



Regulations and Sanitary Surveys

The drinking water industry, like any other, operates under a set of guidelines. Based on the most current and best available knowledge, rules and recommended standards have been established to ensure safe and reliable drinking water to the public. The operation of public drinking water supply systems is regulated by the Section of Drinking Water Protection of the Minnesota Department of Health (MDH).

The federal Safe Drinking Water Act (SDWA) was passed into law in 1974 as an attempt to ensure the quality of drinking water throughout the United States. Major amendments, which greatly expanded the scope and impact of the Act on water systems, were made in 1986 and 1996.

The federal government, through the U.S. Environmental Protection Agency (EPA), sets standards for drinking water quality and establishes the frequency at which water samples must be collected and analyzed. Primary standards are health based and are enforceable. Secondary standards are based on how the water looks and tastes and are guidelines only, not rules that can be enforced.

PRIMARY STANDARDS

Primary Standards may be either Maximum Contaminant Levels (MCLs) or Treatment Technique Requirements (TTR). In addition, there is a Maximum Contaminant Level Goal (MCLG) at which there should be no adverse health effects.

Maximum Contaminant Level Goal

A person drinking water containing a particular contaminant at this level over his or her lifetime should experience no ill effects. As implied by the title, this number is a goal not an enforceable standard. For chemicals that are believed to cause cancer, the MCLG is set at zero since there is no known safe level for this type of chemical.

Maximum Contaminant Level

This is the enforceable standard. EPA sets the MCL as close to the MCLG as is feasible. In this case, “feasible” refers to use of the Best Available Technology (BAT), which takes costs and technology into consideration. The MCL is the number against which the water samples from your system are judged for compliance with the regulations.

Treatment Technique Requirements

Treatment Technique Requirements are set for contaminants that are difficult or costly to measure. For these contaminants, EPA may choose to require specific water treatment practices (such as filtration or corrosion control) to prevent health problems. This is done instead of setting an MCL for these contaminants.



SECONDARY STANDARDS

The Secondary Maximum Contaminant Level (SMCL) is a number associated with the aesthetic quality of the water, such as taste, odor, or color. Water with contaminants above the SMCL may not be pleasant to drink but will not cause health problems. According to EPA, these numbers are guidelines, not enforceable standards.

STATE PRIMACY

In return for federal grant money, the states administer and enforce safe drinking water regulations in their jurisdictions. The term “primacy” is used to identify states that have taken over responsibility for administering and enforcing safe drinking water regulations. The MDH obtained primacy in 1977 and since then has administered and enforced the State drinking water regulations.

Primary responsibilities of the MDH regarding the SDWA are to:

- Enforce SDWA regulations;
- Conduct sanitary surveys of PWSs;
- Certify laboratories analyzing drinking water contaminants according to the SDWA; and
- Review plans for new or modified PWS facilities.

Minnesota safe drinking water regulations are established under the Federal SDWA and define a PWS as “a system providing piped water for human consumption and either containing a minimum of 15 service connections or 15 living units, or serving at least 25 persons daily for (at least) 60 days a year.”

The regulations also differentiate between a Community Public Water Supply (CPWS) system, a Noncommunity Public Water Supply (NCPWS) system, and a Nontransient noncommunity Public Water Supply (NTNCPWS) system. Each is described below:

COMMUNITY PUBLIC WATER SYSTEM (CPWS)

A community public water system is “a system that serves at least 15 service connections or living units used by year-round residents, or regularly serves at least 25 year-round residents.” Municipalities, mobile home parks, apartments, housing subdivisions, nursing homes, state hospitals, and correctional institutions are all examples of community systems.

TRANSIENT NONCOMMUNITY PUBLIC WATER SYSTEM (NCPWS)

A transient noncommunity public water system is “any public water supply that is not a community water supply and that serves a transient population.” The following are examples of noncommunity systems: seasonal facilities such as children’s camps; recreational camping areas; resorts or year-round facilities that serve at least 25 persons who are not residents thereof, such as churches, entertainment facilities, gasoline service stations; marinas; migrant labor camps; parks; and restaurants.



