



**Summary of Substantive Changes  
between the 2017 and the 2018 editions of  
NSF/ANSI 58 “Reverse Osmosis Drinking Water Treatment Systems”**

**Presented to the IAPMO Standards Review Committee on August 12, 2019**

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

- Removed inconsistent language across the standard and added clarifying language to show components or functions covered by other NSF standards (see Section 1.2)
- Added a uranium reduction claim (see Table 7.2 and Section 7.1.2.5)
- Reduced performance requirements for perfluorooctanoic acid (PFOA) and perfluorooctane sulfonate (PFOS) for reverse osmosis (RO) systems (see Tables 7.2, 8.1, Section 7.1.2.5 and Annex F)
- Added informational Annex G for revision to the evaluation of lead (see Annex G)

Section 1.2, Scope: Removed inconsistent language across the standard and added clarifying language to show components or functions covered by other NSF standards as follows:

**1.2 Scope**

*The point-of-use RO drinking water treatment systems addressed by this Standard are designed to be used for the reduction of specific substances that may be present in drinking water ~~supplies~~ (public or private) considered to be microbiologically safe and of known quality ~~(except that claims for the reduction of filterable cysts may be permitted)~~. Systems covered by this Standard are intended for reduction of total dissolved solids (TDS) and other contaminants specified herein. They may be chemical or particulate (including filterable cysts) in nature. It is recognized that a system may be effective in controlling one or more of these contaminants, but systems are not required to control all, however, TDS testing is required. Systems with manufacturer claims that include components or functions covered under other NSF or NSF/ANSI Standards or Criteria shall conform to the applicable requirements therein. Systems covered by this Standard are not intended to be used with drinking water that is microbiologically unsafe or of unknown quality without adequate disinfection before or after the system. NOTE — Systems that are compliant with NSF/ANSI 55 Class A or other standards that cover technologies to treat microbiologically unsafe water (e.g., US EPA Guide Standard and Protocol for Testing Microbiological Water Purifiers or NSF P231) are examples of demonstrating adequate disinfection before or after the system.*



Section 7, Elective performance claims – Test methods: Added a uranium reduction claim and perfluorooctanoic acid (PFOA) and perfluotocane sulfonate (PFOS) as follows:

**7.1.2.5 Inorganic Substance – Challenge water**

*For pentavalent arsenic, barium, chromium, radium, perchlorate, [perfluorooctanoic acid \(PFOA\)](#), and [perfluorooctane sulfonate \(PFOS\)](#), the test compound listed in Table 7.2 shall be added to the TDS influent challenge water (see Section 7.1.2.4.1) to achieve the influent concentration specified in Table 7.2.*

*[For uranium, the test compound listed in Table 7.2 shall be added to the TDS influent challenge water \(see Section 7.1.2.4.1\) to achieve the influent concentration specified in Table 7.2 with the following modification:](#)*

*[– sodium bicarbonate \(targeted addition of 50 mg/L NaHCO<sub>3</sub>\) shall be added to the test water and the TDS increased to a challenge concentration of 750 ± 10% using sodium chloride \(NaCl\).](#)*

*For the remaining inorganic substances, the test compound listed in Table 7.2 shall be added to either the TDS influent challenge water (see Section 7.1.2.4.1) or chemical reduction test water (see Section 7.1.2.4.2) to achieve the influent concentration specified in Table 7.2.*

Section 8, Instructions and information: Reduced performance requirements for perfluorooctanoic acid (PFOA) and perfluotocane sulfonate (PFOS) for reverse osmosis (RO) systems as follows:

**8.1.2** *Where applicable and appropriate, the following information shall also be included:*

- explicit instructions explaining the performance indicator functions;*
- model numbers of replaceable treatment components;*
- a statement for systems claiming VOC reduction:*

*"This system conforms to NSF/ANSI 58 for VOC reduction. See performance data sheet for individual contaminants and reduction performance."*

