TO: Joint Committee on Drinking Water Treatment Units

FROM: Dr. Robert Powitz, Chair of the Joint Committee

DATE: October 28, 2022

SUBJECT: Proposed revisions to NSF/ANSI 42: *Drinking Water Treatment Units – Aesthetic Effects* (42i121r1)

Revision 1 of NSF/ANSI 42 issue 121 is being forwarded to the Joint Committee for consideration. Please review the proposal and **submit your ballot by November 18, 2022** via the NSF Online Workspace <www.standards.nsf.org>.

When adding comments, please identify the section number/name for your comment and add all comments under one comment number where possible. If you need additional space, please use the attached blank comment template in the reference documents and upload online via the browse function.

Purpose

The proposed revision will update the general influent challenge test water characteristics as endpoint values instead of values maintained throughout the entire test.

Background

An issue paper requested adding clarity to Section 7.3.1.5.1 (general test water for the influent challenge for chemical reduction testing), based on customer feedback. The changes reflect that it is not possible to maintain 200-500 mg/L TDS from sodium chloride when the challenge for chloride is adjusted using sodium chloride and has an influent requirement of 800 mg/L.

These changes do not affect the other characteristics listed in Table 7.1, and a note was added to Table 7.1 for clarity that the values in Table 7.1 are the end target.

Please refer to the original issue paper (DWTU-2022-3) under the referenced items for additional background information.

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

Dr. Robert Powitz
Chair, Joint Committee on Drinking Water Treatment Units
c/o Monica Milla
Joint Committee Secretariat
NSF International
Tel: (734) 214-6223
Email: mmilla@nsf.org

[Note – The recommended changes to the standard which include the current text of the relevant section(s) indicate deletions by use of ~~strikeout~~ and additions by gray highlighting. Rationale statements are in *italics* and only used to add clarity; these statements will NOT be in the finished publication.]

NSF/ANSI Standard
for Drinking Water Treatment Units –

Drinking Water Treatment Units – Aesthetic Effects

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7 Elective performance claims – Test methods

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7.3 Chemical reduction testing

7.3.1 Chemical reduction claims

Claims for chemical reduction may be made for the substances shown in Table 7.1 when tested in accordance with Section 7.3.1. To qualify for a specific chemical reduction claim, the system shall reduce the concentration of the substance from the influent challenge so that, prior to the 100% sample point, 90% of the product water sample concentrations are less than or equal to the maximum product water concentrations in Table 7.1. Samples collected at the 100% sample point shall be less than or equal to the maximum product water concentrations in Table 7.1.

NOTE — Table 7.1 displays the final concentrations to which the contaminants are to be adjusted.

Table 7.1
Chemical reduction requirements

Contaminant	Average influent challenge concentration	Individual influent sample point limits[1]	Maximum product water concentration[2]	Compound
chloride	800 mg/L ± 10%	800 mg/L ± 20%	250 mg/L	sodium chloride
foaming agent	5 mg/L ± 10%	5 mg/L ± 30%	0.5 mg/L	linear alkylbenzene sulfonate (LAS)
sulfate	800 mg/L ± 10%	800 mg/L ± 20%	250 mg/L	sodium sulfate
TDS	1,500 mg/L ± 10%	1,500 mg/L ± 25%	500 mg/L	sodium chloride

[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.
3. Opinion of laboratory professionals – No guidance available in US EPA Method.

[2] Not all secondary substances are listed in this standard because they are not normally found in drinking water or are not affected by drinking water treatment systems. Hydrogen sulfide and phenol are listed because they are found in water and may be aesthetically displeasing.

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7.3.1.5 Influent challenge

7.3.1.5.1 General test water

A public water supply ~~shall be used~~ with the following specific characteristics ~~maintained throughout the test~~ shall be used.

pH	7.5 ± 0.5
temperature	20 ± 3 °C (68 ± 5 °F)
TDS	200 to 500 mg/L
TOC	≥ 1.0 mg/L [1]
turbidity	< 1 NTU

[1] If naturally present in source water at adequate concentration. Adjustment of TOC is given in Section 7.3.1.5.4.

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Rationale: Updates Section 7.3.1.5.1 and adds a note for Table 7.1 to reflect that it's not possible to maintain 200-500 mg/L TDS from sodium chloride when the challenge for chloride is adjusted using sodium chloride and has an influent requirement of 800 mg/L.