I OPENING REMARKS

Mike Hoover called the meeting to order and welcomed everyone. Sarah Kozanecki read the antitrust statement.

M. Hoover recognized the contributions of the recently retired members: Mike Price and Harry Nurse. He also stated that Mike Beckwith would soon be retiring and that the meeting would be his last as a Joint Committee (JC) member. The JC joined M. Hoover in thanking all of them for their service. New members were asked to introduce themselves. Jim Meyer, Elizabeth Dietzmann, and Kevin Sherman did so. The remaining members and observers then made self-introductions. M. Hoover thanked all of the participants.

M. Hoover briefly addressed the membership issues. He stated that changes will be made to the JC membership, and that particularly they are looking for additional regulators to fill out the distribution of the members. He also noted that there is currently a lack of effluent filter manufacturer representation on the Committee. M. Hoover stated that this topic would be addressed in further detail later on the agenda.

M. Hoover emphasized the importance of voting on ballots. He recognized those who voted on 100% of the ballots over the past two years. He reminded the Committee that the three responsibilities of members are voting, attending meetings, and participating on task groups. He also noted for observers that one does not have to be on the JC to be on a task group.

Special Recognition

J. Cooper moved to instruct chair to thank Jaclyn Bowen for her years of service as secretariat to the Joint Committee. All were in favor.

G. Morris moved to that the Joint Committee recognize Mike Beckwith for his many years of service as a member of the Joint Committee. All were in favor.

J. Bell moved that the Joint Committee also recognize Adriana for her efforts in the Wastewater Treatment Technology certification program and for her support of the standards maintenance and development process. All were in favor.

II REVIEW OF AGENDA

The JC reviewed the proposed agenda.

Amendments

Motions:
- Jim Bell moved to start Day 2 at 8:15 am. Don Alexander seconded.
- J. Bell moved to move the discussion on the Onsite Water Reuse task group to Day 2 at 8:15 am. John Cooper seconded.
- Mike Corry moved that his issue paper be included in the discussion on the Gravelless Task Group. J. Cooper seconded.
Tom Bruursema moved to add an item to the agenda under new business, which would address NSF/ANSI 40, section 8.1.7, which prohibits service and maintenance to a system being tested. Mike Beckwith seconded.

T. Bruursema moved to amend the agenda, adding another new business item to review the pH requirements under NSF/ANSI 40 to be harmonized with NSF/ANSI 245 where there are alkalinity requirements tied in. K. Sherman seconded.

**Vote:** All members voted in favor of each of the above motions.

*All motions carry.*

**Adoption**

**Motion:** J. Cooper moved to adopt agenda as amended. G. Morris seconded.

**Vote:** All in favor.

*Motion carries. The agenda was adopted as amended.*

### III REVIEW OF MEETING SUMMARY

The Committee reviewed the meeting summary from the 2006 meeting.

**Motion:** J. Cooper moved to adopt as written. D. Alexander seconded.

**Discussion:** Suggested edits were provided to Sarah Kozanecki.

J. Cooper accepted all edits as friendly amendments.

**Vote:** All in favor.

*Motion carries. The 2006 meeting summary was approved.*

### IV OLD BUSINESS

#### Review of Recent Ballots

S. Kozanecki provided an update on current and recent ballots. The following ballots were sent to the JC and/or Council of Public Health Consultants since the 2006 JC meeting:

- 46i14, incorporation of a buoyancy test into 10.4.5; two particle size specifications incorporated for effluent filters. This was incorporated in 46-2007.
- 46i16, incorporation of the geometric mean for coliform analysis. This was incorporated into the 46-2007 addendum.
- 41i4, removal of section 5.7.2, requiring locking mechanisms on access ports. This was incorporated into the 41-2005 addendum.
- 245i1, Nitrogen Reduction. NSF/ANSI 245-2007 was published in April 2007.
- 40i18, requirements for access ports as they relate to “unauthorized intrusions.” S. Kozanecki explained that two negative votes were received at the CPHC agreeing with negatives from the JC and public comments, and therefore, the ballot failed. The task group on Access Ports has developed new draft language for JC review (presented during the task group update).

S. Kozanecki also provided an explanation of how to propose a new standard or a change to an existing standard using issue and information papers. She emphasized that one does not have to be a member of the Joint
Committee to be involved in the standards development and maintenance process. Opportunities for non-member participation are available by submitting issue papers, participating in the public comment period on ballots, and participating on task groups.

**Update on NSF/ANSI 245**

T. Bruursema provided a brief update on NSF/ANSI 245, which was published since the last JC meeting. He stated that 3 companies and a total of 18 products had been certified.

At J. Bell’s request, regulators commented on the implementation of the Standard in their respective states. M. Hoover asked that the group brainstorm other ways of encouraging regulators to implement the Standard. M. Hoover also encouraged the Committee to be thinking about how to get the information about the Standard to the appropriate people in order to further the acceptance of the NSF Standards.

**Membership Update**

M. Hoover stated that he would like the JC membership to be updated to achieve a better geographical distribution. However, he reminded the Committee that there are three membership categories (Public Health/Regulatory, User, and Industry), which must be numerically balanced. Therefore, at this time, M. Hoover is accepting applications for any of the categories.

