

ANNUAL DRINKING WATER COMPLIANCE REPORT FOR 2016

prepared by the

Drinking Water Program
Municipal Facilities Division
Environmental Health Section
North Dakota Department of Health

June 2017

INTRODUCTION

This Annual Compliance Report has been developed to meet the requirement of section 1414 of the 1996 Amendments to the Safe Drinking Water Act (SDWA). The time period covered in this report is January 1, 2016 through December 31, 2016.

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 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 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. To receive primacy, States must meet 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 they 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

An automated database called the Safe Drinking Water Information System (SDWIS) has been developed by the EPA to store drinking water information. Primacy States submit data to the federal version of SDWIS (SDWIS/FED) on a quarterly basis. Data include PWS inventory statistics, the incidence of MCLs, Major Monitoring, and Treatment Technique violations, 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 SDWA 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 this data in SDWIS/FED. This report is based largely on data retrieved from SDWIS/FED.

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), nontransient noncommunity (such as schools or factories), or transient noncommunity systems (such as rest stops or parks). For this report, when the acronym “PWS” is used, it means systems of all types unless specified otherwise.

In North Dakota in 2016, 324 systems were classified as Community Water Systems (CWSs), 12 as Nontransient Noncommunity Water Systems (NTNCWSs), and 95 as Transient Noncommunity Water Systems (TNCWSs) for a total of 431 PWSs.

2016 SDWA Violations

The following tables depict SDWA violations incurred by North Dakota PWSs in calendar year 2016 and include violations that cross calendar year 2017 (i.e., violations determined in 2017 based on 2016 monitoring data). During 2016, a total of 192 major drinking water violations were issued. A total of 90 out of 431 systems incurred these violations in North Dakota for 2016. EPA requires the reporting of these major drinking water violations in the Annual Compliance Report.

In addition to the major violations discussed above, the State of North Dakota issued 22 minor drinking water violations. Overall 102 out of 431 systems incurred major and/or minor drinking water violations during 2016. In addition, the State issued four non-classified (neither major nor minor) consumer notice certification violations during 2016. While EPA does not require the reporting of these minor and non-classified drinking water violations in the Annual Compliance Report, the State of North Dakota does include them throughout the report for public information.

Availability of Annual Compliance Report (ACR)

A legal notice stating the availability of North Dakota’s 2016 ACR was published in seven of the state’s major newspapers. A press release was also sent to all fifty-three county newspapers. The ND Drinking Water Program will provide a copy of this report to all inquiries. North Dakota’s State

Report is available by contacting the North Dakota Department of Health, Division of Municipal Facilities, 918 E Divide Ave-3rd Floor, Bismarck, ND 58501-1947, Attention: LeeAnn Tillotson (701)328.5211 (phone), (701)328.5200 (fax), or ltillots@nd.gov (e-mail).

State: North Dakota

Reporting Interval: January 2016 – December 2016

	MCL/ MRDL (mg/L) ¹	MCLs/MRDLs		Treatment Techniques		Significant Monitoring/Reporting	
		Number of Violations	Number of Systems With Violations	Number of Violations	Number of Systems With Violations	Number of Violations	Number of Systems With Violations
Organic Contaminants							
1,1,1-Trichloroethane	0.2	0	0			0	0
1,1,2-Trichloroethane	0.005	0	0			0	0
1,1-Dichloroethylene	0.007	0	0			0	0
1,2,4-Trichlorobenzene	0.07	0	0			0	0
1,2-Dibromo-3- chloropropane (DBCP)	0.0002	0	0			0	0
1,2-Dichloroethane	0.005	0	0			0	0
1,2-Dichloropropane	0.005	0	0			0	0
2,3,7,8-TCDD (Dioxin)	3x10 ⁻⁸	0	0			0	0
2,4,5-TP	0.05	0	0			0	0
2,4-D	0.05	0	0			0	0
Acrylamide				0	0	0	0
Alachlor	0.002	0	0			0	0
Atrazine	0.003	0	0			0	0
Benzene	0.005	0	0			0	0
Benzo[a]pyrene	0.0002	0	0			0	0
Carbofuran	0.04	0	0			0	0
Carbon tetrachloride	0.005	0	0			0	0
Chlorobenzene	0.1	0	0			0	0
Chlordane	0.002	0	0			0	0
cis-1,2-Dichloroethylene	0.07	0	0			0	0
Dalapon	0.2	0	0			0	0
Di(2-ethylhexyl)adipate	0.4	0	0			0	0

State: North Dakota

Reporting Interval: January 2016 – December 2016

	MCL/ MRDL (mg/L) ¹	MCLs/MRDLs		Treatment Techniques		Significant Monitoring/Reporting	
		Number of Violations	Number of Systems With Violations	Number of Violations	Number of Systems With Violations	Number of Violations	Number of Systems With Violations
Di(2-ethylhexyl)phthalate	0.006	0	0			0	0
Dichloromethane	0.005	0	0			0	0
Dinoseb	0.007	0	0			0	0
Diquat	0.02	0	0			0	0
Endothall	0.1	0	0			0	0
Endrin	0.002	0	0			0	0
Epichlorohydrin				0	0		
Ethylbenzene	0.7	0				0	0
Ethylene dibromide	0.00005	0	0			0	0
Glyphosate	0.7	0	0			0	0
Heptachlor	0.0004	0	0			0	0
Heptachlor epoxide	0.0002	0	0			0	0
Hexachlorobenzene	0.001	0	0			0	0
Hexachlorocyclopentadiene	0.05	0	0			0	0
Lindane	0.0002	0	0			0	0
Methoxychlor	0.04	0	0			0	0
Monochlorobenzene	0.1	0	0			0	0
o-Dichlorobenzene	0.6	0	0			0	0
Oxamyl (Vydate)	0.2	0	0			0	0
para-Dichlorobenzene	0.075	0	0			0	0
Pentachlorophenol	0.001	0	0			0	0
Picloram	0.5	0	0			0	0
Simazine	0.004	0	0			0	0
Styrene	0.1	0	0			0	0