NONTRANSIENT NONCOMMUNITY PUBLIC WATER SYSTEM (NTNCPWS)

A nontransient noncommunity public water system system is ‘a public water supply that is not a community water supply and that regularly serves at least 25 of the same persons over six months per year.’ Factories, office buildings, day-care centers, and schools are among the different types of nontransient noncommunity systems.

Since CPWSs are, in general, providing water to people where they permanently reside, most of the MCLs for organic and inorganic chemicals in water are based on the potential health effects from long-term exposure.

Conversely, transient NCPWSs mostly serve travelers or people who have other primary sources of drinking water. Therefore, the EPA has ruled that these systems must only monitor for coliform bacteria and nitrates, contaminants that may have an acute or immediate health effect on the consumer. One of the reasons for the limited monitoring of these supplies is the large cost of more detailed monitoring.

Under the SDWA, CPWSs and NTNCPWSs are required to be monitored for contaminants in these general categories: microbiological, organic, and inorganic chemicals. (CPWSs are also required to be tested for radiochemical contaminants.) NCPWSs are primarily tested for microbiological contaminants, nitrate, and nitrite.

SDWA RULES

SDWA regulations are continually being revised and expanded (see following pages in this chapter for rule summaries). These rules are subject to change and should be used only as a guide to the Minnesota safe drinking water program, rather than a strict legal interpretation of the SDWA.

- Consumer Confidence Report (CCR) Rule
- Ground Water Rule
- Lead and Copper Rule
- Microbial and Disinfection By-Products (MDBP) Rules
- Phase II/V Rules include Inorganic Chemicals (IOCs), Synthetic Organic Chemicals (SOCs), and Volatile Organic Chemicals (VOCs)
- Public Notification Rule
- Surface Water Treatment Rules
- Revised Total Coliform Rule
- Unregulated Contaminant Monitoring Rule (UCMR)
- Filter Backwash Recycling Rule
- Radionuclides Rules
- Arsenic and Clarifications to Compliance and New Source Monitoring Rule



SANITARY SURVEYS

The SDWA also requires that sanitary surveys be conducted at all community PWSs, and MDH district engineers conduct a sanitary survey at each at least once every 18 months. Noncommunity PWSs are inspected by a public-health sanitarian every three years. A sanitary survey reviews critical components of a public water system and states have the authority to define both outstanding performance and significant deficiencies.

Eight specific components that must be reviewed during a survey (to the extent they apply to the water system being surveyed) include:

- Source
- Treatment
- Distribution system
- Finished water storage
- Pumps, pump facilities, and controls
- Monitoring, reporting, and data verification
- System management and operation
- Operator compliance with state requirements
- Inner wellhead management zone

An example of typical findings made during a sanitary survey can be found as standards in Chapter 26 on Plan Review.

RECORD MAINTENANCE

Water systems must maintain the following records:

- Results of bacteriological analysis for at least the last five years and results of chemical analysis for at least the last 10 years.
- Records of action taken to correct violations must be kept for at least three years after the last action was taken with respect to a particular violation.
- Copies of written reports, summaries, or communications relating to sanitary surveys conducted by the purveyor, private consultants, or local, state or federal agencies must be kept for at least ten years after completion of the survey.
- Records concerning scheduling of improvements must be kept not less than five years following expiration of the period scheduled for the improvement.



LINKS TO REGULATIONS

Consumer Confidence Report Rule: A Quick Reference Guide
<https://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=P100529A.txt>

Ground Water Rule: A Quick Reference Guide
<https://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=P100156H.txt>

Lead and Copper Guide: A Quick Reference
<https://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=60001N8P.txt>

Comprehensive Disinfectants and Disinfection Byproducts Rules (Stage 1 and Stage 2): Quick Reference Guide
<https://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=P100C8XW.txt>

Stage 1 Disinfectants and Disinfection Byproducts Rule: A Quick Reference Guide
<https://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=P100C8XW.txt>

The Standardized Monitoring Framework: A Quick Reference Guide
<https://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=3000667K.txt>

The Public Notification Rule: A Quick Reference Guide
<https://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=P100529C.txt>

Revised Total Coliform Rule: A Quick Reference Guide
<https://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=P100K9MP.txt>

Compilation of Quick Reference Guides
<https://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=60001UZK.txt>