



Arizona Drinking Water
Annual Compliance Report
Calendar Year 2022

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**ARIZONA DRINKING WATER
ANNUAL COMPLIANCE REPORT**
July 1, 2023

I. Introduction

The Drinking Water Program: An Overview

The Environmental Protection Agency (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.

EPA also regulates how often Public Water Systems (PWS) 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 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 fifty (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. 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.

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 MCLs, Maximum Residual Disinfectant Level (MRDL) violations, major monitoring and Treatment Technique

violations, lead Action Level Exceedances (ALE), lead 90th percentile data, and the enforcement actions taken against violators.

Annual State PWS Report

The annual compliance report that states are required to submit to EPA provides 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. EPA Regional Offices report the information for Wyoming, the District of Columbia, and all Indian Lands but the Navajo Nation. Regional offices also report Federal enforcement actions taken. This report contains data retrieved from SDWIS/FED

This report covers the calendar year 2022. Subsequent reports will be created each July 1st for the previous calendar year.

Terms

Public Water System (PWS)

A public water system 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 PWS: 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, otherwise specified.

Maximum Contaminant Level (MCL)

Under the Safe Drinking Water Act (SDWA), 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 MCLs. Under the Lead and Copper Rule, the national limits are called "action levels" rather than MCLs.

Maximum Residual Disinfectant Level (MRDL)

EPA sets limits on the residual levels of a disinfectant added for treatment of water to reduce exposure to disinfectant byproducts. These limits are known as maximum residual disinfectant level and are enforceable in the same manner as MCLs under Section 1412 of the Safe Drinking Water Act (SDWA).

Treatment Techniques (TT)

For some regulations, EPA establishes Treatment Techniques (TTs) instead of an MCL to control unacceptable levels of certain contaminants. These techniques are processes that a PWS is required to following after specific situations are discovered. For example, an assessment of potential

contamination sources may be triggered if a system detects bacteria in the water. Treatment techniques have been created for viruses, bacteria, disinfection byproduct precursors and turbidity.

Variances

A primacy state can grant a PWS a variance from a primary drinking water regulation if the characteristics of the raw water sources do not allow the system to meet the MCL after good faith efforts. The system must agree to install the best available technology, TT, 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 also prescribe a schedule (including increments of progress) that the PWS will follow to come into future compliance with the MCL.

Exemptions

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. For example, 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 and Reporting

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 and Reporting Violations

For this report, significant monitoring violations are 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 are reported during a compliance period.

Consumer Notification

Every community water system is required to deliver to its customers a brief annual water quality report. This report is to include some educational material, and will provide information on the source water, the levels of any detected contaminants, and compliance with drinking water regulations.

Significant Consumer Notification Violations

For this report, a significant consumer notification violation occurred if a community water system failed to provide its customers the required annual water quality report.

Public Notification Violations

The *Public Notification Rule* requires all PWSs to notify their consumers any time a PWS violated a national primary drinking water regulation or has a situation posing a risk to public health. The time period that a PWS has to notify the public depends upon the risk posed by the violation or situation. Notices must be provided to persons served (not just billing consumers).

Significant Public Notification Violations

For this report, significant public notification violation occurs when a PWS fails to notify its consumers that the PWS violated a national primary drinking water regulation or had a situation posing a risk to public health.

II. Report Availability and Contact Information

The 2022 summary report is available on ADEQ's website at:
https://static.azdeq.gov/wqd/comp_rep_2022.pdf

The report may also be obtained by writing to:

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

Questions or comments about this report may be directed to ADEQ in writing at the address above, or by email at dwmpru@azdeq.gov, or calling 602-771-0100.

III. Calendar Year 2022 Statistics

Data Source

The data set contains all violations that remained open into any part of 2022. The data is based on the SDWIS/FED April 2023 data upload, which is the most recent data available at the time of publication, July 1st 2023.

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. The following is a brief summary of the monitoring requirements:

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.

Systems are required to increase their monitoring for these contaminants to once each quarter based on the following criteria:

Organic chemical contaminants: when the contaminant exceeds the trigger level specified in the regulations.

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.