State: North Dakota

Reporting Interval: January 2016 – December 2016

	MCL/ MRDL (mg/L) ¹	MCLs/MRDLs		Treatment Techniques		Significant Monitoring/Reporting	
		Number of Violations	Number of Systems With Violations	Number of Violations	Number of Systems With Violations	Number of Violations	Number of Systems With Violations
Tetrachloroethylene	0.005	0	0			0	0
Toluene	1	0	0			0	0
Total polychlorinated biphenyls	0.0005	0	0			0	0
Toxaphene	0.003	0	0			0	0
trans-1,2-Dichloroethylene	0.1	0	0			0	0
Trichloroethylene	0.005	0	0			0	0
Vinyl chloride	0.002	0	0			0	0
Xylenes (total)	10	0	0			0	0
Inorganic Contaminants							
Antimony	0.006	0	0			0	0
Arsenic	0.05		0			0	0
Asbestos	7 million fibers/L < 10 µm long	0	0			0	0
Barium	2	0	0			0	0
Beryllium	0.004	0	0			0	0
Cadmium	0.005	0	0			0	0
Chromium	0.1	0	0			0	0
Cyanide (as free cyanide)	0.2	0	0			0	0
Fluoride	4.0	0	0			0	0
Mercury	0.002	0	0			0	0

State: North Dakota

Reporting Interval: January 2016 – December 2016

	MCL/ MRDL (mg/L) ¹	MCLs/MRDLs		Treatment Techniques		Significant Monitoring/Reporting	
		Number of Violations	Number of Systems With Violations	Number of Violations	Number of Systems With Violations	Number of Violations	Number of Systems With Violations
Nitrate	10 (as Nitrogen)	0	0			0	0
Nitrite	1 (as Nitrogen)	0	0			0	0
Selenium	0.05	0	0			0	0
Thallium	0.002	0	0			0	0
Total nitrate and nitrite	10 (as Nitrogen)	1	1			0	0
Subtotal		1	1			0	0
<p>Note: Although a PWS may be out of compliance with more than one contaminant or violation type, when calculating totals, it is counted no more than once within the population being totaled. So, the sum of ‘NUMBER OF PWS’s IN VIOLATION’, over the various violation types or contaminants, may not add up to the total number of violations.</p>							
Radionuclide MCLs							
Gross alpha	15 pCi/L	0	0			1*	1*
Radium-226 and radium-228	5 pCi/L	2	1			1*	1*
Gross beta	4 mrem/yr	0	0			0	0
Uranium	30 ug/L	0	0			1*	1*
Subtotal		2	1			1	1
<p>Note: Although a PWS may be out of compliance with more than one contaminant or violation type, when calculating totals, it is counted no more than once within the population being totaled. So, the sum of ‘NUMBER OF PWS’s IN VIOLATION’, over the various violation types or contaminants, may not add up to the total number of violations. * (Violations are reported as failing to monitor a radionuclide group.)</p>							

State: North Dakota

Reporting Interval: January 2016 – December 2016

	MCL/ MRDL (mg/L) ¹	MCLs/MRDLs		Treatment Techniques		Significant Monitoring/Reporting	
		Number of Violations	Number of Systems With Violations	Number of Violations	Number of Systems With Violations	Number of Violations	Number of Systems With Violations
Total Coliform Rule*							
Acute MCL violation	Presence	0	0				
Non-Acute MCL	Presence	2	2				
Major routine and follow up monitoring						21	18
Sanitary Surveys						0	0
Subtotal		2	2			21	18
<p>*The Total Coliform Rule was in effect January 1 to March 31, 2016 and was replaced by the Revised Total Coliform Rule April 1, 2016. Note: Although a PWS may be out of compliance with more than one contaminant or violation type, when calculating totals, it is counted no more than once within the population being totaled. So, the sum of 'NUMBER OF PWS's IN VIOLATION', over the various violation types or contaminants, may not add up to the total number of violations.</p>							
Minor routine and follow up monitoring						1	1
NOTE: EPA does not require minor monitoring violations to be counted for the ACR							

State: North Dakota

Reporting Interval: January 2016 – December 2016

	MCL/ MRDL (mg/L) ¹	MCLs/MRDLs		Treatment Techniques		Significant Monitoring/Reporting	
		Number of Violations	Number of Systems With Violations	Number of Violations	Number of Systems With Violations	Number of Violations	Number of Systems With Violations
Revised Total Coliform Rule *							
E. coli MCL violation	Presence	0	0				
Level 1 or Level 2 Assessment or Corrective Actions or Seasonal Start-up Procedures	Failure to Monitor or Report			6	4		
Routine and follow-up monitoring, Assessment and Start-up Reporting	Failure to Monitor or Report					113	71
Subtotal		0	0	6	4	113	71
*The Revised Total Coliform Rule replaced the Total Coliform Rule on April 1, 2016. The new RTCR rule as adopted in North Dakota requires all Public Water Systems to sample at least monthly.							
Ground Water Rule							
Monitoring, Source, major	Presence	0	0	0	0	0	0
Compliance Monitoring		0	0	0	0	0	0
Corrective Actions		0	0	0	0	0	0
Subtotal		0	0	0	0	0	0
<p>Note: Although a PWS may be out of compliance with more than one contaminant or violation type, when calculating totals, it is counted no more than once within the population being totaled. So, the sum of ‘NUMBER OF PWS’s IN VIOLATION’, over the various violation types or contaminants, may not add up to the total number of violations.</p>							
Ground Water Rule Compliance Monitoring Chlorine Routine/Reporting Routine/Reporting MINOR NOTE: EPA does not require minor monitoring violations to be counted for the ACR						0	0

