Summary of Substantive Changes
between the 2014 and the 2015 editions of
NSF/ANSI 58 "Reverse Osmosis Drinking Water Treatment Systems"

Presented to the IAPMO Standards Review Committee on April 22, 2015

General: The changes to this standard may have an impact on currently listed products. The substantive changes are:

- Added additional requirements for multiple, sequential treatment technologies (see Section 1.6 and Annex E)
- Clarified the number of test samples needed for products that have a very low holding volume, reduced the volume of exposure water required and specified a maximum number of samples to be exposed for small volume fittings that occur infrequently in the path of the water (see Section 4.4.3)
- Added a requirement for compliance with NSF/ANSI 53 for components used for VOC reduction (see Section 6.7.2, 6
- Revised the system equipment required to qualify for the less stringent sampling requirements from a warning device to a performance indication device (See sections 7.1.1.7 and 7.1.2.7)
- Added the option for a higher influent challenge concentration for nitrate (see Table 9)
- Included an option to test with a higher concentration of nitrate plus nitrite (70 mg/L) in the influent challenge test water (see Section 7.1.3.3)
- Removed the requirement to maintain a specified conductivity in the test water (see Section 7.1.3.3)
- Clarified the sampling point for cyst reduction claims testing (see Section 7.2.2)
- Added the requirement to include a claims statement in the installation instructions for systems compliant with a higher concentration of nitrate plus nitrite (70 mg/L) (see Sections 8.1 and 8.3)
- Added additional rows for reporting a higher concentration of nitrate plus nitrite (70 mg/L) (see Table10)

Section 1, General: Added additional requirements for multiple, sequential treatment technologies as follows:

1.6 Treatment train

A system that contains multiple, sequential treatment technologies for a performance claim under this Standard shall meet the applicable requirements as described in Annex E.

Section 4.4.3, Exposure: Clarified the number of test samples needed for products that have a very low holding volume, reduced the volume of exposure water required and specified a maximum number of samples to be exposed for small volume fittings that occur infrequently in the path of the water as follows:

4.4.3.1 The system or component/s of a system shall be installed, flushed, and conditioned in accordance with the manufacturer's instructions. If instructions are not provided, systems shall be operated with the outlet closed until the storage tank is full, or component/s shall be flushed with one unit volume using the exposure water (see 4.4.2) at an initial inlet static pressure of 340 kPa (50 psig). Sufficient components or systems shall be exposed to provide the required volume for analysis, but no more than eight shall be exposed.

4.4.3.3 A minimum sample volume of 2 L shall be collected at each sample point. If the water-holding volume of the product is greater than 2 L, the entire volume shall be collected in a suitable collection vessel, and a 2-L subsample obtained from this volume. If the water-holding volume of the product is less than 2 L, sufficient samples shall be exposed to provide the required 2-L volume of extractant water. The maximum number of samples exposed shall not exceed 16 with 125 mL of extractant water drawn from each sample. If the components with a water-holding volume that is less than 250 mL and is able to be identified as one that will only occur once in the flow path of dispensed treated water (such as diverters, faucets, RO shutoff valves, or specialty components) then a volume of 250 mL shall be drawn from each sample using a maximum number of 8 samples.

Section 6.7.2, Chemical reduction and mechanical filtration claims: Added a requirement for compliance with NSF/ANSI 53 for components used for VOC reduction as follows:
…If an activated carbon disposable component is provided for organic reduction claims, simple explicit instructions for determining the need for servicing of the component shall be provided. If the RO system has a VOC reduction claim in accordance with 7.1.1, any performance indication device for the VOC reduction component in the system shall meet the requirements of NSF/ANSI 53.

Section 7.1.1.1.7, Sampling: Revised the system equipment required to qualify for the less stringent sampling requirements from a warning device to a performance indication device as follows:
7.1.1.1.7.1 Systems equipped with ~~warning device/s~~ a performance indication device
Systems equipped with ~~warning device/s~~ a performance indication device, in accordance with 6.7.2, shall have influent and product water samples collected and analyzed to determine VOC reduction. Prior to the initial sampling, 10 unit volumes of influent challenge water shall be passed through the system. An initial influent and product water sample shall then be taken, followed by sample collections at 10%, 20%, 30%, 40%, 50%, 60%, 70%, 80%, 90%, 100%, 110%, and 120% of estimated service cycle of replaceable treatment components.
7.1.1.1.7.2 Systems lacking a ~~warning device~~ performance indication device
Systems lacking a ~~warning device~~ performance indication device shall have influent and product water samples collected and analyzed to determine VOC reduction. Prior to the initial sampling, 10 unit volumes of influent challenge water shall be passed through the system. An initial influent and product water sample shall be taken followed by sample collections at 20%, 40%, 60%, 80%, 100%, 120%, 140%, 160%, 180%, and 200% of the estimated service cycle of replaceable treatment components. Testing up to 200% of the estimated capacity will provide a 2:1 safety factor.

Section 7.1.2.7, Sampling: Revised the system equipment required to qualify for the less stringent sampling requirements from a warning device to a performance indication device. Similar change in text as noted in Section 7.1.1.1.7.

Section 7.1.3, Nitrate/nitrite reduction claims
Table 9, Contaminant reduction requirements: Included an option to test with a higher concentration of nitrate plus nitrite (70 mg/L) in the influent challenge test water and revised Footnote 2 for consistency.

Section 7.1.3.3, Test water: Removed the requirement to maintain conductivity of 1µS/cm in the test water.

Section 7.2.2, Cyst reduction claims: Clarified the sampling point for cyst reduction claims testing as follows:
The system shall reduce the number of particles from the influent test water by at least 99.95% at every individual unit effluent sample point when tested in accordance with 7.2.2.

Section 8.1, Installation, operation, and maintenance instructions: Added the requirement to include a claims statement for systems compliant with a higher concentration of nitrate plus nitrite (70 mg/L) as follows:
8.1.2 Where applicable and appropriate, the following information shall also be included:
– explicit instructions explaining the performance indicator functions;
…
– a statement for systems claiming higher levels of nitrate/nitrite at a total influent concentration of 70 mg/L as N that are tested at 50 psig and an internal booster pump that raises the pressures to higher levels: "This system is acceptable for treatment of influent concentrations of no more than 65 mg/L nitrate and 5 mg/L nitrite in combination measured as N and is certified for nitrate/nitrite reduction only for water supplies with a pressure of 280 kPa (40 psig) or greater along with an internal built in booster pump;"
– if other built in performance enhancement steps are needed such steps shall also be identified here if the consumer needs to be aware of such steps for the system's continued effective performance after installation;
…
Section 8.3, Performance data sheet: Added the requirement to include a claims statement in the installation instructions for systems compliant with a higher concentration of nitrate plus nitrite (70 mg/L) as indicated in section 8.1.2.

Table 10, Performance data sheet requirements: Added rows to include performance data requirements for higher concentrations of nitrate plus nitrite(70 mg/L).

The following normative annex was added:
Annex E
Evaluation methods for systems with multiple technologies - treatment train