J. Blount had previously been asked to lead an effort to make recommendations to the chair for regulatory members. He provided an update, stating that some recommendations have been gathered, which he intends to forward to M. Hoover. M. Hoover stated that he would then ask these candidates to submit an application. He also stated that a background with a public health emphasis, particularly water reuse experience, is preferable in a good candidate.

J. Bell stated that at the NSF Industry Forum, it was recommended that he also support this effort by recruiting members in the industry category. He stated that he intended to provide his recommendations within one month.

M. Hoover asked E. Dietzmann to lead the charge in recruiting members for the user category.

M. Hoover asked that all recommendations be submitted by the close of business on Friday, October 19, 2007. Recommendations should be routed through S. Kozanecki, who will forward them to the appropriate person(s).

**V TASK GROUP UPDATES**

**Access Ports**

J. Cooper provided an update on the progress of the Access Ports task group. J. Cooper stated that after the 2006 meeting, he did some research and put together a draft that was circulated to the task group for comments. The language would be applicable to Standards 40, 41, and 46. One manufacturer expressed concerns about how products currently under the scope of Standard 41 would be affected. J. Cooper stated that the task group is looking for guidance on whether the language should be applied to NSF/ANSI 41.

M. Wilkinson clarified that access ports are not an issue for products that fall under Standard 41 since non-liquid saturated systems do not have safety issues associated with access ports. He opined that there is no threat of physical harm associated with the access ports in composting toilets. Additionally, he pointed out that there are child safety devices already in place for products like the one his company manufactures.

J. Cooper agreed that compost is not a hazardous material, and stated that this material should not fall under the concern of access ports. Steve Williams agreed that compost toilets do not represent hazardous areas where unauthorized/unintended intrusion could be dangerous. However, this opinion is based on his experience with the two products that NSF has certified, and he stated that the standard should anticipate other approaches and technologies, and thus should have access port requirements.

**Motion:** J. Bell moved that the task group on access ports be assigned to develop a separate requirement for NSF/ANSI 41 than that for NSF/ANI 40, 46 and 245. M. Wilkinson seconded.
**Discussion:** J. Cooper stated that language in draft was developed in an attempt to be as non-technology specific as possible. It incorporates language from OSHA and MSHA standards on protecting people from hazards.

S. Berkowitz asked for an update on the status of the previous ballots addressing access ports. S. Kozanecki clarified that any new language would be a separate ballot from that previously developed.

**J. Bell modified his motion.** He instead moved that the task group on access ports be assigned to develop language for NSF/ANSI 41 and 46 separate from that to be developed for NSF/ANSI 40 and 245. M. Wilkinson seconded the revised motion.

**Vote:** All in favor.

*Motion carries.*

The Committee then reviewed the recommended language put forth by the task group. J. Cooper offered clarifications and explanations on what the language meant.

Additional members volunteered to participate on the task group, including T. Konsler, Ted Meyers, Gary Tucker, Greg Graves, K. Sherman, and Doug Hardesty. It was also suggested that a representative from Clivus be solicited.

**Field Performance Evaluation**

D. Alexander gave the background on the development and progress of the task group. Over the past year, the task group held six conference calls. He summarized their progress, stating that while the group initially debated whether the requirements should be a protocol or a standard, at this point there is some agreement that it will be a protocol without acceptance criteria. One of the requirements is that the system must be certified or previously tested (and passing) NSF/ANSI 40 (or currently undergoing testing) or has undergone ETV review. The group has settled on twenty homes (based on statistical analysis done by J. Heltsche), selected by NSF from a larger pool of homes provided by the manufacturer. He explained that it still needs some further statistical elements. The task group would like to finish the draft within six months.

J. Bell asked if E. Dietzmann would join the group. He stated that he is still tentative about the legal implications involved in the solicitation of homeowners. E. Dietzmann agreed to participate.

The Committee reviewed the draft protocol provided. They further discussed the selection of homeowners. The criteria that the group was considering are proper maintenance, no history of abuse, and permission to enter the property to collect samples. The Committee also reviewed the temperature distribution map that the task group used. Further discussion took place on sampling (whether grab sampling or composite sampling was more appropriate).

Additional volunteers for the task group included: K. Sherman, G. Tucker, John Payne, Mary Clark, and Randy Chelette. Jason Churchill stated that he would be replacing Sam Carter.

**Tire Chips**

M. Hoover explained that although there is a desire to utilize these chopped recycled rubber tire chips as a substitute for on-site systems, there are no national standards regulating characteristics required for effective use in this manner. Regulatory agencies have concerns regarding required chip sizes and wire extensions specifications. Because many tires include steel belts that, when chopped, extend out as wires from these chips, there is a need for standard size and for measuring wire protrusion length on the tire chips. He previously proposed that a standard be developed to set criteria for size, wire protrusion length, and fines, and to come up with a method for measuring wire length. A task group was created with this charge.

