

CALENDAR YEAR 2005

**COLORADO DRINKING WATER
ANNUAL COMPLIANCE REPORT**

July 1, 2006

I. Introduction

The Drinking Water Program: An Overview

The EPA established the Public Water System Supervision (PWSS) Program under the authority of the 1974 Safe Drinking Water Act (SDWA). Under the SDWA and the 1986 Amendments, EPA sets national limits on contaminant levels in drinking water to ensure that the water is safe for human consumption. These limits are known as Maximum contaminant levels (MCLs). For some regulations, EPA establishes treatment techniques in lieu of an MCL to control unacceptable levels of contaminants in drinking water. The Agency also regulates how often public water systems (PWSs) monitor their water for contaminants and report the monitoring results to the states or EPA. Generally, the larger the population served by a water system, the more frequent the monitoring and reporting (M/R) requirements. In addition, EPA requires PWSs to monitor for unregulated contaminants to provide data for future regulatory development. Finally, EPA requires PWSs to notify the public when they have violated these regulations. The 1996 Amendments to the SDWA require public notification to include a clear and understandable explanation of the nature of the violation, its potential adverse health effects, steps that the PWS is undertaking to correct the violation, and the possibility of alternative water supplies during the violation.

The SDWA applies to the 50 states, the District of Columbia, Indian Lands, Puerto Rico, the Virgin Islands, American Samoa, Guam, the Commonwealth of the Northern Mariana Islands, and the Republic of Palau.

The SDWA allows states and territories to seek EPA approval to administer their own PWSS Programs. The authority to run a PWSS Program is called primacy. For a state to receive primacy, EPA must determine that the state meets certain requirements laid out in the SDWA and the regulations, including the adoption of drinking water regulations that are at least as stringent as the Federal regulations and a demonstration that the state can enforce the program requirements. Of the 57 states and territories, all but Wyoming and the District of Columbia have primacy. The EPA Regional Offices administer the PWSS Programs within these two jurisdictions.

The 1986 SDWA Amendments gave Indian Tribes the right to apply for and receive primacy. To receive primacy, a Tribe must meet the same requirements as a state. To date, no Tribes have been granted primacy. Currently, EPA administers PWSS Programs on all Indian lands.

Annual State PWS Report

Primacy states submit data to the federal Safe Drinking Water Information System (SDWIS/FED) on a quarterly basis. Data include PWS inventory statistics, the incidence of maximum contaminant level violations (MCLs), maximum residual disinfectant level violations, major monitoring and treatment technique violations, lead action level exceedances, lead 90th percentile data, and the enforcement actions taken against violators. The annual compliance report that states are required to submit to EPA will provide a total annual representation of the numbers of violations for each of the four categories listed in section 1414(c)(3) of the Safe Drinking Water Act reauthorization. These four categories are: MCLs, treatment techniques, variances and exemptions, and significant monitoring violations. The EPA Regional Offices report the information for Wyoming, the District of Columbia, and all Indian Lands. Regional offices also report Federal enforcement actions taken. EPA stores these data in an automated database called the Safe Drinking Water Information System (SDWIS). This report is based largely on data retrieved from the State version of the Safe Drinking Water Information System (SDWIS/STATE).

The first annual report was generated January 1, 1998, for the compliance period of calendar year 1996. This report covers calendar year 2005. Subsequent reports will be generated each July 1 for each previous calendar year.

Public Water System

A Public Water System (PWS) is defined as a system that provides water via piping or other constructed conveyances for human consumption to at least 15 service connections or serves an average of at least 25 people for at least 60 days each year. There are three types of PWSs. PWSs can be community (such as towns), non-transient non-community (such as schools or factories), or transient non-community systems (such as restaurants, rest stops or parks). For the purpose of this report the acronym "PWS" means systems of all types of public water systems, unless, specified in greater detail.

Maximum Contaminant Level

Under the Safe Drinking Water Act (SDWA), the EPA sets national limits on contaminant levels in drinking water to ensure that the water is safe for human consumption. These limits are known as maximum contaminant levels (MCLs). Under the lead and copper rule, the national limits are called "action levels" rather than MCLs.

Maximum Residual Disinfectant Level

Under Section 1412 of the Safe Drinking Water Act (SDWA), the EPA sets levels of a disinfectant added for treatment of water that may not be exceeded. These limits are known as maximum residual disinfectant level (MRDLs) and are enforceable in the same manner as MCLs.

Treatment Techniques

For some regulations, the EPA establishes treatment techniques (TTs) in lieu of a MCL to control unacceptable levels of certain contaminants. For example, treatment techniques have been established for viruses, bacteria, disinfection byproduct precursors and turbidity.