State: North Dakota

Reporting Interval: January 2016 – December 2016

	MCL/ MRDL (mg/L) ¹	MCLs/MRDLs		Treatment Techniques		Significant Monitoring/Reporting	
		Number of Violations	Number of Systems With Violations	Number of Violations	Number of Systems With Violations	Number of Violations	Number of Systems With Violations
Surface Water Treatment Rule (SDWA 1993)							
Filtered systems							
Monitoring routine/repeat						0	0
Treatment techniques				0	0		
Unfiltered systems							
Monitoring routine/repeat							
Failure to filter							
Subtotal				0	0	0	0
Long Term 1 Enhanced Surface Water Treatment Rule (LT1ESWTR)							
Filtered systems							
Monitoring routine/repeat						0	0
Treatment techniques				0	0		
Unfiltered systems							
Monitoring routine/repeat							
Failure to filter							
Subtotal				0	0	0	0

State: North Dakota

Reporting Interval: January 2016 – December 2016

	MCL/ MRDL (mg/L) ¹	MCLs/MRDLs		Treatment Techniques		Significant Monitoring/Reporting	
		Number of Violations	Number of Systems With Violations	Number of Violations	Number of Systems With Violations	Number of Violations	Number of Systems With Violations
Long Term 2 Enhanced Surface Water Treatment Rule (LT2ESWTR)							
Filtered systems							
Monitoring routine/repeat						0	0
Treatment techniques				0	0		
Unfiltered systems							
Monitoring routine/repeat							
Failure to filter							
Subtotal				0	0	0	0
LT1ESWTR							
Failure to Monitor Minor						0	0
NOTE. EPA does not require minor monitoring violations to be counted in the ACR							

State: North Dakota

Reporting Interval: January 2016 – December 2016

	MCL/ MRDL (mg/L) ¹	MCLs/MRDLs		Treatment Techniques		Significant Monitoring/Reporting	
		Number of Violations	Number of Systems With Violations	Number of Violations	Number of Systems With Violations	Number of Violations	Number of Systems With Violations
Surface Water Treatment Rule (SDWA 1993)							
Record keeping for Ind. Filter							
Failure to Produce Filter Assessment							
Failure to Produce CPE							
Failure to Profile/Consult							
Failure to Monitor/Routine, Major						0	0
Single Combined Filter Effluent				0	0		
Monthly Combined Filter Effluent				0	0		
Uncovered Storage Facility				0	0		
Subtotal				0	0	0	0

State: North Dakota

Reporting Interval: January 2016 – December 2016

	MCL/ MRDL (mg/L) ¹	MCLs/MRDLs		Treatment Techniques		Significant Monitoring/Reporting	
		Number of Violations	Number of Systems With Violations	Number of Violations	Number of Systems With Violations	Number of Violations	Number of Systems With Violations
Long Term 1 Enhanced Surface Water Treatment Rule						0	0
Record keeping for Ind. Filter						0	0
Failure to Produce Filter Assessment Failure to Produce CPE						0	0
Failure to Profile/Consult						0	0
Failure to Monitor/Routine, Major						0	0
Single Combined Filter Effluent				0	0		
Monthly Combined Filter Effluent				0	0		
Uncovered Storage Facility				0	0		
Subtotal				0	0	0	0

State: North Dakota

Reporting Interval: January 2016 – December 2016

	MCL/ MRDL (mg/L) ¹	MCLs/MRDLs		Treatment Techniques		Significant Monitoring/Reporting	
		Number of Violations	Number of Systems With Violations	Number of Violations	Number of Systems With Violations	Number of Violations	Number of Systems With Violations
Long Term 2 Enhanced Surface Water Treatment Rule						0	0
Failure to meet sampling schedule requirements						0	0
Failure to meet sampling location requirements						0	0
Failure to meet analytical laboratory requirements						0	0
Failure to meet reporting requirements						0	0
Subtotal						0	0
Filter Backwash Recycle Rule							
Failure to Properly Recycle				0	0		
Recordkeeping						0	0
Subtotal				0	0	0	0

State: North Dakota

Reporting Interval: January 2016 – December 2016

	MCL/ MRDL (mg/L) ¹	MCLs/MRDLs		Treatment Techniques		Significant Monitoring/Reporting	
		Number of Violations	Number of Systems With Violations	Number of Violations	Number of Systems With Violations	Number of Violations	Number of Systems With Violations
Stage 1 Disinfectants and Disinfection By-products Rule							
		Note: Although a PWS may be out of compliance with more than one contaminant or violation type, when calculating totals, it is counted no more than once within the population being totaled					
Haloacetic Acids	0.060	0	0			0	0
Total Trihalomethane	0.080	0	0			0	0
Total Organic Carbon				0	0	0	0
Alkalinity				0	0	0	0
Chlorine/Chloramine	MRDL = 4	0	0			0	0
Bromate/Bromide	0.01	0	0			0	0
Subtotal		0	0	0	0	0	0
Stage 2 Disinfectants and Disinfection By-products Rule							
		Note: Although a PWS may be out of compliance with more than one contaminant or violation type, when calculating totals, *PWS counted no more than once within the population being totaled.					
Haloacetic Acids	0.060	0	0			0	0
Total Trihalomethane	0.080	3	2			0	0
Total Organic Carbon				0	0	0	0
Alkalinity				0	0	0	0
Chlorine/Chloramine	MRDL = 4	0	0			28	19
Bromate/Bromide	0.01	0	0			0	0
Subtotal		3	2	0	0	28	19