B. Bastian asked if there was a basis for any of the requirements that have been set across the states that do have regulations. S. Berkowitz stated that there has been some testing done in North Carolina to substantiate their requirements. J. Blount pointed out that TCEQ has a department on tire recycling. J. Blount agreed to call
by the following week to find out whether someone from there would participate on the task group. Dave Shepens agreed to get the name of the tire chipper in Delaware who has been approved by the following week.

M. Corry asked if there were a possibility that such a standard could be expanded to gravel. J. Cooper recommended against trying to take on the gravel issue. J. Blount stated that he is unsure that a standard for gravel will have an effect since there are not regulations in place. This is not the case with tire chips since they are newer in the industry. D. Alexander disagreed and stated that as the industry matures, a national standard will develop. He suggested that if a national standard existed, regulators would eventually start to comply.

M. Hally asked about leachates from the tire chips. M. Hoover stated that extensive leaching studies have been done to address this point. M. Hally pointed out that carbon leaching could be an issue worth more investigation.

**Motion:** M. Corry moved that either a task group develop a separate gravel standard and protocol for evaluation and/or it be added to purview of the tire chip task group.

**Discussion:** J. Cooper stated that there are many places that do not have reasonable economic access to materials. Therefore, the economic impact of such a requirement could be disastrous. S. Berkowitz recommended addressing this issue. T. Konsler recommended adding other alternative aggregates, but K. Sherman argued that the group should not divide its attentions at this point.

**Vote:** 5 in favor, 10 opposed, 4 abstain.

*Motion fails.*

**Onsite Sewage Facility Structures**

J. Blount provided an update of the status of the draft that was submitted at the 2006 meeting. He clarified that the intent is to address water tightness and structural integrity of tanks. Some discussion took place within the task group on what should be tested. The group decided to limit the scope to tanks. Discussion also took place on the logistics of testing the tanks, including frequency and how many to test. Two different views were offered: 1) a standard where tanks are tested and would receive a removable mark in case the standard was not met, and 2) a standard for the process of testing the tanks. It was pointed out that there is an EU standard that has good methods for testing different tanks that may be helpful.

A question was raised regarding whether other standards already address this issue. J. Blount clarified that he is concerned that the other standards do not require testing of the process. His concern, which he believes will be addressed by this standard, is verification. C. Locker explained that a test of water tightness would require testing of every tank. J. Blount explained that an audit process could be used for verification rather than testing every tank. The group discussed the cost of the proposed testing.

S. Berkowitz informed that North Carolina is attempting to update their regulations in this area. Their notion is to require third party certification of every tank, requiring the manufacturer to submit a report from the auditor. T. Konsler explained that Orange County, NC has an optional program where tank manufacturers can opt for leakage testing at a facility and mark the tanks as pre-tested. However, he stated that all tanks must be tested. J. Blount stated that this was also the case in Harris County, TX.

J. Cooper asked if the regulators would make use of a certification program for tanks if it existed. All replied in favor of this idea.

J. Blount stated that his 6-month goal for the task group is to send a draft to the JC for a straw vote (to obtain information/comments). The 12-month goal is to have a draft standard to look at for next meeting. M. Hoover charged J. Blount with meeting within the month with NSF to identify the barriers in moving forward.

New volunteers for the task group included: T. Terry, G. Tucker, and Jim Meyer.

**Septic Tank Effluent Filters**

T. Konsler provided an update on the progress of this task group over the past year. Last year, the JC agreed to ballot the dual bead size language. Since the approval of the new language, there has been a considerable
reaction from filter manufacturers who object to the requirement, citing that filters will not pass the test as written (for 1/16” beads) without a significant redesign of their products. T. Konsler stated that this is the first item up for discussion. The second issue is to improve the standard and develop a more realistic protocol.

J. Cooper asked for an explanation of what problem with the current bead test language is. T. Konsler explained that manufacturers are concerned because they have observed that with flow rate of 11 gpm and the turbulence generated in a small tank during testing, the force is great enough to push beads through if there is any flexibility in the filter being tested. Ted Meyers confirmed this concern based on his testing.

S. Berkowitz explained that the flow rate of 11 gpm was obtained by doubling the peak flow of 5.5 gpm. He stated that it was never questioned before because it was not an issue with the old test protocol. On the last conference call, the group decided that a flow rate of 4 gpm was probably more appropriate. Also at the last conference call, the manufacturers stated that testing to the 1/8” guidelines was not useful because the requirement of most states is that the filter achieve a 1/16” rating. T. Meyers explained that filters with slots made to nominal 1/16” slot size can pass the 1/8” test, but then would design the filters differently (originally they were designed to the 1/16” specification because this size has crept into many of the codes).

When asked whether any manufacturers had gone through this test at NSF, Steve Williams confirmed that no filters had been tested to the new standard.

Gary Koteskey stated that there is a need for real world testing and suggested that the task group focus on that. John Blount recommended adjusting the standard to include a real-world test.

**Motion:** J. Blount moved that a third category of beads be added to the standard (3/16”) and that the other language remain unchanged. Theo Terry seconded.

**Discussion:** S. Berkowitz offered a friendly amendment that would eliminate the 1/16” requirement and mention of slot size, and test only using 1/8” size beads. This proposal was met with resistance due to the fact that in the current language, 1/8” slot size is already an option.