*NOTE – Manufacturers may refer to individual chemicals from Table 8.1 on labels, manuals, or promotional materials if such information conforms to the following requirements:*

- percent reductions, if specified, shall be either less than or equal to those specified in Table 6.1, or additional testing is completed to justify the claim for a higher percent reduction; and*
- reference to individual chemicals from Table 8.1 shall not imply that specific testing for the chemical was conducted if only the surrogate test was completed.*

*a statement for systems claiming nitrate / nitrite reduction shall include the pressure used for testing as the minimum application pressure. For example, systems that were tested at 210 kPa (30 psig) shall state:*

*"This system is acceptable for treatment of influent concentrations of no more than 27 mg/L nitrate and 3 mg/L nitrite in combination measured as N and is certified for nitrate / nitrite reduction only for water supplies with a pressure of 210 kPa (30 psig) or greater."*

*– a statement for systems claiming higher levels of nitrate / nitrite at a total influent concentration of 70 mg/L as N that are tested with an internal booster pump that raises the pressures to higher levels, shall include the pressure used for testing as the minimum application pressure. For example, systems that were tested at 350 kPa (50 psig) shall state:*

*"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 350 kPa (50 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;

— a statement for activated carbon systems:

"Do not use with water that is microbiologically unsafe or of unknown quality without adequate disinfection before or after the system. Systems certified for cyst reduction may be used on disinfected water that may contain filterable cysts."

[NOTE — Systems that are compliant with NSF/ANSI 55 Class A or other standards that cover technologies to treat microbiologically unsafe water \(e.g., US EPA Guide Standard and Protocol for Testing Microbiological Water Purifiers or NSF P231\) are examples of demonstrating adequate disinfection before or after the system.](#)

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**8.2.2** Where applicable and appropriate, the following information shall also be included:

— a statement for systems claiming VOC reduction:

"This system conforms to NSF/ANSI 58 for VOC reduction. See performance data sheet for individual contaminants and reduction performance."

*NOTE — Manufacturers may refer to individual chemicals from Table 8.1 on labels, manuals, or promotional materials if such information conforms to the following requirements:*

— percent reductions, if specified, shall be either less than or equal to those specified in Table 6.1, or additional testing is completed to justify the claim for a higher percent reduction; and

— reference to individual chemicals from Table 8.1 shall not imply that specific testing for the chemical was conducted if only the surrogate test was completed.

— statement for activated carbon systems:

"Do not use with water that is microbiologically unsafe or unknown quality without adequate disinfection before or after the system. Systems certified for cyst reduction may be used on disinfected water that may contain filterable cysts."

[NOTE — Systems that are compliant with NSF/ANSI 55 Class A or other standards that cover technologies to treat microbiologically unsafe water \(e.g., US EPA Guide Standard and Protocol for Testing Microbiological Water Purifiers or NSF P231\) are examples of demonstrating adequate disinfection before or after the system.](#)

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**8.3.2** Where applicable and appropriate, the following information shall be included:

— explanation of performance indicator;

— electrical requirements;

— model number of replaceable treatment components;

— statement for activated carbon system:

"Do not use with water that is microbiologically unsafe or of unknown quality without adequate disinfection before or after the system. Systems certified for cyst reduction may be used on disinfected water that may contain filterable cysts."

[NOTE — Systems that are compliant with NSF/ANSI 55 Class A or other standards that cover technologies to treat microbiologically unsafe water \(e.g., US EPA Guide Standard and Protocol for Testing Microbiological Water Purifiers or NSF P231\) are examples of demonstrating adequate disinfection before or after the system.](#)



Table 7.2, Contaminant reduction requirements – added new row and additional footnotes

Table 8.1, Performance data sheet requirements – Two new rows were added

Annex F, Test method for perfluorooctanoic acid (PFOA) and perfluorooctane sulfonate (PFOS) in general test water by LC/MS/MS in electrospray negative ionization mode - New

Annex G, Revision to the evaluation of lead -New