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

Monitoring and Reporting Violations – 2022

Rule Name	# of Violations	# of resolved Violations	# of PWS with Violations
Arsenic	52	20	39
Inorganic Chemicals	64	0	8
Nitrates	78	14	50
Radionuclides	51	21	18
Synthetic Organic Chemicals	88	0	4
Volatile Organic Chemicals	439	105	15

MCL Violations – 2022

Rule Name	# of Violations	# of resolved Violations	# of PWS with Violations
Arsenic	43	7	17
Inorganic Chemicals	15	0	4
Nitrates	37	3	14
Radionuclides	14	0	5

Total Coliform

All public water systems are required to monitor for the presence of coliform bacteria under the *Revised Total Coliform Rule*. An acute violation, the presence of *E.coli* bacteria, represents an immediate threat to public health. A non-acute MCL exceedance occurs when the presence of total coliform bacteria, but not *E.coli* bacteria is detected in the system.

A treatment technique that requires an assessment of potential bacterial contamination is triggered when 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 are required to investigate and correct and issue a public notification. Acute violations require notification to the public within 24

hours of identifying the problem and may include a boil or bottled water order and increased monitoring. Acute violations also result in system notification and/or enforcement action.

TCR and RTCR Violations – 2022

Violation Type	Rule Name	# of Violations	# of resolved Violations	# of PWS with Violations
MCL Violation	RTCR	12	9	11
Monitoring Violation	RTCR	169	138	121
Monitoring and Reporting	TCR	2	0	1
Treatment Technique	RTCR	91	40	70
Other Violation	RTCR	16	9	12

Water Treatment (Surface Water and Ground Water)

Surface Water

Public water systems using surface water or groundwater sources classified as Groundwater Under the Direct Influence of Surface Water (GUDI) are subject to the requirements of the *Surface Water Treatment Rule*. This Rule requires water systems to filter and disinfect the water to reduce the biological risk that is associated with surface water sources.

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 - 2022

Violation Type	Rule Name	# of Violations	# of resolved Violations	# of PWS with Violations
Monitoring and Reporting	LT1	53	30	20
Treatment Technique	LT1	15	0	2
Monitoring and Reporting	LT2	3	3	1
Other	LT2	1	1	1
Monitoring and Reporting	SWTR	61	26	28

Ground Water

The *Ground Water Rule* applies to all systems with water sources classified as ground water. Water systems that have ground water sources may be susceptible to fecal contamination. In many cases, fecal contamination can contain disease causing pathogens. The purpose of the Ground Water Rule (GWR) is to reduce disease incidence associated with harmful microorganisms in drinking water.

Ground Water Violations - 2022

Violation Type	# of Violations	# of resolved Violations	# of PWS with Violations
Monitoring and Reporting	97	37	78
Treatment Technique	3	3	1

Lead and Copper

The *Lead and Copper Rule* applies to Community and Non-Transient Non-Community public water systems. It requires systems to monitor for lead and copper levels at representative sites in the distribution system. If lead or copper results are above a defined concentration (action level), then treatment evaluations or changes may be required to bring the lead and/or copper levels in the drinking water to acceptable levels.

Lead and Copper compliance are calculated using an action level rather than an MCL because the action level triggers a treatment technique requirement to explore and install treatment to manage corrosion, which is how lead and/or copper gets into the water. Compliance with the action level is determined by evaluating the 90th percentile of samples collected.

Lead and Copper Violations - 2022

Violation Type	# of Violations	# of resolved Violations	# of PWS with Violations
Monitoring and Reporting	255	118	174
Treatment Technique	13	5	11

Consumer Confidence Reports (CCR)

The *Consumer Confidence Rule* applies to all Community PWS, and requires an annual report detailing notable aspects of the water service, like water quality results and violations that is reported to consumers of the water. The report is required to contain 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 report is required to be delivered directly to customers by July 1st of the reporting year. A letter stating how the delivery of the report 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 reports to return to compliance.

CCR Violations - 2022

Violation Type	# of Violations	# of resolved Violations	# of PWS with Violations
Reporting	131	51	105

Disinfection Byproducts (DBP)

The *Disinfection Byproducts Rules* 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 – 2022

Violation Type	Rule Name	# of Violations	# of resolved Violations	# of PWS with Violations
Monitoring and Reporting	Stage 1	311	189	194
MRDL Violation	Stage 1	3	3	1
Treatment Technique	Stage 1	5	0	2
Monitoring and Reporting	Stage 2	177	41	82
MCL Violation	Stage 2	15	1	5

Public Notices (PN)

The *Public Notice Rule* applies to all systems. PNs are notifications of violations of the national primary drinking water regulations, or other situations affecting the safety of the drinking water. Owners and operators are responsible for providing notices to customers, including consecutive connections.

PN Violations – 2022

Violation Type	Rule Name	# of Violations	# of resolved Violations	# of PWS with Violations
Monitoring and Reporting	Public Notice	471	205	230