State: North Dakota

Reporting Interval: January 2016 – December 2016

	MCL/ MRDL (mg/L) ¹	MCLs/MRDLs		Treatment Techniques		Significant Monitoring/Reporting	
		Number of Violations	Number of Systems With Violations	Number of Violations	Number of Systems With Violations	Number of Violations	Number of Systems With Violations
Lead and Copper Rule							
Initial lead and copper tap M/R						0	0
Follow up or routine lead and copper tap M/R						2	2
Treatment installation				0	0		
Public education						0	0
Subtotal				0	0	2	2
Lead Rule							
Consumer Notice Violation**						4	4
<p>Note: Although a PWS may be out of compliance with more than one contaminant or violation type, when calculating totals, it is counted no more than once within the population being totaled. So, the sum of ‘NUMBER OF PWS’S IN VIOLATION’, over the various violation types or contaminants, may not add up to the total.</p> <p>**Lead Consumer Notice violations are not currently classified as Major or Minor violations.</p>							

State: North Dakota

Reporting Interval: January 2016 – December 2016

	MCL/ MRDL (mg/L) ¹	MCLs/MRDLs		Treatment Techniques		Significant Monitoring/Reporting	
		Number of Violations	Number of Systems With Violations	Number of Violations	Number of Systems With Violations	Number of Violations	Number of Systems With Violations
Consumer Confidence Report Rule							
CCR Report Violation						13	13
Subtotal						13	13
CCR Adequacy/Availability/ Content Violation (MINOR Violation) NOTE: EPA does not require reporting of minor violations of Adequacy/Availability/ Content to be included in the ACR.						21	21
Public Notification Rule							
Public Notice Violations						0	0
Subtotal						0	0
Public Notice Violations for MINOR and/or ON-GOING Violations NOTE: EPA does not require Public Notice Violations pertaining to minor monitoring or on-going violations to be counted for the ACR						0	0

1. Values are in milligrams per liter (mg/L), unless otherwise specified.

Definitions for Summary of Violations Table

The following definitions apply to the Summary of Violations Table.

Consumer Confidence Report (CCR) Rule: The CCR Rule requires all community water systems to issue annual drinking water quality reports to their customers. States are to report two categories of violations:

CCR Report Violation: A violation that exists when a PWS fails to produce and deliver the report to the public and provide a copy to the State by the annual due date or the State determines the report was grossly inadequate and must be regenerated and delivered providing a copy to the State.

CCR Adequacy/Availability/Content Violation: A violation where the State determines the report is deficient in language, content, and/or meeting availability requirements or if a community public water system fails to submit a completed certification form.

Stage 1 Disinfectants/Disinfection By-products (D/DBP) Rule: The D/DBP Rule requires community and non-transient non-community water systems to test for the regulated by-products potentially produced from the use of the disinfectants ozone, chlorine dioxide and chlorine.

Stage 2 Disinfectants/Disinfection By-products (D/DBP) Rule: The Stage 2 D/DBP Rule builds upon and will eventually replace the Stage 1 DBPR to provide increased health protection through required testing. Stage 2 applies to all community and non-transient non-community public water systems that produce, purchase and/or deliver water that has been treated with a primary or residual disinfectant other than ultraviolet (UV) light.

Filter Backwash Recycle Rule (FBRR): The Filter Backwash Recycle Rule requires monitoring/reporting and treatment techniques for those public water systems that use surface water or ground water under the influence of surface water, practice conventional or direct filtration, and recycle spent filter backwash, thickener supernatant, or liquids from de-watering processes.

Filtered Systems: Water systems that have installed filtration treatment [40 CFR 141, Subpart H].

Ground Water Rule (GWR): The Groundwater Rule (GWR) is in place to provide increased protection against microbial pathogens, specifically bacterial and viral pathogens, in public water systems that use ground water. Instead of requiring disinfection for all ground water systems (GWS), the GWR establishes a risk-targeted approach to identifying GWSs that are susceptible to fecal contamination. The GWR requires systems at risk of microbial contamination to take corrective action to protect consumers from harmful bacteria and viruses. The basic requirements of the GWR for the GWSs are source water monitoring, compliance monitoring and corrective actions.

Inorganic Contaminants: Non-carbon-based compounds such as metals, nitrates, and asbestos. These contaminants are naturally-occurring in some water, but can get into water through farming, chemical manufacturing, and other human activities. EPA has established MCLs for 15 inorganic contaminants [40 CFR 141.62].

Long Term 1 Enhanced Surface Water Treatment Rule (LT1ESWTR): The Long Term 1 Enhanced Surface Water Treatment Rule requires monitoring and treatment to improve control of microbial pathogens, specifically the protozoan cryptosporidium, in drinking water and to address risk trade-offs with disinfection by-products.

Long Term 2 Enhanced Surface Water Treatment Rule (LT2ESWTR): The Long Term 2 Enhanced Surface Water Treatment Rule requires monitoring data be collected so systems can categorize the source water cryptosporidium concentration into one of four bin classifications as associated with the rule.

Lead and Copper Rule: This rule established national limits on lead and copper in drinking water [40 CFR 141.80-91]. Lead and copper corrosion pose various health risks when ingested at any level, and can enter drinking water from household pipes and plumbing fixtures. States report violations of the Lead and Copper Rule in the following six categories:

Initial lead and copper tap M/R: A violation where a system did not meet initial lead and copper testing requirements, or failed to report the results of those tests to the State.

