



**Summary of Substantive Changes
between the 2016 and the 2017 editions of
NSF/ANSI 42, Drinking Water Treatment Units – Aesthetic Effects**

Presented to the IAPMO Standards Review Committee on August 13, 2018

General: The changes to this standard should not have an impact on currently listed products. The substantive changes are:

- Added a test method for evaluation of media finer than 100 mesh and included a method of sample collection from multiple outlet systems (See Section 4.2)
- Added an alternative use pattern to the methods for point of entry devices. (See Section 7.3)
- Removed the (TAC) and (MCL/MAC) evaluation criteria columns from Tables 4.1, 4.2 and 4.3. The evaluation criteria are now referenced in NSF/ANSI 61, Annex D, Table D1 (See Tables 4.1, 4.2 and 4.3).
- Revised Table 4.2 to replace EPA method 625 with EPA method 521 for nitrosamines (See Table 4.2)
- Added an optional higher iron influent challenge concentration and influent sample point limits. (See Table 7.5)

Section 2, Normative references: Referenced standards were added, deleted or updated as follows:

2 Normative references

[21 CFR §. Parts 170-199. Food and Drugs](#)³

[USEPA-600/R-05/054. Determination of Nitrosamines in Drinking Water by Solid Phase Extraction and Capillary Column Gas Chromatography with Large Volume Injection and Chemical Ionization Tandem Mass Spectrometry \(MS/MS\), September 2004](#)⁶

~~[USFDA Code of Federal Regulations, Title 21, \(Food and drugs\) Direct Food Additive Substances parts 170 through 199, April, 1 1992](#)~~

Section 4.2, Materials evaluation: Added a test method for evaluation of media finer than 100 mesh and included a method of sample collection from multiple outlet systems as follows:

4.2.3 Exposure

...

[**4.2.3.1.1** For media finer than 100 mesh, testing shall be conducted in flasks with a ratio of 200 grams media to 1L of exposure water specified in 4.2.2. Testing shall be completed at ambient atmospheric pressure and at a temperature of 23 ± 2 °C \(73 ± 3 °F\). Sufficient flasks shall be utilized to collect a minimum of 600 mL of water at each pour-off, or the necessary volume for analysis, whichever is greater. The flasks shall be shaken vigorously for one minute and allowed to settle for 24 hours. After 24hrs of exposure, the sample water shall be collected and retained. The flask shall be refilled with the same volume of exposure water that was extracted. The flasks will be shaken vigorously for one minute and allowed to settle for 24 hours. A second water sample shall be collected and the flasks refilled. The flasks shall be shaken vigorously for one minute and allowed to settle for 24 hours. A third water sample shall be collected. All samples collected shall be composited and analyzed in accordance with 4.2.1. One control flask with 2L of exposure water shall be processed in the same manner as above.](#)



4.2.3.4 *All samples collected shall be composited and analyzed in accordance with 4.2.1. For multiple-outlet systems, a composite sample shall be collected from all potable water outlets. The unit volume of the system shall be divided by the total number of potable water outlets and this amount shall be collected from each outlet.*

Section 7.3, Chemical reduction testing: Added an alternative use pattern to the methods for point of entry devices in Sections 7.3.1.6.3, 7.3.2.7.3, 7.3.7.3, 7.3.4.7.3, 7.3.5.7.3, 7.3.6.7.3 and 7.3.7.7.3 as follows:

7.3.1.6.3 POE systems

One system shall be conditioned in accordance with the manufacturer's instructions and 7.3.1.6. The system shall be tested using the appropriate influent challenge at the manufacturer's rated service flow rate and an initial dynamic pressure of 410 ± 20 kPa (60 ± 3 psig). The pressure shall not be readjusted, although the system may experience some change in dynamic pressure. The system shall be operated continuously 16 h per 24-h period followed by an 8-h rest under pressure or if requested by the manufacturer the systems shall be operated on a 50%-on / 50%-off basis, 16 h per 24-h period, followed by an 8-h rest under pressure. The cycle time shall be no shorter than 20 minutes.

Table 4.1, Extraction testing parameters: Removed the (TAC) and (MCL/MAC) evaluation criteria columns from Tables 4.1, 4.2 and 4.3. The evaluation criteria are now referenced in NSF/ANSI 61, Annex D, Table D1.

Table 4.2, Extraction testing parameters (semi-volatiles): The table was revised to replace EPA Method 625 with EPA Method 521 for nitrosamines.

Table 7.5, Iron and manganese reduction requirements: Added an optional higher iron influent challenge concentration and influent sample point limits.