

SUMMARY OF THE SOUTH DAKOTA DRINKING WATER STANDARDS-3/2009

The South Dakota Drinking Water Standards became effective in September, 1983 as part of South Dakota's responsibilities under the Federal Safe Drinking Water Act (SDWA). In South Dakota, the Drinking Water Program (DWP), Department of Environment and Natural Resources (DENR) is responsible for the enforcement of the standards. Suppliers of drinking water have important responsibilities under the standards. Water suppliers should have a good working knowledge of the standards for their system to be in compliance.

The standards apply to all **public water systems** (PWS). A PWS is any water system that serves 15 connections or 25 people per day for 60 days per year. There are several types of PWS. **Community PWS** are water systems that serve a residential population such as municipalities, rural water systems, mobile home courts, housing developments, etc. **Transient Non-Community PWS** are water systems that serve a transient or nonresidential population such as campgrounds, rest stops, resorts, etc. **Non-Transient Non-Community (NTNC) PWS** are water systems that serve the same nonresidents for at least six months per year such as day cares, factories, and schools.

The most important section of the standards concerns sampling of various contaminants of drinking water. Non-transient non-community water systems sample at the same frequency as community systems unless noted differently. The initial sampling needs of a PWS are listed below. The maximum contaminant levels (MCL) for each parameter are listed as an attachment to this pamphlet. Follow-up sampling will depend on the results of the initial sampling results.

1. **Total Coliform Bacteria**-Monthly. The number of samples depends on the population served. Samples are taken at designated/approved sampling sites in the distribution system.
2. **Inorganic Chemicals (Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Cyanide, Mercury, Nickel, Selenium, Thallium, and Fluoride)**-Every three years for groundwater systems. Annually for surface water supplies. Entry point sampling. Fluoride monitoring for community systems only. Waivers are available to reduce IOC sampling to every nine years.
3. **Asbestos**-One sample every nine years. Samples are taken at sites served by asbestos-cement pipe. Waivers are available to eliminate this sampling.
4. **Nitrite**-One sample every three years. Entry point sampling.
5. **Nitrate**-Entry point sampling.

	Initial Monitoring	Subsequent Monitoring
Surface Water Entry Point	Quarterly	Annual
Groundwater Entry Point	Annual	Annual

6. **Radiological Chemicals**-The initial sampling is a year of quarterly samples. Entry point sampling. Follow-up sampling (every three, six, or nine years) depends on the results of the average of the initial four quarterly samples. Community systems only.

Monitoring Results	Frequency of Sampling
> MCL	Quarterly
> ½ of MCL and < MCL	Every Three Years
> Detection Level and < ½ of MCL	Every Six Years
< Detection Level	Every Nine Years

7. **Synthetic Organic Chemicals (SOC) including Pesticides**-Initial sampling is four quarterly samples. Entry point sampling. Repeat sampling is two quarterly samples every three years for systems serving more than 3300 people. Repeat sampling is one sample every three years for systems serving less than 3300 people. Waivers are available to eliminate this sampling.

8. **Stage 1 Disinfection By-Products (DBPs)**- denr.sd.gov/des/dw/dbp.aspx DBP's are formed when water is disinfected. This is for any NTNC or community system that uses chlorine, chlorine dioxide, or chloramines.

System Type	Population	Monitoring Frequency
Surface/GUDISW*	≥10,000	4/plant/quarter
Surface/GUDISW*	500-9,999	1/plant/quarter
Surface/GUDISW*	<500	1/plant/year**
Groundwater	≥10,000	1/plant/quarter
Groundwater	<10,000	1/plant/year**
*Groundwater under Direct Influence of Surface Water		
**Sample taken in month with warmest water temperature		

Also included under this rule is monitoring for-

- Bromate-Systems using ozone
- Chlorite-Systems using chlorine dioxide
- Chlorine residual
- Chloramine residual
- Chlorine dioxide-Systems using chlorine dioxide
- DBP precursors-Conventional filtration plants

Any system that disinfects or serves disinfected water is subject to the **Stage 2 DBP Regulation**. This Stage 2 Regulation is now in effect.

9. **Turbidity/Disinfection Residuals**-Daily for all surface water and groundwater under the direct influence of surface water. Reports must be submitted to DENR on a monthly basis.

10. **Volatile Organic Chemicals (VOC)**-The initial sampling is a year of quarterly samples. Entry point sampling. Systems with no detections can be reduced to annual sampling. Groundwater systems can then be reduced to one sample every three years after three years of annual monitoring with no detections. Waivers are available to reduce this sampling to every six years.
11. **Lead and Copper**-Tap monitoring will be of first draw water (water that has remained motionless for at least six hours) and will take place at sites pre-approved by the State. These sites include high-risk homes such as those with lead service lines or new lead solder (applied since 1982).

The number of samples to be taken every six months (Jan-June and July-Dec compliance periods) is as follows:

Lead and Copper Samples		
Population Served	Baseline Monitoring	Reduced Monitoring
> 100,000	100	50
10,001-100,00	60	30
3301-10,000	40	20
501-3300	20	10
101-500	10	5
< 101	5	5

Systems in compliance with the lead/copper action levels may be able to reduce monitoring after two consecutive six-month monitoring periods.

Water systems exceeding the lead or copper action levels must treat their water to reduce corrosive effects and must monitor for water quality parameters.

Other Sampling Information

Waivers to reduce or eliminate sampling may be obtained for various parameters including asbestos, VOCs, IOCs, and SOCs. Waiver criteria are based on previous sampling, chemical use, and vulnerability of sources. denr.sd.gov/des/dw/waiver.aspx

All compliance analyses must be performed by a state or EPA certified laboratory. The results of analyses performed by laboratories must be reported to the DWP. Labs within South Dakota generally take care of this reporting for water systems; however, it is still the system's responsibility. Monitoring requirements are sent every December to each water system to inform them of the required monitoring for the upcoming calendar year. It is up to the water system to then arrange to have the analyses performed with a certified laboratory.

