

Rethinking ANSI/NSF Standard 58

As the organization that develops and maintains the consensus standards for the point-of-use, point-of-entry drinking water treatment unit industry, it is sometimes difficult to admit that the standards development process is not always perfect. Sometimes, as was recently revealed by NSF during a complaint investigation, there is a provision in the current standard which may not be technically accurate. Such is the case with ANSI/NSF Standard 58: Reverse Osmosis Drinking Water Treatment Systems and the arsenic reduction claim.

When the NSF *International* Joint Committee on Drinking Water Treatment Units met on May 8 and 9, 1996, one of the main topics of discussion was the claim for arsenic reduction under Standard 58. In October 1995, the committee asked NSF to test two thin film composite (TFC) systems to determine the reduction of both pentavalent (V) and trivalent (III) arsenic. The study was undertaken to address a complaint received on an RO system's ability to reduce arsenic. The subsequent data revealed that the RO element, as a stand-alone component, cannot effectively reduce both forms of arsenic to acceptable levels. It appears that to effectively reduce both Arsenic III and V, the carbon elements used in RO systems are needed.

When Standard 58 was developed in 1990, the committee determined

that it was not cost-effective to test reverse osmosis systems for the life of the system, due to its longevity in actual use and the small volumes of water produced each day. The Joint Committee determined that, to effectively test an RO system, its

end of August. NSF anticipates that the arsenic reduction claim will be formally deleted from Standard 58.

In view of these developments, the Official Listings on all products with an arsenic reduction claim have

- review filters to determine where RO systems have been sold for the reduction of arsenic, and inform purchasers of the systems that maintenance of the pre- and post-filters is critical to effect arsenic reductions, and

- notify the buyers of the systems that frequent changing of these filters is critical to assure the protection of public health.

These steps will facilitate responsible notification of the need for the RO systems' maintenance to assure arsenic reduction and thus assure the public's health. If you have any questions, please call Nancy Culotta, general manager, at 1-800-NSF-MARK.

As dealers of water treatment systems, if you have been contacted on this by the manufacturer who supplies your dealership with RO systems, please assist them in identifying the systems in question. Notifying your customers of the need for maintenance of all components to assure the reduction of arsenic will help protect the public's health. •

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start-up characteristics and first seven days of operation were the critical parameters to verify for performance efficiency of RO systems. Based on this information, the seven-day test for contaminant reduction claims was adopted. Furthermore, the committee voted to test complete systems, (with pre- and post-filters) for the seven-day test, resulting in no capacity testing of the carbon cartridge components for these systems (as required under ANSI/NSF Standard 53). Therefore, there is currently no measure of the life of these pre- and post-carbon filters, except in some cases, for VOC claims.

On May 8, 1996, the Joint Committee voted to remove the arsenic reduction claim from Standard 58 until a new test method is developed. Balloting to remove arsenic from the standard has begun, and it is anticipated that the balloting will be completed by the

been revised to include the following footnote: *To assure the reduction, the pre- and post-carbon cartridges should be changed in strict accordance with the frequency required in the manufacturer's instructions. The Listing of this system does not indicate that arsenic is reduced during the overall life expectancy of the RO membrane. The carbon filters are needed to assure arsenic reduction.* The footnote will appear until the arsenic reduction claim is removed from the Standard or until the Joint Committee dictates some different action.

All laboratories conducting Standard 58 testing have been informed of the situation. NSF has also shared with them what actions have been taken in the NSF Certification Program. NSF Certified manufacturers have been requested to