Follow-up or routine lead and copper tap M/R: A violation where a system did not meet follow-up or routine lead and copper tap testing requirements, or failed to report the results.

Treatment installation: Violations for a failure to install optimal corrosion control treatment or source water treatment which would reduce lead and copper levels in water at the tap. [One number is to be reported for the sum of violations in both categories].

Lead service line replacement: A violation for a system's failure to replace lead service lines on the schedule required by the regulation.

Public education: A violation issued when a system did not provide required public education about reducing or avoiding lead intake from water.

Lead Consumer Notice: A violation for a system's failure to certify that lead sampling results and lead health information were provided to the consumer whose home was used for lead and copper sampling. The requirement applies to each sample result regardless of whether or not lead was found in the home's drinking water.

Maximum Contaminant Level (MCL): The highest amount of a contaminant that EPA allows in drinking water. MCLs ensure that drinking water does not pose either a short-term or long-term health risk. MCLs are defined in milligrams per liter (parts per million) unless otherwise specified.

Maximum Residual Disinfectant Level (MRDL): The EPA sets national limits on residual disinfectant levels in drinking water to reduce the risk of exposure to disinfectant byproducts formed, when public water systems add chemical disinfectant for either primary or residual treatment. These limits are known as Maximum Residual Disinfectant Levels.

Monitoring: EPA specifies which water testing methods the water systems must use, and sets schedules for the frequency of testing. A water system that does not follow EPA's schedule or methodology is in violation [40 CFR 141].

States must report monitoring violations that are significant as determined by the EPA Administrator and in consultation with the States. For purposes of this report, significant monitoring violations are major violations and they occur when no samples are taken or no results are reported during a compliance period. A major monitoring violation for the surface water treatment rule occurs when at least 90% of the required samples are not taken or results are not reported during the compliance period.

Organic Contaminants: Carbon-based compounds, such as industrial solvents and pesticides. These contaminants generally get into water through runoff from cropland or discharge from factories. EPA has set legal limits on 53 organic contaminants that are to be reported [40 CFR 141.61].

Public Notification Rule: This rule requires a public water system to notify the public anytime the system violates national primary drinking water regulations or has other situations posing a risk to public health.

Radionuclides: Radioactive particles which can occur naturally in water or result from human activity. EPA has set legal limits on four types of radionuclides: radium-226, radium-228, gross alpha, and beta particle/photon radioactivity [40 CFR 141]. Violations for these contaminants are to be reported using the following three categories:

Gross alpha: A violation for alpha radiation above the MCL of 15 picocuries/liter. Gross alpha includes radium-226 but excludes radon and uranium.

Combined radium-226 and radium-228: A violation for combined radiation from these two isotopes above the MCL of 5 pCi/L.

Gross beta: A violation for beta particle and photon radioactivity from man-made radionuclides above 4 millirem/year.

Uranium: A violation for uranium above the MCL of 30 ug/l.

Reporting Interval: The reporting interval for violations to be included in the Annual Compliance Report, which is to be submitted to EPA by July 1, 2017, is from January 1, 2016 through December 31, 2016.

Revised Total Coliform Rule: This rule replaced the Total Coliform Rule on April 1, 2016. The RTCR, as was the case with its predecessor the Total Coliform Rule, is the only microbial drinking water regulation that applies to all PWSs. The rule established regulations for microbiological contaminants in drinking water. EPA anticipates greater public health protection under the RTCR, as it requires PWSs that are vulnerable to microbial contamination to identify and fix problems. These problems are identified through Level 1 and Level 2 assessments of the system.

A Level 1 assessment is a study of the water system to identify potential problems and determine (if possible) why total coliform bacteria have been found in our water system.

A Level 2 assessment is a very detailed study of the water system to identify potential problems and determine (if possible) why an E. coli MCL violation has occurred and /or why Total Coliform bacteria have been found in our water system on multiple occasions.

States are to report the following categories of violations:

E. coli Maximum Contaminant Level exceedance: A violation where the system found E. coli, a potentially harmful bacteria in its water, thereby violating the rule; or, when the system fails to take repeat samples, as required.

Treatment Technique Violations: A violation that occurs when a system fails to conduct a required Level 1 or Level 2 assessment, or to correct any sanitary defect found through the Level 1 or Level 2 assessment within 30 days of learning of the trigger for this action, or in accordance with a schedule approved by the state. This violation may also be incurred if a seasonal system fails to complete state-approved start-up procedures prior to serving water to the public.

Monitoring Violations: A violation where the system did not perform any required routine or additional routine monitoring samples, or failure to analyze for E. coli following a total coliform positive routine sample.

Reporting Violations: A violation when a system fails to submit a monitoring report or completed assessment form after the system properly conducts monitoring or an assessment in a timely manner; fails to notify the state of an EC+ sample; or fails to submit certification of completion of state approved start-up procedures by a seasonal system.

SDWIS Code: Specific numeric codes from the Safe Drinking Water Information System (SDWIS) have been assigned to each violation type included in this report. The violations to be reported include exceeding contaminant MCLs, failure to comply with treatment requirements, and failure to meet monitoring and reporting requirements.

Surface Water Treatment Rule (SDWA 1993): The Surface Water Treatment Rule establishes criteria under which water systems supplied by surface water sources, or ground water sources under the direct influence of surface water, must filter and disinfect their water [40 CFR 141, Subpart H]. Violations of the Surface Water Treatment Rule are to be reported for the following four categories:

Monitoring, routine/repeat (for filtered systems): A violation for a system's failure to carry out required tests, or to report the results of those tests.

Treatment techniques (for filtered systems): A violation for a system's failure to properly treat its water.