Entry point sampling refers to samples being taken at a point where a source or sources enter the distribution system.

The Standards also require sampling for sodium and corrosivity; however, these parameters are analyzed every three years when the DWP performs a sanitary survey on a water system and takes a chemical sample.

A **consecutive water system** is a situation where a water system is served by another public water system. The original system supplying the water must analyze for the entry point parameters. The consecutive water system must be receiving at least 75% of its water from another PWS to be excused from entry point sampling except total coliform, asbestos, VOC, and lead/copper analyses as of this date. If a consecutive system uses *any* surface water, it must comply with all requirements of the Surface Water Treatment Rule.

When a water supply exceeds an MCL, repeat/confirmation samples may be necessary to confirm the analytical result. If the results are confirmed, these systems must take steps to get their water systems into compliance with the MCL and have to issue a public notice to its customers concerning the violation. The purpose of the public notice is to increase the public awareness of the problems water systems face and of the true cost of safe drinking water. A public notice must also be issued if the required monitoring is not performed. The Public Notification Handbook is available from the DWP and from our web site. denr.sd.gov/des/dw/public.aspx

Sample results must be kept as part of a system's records. Total coliform records must be kept for five years, lead/copper records for twelve years, and other chemical results for ten years. Actual laboratory results may be kept or the results may be summarized in tabular form.

A key water supplier responsibility is to see that the proper number and type of samples are taken. Unfortunately, too many operators take sampling for granted. Sloppy practices will result in contaminated samples that are not representative of the actual water quality.

Operator Certification

The following systems must be managed and operated by a state certified water operator:

1. All community and NTNC water systems
2. Any transient non-community water system using surface water or disinfection equipment

Training courses are provided by the SD Rural Water Association, and exams are given numerous times throughout the year across the state. There are experience and educational requirements to take certification exams. There is an operator certification web site at denr.sd.gov/des/dw/opcertqa.aspx. Non-certified operators may operate under the direction of a certified operator that is in direct responsible charge of a water system. Note that disinfection residual measurements taken under the DBP Rule must be done by a certified operator.

Capacity Development

New Water Systems

All new community and non-transient non-community water systems that are built after October 1, 1999 are required to obtain a certificate of approval from the department before beginning operation. The certificate of approval is issued after the applicant submits all required documentation that demonstrates the system has adequate technical, managerial, and financial capacity. A planning manual is available to help applicants through the process. This manual can be downloaded from the DWP web site (denr.sd.gov/des/dw/newsys.aspx).

Existing Water Systems

The DWP has developed a program that will assist existing water systems in acquiring and maintaining technical, managerial, and financial capacity. For more information, visit our web site (denr.sd.gov/des/dw/capacity.aspx).

Consumer Confidence Reports

Every community water system must issue a Consumer Confidence Report each year by July 1. This report must describe the quality of the water provided to consumers. The Consumer Confidence Report is the centerpiece of many provisions adopted in the 1996 Amendments to the Safe Drinking Water Act to give consumers more information on their drinking water and unprecedented opportunities to get involved in protecting it. denr.sd.gov/des/dw/ccr.aspx

The final rule includes requirements that the reports must tell consumers:

- the lake, river, aquifer, or other source of the drinking water;
- a brief summary of the susceptibility to contamination of the local drinking water source, based on the source water assessments that states are completing over the next five years;
- how to get a copy of the water system's complete source water assessment;
- the level (or range of levels) of any contaminant found in local drinking water, as well as EPA's health-based standard (maximum contaminant level) for comparison;
- the likely source of that contaminant in the local drinking water supply;
- the potential health effects of any contaminant detected in violation of an EPA health standard, and an accounting of the system's actions to restore safe drinking water; information about how vulnerable populations can avoid Cryptosporidium.
- the water system's compliance with other drinking water-related rules;
- an educational statement for vulnerable populations about avoiding Cryptosporidium;
- educational information on nitrate, arsenic, or lead in areas where these contaminants are detected above 50% of EPA's standard; and
- phone numbers of additional sources of information, including the water system.

Miscellaneous Regulations

A one-time public notice on the health effects of lead must be issued to each customer of a community PWS. This deals with the possible leaching of lead from solder and piping into the water. This requirement now affects only newly developed water systems. Established systems had to have issued the notice by June 19, 1988. Established systems must notify any new customers of the possible lead health effects.

There is also a comprehensive set of regulations concerning the use of surface water or groundwater under the direct influence of surface water. For information on these regulations, please contact the DWP.

Any system that uses a water source that delivers water at more than 18 gallons per minute is required to have a water right issued by this department. Further information concerning water rights can be obtained from the Water Rights Program at 605-773-3352.

Water systems are notified by DWP when there are changes to the regulations will affect their systems. However, systems must make preparations for future regulatory effects, especially for the costs of increased monitoring and possible water treatment equipment purchases.

Please note that this summary does not substitute for the actual regulations.

If there are any questions on drinking water, please contact the Drinking Water Program, Foss Building, 523 East Capitol Avenue, Pierre, SD 57501-3181 (Phone: 605-773-3754 Fax: 605-773-5286). The Drinking Water Program also has a homepage on the Internet. The Internet address is: denr.sd.gov/des/dw/dwhome.aspx.

The DWP has personnel located in the following regional offices:

Black Hills Regional Office 394-2229
Northeast Lakes Regional Office 882-5111
Sioux Falls Regional Office 362-3521