Greg Graves asked if the intent of motion was to leave filter manufacturers listed while this issue is resolved. J. Blount confirmed his intent, and denied the friendly amendment. M. Beckwith recommended instead that the current language be withdrawn.

J. Cooper stated that it is problematic that J. Blount’s recommendation cannot be implemented by 2008, when the current language will be implemented. G. Koteskey asked for clarification that the new classifications specifying bead size used would be on products after the implementation of the new language. S. Williams confirmed that all filters must meet the current language by January 1, 2008.

S. Berkowitz asked if a change in the flow rate would help in this issue. T. Meyers estimated that at a 4-gpm flow rate with 0.090” beads, the test would be reasonable. However, it was argued that if the flow rate were only 4 gpm, the deformation would not be a problem, and beads of the specified 0.070” should also not pass. Adrian France reminded the Joint Committee that turbulence has a very large effect, so there are in fact three issues to watch.

T. Konsler stated that his six-month goal is to bring a real life sewage rough draft to the task group for a straw vote, and in twelve months to have something for a straw vote at the JC. S. Williams stated that he believed the timeline to be unrealistic. He stated that he would rather remove the 1/16” bead protocol and instead include a maximum size tolerance in the openings of the filter (test by dimensioning). If the goal is to keep filters certified, S. Williams maintained that this might be a feasible way to do so.

**J. Blount withdrew the motion.**

**Motion:** S. Berkowitz moved to test the opening size of filters using dimensioning with a micrometer rather than beads. There was no second.

T. Konsler pointed out that one limitation in this recommendation is that the space and integrity between the filter and the casing cannot be tested in this way.
Motion: J. Cooper moved that the JC request that NSF suspend the bead test portion of the standard for six months until a new test media can be developed. M. Beckwith seconded.

Discussion: Overall, all members present were aware that there are problems with the current iteration of the requirements. However, it was believed that if manufacturers have done work to meet standard it would be unfair to make a change at this point. This is especially the case since the implementation date is looming. The Joint Committee expressed a concern with going back to the previous requirement and giving the impression that they are flip-flopping.

Vote: 2 were in favor, 11 opposed, 6 abstained.

Motion defeated.

Motion: T. Konsler moved that the JC direct the task group to pursue the development of a sewage surrogate evaluation. J. Blount and John Cooper seconded.

Discussion: Don Alexander questioned the meaning of the motion and what the timeline would be. He expressed concern that this will take some considerable research and time and testing of the protocol. He also stated that it would require criteria to be set as a pass/fail limit since an absolute was likely not feasible.

D. Alexander asked if would be appropriate to seek a grant from WERF. M. Hoover cautioned that grants involve much work and only come together if someone agrees to do the work. If someone was willing, though, WERF has open solicitation. However, the timeline for accomplishing that is long-term. S. Berkowitz stated that Mary Strawn (WERF) indicated an interest in this topic at WERF. Also, it was pointed out that Matt Byers (task group member) has a good working relationship with WERF. M. Hoover stated that regardless, if the goal is to get a grant, it must become a 12-month goal, and then the other goals of the task group would have to be even longer term.

T. Bruursema expressed an interest in having the task group pursue developing and testing a protocol. In the future, he stated, it may be appropriate to submit a proposal, but in the meantime, the task group should look to develop something, and bring the unknowns to be solved through a grant or some other process.

Vote: all in favor.

Motion carries.

Additions to the task group included: T. Terry and Mike Hornback.

Onsite Water Reuse

J. Bell presented on behalf of B. Rubin, the task group chair. He stated that the task group had held six conference calls during the past year. J. Bell presented the conclusions that the task group had come to regarding the scope. He stated that the vision of the task group is that the standard would be for residential systems and that it would be a performance standard, with the uses of the water determining the quality required. The important components of the standard as the task group has identified them are:

1. Redundancy
2. Monitoring elements
3. Performance
4. Signage and labeling
5. Management of technology
6. Test frequency

M. Hoover provided a hard copy of the description of Guildford County School, which is using a water reuse system. He asked the manufacturers to comment on whether they see value in a standard for 1) treating wastewater for recycling and 2) treating storm water for recycling. For the former, ten were in favor of seeing a standard developed. J. Bell commented that would not be difficult for a manufacturer that currently meets
NSF/ANSI 40 to tweak their product to meet the current requirements of the “restricted use” category. Regarding treatment of storm water for recycling, none were in favor.

S. Berkowitz asked whether there was a need to have a separate system to handle gray water for reuse purposes. J. Blount indicated that there would be a high BOD level, but that the concentration of soaps is high such that systems have difficulty meeting the requirements. J. Cooper stated that the task group should consider particle sizes not compatible with what is expected for NSF/ANSI 40 systems. Therefore, a change in influent characteristics would be warranted from those of Standard 40.

Motion: J. Bell moved to charge the existing task group with looking at gray water for onsite water reuse. John Blount seconded.

Vote: All in favor.

Motion carries.

Participants who asked to be added to the task group were: G. Tucker, J. Meyer, Ingo Shaefer, and E. Dietzmann.

