MEMORANDUM

TO: Joint Committee on Drinking Water Additives – Treatment Chemicals

FROM: Jon DeBoer, Chairperson

DATE: May 23, 2012

SUBJECT: Proposed revision to NSF/ANSI 61 – *Drinking water system components-Health Effects* (61i103)

Draft 1 of NSF/ANSI 61 issue 103, and is being forwarded to the Joint Committee for balloting. Please review the changes proposed to these standards and **submit your ballot by June 13, 2012** via the NSF Online Workspace.

Purpose

The proposed revision is to provide a normalization example of a ½" ball valve following exposure in a 1-L test assembly under Annex B of NSF/ANSI 61.

Background

NSF/ANSI 61 was updated several years ago to require exposure of metal containing products as test assemblies such that the volume of water the product is exposed to is in the lab is close to the volume of water that will be used for the Vf(static) value during normalization. This was felt to better approximate the conditions of use in the field and enable more representative product exposures and the potential for metal release. At the time the change was made to the standard, the ½" ball valve example in Table B11 was not updated. Although the current example is still appropriate for assemblies that might correspond with exposures looking for organic release, a better example would be as exposed in a 1-L test assembly.

The issue was presented to the JC at the 2011 annual DWA-SC JC meeting on December 1, 2012, and the JC unanimously voted in favor of balloting the proposed revision as written. Please see the 2011 JC meeting excerpt and Issue Document # DWA-61-2011-5 under the attached reference documents for more information.

Public Health Impact

This revision will have no negative impact on public health.

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

Chairperson, Joint Committee
c/o Monica Leslie
Joint Committee Secretariat
NSF International
Tel: (734) 827-5643
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[Note – the changes are seen below using strikeout for removal of old text and gray highlights to show the suggested text. ONLY the highlighted text is within the scope of this ballot.**]**

NSF/ANSI Standard
for Drinking Water System Components – Health Effects

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Annex B
(normative)

Product/material evaluation

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Table B11 (cont.) – Normalization factors, assumptions, and examples pertaining to –
residential and service line valves (including multiple user)

Product nominal diameter (n. d.)	Exposure type	Probable end use[1]	Assumptions	N1	N2 (flowing normalization only)	N3
4 in > n. d. ≥ 0.5 in	in-the-product	service line or residential	– when product holds less than 1 L (0.26 gal) under static conditions, $V_{F(static)}$ = 1 L = 0.26 gal – when product holds less than 1 L (0.26 gal) under static conditions and contains metal components, extentions are added to bring the exposure volume to 1 L. – $V_{F(flow)}$=180 gal	calculated in accordance with Annex B, section B.8.3	0.0015	0.33

EXAMPLE – IN-THE-PRODUCT SERVICE LINE VALVE:

Assumptions:

- product is a 0.5-in nominal diameter valve with a length of 2 in;
- an in-the-product exposure was conducted; and
- $V_{F(static)}$=1 L because the valve holds less than 1 L of water when filled to capacity under static conditions~~.~~; and
- extensions are added to bring the exposure volume close to one liter.

SA_F = 20.26 cm^2 (3.14 in^2) SA_L = 20.26 cm^2 (3.14 in^2)
$V_{F(static)}$ = 1 L (0.26 gal) V_L = ~~0.0064 L (0.0017 gal)~~ 0.98 L (0.26 gal)

$$N1 = \frac{SA_F}{SA_L} \times \frac{V_L}{V_{F(static)}} \times \text{dispersion factor (N3)} = \frac{3.14}{3.14} \times \frac{\text{~~0.0017~~ } 0.98}{\text{~~0.26~~ } 1} \times 0.33 = \text{~~0.0021~~ } 0.32$$

$$N2 = \frac{V_{F(static)}}{V_{F(flow)}} = \frac{0.26}{180} = 0.0015$$

Comments:

- Laboratory concentrations would be multiplied by ~~0.0021~~ 0.32 to obtain the normalized static concentration. The resulting normalized static concentration would be multiplied by 0.0015 to obtain the normalized flowing concentration.

Probable end use and corresponding assumptions are related to the nominal diameter of the product.

Reason: Revised per 2011 annual DWA-SC JC meeting (December 1, 2011) to provide a normalization example of a ½" ball valve following exposure in a 1-L test assembly.