Monitoring, routine/repeat (for unfiltered systems): A violation for a system's failure to carry out required water tests, or to report the results of those tests.

Failure to filter (for unfiltered systems): A violation for system's failure to properly treat its water. Data for this violation code will be supplied to the States by EPA.

Total Coliform Rule (TCR): (This rule was replaced by the Revised Total Coliform Rule on April 1, 2016.) The Total Coliform Rule establishes regulations for microbiological contaminants in drinking water. These contaminants can cause short-term health problems. If no samples are collected during one month compliance period, a significant monitoring violation occurs. States are to report four categories of violations:

Acute MCL violation: A violation where the system found fecal coliform or E. coli, potentially harmful bacteria, in its water, thereby violating the rule.

Non-acute MCL violation: A violation where the system found total coliform in samples of its water at a frequency or at a level that violates the rule. For systems collecting fewer than 40 samples per month, more than one positive sample for total coliform is a violation. For systems collecting 40 or more samples per month, more than 5% of the samples positive for total coliform is a violation.

Major routine and follow-up monitoring: A violation where a system did not perform any monitoring. One number is reported for the sum of violations in these two categories.

Sanitary Survey: A major monitoring violation where a system fails to collect 5 routine monthly microbiological samples if a sanitary survey has not been performed during the previous 5 years.

Treatment Techniques: Treatment or other measures that EPA requires instead of an MCL for contaminants that laboratories cannot adequately measure. Failure to meet operational and system requirements under the Surface Water Treatment Rule, the Lead and Copper Rule, and the Phase II Rule (Acrylamide and Epichlorohydrin) have been included in this category of violation for the purposes of this report.

Unfiltered Systems: Water systems (using surface water or groundwater under the direct influence of surface water) that are not required to filter their water prior to disinfection due to source and site-specific conditions [40 CFR, Subpart H].

Violation: A failure to meet any state or federal drinking water regulation.

CONCLUSION

The vast majority of PWSs in North Dakota maintain an excellent SDWA compliance record. During 2016, 280 certificates of compliance were issued to public water systems that maintained full compliance.

The following tables illustrate the high compliance rate (for calendar year 2016) maintained by North Dakota PWSs. It is the responsibility of each PWS under the SDWA to properly comply with all drinking water monitoring, reporting, MCL and treatment technique requirements.

Under the TCR, all PWSs were required to collect and submit a prescribed number of microbiological samples (based on population served) each month or quarter to a certified laboratory for analysis on an ongoing basis. Under the RTCR as adopted in North Dakota, all Public Water Systems are required to submit microbiological samples at least monthly. Under the SWTR, PWSs that utilize surface water (currently 20 systems in North Dakota) are required to maintain finished water turbidity at or below certain target levels. Such systems are also required to maintain residual disinfectant concentrations at or above certain target levels (applies both to water entering and within the distribution system).

As it is nationwide, North Dakota's predominant compliance problem is ensuring that all required microbiological samples are collected. For many systems, the increase in the required sampling frequency for microbial contaminants from quarterly to monthly sampling during 2016 became a learning process. This learning process will lead to the development of a new sampling routine for those systems. The department will continue to work with the PWSs in the state to improve compliance.

	MCLs		Treatment Techniques		Significant Monitoring/Reporting	
	Total Number of Systems Required to Monitor	Percentage of Systems with <u>No</u> Violations	Total Number of Systems Required to Monitor	Percentage of Systems with <u>No</u> Violations	Total Number of Systems Required to Monitor	Percentage of Systems with <u>No</u> Violations
Organic Contaminants						
Community Water Systems (CWS)	324	100%	324	100%	324	100%
Nontransient Noncommunity Water Systems (NTNC)	11	100%	11	100%	11	100%
Transient Noncommunity Water Systems (TNCWS)	0				0	
Inorganic Contaminants						
CWS	324	100%			324	100%
NTNCWS	11	100%			11	100%
TNCWS	95	98.9%			95	100%
Radionuclides						
CWS	324	99.69%			324	99.69%
NTNCWS	0				0	
TNCWS	0				0	
Total Coliform Rule						
CWS	324	100%			324	97.8%
NTNCWS	12	100%			12	100%
TNCWS	95	97.9%			95	87.37%
Revised Total Coliform Rule						
CWS	324	100%	324	99.69%	324	93.83%
NTNCWS	12	100%	12	100%	12	33.33%
TNCWS	95	100%	95	96.8%	95	54.74%

	MCLs		Treatment Techniques		Significant Monitoring/Reporting	
	Total Number of Systems Required to Monitor	Percentage of Systems with <u>No</u> Violations	Total Number of Systems Required to Monitor	Percentage of Systems with <u>No</u> Violations	Total Number of Systems Required to Monitor	Percentage of Systems with <u>No</u> Violations
Surface Water Treatment Rule¹ SDWA 1993						
CWS			18	100%	0	100%
NTNCWS			2		0	
TNCWS			0		0	
1. Only those systems that use surface water are required to monitor under and comply with the SWTR.						
Long Term 1 Enhanced Surface Water Treatment Rule						
CWS			18	100%	18	100%
NTNCWS			2	100%	2	100%
TNCWS			0		0	
Long Term 2 Enhanced Surface Water Treatment Rule						
CWS			18	100%	18	100%
NTNCWS			2	100%	2	100%
TNCWS			0		0	

