NSF Standard(s) Impacted: NSF 425

Background:
Provide a brief background statement indicating the cause and nature of concern, the impacts identified relevant to public health, public understanding, etc, and any other reason why the issue should be considered by the Committee. Reference as appropriate any specific section(s) of the standard(s) that are related to the issue.

At the 2013 Joint Committee meeting, I presented an issue paper and made a PowerPoint presentation on the development of NSF 425. The issues focused on were:

1. The announced policy of developing NSF 425 with protocols and standards that are less rigorous than normally expected of other NSF standards, specifically NSF 240. Both standards evaluate products that perform the same function. The rationale for a lax standard and protocol was to provide a “public good” of preserving landfill capacity by diverting construction and manufacturing wastes from regulated landfills to backyard drainfields. I maintained that the same level of rigor applied to NSF 240 be applied to NSF 425 to protect health and the natural environment. Further, that the same light level of protocol rigor and standards be applied for products serving the same purpose.
2. The failure to evaluate relative LTAR between natural and alternate aggregate.
3. The failure to evaluate individual manufacturer’s products as occurs for other standards. The issue was evaluating one example of the aggregate material that would allow all manufactures of the material type to use the NSF stamp.
4. The failure to evaluate for EPA primary and secondary drinking water pollutants.
5. The lax pass/fail standards relative to EPA-regulated pollutants.
6. The scope of application limited to gravity fed conventional systems.

The JC Chair referred the issues back to the task group for further consideration.

Some progress was made on these issues:

1. Individual manufacturer certification – I agreed, along with task group members, to the following process. The submitter of alternate material for certification of the material will need to submit a QC/QC plan acceptable to the certifying organization. All manufacturers producing the materials would be required to follow that QA/QC protocol and be subject to certifying organization audit. The purpose of the QA/QC protocol is to ensure that the products delivered to the home-site are of the same quality as the evaluated product. Individual manufacturers/suppliers would gain unique certifications and be audited by the certifying organization.
2. Relative LTAR - At the last task force meeting the Chair indicated, with the addition of fine aggregate to the standard, that relative LTAR between natural and alternate aggregate could be added to the standard. The language has not been developed yet. Elements of the protocol in
NSF 240, Section 4 for test center evaluation could be used. The issue of rigor remains open. I suggest that the same level of protocol rigor as applied to NSF 240 be maintained here (e.g., replicates, scope and duration of testing, etc.

3. The scope of the standard was expanded from gravity fed conventional systems to all systems using coarse or fine aggregate in the dispersal component.

Little or no progress was made on issues pertaining to protection of public health and the environment:

1. Use of lax standards and protocols has the following elements
   a. Failure to evaluate EPA-regulated primary and secondary drinking water pollutants;
   b. Maximum contaminant levels in Appendix A that exceed EPA MCLs. For example, the MCL for arsenic is listed in Appendix A is 5,000 ug/L. The EPA primary drinking water MCL is 10.0 ug/L. The NSF standard currently allows a concentration of arsenic that is 500 times higher than the EPA-listed MCL. *(Because Appendix A and EPA use different metric values, all concentrations are shown in ug/L)*; and
   c. There is a question about the range of contaminants listed in Appendix A. That question is if the full range of toxic substances likely to be leached from alternate aggregate are listed. With the source of alternative aggregates unknown, the list of contaminants for which testing is warranted should be broad and comprehensive.

The recent draft of NSF 425 includes fine aggregates, an addition I support. The issue of relative treatment between natural and substitute fine aggregate has not yet been addressed by the task group.

**Recommendation:**

> Clearly state what action is needed: e.g., recommended changes to the standard(s) including the current text of the relevant section(s) indicating deletions by use of strike-out and additions by highlighting or underlining; e.g., reference of the issue to a Task Group for detailed consideration; etc.

My issues are at the policy level.

The policy issues for which I would like JC guidance are:

- Recognize that the primary issues for users of alternate aggregate are:
  o Relative LTAR between alternate and natural fine and coarse aggregate,
  o Added pollution from alternate aggregate; and
- For LTAR - Require evaluation of relative LTAR between natural and alternate aggregate. For Section 2, LTAR evaluation is not reasonable because there are no fine aggregates in the test container. In Section 3, fine aggregate is present in the trenches and therefore relative LTAR can be evaluated. Three test configurations are possible relative to the control trench with natural coarse aggregate over natural fine aggregate: 1) Natural coarse aggregate over substitute fine aggregate, 2) Alternate coarse over natural fine aggregates and 3) alternate coarse over...
alternate fine aggregate. These alternatives can be accomplished by borrowing many protocol and evaluation provisions from NSF 240, section.

- For added pollution – Because some alternate aggregates may leach EPA-regulated primary and secondary pollutants, the material needs to be evaluated and standards set. A protective standard would adopt the EPA-promulgated MCLs. This issue needs to account for the fact that these systems will be used in residential subdivisions where the pollutant loads of downstream systems are added to that from the upstream systems. I suggest a conservative MCL standard, as defined by EPA MCL requirements. If NSF MCLs are higher than EPA MCLs for primary drinking water pollutants, NSF should secure formal assurances from the EPA that the elevated NSF MCL standards will create a legal safe harbor for NSF, state regulators, manufacturers of other components, designers/installers and homeowners and absolved these parties of liability related to environmental impacts from the use of certified products.

For secondary pollutants, the issue is assuring homeowners and neighbors that the use of alternate aggregate will not degrade the esthetic properties of their well water. The concern here is also to minimize the tort liability of NSF, state regulators, manufacturers of other components, designers/installers and homeowners.

**Supplementary Materials (photographs, diagrams, reports, etc.):**

*If not provided electronically, the submitter will be responsible to have sufficient copies to distribute to committee members.*

Copies of NSF 240, the most recent draft of NSF 425 and the EPA standards are available at NSF in an electronic format. I request that the JC members be provided copies.

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