bauer, Mike (*Tnemec Co. Inc.*)  
Bernados, Brian (*CDPH*)  
Brennan, James (*Arch Chemicals*)  
Briggs, Mike (*IAPMO*)  
Bush, Charles (*Oatey, Co.*)  
Carrier, Richard (*Health Canada*)  
Chinniah, Karu (*Alberta Environmental Protective Services*)  
Church, Richard W. (*Plastic Pipe and Fittings Association*)  
Cleland, Jim (*MI Dept. of Environmental Quality*)  
DeBoer, Jon (*Colorado Dept of Public Health*)  
Denny, Dean (*Lavelle Industries*)  
DiFolco, Franco (*CSA International*)  
Dzydzora, Oleh (*United Water Suez*)  
Evans, Jim (*OH Environmental Protection Agency*) - Wendy Sheeran - PROXY  
Greiner, Pete (*NSF International*)  
Harrison, Joseph (*Water Quality Assn.*) – Tom Palkon - PROXY  
Heumann, David (*LA Dept of Water and Power*)  
Humes, Dennis (*Mueller Co.*)  
Kells, Ken (*AWWA Standards Council*)  
Kempic, Jeff (*USEPA*)  
Kireta Jr., Andy (*Copper Development Association*)  
Lorenz, Richard (*City of Westerville, OH*)  
Manning, Bruce (*Jacobs Civil*)  
McLain, Clifford (*Moorhead Public Services*)  
Moch, Irving (*I. Moch and Associates*)  
Nieminski, Eva (*Utah Dept. of Environmental Quality*)  
Odette, Robert (*Navy and Marine Corps Public Health Center*)  
Olah, Andy (*Lubrizol*)  
Powell, Richard (*Pinellas County*)  
Sakaji, Richard (*East Bay MUD*)  
Selover, Craig (*Masco Corp.*)  
Sims, Fred (*Kemira Water Solutions*)  
Wailes, Jim (*AWWA*)  
Winton, Richard (*Underwriters Laboratories*) – Jeff Hebenstreit - PROXY

### **Joint Committee Members NOT in attendance:**

Franks, Jeff (*GE Infrastructure*)  
Hartman, David (*Greater Cincinnati Water Works*)  
McGrath, Phil  
Muldoon, Tim (*Kingscote Chemicals*)  
Ohanian, Ed (*USEPA*)

### **Observers:**

Agness, Lance ( <i>Ford Meter Box</i> )	Laskowski, Karen ( <i>NSF International</i> )
Anderson, Mark ( <i>Ford Meter Box</i> )	Lemieux, France ( <i>Health Canada</i> )
Baldwin, Jeff ( <i>T&amp;S Brass</i> )	Martin, Shawn ( <i>PMI</i> )
Batog, Abby ( <i>NSF International</i> )	McLellan, Clif ( <i>NSF International</i> )
Bellish, Theresa ( <i>NSF International</i> )	Mercer, Lee ( <i>Moen Inc.</i> )
Bestervelt, Lori ( <i>NSF International</i> )	Mersch, William ( <i>Carus</i> )
Boileau, Robert ( <i>Pocono Fabricators</i> )	Morrison, Mark ( <i>Sherman Williams</i> )
Bourque, Jason ( <i>CIPH</i> )	Muller, Larry ( <i>Chase Brass</i> )
Brown, Jeremy ( <i>NSF International</i> )	Patton, Leslie ( <i>Tox Services, LLC</i> )
Buccione, Dana ( <i>Elkhart Products Corp.</i> )	Purkiss, Dave ( <i>NSF International</i> )
Butterworth, Steve ( <i>Calgon Carbon</i> )	Randall, Scott ( <i>NSF International</i> )
Buzard, Nate ( <i>Viega</i> )	Ray, Vickie ( <i>Olin</i> )
Caruana, Charlie ( <i>CSA International</i> )	Remedios, Sally ( <i>Delta Faucet Co.</i> )
Chapin, Bill ( <i>CASH ACME</i> )	Reski, Tim ( <i>Minnesota Rubber</i> )
Chapin, Christie ( <i>NSF International</i> )	Schock, Mike ( <i>USEPA</i> )
Chapman, Brian ( <i>Cambridge Brass</i> )	Smith, Joel ( <i>Kohler Co.</i> )
Clark, Mark ( <i>NIBCO Inc.</i> )	Stark, Blake ( <i>NSF International</i> )
Coles, Brian ( <i>Halliburton</i> )	Stessman, Tim ( <i>Kohler Co.</i> )
Dunlap, David ( <i>Chlorine Institute</i> )	Taylor, Ron ( <i>SNF Inc.</i> )
Ewing, Angie ( <i>NSF International</i> )	Tefft, Steve ( <i>A.Y. McDonald</i> )
Faasse, Gene ( <i>T&amp;S Brass</i> )	Wallace, Joe ( <i>A.O. Smith</i> )
Ferguson, Bob ( <i>NSF International</i> )	Weed, Robert ( <i>CDA</i> )
Geigle, Cliff ( <i>A.Y. McDonald</i> )	Weise, James ( <i>Alaska DEC</i> )
Horne, Ron ( <i>Pencco, Inc</i> )	Wiedow, Al ( <i>Ciba</i> )
Kasseri, Nursing ( <i>NSF International</i> )	Wilson, Jane ( <i>NSF International</i> )
Kozanecki, Sarah ( <i>NSF International</i> )	Yax, John ( <i>NSF International</i> )
Larson, Jacob ( <i>NSF International</i> )	Yergovich, Tom ( <i>J.R. Simplot Co.</i> )