Gravelless Trench Systems

T. Stevens presented data from the validation study conducted over the past year. He showed the data collected on ponding, total nitrogen, ammonia, and fecal coliform levels. He reminded the Committee that statistical work had been done at North Carolina State University indicating that there might be issues with way cells were set up (arrangement of trenches) in the study relating to soil property variation. However, the testing indicated that there is a discernable difference between gravel-laden and gravelless system, which is the question that the study set out to answer.

T. Stevens stated that the question that remains is whether ponding is an appropriate pass/fail criterion, or should other performance criteria be used. He stated that some other data was collected, which indicated that the formation of a biomat might enhance fecal coliform reduction.

T. Bruursema clarified that the validation study set out to show that one could identify distinguishable differences between test and control products, which, he iterated, was in fact demonstrated. He acknowledged that the protocol does need some revisions at this point. The task group, however, would like to know whether they on the right track. The task group would like to move this to ballot, but before that would like to get input on appropriate pass/fail criteria. T. Stevens pointed out that ponding levels appear to be cyclical, so there remains a question of whether that is relevant.

Mike Corry explained his ideas expressed at last task group conference call, namely that this has developed into a protocol that could be used to test the treatment quality of the treatment train (pre-treatment, drain field products, trench designs, etc.) because it includes collection of wastewater at the end. He suggested that the Committee expand the purpose and scope. He explained that there are remaining issues with the proposed protocol, including that it compares manufactured products to unstandardized controls, which he maintained is unreasonable at best. He opined that time to failure is a more appropriate pass/fail criterion. He stated that what is needed is a mechanism closer to what exists in state regulations. T. Terry added that if this protocol is to be valuable, the geometry should be less constrained.

M. Corry stated that one way to improve the protocol is to set up serial trenches with small, similarly sized segments, and to measure ponding development along trench. This would allow relative efficiencies to be indexed. He stated that the purpose is to determine relative performance, not failure.

The JC discussed appropriate controls. T. Bruursema stated that precision in controls is not attainable. Rather, he stated, the Committee should look at the protocol realistically as a relative performance comparison rather than an absolute control. The task group set out intending to measure the gravelless technology’s claim of performance comparable to gravel-laden trenches. Therefore, it must be determined how gravel-laden trenches are expected to perform and make that the criteria for the gravelless.

K. Sherman recommended the term “alternative drain field product” and “coarse aggregate” in replacement of the word “gravel” since it is a very specific term. J. Cooper suggested making the C-33 gravel the standard. Since
that is a broad standard, it was recommended that some tighter specifications for particle size be made within that.

J. Blount stated that if this protocol sets pass/fail criteria, it should incorporate stress testing, for experience says that a products fail when levels get high. J. Bell stated that ponding is a major issue, and further, surface area is an important component. D. Alexander stated that the original thought was that ponding time does indicate time to failure. T. Bruursema clarified that it is sustained ponding that is of concern. M. Corry agreed, and stated that some codes induce early ponding under the theory that ponded systems provide better treatment. Therefore, he stated that 1-2" of ponding is not failed system. Instead, ponding must be high and sustained to draw that conclusion.

The Committee continued to discuss the effects of ponding, whether it is a good indicator of failure, and whether it is fair to compare ponding between gravelless and gravel-laden trenches. T. Bruursema stated that while the criteria would ideally be time to failure, that would be cost-prohibitive. Therefore, what the protocol needs to address is the question of how to accelerate failure. J. Cooper stated his support for the idea that when a drain field reaches 50% volume, it would be considered failing. S. Berkowitz argued that the problem is in the comparison. If 50% fill volume is the criterion, the question is how much wastewater can it accept after that point. D. Alexander supported the idea of short trenches loaded serially, which M. Corry had earlier posed. He stated that the results could be related back to rate tables for comparison.

When asked, the JC was generally in favor of moving forward. D. Alexander stated that there is value in a certification program.

VI FORUM UPDATES

Regulatory Forum

J. Blount provided a brief update on the discussion at the Regulatory Forum. He informed the Committee that he had been designated the chair of the Regulatory Forum. T. Konsler will serve as the vice chair.

Industry Forum

Jim Bell was elected chair at the earlier Industry Forum meeting, and Kevin Sherman was elected vice chair. J. Bell explained that an issue paper was discussed, which resulted in a motion to form a task group to work with NSF to develop language for NSF’s certification policies regarding replacement parts. He stated that these policies dictate NSF certification, but not the standard.

J. Bell explained that there was some concern over the fact that products are sometimes used in the field differently than they are tested. He stated that the Forum would be further investigating that issue. The group’s goal is to ensure that what is tested is what is produced and sold.

VII INTERPRETATION REQUEST

David Presby gave the Joint Committee some background and history of Presby Environmental, Inc. and their product. He gave a demonstration of his product and stated that the purpose is to cool the influent to ground temperatures while allowing to settle and also to create a favorable surface for a biofilter to form. He stated that his product had been tested to the requirements in NSF/ANSI 40 and has met the requirements of the standard. Since the initial testing, the results of which were presented, the product has been adapted to meet the standard in the time required.