	MCLs		Treatment Techniques		Significant Monitoring/Reporting	
	Total Number of Systems Required to Monitor	Percentage of Systems with <u>No</u> Violations	Total Number of Systems Required to Monitor	Percentage of Systems with <u>No</u> Violations	Total Number of Systems Required to Monitor	Percentage of Systems with <u>No</u> Violations
Stage 1 Disinfectants/Disinfection By-products Rule						
CWS	0	100%	0	100%	0	100%
NTNCWS	0	100%	0	100%	0	100%
TNCWS						
	MCLs		Treatment Techniques		Significant Monitoring/Reporting	
	Total Number of Systems Required to Monitor	Percentage of Systems with <u>No</u> Violations	Total Number of Systems Required to Monitor	Percentage of Systems with <u>No</u> Violations	Total Number of Systems Required to Monitor	Percentage of Systems with <u>No</u> Violations
Stage 2 Disinfectants/Disinfection By-products Rule						
CWS	317	99.4%	17	100%	317	94.32%
NTNCWS	5	100%	1	100%	5	80.0%
TNCWS						
Lead and Copper Rule						
CWS			324	100%	324	99.38%
NTNCWS			12	100%	12	100%
TNCWS			0		0	

	MCLs					
	Total Number of Systems Required to Monitor	Percentage of Systems with <u>No</u> Violations	Total Number of Systems Required to Monitor	Percentage of Systems with <u>No</u> Violations	Total Number of Systems Required to Monitor	Percentage of Systems with <u>No</u> Violations
Consumer Confidence Rule						
CWS					324	96.0%
NTNCWS					0	
TNCWS					0	
	MCLs		Treatment Techniques		Significant Monitoring/Reporting	
	Total Number of Systems Required to Monitor	Percentage of Systems with <u>No</u> Violations	Total Number of Systems Required to Monitor	Percentage of Systems with <u>No</u> Violations	Total Number of Systems Required to Monitor	Percentage of Systems with <u>No</u> Violations
Ground Water Rule						
CWS	222	100%	222	100%	222	100%
NTNCWS	10	100%	10	100%	10	100%
TNCWS	85	100%	85	100%	85	100%

LIST OF SYSTEMS WITH VIOLATIONS IN 2016¹

Organic Contaminants

No violations for organic contaminants were issued in 2016.

Radionuclide Contaminants

Community and Noncommunity Water Systems

Maximum Contaminant Level Exceedance –

Combined Radium Average

Willowbank Colony (LaMoure) - 2

Failure to Monitor/Report Violation

Willowbank Colony (LaMoure)

Inorganic Contaminant Violations

Community and Noncommunity Water Systems

Arsenic

No violations for Arsenic were issued in 2016.

Fluoride

No violations for Fluoride were issued in 2016.

Nitrate/Nitrite

Maximum Contaminant Level Exceedance, Average

Alexander RV Park (McKenzie)

Lead and Copper Rule Violations

Community and Nontransient Noncommunity Water Systems

Failure to Follow-up or Routine Tap Monitor/Report

Almont, City of

Arnegard Diamond Estates (McKenzie)

Lead Public Education

None

Lead Consumer Notice Certification

Country Acres MHP (Ward)

Riverview Heights (Morton)

Ross, City of

Sentinel Butte, City of

Microbiological Violations

Community Water Systems

Maximum Contaminant Level Acute Violations (MCLA) and E. coli MCL Violations

None

Maximum Contaminant Level Violations (MCL)

None.

Failure to Monitor Major and Follow-Up Monitoring Violations (FMma and MaR) (TCR/RTCR)

Almont, City of - 2

Arnegard Diamond Estates (McKenzie) - 3

Bisbee, City of

Cathay, City of

Columbus, City of

Forbes, City of – 5

Microbiological Violations

Community Water Systems

Failure to Monitor Major and Follow-Up Monitoring Violations (FMma and MaR) (TCR/RTCR)-continued

Fradets Orchard Water System (Cass)

Gladstone, City of

Goodrich, City of

Harwood, City of

Hope, City of

Horace, City of

Hunter, City of

Karlsruhe, City of – 5

Litchville, City of

Max, City of

Reeder, City of

Riverdale Subdivision (Cass)

Riverview Heights (Morton)

Ross, City of – 3

Selfridge, City of

Stanley, City of

Watford Residence Suites (McKenzie)

Willowbank Colony (LaMoure)

Failure to Perform Corrective/Expedited Actions

Oberon, City of

Failure to Monitor Minor and Follow-Up Monitoring Violations (FMmi and MiR) NOTE: EPA does not require minor monitoring violations to be counted for the Annual Compliance Report.

None.

Microbiological Violations

Noncommunity Water Systems

Maximum Contaminant Level Acute Violations (MCLA) and E. coli MCL Violations

None.

Maximum Contaminant Level Violations (MCL)

Ambrose Community Well (Divide)

Hunters Lodge (McLean)

Failure to Monitor Major and Follow-Up Monitoring Violations (FMma and MaR) (TCR/RTCR)

Adele's Oasis (Richland) - 4

Alexander RV Park (McKenzie) - 4

Allstate Peterbilt (Williams)

Almost Home - (McKenzie) (Inactive) - 6

Arnegard City Park (McKenzie)

Aux Sable Midstream LLC (Mountrail)

Border Lounge (Rolette)

Center Mine (BNI Coal) (Oliver)

Club 85 (Billings)

Coyote Septic Service (Williams) - 3

Dawson Café (Kidder)

DGB Employee Housing (McKenzie)

Doyle Memorial State Park (McIntosh) - 2

EXL Cabins and Campground (Mountrail) - 4

Fertile Fields (McKenzie)

Glacier Potable Water (Williams)

Group Camp Complex 71 (Bottineau)

HB Rentals (Williams) Inactive - 2

Hooked on Espresso (McKenzie) (Inactive) - 2

Hurdsfield Dairy King (Wells) (Inactive) -2

Hurley Enterprises (McKenzie)