Variances and Exemptions

A primacy state can grant a PWS a variance from a primary drinking water regulation if the characteristics of the raw water sources reasonably available to the PWS do not allow the system to meet the MCL. To obtain a variance, the system must agree to install the best available technology, treatment techniques, or other means of limiting drinking water contamination that the Administrator finds are available (taking costs into account), and the state must find that the variance will not result in an unreasonable risk to public health. At the time the variance is granted, the state must prescribe a schedule (including increments of progress) that the PWS will follow to come into eventual compliance with the MCL. Small systems (those serving 3,300 or fewer persons; or 10,000 or fewer persons with the Administrator's approval) may also be granted variances if they cannot afford (as determined by application of the Administrator's affordability criteria) to comply with certain MCLs (non-microbial, promulgated after January 1, 1986) by means of treatment, alternative source of water, or restructuring or consolidation. Small systems will be allowed three years to install and operate EPA approved small system variance technology. The variance shall be reviewed not less than every five years to determine if the system remains eligible for the variance.

A primacy state can grant an exemption to temporarily relieve a PWS of its obligation to comply with an MCL, treatment technique, or both if the system's noncompliance results from compelling factors (which may include economic factors) and the system was in operation on the effective date of the MCL or treatment technique requirement. A new PWS that was not in operation on the effective date of the MCL or treatment technique requirement by that date may be granted an exemption only if no reasonable alternative source of drinking water is available to the new system. Neither an old nor a new PWS is eligible for an exemption if management or restructuring changes can reasonably be made that will result in compliance with the SDWA or improvement of water quality, or if the exemption will result in an unreasonable risk to public health. The state will require the PWS to comply with the MCL or treatment technique as expeditiously as practicable, but not later than three years after the otherwise applicable compliance date.

Monitoring

A PWS is required to monitor and verify that the levels of contaminants present in the water do not exceed the MCL. If a PWS fails to have its water tested as required or fails to report test results correctly to the primacy agency, a monitoring violation occurs.

Significant Monitoring Violations

For this report, significant monitoring violations are generally defined as any major monitoring violation that occurred during the calendar year of the report. A major monitoring violation, with rare exceptions, such as turbidity monitoring, occurs when no samples were taken or no results were reported during a compliance period.

II. Calendar Year 2005 Statistics

Sources of Data

The Annual Compliance Report is typically based on data captured from the SDWIS/Fed dataset frozen during March.. This 2005 Report is based on data from Colorado's production SDWIS/STATE database because the SDWIS/Fed data set was not available to states at the time of preparation of this report. In previous years, the State has synchronized the State's database with the SDWIS/FED database during the production of the Annual Compliance Report. For this 2005 Report, the State is not able to complete that process, but will review State data against SDWIS/Fed data when that become available.

Appendix A summarizes violations of the monitoring and reporting requirements, and Appendix B lists violations of maximum contaminant levels for the State of Colorado in calendar 2005. These violations are further described below.

Chemical Contaminants

The chemical contaminants monitored in drinking water include organic chemicals, inorganic chemicals, and radiological parameters. Monitoring requirements for the various chemical contaminants vary by system type and source; however, monitoring for nitrate, an inorganic chemical contaminant, is required for all systems annually. Systems are required to increase their monitoring to quarterly based on the following criteria: 1) For organic chemical contaminants, when the contaminant exceeds the trigger level specified in the regulations; 2) for inorganic contaminants, when the contaminant exceeds the MCL; and 3) for nitrates, when the nitrate level exceeds half the MCL.

Calendar year 2005 was the first year in a three-year compliance cycle. Although the State designates a specific year for each system to conduct monitoring, the failure-to-monitor is not reported to SDWIS/Fed as a violation until the end of the three-year cycle. For that reason, data may show fewer violations in the monitoring/reporting category when compared to calendar year 2004, which was the last year in a three-year compliance cycle.

Of the 1,975 active public water systems operating in Colorado during calendar year 2005, 287 systems, representing 307 separate violations, failed to do the required significant monitoring and/or reporting for chemical contaminants.

Seven systems were newly discovered to have exceeded the MCL for one or more chemical contaminants. Below is a summary of both the MCL and the monitoring and reporting violations that occurred in calendar year 2005:

Category	MCL Viol	MCL Syst	TT viol	TT Syst	M&R Viol	M&R Syst
Organic contaminants	0	0	0	0	1	1
Inorganic Contaminants	5	4	0	0	162	153
Nitrate/Nitrite	3	3	0	0	142	132
Radionuclides	1	1	0	0	2	1
Subtotal Chem/Rads	9	8	0	0	307	287
Total Coliform Rule	44	42	0	0	458	325
Surface Water Treatment rules	0	0	63	34	92	25
Lead/copper rule	0	0	0	0	71	68
CCR Rule	0	0	0	0	48	48
DBP Rule	64	19	7	7	162	58
Total for all rules	117	69	70	41	976	753

Chem/Rad Contaminants (Organic, Inorganic, Nitrogen Compounds, and Radionuclides):

The violations for monitoring and reporting and for MCLs listed above are distributed as follows:

Organic Chemicals: No systems were newly identified with violations of the MCLs for organic chemicals in calendar year 2005. There was one public water system that failed to monitor for one volatile organic contaminant. This resulted in one violation.

