TO: Joint Committee on Drinking Water Treatment Units

FROM: Bob Powitz, Chair of the Joint Committee

DATE: March 23, 2020

SUBJECT: Adjudication Ballot – Proposed revision to NSF/ANSI 58 – Reverse Osmosis Drinking Water Treatment Systems (58i89r1) and NSF/ANSI 62 – Drinking Water Distillation Systems (62i38r1)

Enclosed is an adjudication ballot for revision 1 of NSF/ANSI 58, issue 89 and NSF/ANSI 62, issue 38. Please review the changes proposed and submit your ballot by April 6, 2020 via the NSF Online Workspace <www.standards.nsf.org>.

This two-week ballot allows voters the opportunity to respond, change or reaffirm their vote based on the content of the comments contained herein. In the reference items for this ballot, included are the response letters to the comments from the three negative votes not resolved.

Voting options:

1. **Affirmative**: you are voting to accept the ballot document as it stands after your consideration of the unresolved negative comments.

2. **Negative**: You are voting to reject the ballot document as it stands after your consideration of the unresolved negative comments. Voters who change an affirmative to a negative shall cite the unresolved negative comment that caused their decision.

3. **Abstain**: You do not feel that you have sufficient information to make an informed decision on this issue.

Please note that if you do not return a vote in this adjudication ballot, your original vote will remain in effect.

At the close of this adjudication ballot, all results will be tallied to determine if the requirements for consensus have been satisfied.

**Purpose**

The proposed ballot removes the language under NSF/ANSI 58 and 62 that allows for 10% of samples to not meet the effluent requirement under the contaminant reduction protocols.
Background

Please refer to the following documents included under the referenced items with this ballot for additional information:

— Original issue paper (DWTU-2019-5)
— 2019 JC meeting summary excerpt
— Background and recommendation from the DWTU Task Group on Effluent Allowances

Issues

Negative votes were submitted by Sun Yong Lee, Shannon Murphy, and Tom Palkon. Please refer to the comments and responses under the referenced items.

If you have any questions about the technical content of the ballot, you may contact me in care of:

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NSF/ANSI Standard for Drinking Water Treatment Units –

Reverse Osmosis Drinking Water Treatment Systems

6 Minimum performance requirements

6.9 TDS reduction, recovery rating, and efficiency rating claims

6.9.1 TDS reduction claims

RO drinking water treatment systems shall reduce the influent challenge level of 750 ± 40 mg/L TDS by at least 75.0% when tested in accordance with Section 6.9.

Table 6.1
Contaminant reduction requirements

<table>
<thead>
<tr>
<th>Contaminant</th>
<th>Individual influent sample point limits1 (mg/L)</th>
<th>Average influent challenge level (mg/L)</th>
<th>Maximum Minimum allowable product water level reduction (mg/L)</th>
<th>US EPA Method(s)</th>
<th>Compound</th>
</tr>
</thead>
<tbody>
<tr>
<td>TDS</td>
<td>750 ± 20%</td>
<td>750 ± 40</td>
<td>187</td>
<td>160.1</td>
<td>NaCl</td>
</tr>
</tbody>
</table>

1 Equals average influent challenge concentration variability plus one of the following, in order of availability:

1. Acceptable continuing calibration verification (CCV) limits stated in the appropriate US EPA Method.
2. Acceptable spike recoveries as stated in the appropriate US EPA Method.

7 Elective performance claims – Test methods

7.1 Chemical reduction claims

Claims for the reduction of additional specific contaminants may be made by the manufacturer when tested in accordance with this Standard.

7.1.1 Volatile organic chemical (VOC) reduction claims
Systems with carbon filters downstream of the permeate storage tank shall be tested in accordance with NSF/ANSI 53. VOC reduction for nonintegral carbon filters downstream of the RO membrane shall be tested in accordance with Section 7.1.1.1 or 7.1.1.2.

NOTE — Each unique model designation shall claim a capacity no greater than the least reduction capacity that has been verified through testing to NSF/ANSI 42, NSF/ANSI 53, or NSF/ANSI 58 section for VOC reduction.

Claims for chemical reduction may be made for a group of VOCs and other organic chemicals shown in Table 7.1 when tested in accordance with Section 7.1.1. The system shall reduce the arithmetic mean of the influent challenge concentration of chloroform at 300 ± 30 µg/L at each sample point by at least 95.0% when tested in accordance with Section 7.1.1.

NOTE — The use of chloroform as the surrogate is limited to systems using an activated carbon filter component to accomplish the VOC reduction.

7.1.2 Inorganic chemical reduction claims

Claims for inorganic chemical reduction may be made for the specific contaminants shown in Table 7.2. To qualify for a specific contaminant reduction claim, the system shall reduce the level of the contaminant from the influent challenge level so that the arithmetic mean of all product water sample results and 90% of the individual product water samples is less than or equal to the maximum allowable product water concentration in Table 7.2 when tested in accordance with Section 7.1.2.

7.1.3 Nitrate / nitrite reduction claims

Claims for nitrate / nitrite reduction shall be tested at a system pressure applicable to the intended end use in accordance with Section 7.1.3. To qualify for a nitrate / nitrite reduction claim, the system shall reduce the level of the contaminant from the influent challenge level so that the arithmetic mean of all product water sample results and 90% of the individual product water samples is less than or equal to the maximum allowable product water concentration in Table 7.3.
NSF/ANSI Standard for Drinking Water Treatment Units –

Drinking Water Distillation Systems

7 Elective performance claims – Test methods

Claims for the reduction of additional specific contaminants may be made by the manufacturer when tested in accordance with this Standard.

7.1 Inorganic chemical reduction claims qualified by TDS surrogate testing

Based on the study Evaluation of Total Dissolved Solids as a Surrogate Parameter for the Reduction of Inorganic Contaminants by Distillation Systems, conducted for the Water Quality Association by NSF International, 1991, TDS may be used as a surrogate for verifying the reduction of arsenic, barium, cadmium, chromium, copper, lead, and selenium to equal to or below the MCL when tested in accordance with Section 6.1.5 and achieving a minimum TDS percent reduction of 99.0% (see Annex A for rationale and supporting data.)

7.2 Inorganic chemical reduction

Claims for inorganic chemical reduction may be made for the specific contaminants shown in Table 7.1. The system shall reduce the level of the contaminant from the influent challenge level so that the arithmetic mean of all effluent concentration results and 90% of individual effluent concentration results are less than or equal to the maximum effluent concentration in Table 7.1 when tested in accordance with Section 7.2.

7.4 Microbiological reduction

7.4.7 Acceptance criteria

The number of B. atrophaeus colony forming units per mL recovered in TSA from the effluent samples shall indicate a minimum 6.00 log reduction from the influent sample concentrations at each sampling point.

Rationale: Removed the language under NSF/ANSI 58 and 62 that allows for 10% of samples to not meet the effluent requirement under the contaminant reduction protocols, as this was inconsistent with the requirements for filter products and deemed inappropriate. The task group formed at the 2019 DWTU JC meeting has confirmed that this will have minimal impact on certified products.