Microbiological Violations

Noncommunity Water Systems

Failure to Monitor Major and Follow-Up Monitoring Violations (FMma and MaR) (TCR/RTCR)-continued

Hurricane Hydro Services (Stark) (Inactive)
JR's RV Park (Dunn) - 3
K & K Construction and Repair Inc. (Cass)
Knickerbocker Liquor Locker (Cass)
Larsons Drive Inn (Grand Forks) - 4
Little Beaver Bay Rec Area (Williams)
Manitou Village (Mountrail)
McVile Farmers Union (Nelson) - 3
Menards-BIDC (Burleigh)
Metigoshe Drive Inn (Bottineau) - 2
Missouri-Yellowstone Interpretive Center (Williams)
Napoleon Livestock (Logan)
Oakes Golf Club (Dickey) - 4
Old West Campground (Slope)
Palermo Rail Terminal (Mountrail)
PDQ Club (McKenzie)
Redwing Pines Park LLC (McKenzie) - 2
Ridgeview Park (McKenzie)
Ringneck Bar & Grill (Cass)
Short Stop Convenience Store (McKenzie)
Sportsmans Bar (Stutsman) -3
Sullys Hill Natl Game Preserve (Benson) - 2
Sweet Crude Travel Center (McKenzie) - 2
Tappen Public School (Kidder)
Three Forks RV Park (McKenzie) - 2
Tioga Golf and Country Club (Williams)(Inactive)
Tobacco Garden Recreation Area (McKenzie)
Traynor Park (Mountrail)
Vac-Tec Septic & Water (Williams) - 4

Watford Ridge Suites (McKenzie) - 2
Watford RV Park (McKenzie) - 2
Woodland Steakhouse (Barnes) - 2

Failure to Perform Corrective/Expedited Actions

Knickerbocker Liquor Locker (Cass)
McVile Farmers Union (Nelson) - 2
Oakes Golf Club (Dickey)

Failure to Perform Start-up Procedures

Oakes Golf Club (Dickey)

Failure to Report/Certify Startup Procedures

Hurdsfield Dairy King (Wells) (Inactive)

Failure to Monitor Minor and Follow-Up Monitoring Violations (FMmi and MiR) NOTE: EPA does not require minor monitoring violations to be counted for the Annual Compliance Report.

Alexander Water Spring (McKenzie)

Long Term Interim Enhanced Surface Water Treatment Rule Violations

Failure to Maintain Microbial Treatment LT2

No violations issued 2016.

Surface Water Treatment Rule Violations

Failure to Maintain Residual Disinfectant Concentration

No violations issued 2016.

Stage 1 & 2 Disinfection By-Products Rule Violations

Community and Noncommunity

Total Haloacetic Acids (HAA5)

Maximum Contaminant Level Violation (MCL), Average

Locational Running Annual Average Exceedance

No violations issued 2016.

Total Trihalomethanes (TTHM)

Maximum Contaminant Level Violation (MCL)-

Locational Running Annual Average

Harwood, City of - 2

McLean-Sheridan Water District System II

Bromate

Failure to Monitor/Report Major Violations

No violations issued 2016.

Chloramine

Failure to Monitor/Report Major Violations

Almont, City of – 2

Columbus, City of

Forbes, City of – 4

Max, City of

Reeder, City of

Riverview Heights (Morton)

Ross, City of – 2

Stanley, City of

Chlorine

Failure to Monitor/Report Major Violations

Bisbee, City of

Cathay, City of

Crary, City of – 2

Harwood, City of

Hope, City of

Horace, City of

Hunter, City of

Karlsruhe, City of – 4

Litchville, City of

Ridgeview Park (McKenzie)

Selfridge, City of

Stage 2 Disinfection By-Products Rule Violations

Total Haloacetic Acids & Total Trihalomethane

Failure to Monitor/Report Major-Annual

No violations issued 2016.

Total Haloacetic Acids (HAA5)

Failure to Monitor/Report Major-Quarterly

No violations issued 2016.

Total Trihalomethane (TTHM)

Failure to Monitor/Report Major-Quarterly

No violations issued in 2016.

Ground Water Rule Violations

Failure to Monitor, Triggered Source Major

No violations issued 2016.

Consumer Confidence Rule Report Violations

Failure to Submit Report Major

Forbes, City of
Fradets Orchard Water System (Cass)
Harwood, City of
Hunter, City of
LaMoure, City of
Lukenbill Estates (Williams)
Maxbass, City of
Plaza City of
R & R Trailer Court (Williams)
Regent, City of
Sentinel Butte, City of
Watford Residence Suites (McKenzie)
Wollman Ranch (Grant)

Adequacy/Availability/Content Minor

NOTE: EPA does not require minor monitoring/reporting violations to be counted for the Annual Compliance Report.

Abercrombie, City of
Badlands Development Long X TC (McKenzie)
Binford, City of
Center North
Center South
Columbus, City of
Fairview Colony (LaMoure)
Forbes, City of
Fradets Orchard Water System (Cass)
Hunter, City of
Kensal, City of
Lukenbill Estates (Williams)
Manning Water Board (Dunn)
Max, City of

Plaza, City of
R & R Trailer Court (Williams)
Regent, City of
Sentinel Butte, City of
Sykeston, City of
Watford Residence Suites (McKenzie)
Wing, City of

Public Notification Rule Violations

Community Water Systems

No violations issued 2016.

Public Notification Rule Violations

Noncommunity Water Systems

No violations issued 2016.

1. Multiple violations within a specified category are represented by a number following the system name (i.e. 'System Name- 2' means that the System incurred two violations during the reporting period). Counties are in parentheses.

Note: A PWS is counted no more than once within the population being counted.