D. Presby described the installation process for his product. He indicated that the installation of the product in the field requires adding about 8 inches of sand in the bottom of the liner to hold it in place. The sand that is added meets the requirements of ASTM C-33, which they test so that less than 2% passes through during the sieve test to achieve more uniformity. However, David later explained that they had done testing to verify that the sand that does not do any of the treatment. Presby Environmental also requires installers of their systems be certified by the company to do so.

In order to meet the requirements of NSF/ANSI 40, the technology does have a single outlet point. It was previously designed to provide more distribution.
Mike Hoover instructed the Joint Committee that the question that must be answered is: does the Joint Committee agree that this system falls within the scope of NSF/ANSI 40, as demonstrated with the barrier installed and one point of output?

**Motion:** Bob Bastian moved that this technology be accepted as meeting the scope of NSF/ANSI 40. Don Alexander seconded.

**Discussion:** It was mentioned that there was formerly a task group to address this type of technology. D. Jumper questioned how to address infiltration/exfiltration in this type of technology since if it is open, the effluent would be diluted by rain and/or ground water. D. Presby confirmed that the testing at BNQ was done under real-world conditions (rain would have been accessible).

Tom Bruursema expressed his concern that what is in question is not whether this meets the scope as it is currently written, but rather if technologies like this should be included in the scope. John Cooper explained that his concern is that there not be a requirement for this technology that is not required for others. Randy Chelette stated his opinion that the technologies should be installed and used in the same manner that they are tested. The group discussed the certification of peat systems. Mike Wilkinson suggested that there be another standard to address this technology since NSF/ANSI 40 is for manufactured systems. John Blount suggested that the previous task group be assigned to address the issues that this technology type brings up.

**Vote:** 15 in favor; 3 (J. Bell, Josh Meyer, and Trent Lydic) opposed. 1 abstained.

**Motion carries.**

**Motion:** J. Cooper moved to reactivate the previous bottomless/topless task group to address this issue. J. Blount seconded.

**Vote:** All in favor (2 abstentions).

**Motion carries. New volunteers were solicited. Task group members include:** J. Blount (chair), J. Bell, G. Tucker, J. Cooper, J. Payne, T. Cormier, R. Chelette, T. Konsler, S. Berkowitz, A. Blodig, M. Clark, T. Lydic, and D. Presby.

Steven Berkowitz commented that this technology is unique in that it allows rainwater in. He expressed his concern that the current requirements do not address this issue. T. Bruursema suggested that the task group address this very issue.

**Motion:** J. Bell moved to recommend that NSF defer recognition of this technology until after the task group has reached a conclusion. J. Cooper seconded for purpose of discussion.

**Discussion:** J. Blount agreed that rain would make a difference in test outcomes. D. Presby stated that while it would not be impossible to put a cover to protect the trench during testing, no weather effects were seen, even from frozen systems.

J. Cooper stated that the test procedures and requirements are fairly clear. For example, there are requirements that address infiltration/exfiltration. He posited that waiting until these issues are resolved is an unfair requirement. He stated that the NSF laboratory should address technical issues surrounding testing, and the technology should not have to be delayed to enter the market due to these issues.

S. Berkowitz stated that rain would have to be prevented from entering at the test site. J. Churchill asked the Committee to consider the differences between this technology and other products to determine whether only 6 months is an acceptable time period since the hydraulics of the system are dependent upon soil. He stated that the question is whether the treatment function depends on cyclic rising and falling.

**Vote:** 7 in favor, 7 opposed. M. Hoover voted in opposition to break the tie.

**Motion fails.**
The goals of this task group are in 3 months to have a proposal to be balloted to the Joint Committee.

VIII ACTION ITEMS

Technical Components (Josh Meyer)

Josh Meyer stated that the intent of his presentation was to recommend that there be a protocol to evaluate the technical components of a septic tank separate from the system. He explained that the request for the Joint Committee is that the language in Standard 40 be amended to allow for certification of technical components alone while setting basic guidelines for the container.

Josh Meyer explained his technology and how it works. He also explained that there is an EN standard (a copy of the proposed standard was provided for JC reference, however, members were asked not to redistribute it).

**Motion:** J. Cooper moved that:

1) the Peka system proposal be found not to be in compliance of NSF/ANSI 40. J. Bell seconded.

2) the JC appoint a task force to create a new standard to address certification of technical components and retrofit applications. J Bell seconded.

**Discussion:** T. Bruursema stated that there are manufacturers who bring technical components for certification, then spec out a tank and other necessary components for certification purposes. He also stated that NSF cannot say under Standard 40 that the responsibilities of meeting certain aspects of the standard fall upon another manufacturer (as would be the case if components would be certified separately). S. Berkowitz suggested that Peka/Wissman should approve manufacturers to supply the other integral parts. J. Blount argued that people are treating components as separate entities. Therefore, he stated that NSF should provide guidance for which components should be supplied and what can be separate. In Texas, he stated that a system wouldn’t get approval unless NSF certifies it with a tank.

J. Cooper stated that he phrased his motions such that other retrofit products are also addressed. He argued that there is a need for certification of components and this should not be ignored, but they do not fall under the scope of Standard 40.

**Vote:**

1) All in favor, (K. Sherman, E. Dietzmann, and M. Hoover abstained).
2) J. Bell opposed, J. Blount, M. Hoover and D. Shepens abstained.