Inorganic Chemicals (not including nitrogen compounds and radionuclides):

Ground water systems are required to monitor for inorganic chemicals once during the compliance period 2005 through 2007, inclusive. Surface water systems are required to monitor for inorganic chemicals annually. There were 162 occurrences of monitoring and/or reporting violations from 153 different systems. That is, 153 systems failed to monitor or report on time for the suite of inorganic chemical contaminants, resulting in a total of 162 monitoring/reporting violations. There were four systems that reported five MCL violations for inorganic chemical contaminants.

Nitrogen Compounds:

Surface and ground water systems are required to monitor for nitrate annually and nitrite once every nine years. There were 142 occurrences of monitoring and/or reporting violations from 132 different systems. There were three new nitrate MCL violations that occurred for three systems.

Radionuclides:

Community water systems are required to submit radionuclide samples as requested by the division during the four-year initial monitoring period under the revised radionuclide rule. One new radionuclide MCL violation was detected in the year 2005. There were two monitoring/reporting violations by one system. Calendar year 2005 is the second year of a four-year compliance period. Therefore, major monitoring/reporting violations will be determined in January 2008.

(Note: Some public water systems failed to monitor and/or report in more than one subcategory of chemical contaminant, resulting in disparate sums in the subcategories versus the total for chemical contaminants.)

Coliform Bacteria Violations

A total of 1,975 public water systems are required to monitor for the presence of coliform bacteria each year. The 2005 monitoring revealed 42 systems that detected and confirmed the presence of coliform bacteria in the water a total of 44 times. Of these 44 violations, two were acute with possible immediate health threats, and 42 were not acute violations. In all cases, systems were required to investigate and correct and issue public notification. In the case of the acute violations, notification to the public was required within 24 hours of the problem being identified, and may have included a boil water advisory and increased monitoring.

Also during the 2005 calendar year, 325 systems failed to take samples representing 458 separate violations. These violations resulted in system notification and/or enforcement action. Systems receiving violations were required to issue public notification.

Surface Water Treatment Rule, including IESWTR and LT1 ESWTR

Of the 306 surface water and ground water under the influence systems active in the state in 2005, 34 systems had a total of 63 violations of Treatment Technique (TT) requirements. These violations were due to either inadequate filtration resulting in high turbidity (cloudiness) of the water, or inadequate disinfection with chlorine. (Note: All violations of the suite of surface water treatment rules were reported to SDWIS using the violation code(s) for the SWT Rule.)

In 2005, 25 systems had significant monitoring violations for either turbidity or chlorine disinfectant residual, resulting in 92 separate violations.

Drinking water plants that are unable to maintain compliance with the requirements for filtration of water supplies are evaluated and provided with technical assistance to ascertain the cause of non-compliance. The problems vary from poor operation to the need for new treatment plants. Where necessary, enforcement action is taken to assure that proper treatment techniques are used to provide safe water to the consumers.

Lead and Copper Rule

This rule applied to 1005 public water systems and requires systems to monitor for lead and copper levels, and install corrosion control and educate consumers if appropriate. If elevated lead or copper levels are found, treatment is required, if appropriate, to bring the drinking water to within the required action levels. In 2005, six systems failed to educate their customers of the potential health problems resulting from elevated lead levels, and 31 systems are scheduled for corrosion control studies after exceeding the action level(s) for lead and/or copper.

In the calendar year 2005, 68 systems had a total of 71 significant monitoring and/or reporting violations. Of these 68 systems, 48 systems failed to take the required follow-up or routine samples and 20 systems failed to perform initial lead and copper monitoring.

Consumer Confidence Report (CCR) Rule

In calendar year 2005, 48 community public water systems had a total of 48 reporting violations for failing to submit a 2004 Consumer Confidence Report by the July 1, 2005 deadline.

Disinfection Byproducts Rule

In calendar year 2005, 19 public water systems had a total of 64 MRDL violations. There were seven treatment technique violations by seven systems, and 162 significant monitoring/reporting violations by 162 systems.

III. Variances and Exemptions

The division granted one exemption from the requirements of the arsenic revision. The exemption expires in January 2009.

IV. List of MCL, MRDL and Treatment Technique Violators

See Appendix A and B, attached.

V. Report Availability and Contact Information

The 2005 summary report may be obtained by writing to:

Colorado Department of Public Health and Environment
Water Quality Control Division
ATTN: Annual Compliance Report
CADM-B2
4300 Cherry Creek Drive South
Denver, CO 80246

In addition, this summary report has been posted on the Water Quality Control Division's Website at <http://www.cdphe.state.co.us/wq/drinkingwater/index.html>.

For further information concerning this report, or with specific violations associated with public water systems, you may contact Lori Gerzina with the WQCD Compliance Assurance & Data Management Section at (303) 692-3587.