



Arizona Department of Environmental Quality
Annual Compliance Report
Calendar Year 2017

ARIZONA DRINKING WATER ANNUAL COMPLIANCE REPORT

July 1, 2018

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 instead 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. The larger the population served by a water system, the more frequent the monitoring and reporting (M/R) requirements. Also, 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 contains data retrieved from the State version of the Safe Drinking Water Information System (SDWIS/STATE).

This report covers the calendar year 2017. Subsequent reports will be created each July 1 for the previous calendar year.

Public Water System

The definition of a Public Water System (PWS) is 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. A PWS 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. 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) instead of an MCL to control unacceptable levels of certain contaminants. For example, treatment techniques have been created 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. 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 to obtain a variance. 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 future compliance with the MCL. Small systems (those serving 3,300 or fewer persons; or 10,000 or fewer with the Administrator's approval) may receive a variance. Small systems qualify 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) utilizing 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 relieve a PWS of its obligation temporarily 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 be reasonably made resulting in compliance with the SDWA or improvement of water quality, or if the exemption will lead to 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 defined as any major monitoring violation that took place during the calendar year of the report. A major monitoring violation, with rare exceptions, such as turbidity monitoring, occurs when no samples are taken, or no results reported during a compliance period.

II. The Calendar Year 2017 Statistics

Sources of Data

The data set contains all violations that remained open into any part of 2017. The data is based on the SDWIS/FED April 2018 data upload, which is the most recent data available at the time of publication, July 1st 2018.

Chemical and Radiological Contaminants (Organic, Inorganic, Nitrogen Compounds, and Radionuclides)

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, except that 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 for community and non-transient non-community water systems.

Organic Chemicals: Systems are initially required to sample annually for contaminants in this classification. They are then able to move to either three or six-year monitoring based on those results. A violation is issued for each individual analyte not sampled for.

Pesticides: Initial monitoring for pesticides is quarterly. Systems can then move to reduced monitoring or receive a waiver based on sample data and the susceptibility of the source water.

Inorganic Chemicals: Surface water or UDI systems are required to monitor annually for inorganics. Groundwater systems are required to monitor every three years. If all samples are less than 75% of the MCL for that contaminant, the system can reduce monitoring to every nine years.

Nitrate and Nitrite: All groundwater systems are required to monitor annually for nitrate at each of their sources. Nitrite sampling occurs once every nine years. Surface water systems monitor quarterly and can receive a reduction to annual sampling based on sample results.

Arsenic: The frequency of arsenic monitoring is based on the initial sample results. Systems treating for arsenic are required to test more frequently.

Radionuclides: Community water systems are required to submit radionuclide samples as requested by the division during a four-year initial monitoring period under the revised radionuclide rule.

The violations for chemical and radiological contaminant monitoring and reporting are follows:

Monitoring and Reporting Violations – 2017

Rule Name	# of Viols	# of resolved Viols	# of PWS in Viols
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Arsenic	101	77	62
Inorganic Chemicals	356	131	32
Nitrates	136	89	122
Radionuclides	119	50	17
Synthetic Organic Chemicals	297	30	21
Volatile Organic Chemicals	471	240	11

MCL Violations – 2017

Rule Name	# of Viols	# of resolved Viols	# of PWS in Viols
Arsenic	56	10	20
Inorganic Chemicals	5	1	2
Nitrates	38	11	21
Radionuclides	28	7	2

Total Coliform Rule

All public water systems are required to monitor for the presence of coliform bacteria. Acute violations represent an immediate threat to public health. A non-acute MCL exceedance is determined by the presence of total coliform bacteria in the system. Either a single positive sample or 5.0% of samples depending on the population-based sampling requirements imposed on the system. In all cases, systems were required to investigate and correct and issue a public notification. Acute violations require notification to the public within 24 hours of the identifying the problem, and may include a boil or bottled water order and increased monitoring. These violations resulted in system notification and/or enforcement action.

TCR and RTCR Violations – 2017

Violation Type	Rule Name	# of Viols	# of resolved Viols	# of PWS in Viols
MCL Violation	TCR	0	0	0
MCL Violation	RTCR	26	6	12
Monitoring Violation	RTCR	182	176	127
Monitoring and Reporting	TCR	3	0	1
Treatment Technique	RTCR	25	16	23
Other Violation	RTCR	1	1	1

Water Treatment Rule (Surface Water and Ground Water)

Surface Water

Public water systems using Surface Water or sources classified as Under the Direct Influence of Surface Water (UDI) are subject to the requirements of the Surface Water Treatment Rule. 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.

Surface Water Violations - 2017

Violation Type	Rule Name	# of Viols	# of resolved Viols	# of PWS in Viols
Monitoring and Reporting	LT1	66	53	20
Treatment Technique	LT1	13	13	6
Treatment Technique	LT2	3	2	3
Monitoring and Reporting	LT2	26	23	14
Monitoring and Reporting	Surface Water Treatment Rule	70	57	22

Ground Water

The ground water rule applies to all system with water sources classified as ground water.

Ground Water Violations - 2017

Violation Type	# of Viols	# of resolved Viols	# of PWS in Viols
Monitoring and Reporting	70	59	64

Lead and Copper Rule

This rule applies to Community and Non-Transient Non-Community public water systems. It requires systems to monitor for lead and copper levels throughout the distribution system. Systems are required to install corrosion control and educate consumers if sample results deem it necessary. When elevated lead or copper levels are found, treatment

evaluations or changes may be required to bring the drinking water to within the required action levels. Lead and Copper compliance are calculated using an action level rather than an MCL. Compliance with the action level is determined by evaluating the 90th percentile of samples collected.

Lead and Copper Violations - 2017

Violation Type	# of Viols	# of resolved Viols	# of PWS in Viols
CCR Rule	383	306	261
Violation Type	# of Viols	# of resolved Viols	# of PWS in Viols
Monitoring and Reporting	369	192	244
Treatment Technique	15	15	15

Consumer Confidence Report (CCR) Rule

The Consumer Confidence Rule applies to all Community PWS. It is an annual report detailing the water served to the population. It contains all of the compliance data for a public water system including violations issued, detections for regulated contaminants, outstanding significant deficiencies, and other information pertaining to potable water quality. The CCR is required to be delivered directly to customers by July 1st of the reporting year. A letter stating how the delivery of the CCR occurred must be sent to the State of Arizona by October 1st. Failure to do either or omit required data results in violation. Systems must produce and distribute all missing CCRs to return to compliance.

CCR Violations - 2017

Disinfection Byproducts Rule (DBP)

The Disinfection Byproducts Rule applies to all systems that use treatment to disinfect their water. Disinfection processes produce byproducts that can have a harmful impact on public health. Careful management and oversight of this process reduces the risk and creates a net benefit to the public.

DBP Violations – 2017

Violation Type	Rule Name	# of Viols	# of resolved Viols	# of PWS in Viols
Monitoring and Reporting	Stage 1	370	352	211
Monitoring and Reporting	Stage 2	262	90	125
MCL Violation	Stage 2	26	6	12

III. Report Availability and Contact Information

The 2017 summary report may be obtained by writing to:

Arizona Department of Environmental Quality
Drinking Water Section
ATTN: Annual Compliance Report
1110 W. Washington St
Phoenix, AZ, 85007