TO: Joint Committee on Wastewater Technology

FROM: Dr. Robert W. Powitz, Chairperson

DATE: April 10, 2023

SUBJECT: Proposed revisions to:
NSF/ANSI 40: *Residential Wastewater Treatment Systems* (40i51r2)
NSF/ANSI 245: *Wastewater Treatment Systems – Nitrogen Reduction* (245i32r2)

Revision 2 of NSF/ANSI 40, issue 51 and NSF/ANSI 245, issue 32 is being forwarded to the Joint Committee for consideration. Please review the proposal and submit your ballot by **May 1, 2023** via the NSF Online Workspace <www.standards.nsf.org>.

Please review all ballot materials. When adding comments, please include the section number applicable to your comment and add all comments under one comment number whenever possible. If you need additional space, please use the attached blank comment template in the reference documents and upload online via the browse function.

Please note that your last recorded vote from any previous ballot draft revision(s) will not be carried forward. Please respond affirmative, negative, or abstain to the content of this revision. Comments on any prior revision(s) will not be carried forward.

Purpose
This ballot will add language allowing for scale down in NSF/ANSI 40 and 245.

Background
The issue proponent states that the WWT standards allow for scale up but not scale down. This can limit innovation and accommodation of new vessels that may have treatment capacities less than the tested model. For example, a manufacturer tests a 600 GPD system and later develops a new 450 GPD model. It seems unreasonable and overly burdensome to have to retest a smaller model. The NSF range of 400 to 1500 GPD is not wide enough to disallow scale-down.

A first revision of the language was sent to the Joint Committee in an approval ballot and received many comments. Based on those comments, the issue proponent made revisions to the language, including changing the proposed range of scaling as well as removing proposed changes to NSF/ANSI 350 in order to focus first on Standards 40 and 245.

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

Dr. Robert W. Powitz
Chair, Joint Committee on Wastewater Technology
c/o Jason Snider
Joint Committee Secretariat
Tel: (734) 418-6660
Email: jsnider@nsf.org

Multiple revisions to NSF/ANSI 40 (40i51r2) and NSF/ANSI 245 (245i32r2)

[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 grey 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 Wastewater Technology –

Residential Wastewater Treatment Systems

1   General

1.1   Purpose

The purpose of this standard is to establish minimum materials, design and construction, and performance requirements for residential wastewater treatment systems. This standard also specifies the minimum literature that manufacturers shall supply to authorized representatives and owners, as well as the minimum service-related obligations that manufacturers shall extend to owners.

1.2   Scope

This standard contains minimum requirements for residential wastewater treatment systems having rated treatment capacities between 1,514 LPD (400 GPD) and 5,678 LPD (1,500 GPD). Management methods for the treated effluent discharged from residential wastewater treatment systems are not addressed by this standard.

System components covered under other NSF or NSF/ANSI standards or criteria shall also comply with the requirements therein. This standard shall in no way restrict new system designs, provided such designs meet the minimum specifications described herein.

1.3   Alternate materials, design, and construction

While specific materials, designs, and constructions may be stipulated in this standard, systems that incorporate alternate materials, designs, or constructions may be acceptable when it is verified that such systems meet the applicable requirements.

1.4   Performance classification

For the purpose of this standard, systems are classified according to the chemical, biological, and physical characteristics of their effluents, as determined by the performance testing and evaluations described herein.

Multiple revisions to NSF/ANSI 40 (40i51r2) and NSF/ANSI 245 (245i32r2)

All systems within a manufacturer's model series may be classified according to the performance testing and evaluation of ~~the~~ a system ~~with the smallest hydraulic capacity~~ within the series. Performance testing and evaluation of larger systems or systems rated at no less than 75% of the evaluated system within the series (having hydraulic treatment capacities within the scope of this standard) may not be necessary provided that the dimensions, hydraulics, mixing and filtering capabilities, and other applicable design characteristics are proportionately equivalent to the evaluated system.

.

.

.

Residential Wastewater Treatment Systems – Nitrogen Reduction

1   General

1.1   Purpose

The purpose of this Standard is to establish minimum materials, design and construction, and performance requirements for residential wastewater treatment systems providing for nitrogen reduction. This Standard also specifies the minimum literature that manufacturers shall supply to authorized representatives and owners, as well as the minimum service-related obligations that manufacturers shall extend to owners.

1.2   Scope

This Standard contains minimum requirements for residential wastewater treatment systems having rated treatment capacities of 1,514 L/d (400 gal/d) to 5,678 L/d (1500 gal/d) that are designed to provide reduction of nitrogen in residential wastewater. Management methods for the treated effluent discharged from these systems are not addressed by this Standard. A system, in the same configuration, must either be demonstrated to have met the Class I requirements of NSF/ANSI 40 *Residential Wastewater Treatment Systems*, or must meet the Class I requirements of NSF/ANSI 40 during concurrent testing for nutrient removal.

The water chemistry of a site for installation and use of these systems is critical to achieve expected water quality results. Before these systems are installed at a location, the water used within the residence must be analyzed to verify that there is sufficient alkalinity to achieve the system's performance. Refer to Annex I-1 for further explanation.

Natural systems involving features such as vegetation, wetlands, free-access or buried sand filters, and soil systems may be evaluated using this Standard as long as effluent samples are representative of all treated effluent discharged from the system, as sampled from a central point of collection of all treated effluent.

1.3   Alternate materials, design, and construction

While specific materials, designs, and constructions may be stipulated in this Standard, systems that incorporate alternate materials, designs, or constructions may be acceptable when it is verified that such systems meet the applicable requirements herein.

Multiple revisions to NSF/ANSI 40 (40i51r2) and NSF/ANSI 245 (245i32r2)

1.4 Performance classification

For the purpose of this Standard, systems are classified according to the chemical, biological, and physical characteristics of their effluents, as determined by the performance testing and evaluations described herein. All systems within a manufacturer's model series may be classified according to the performance testing and evaluation of ~~the~~ a system ~~with the smallest hydraulic capacity~~ within the series. Performance testing and evaluation of larger systems or systems rated at no less than 75% of the evaluated system within the series (having hydraulic treatment capacities within the scope of this Standard) may not be necessary, provided that the dimensions, hydraulics, mixing, filtering, and biological treatment capabilities, and other applicable design characteristics are proportionately equivalent to the evaluated system.