*Motions pass. A component/retrofit task group was formed. Volunteers included: J. Cooper (chair) J. Bell, Trent Lydic, R. Chelette, M. Corry, B. Bastian, and Josh Meyer.*

J. Cooper stated the goals of this task group, which are:

December 2007: provide the Joint Committee with a description of the scope;

February 2008: create an initial draft of the basic standard;

June 2008: circulate to the Joint Committee a draft standard for retrofit components.

Chlorine Disinfection Requirements

D. Jumper stated that actual influent wastewater temperatures, fecal concentrations and concentrations of ammonia encountered in field applications for treatment units frequently and/or seasonally exceed the narrow ranges cited in a number of geographic zones wherein it is reasonable to expect application of Standard 46 certified units. He stated that he was seeking direction from the JC because it was unclear what the intent was when these requirements were adopted. D. Jumper also explained that meeting the temperature requirements may require the purchase of a chiller at the test site to chill the effluent to keep it in the range allowable under the
J. Blount stated that he did not recall discussing temperature when the parameters were up for adoption. He believed that the range was taken from another standard or protocol (possibly the Spa and Pool Equipment Standard, NSF/ANSI 50).

T. Bruursema offered clarification that the test is possible as written, but it would not be without a higher cost to manufacturers. Therefore, he suggested that the JC decide whether temperature is a critical factor. If it is, he recommended that the current range be maintained. If it is found to be not critical, however, he suggested broadening the range as D. Jumper suggested in order to keep the cost more reasonable.

The JC discussed the ammonia range. It was stated that some ammonia is necessary to decrease the chlorine demand; however, caution is needed since interactions between ammonia and chlorine at some level can create carcinogens.

**Motion:** J. Blount moved that the temperature range be expanded per the recommendation (42-86 F). Kevin Sherman seconded.

**Vote:** J. Meyer opposed. E. Dietzmann, B. Bastian, M. Hoover abstained.

*Motion carries. The language will be balloted.*

J. Meyer stated that he would like to see more investigation into the effects of temperature change.

**Motion:** J. Blount moved to accept the recommended range for ammonia from the current requirement of \( \geq 2 \text{ mg/l}\) to \( \geq 4 \text{ mg/l}\). J. Cooper seconded.

**Discussion:** J. Meyer stated that he would like to see more investigation into effect of this change. S. Williams stated that Tom Stevens had done a review of data on nitrogen removal technologies, which revealed that there is not much in the way of systems that can produce an ammonia level less than 4 mg/l. He expressed his desire to avoid choosing a number that cannot be met without scientific data to support such a change. D. Jumper stated that disinfection units should be able to handle the effluent required by NSF/ANSI 40.

J. Bell recommended taking ATUs and feeding the units something that reduces nitrification, at which point the technologies can meet the limits. J. Blount argued that the intent was that the requirements be representative of NSF/ANSI 40 effluent criteria; if this is not, he opined that the requirements should be re-evaluated.

J. Cooper stated that he was less supportive of broadening the ammonia range only because of its potential impact on a technology’s ability to pass a test. K. Sherman suggested that data from testing to NSF/ANSI 245 be used to determine an appropriate ammonia range. D. Jumper clarified that those tests have mechanisms to achieve that reduction, where the test protocol in NSF/ANSI 40 does not. Calvin Locker stated that he would be in favor of broadening the range since it would be more indicative of field applications where the range would naturally be much broader.

**Vote:** 5 were in favor, 6 opposed. 7 abstained. A majority was not found to be in favor of the motion.

*Motion defeated.*

**Motion:** T. Terry moved to send the issue of influent ammonia concentration range to a task group for further development. J. Cooper seconded.

**Amendment:** J. Cooper moved to amend the motion, adding fecal coliform.

**Vote:** All were in favor of the amendment.

**Vote:** All in favor.
Motion carries. A task group was formed, including the following volunteers: D. Jumper (chair), Greg Graves, J. Meyer, J. Blount, R. Chelette, M. Clark, and B. Bastian.

Stress Testing

S. Williams presented the language provided by M. Price, which clarified that section 8.5.1.5 of NSF/ANSI 40 should read:

“During the stress loading sequence, consisting of wash-day, working-parent, power/equipment failure, and vacation stress loading periods, data shall be collected from a minimum of ⅔ of the total scheduled sampling days and from at least 2 of the scheduled sampling days during any single stress loading recovery period.”

Motion: K. Sherman moved to accept language as drafted. J. Cooper and J. Blount seconded.

Vote: All in favor.

Motion carries.

Proportionality of Pre-treatment tanks

T. Stevens stated that NSF had recently received a question regarding size of pre-treatment tanks. Manufacturers have been contacting NSF, requesting that a range of sizes be allowed because some states (for example, Oregon) is requiring pre-treatment tanks of a different size than what they were tested with. T. Stevens stated that the question for the JC is whether there a size at which the pre-treatment tank can become detrimental to performance.

Motion: S. Berkowitz moved that a trash tank in front of an NSF 40-compliant unit being as large or larger in hydraulic capacity not jeopardize the NSF certification. No second was received.

Discussion: S. Berkowitz stated that data does not show that systems with larger tanks have detrimental effects on performance. C. Locker agreed, citing testing over years that has not indicated that larger (up to 1000 gallons) does not create detrimental effect until it gets too large. Therefore, he recommended that an amendment be made to add that the appropriate size range be determined by the manufacturer.

J. Bell officially made the recommendation for the amendment. S. Berkowitz agreed to the amendment.

T. Stevens stated that he was not comfortable with the reliance on the manufacturer to specify the appropriate range. J. Blount stated that studies show that after certain size, greater capacity does not make a difference for reduction of BOD or TSS.

J. Cooper recommended that the motion be amended to limit it to those systems that were approved by NSF with trash tanks integral in the approval. The Committee debated over whether adding a trash tank to a system approved only without trash tank is violation of standard’s requirements. S. Berkowitz accepted the amendment.

Amended motion: …a trash tank in front of an NSF 40-compliant unit being as large or larger in hydraulic capacity (in the range specified by the manufacturer) not jeopardize the NSF certification of systems certified with trash tanks integral in the approval.

S. Berkowitz clarified that the recommendation is not necessarily approving putting a trash tank in front of a treatment tank, but rather ignoring that as the purview of the state regulators. The Committee discussed how much consideration JC should give to local requirements.

S. Berkowitz withdrew his motion.

Motion: J. Blount moved that NSF continue with their current procedures and that the JC recommend that NSF place responsibility on the state requiring the change. D. Alexander seconded.

Vote: S. Berkowitz opposed, E. Dietzmann abstained.
IX NEW BUSINESS

Service and Maintenance

**Motion:** T. Bruursema moved to establish a task group to review the current prohibition in NSF/ANSI 40 of service and maintenance during testing. M. Beckwith seconded.

**Discussion:** T. Bruursema suggested that the current language impedes effluent performance by prohibiting changes and/or maintenance during testing. He asked the JC to consider that it may be possible to make changes without compromising the rigor of the test.

J. Cooper asked for clarification on whether section 8.1.7 prohibits automated adjustments. T. Bruursema confirmed that this was the case. What it specifies is that nothing can physically affect change (no human contact). J. Bell stressed the importance of ensuring that no human contact is required in making adjustments to these systems. J. Blount stated that there are already issues in enforcement of maintenance, therefore anything that adds or permits additional maintenance should be avoided. B. Bastian stated that state regulations should help put management requirements on systems.

**Vote:** J. Meyer, J. Bell, J. Blount, M. Beckwith, and T. Lydic opposed.

**Motion carries.** A task group was formed, including the following volunteers: T. Bruursema (chair), J. Cooper, J. Bell, T. Terry, R. Chelette, D. Alexander, Paul Westmaas, and Jeff Coomer.

Alkalinity issues

T. Bruursema explained that there was an instance at one test site where alkalinity caused the pH of the influent to be out of compliance with NSF/ANSI 40.

**Motion:** T. Bruursema moved that the Committee adopt the influent alkalinity characteristics of NSF/ANSI 245 into NSF/ANSI 40. J. Cooper seconded.

**Discussion:** The group generally agreed that it made sense that the same logic applied to systems tested to Standard 245 also be applied to Standard 40.

**Vote:** S. Berkowitz and J. Blount opposed. D. Alexander, M. Beckwith and M. Hoover abstained.

**Motion carries.**

X ADJOURNMENT

Review of Action Items

M. Hoover stated that the action items would be summarized in the meeting minutes. He reminded the task group chairs to provide their task group’s 6 month and 12 month goals to S. Kozanecki.

Next meeting

It was suggested that next year’s meeting be held during the first two weeks in September. The group also stated that they prefer Wednesday and Thursday (avoid Fridays). S. Kozanecki stated that she would poll the group to find out whether September 17-18th or September 10-11th was preferred.

Adjournment

G. Morris moved to adjourn. B. Bastian seconded. The meeting concluded at 2:30 pm.
Meeting Participants

Joint Committee Members

Hoover, Mike (NC State University) – JC Chair
Alexander, Don (VA Dept. of Health)
Bastian, Robert (USEPA)
Beckwith, Mike (WI Dept. of Commerce)
Bell, Jim (Smith and Loveless)
Berkowitz, Steve (NC Division Of Environmental Health)
Blount, John (Harris County Public Infrastructure Dept.)
Bruursema, Tom (NSF International)
Cooper, John D. (Cooper Consulting Engineers)
Corry, Mike (Infiltrator Systems)
Dietzmann, Elizabeth (Aqualaw, Inc.)
Henry, Clark (Environment-One Corp.)
Jones, Lyle (Delaware DNRE) by proxy: Dave Shepens
Konsler, Tom (Orange County Health Department)
Lydic, Trent (Jet Inc.)
Meyer, Jim (Norweco, Inc.)
Morris, George (Conference of Local Env. Health Admin.)
Sherman, Kevin (Quanics, Inc.)
Terry, Theo (Ring Industrial)
Wilkinson, Mike (Sun-Mar Corp.)

Joint Committee Members NOT in attendance


Observers