GUAM ENVIRONMENTAL PROTECTION AGENCY

ANNUAL PUBLIC WATER SYSTEM

COMPLIANCE REPORT

CALENDAR YEAR 2021

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JULY 1, 2022

Prepared by:

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Safe Drinking Water Program

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I. The National Drinking Water Program

Overview. The U.S. 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 and 1996 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) and Maximum Residual Disinfectant Levels (MRDLs). For some contaminants, EPA establishes treatment techniques (TTs) in lieu of an MCL to control unacceptable levels in water. The EPA 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 requirements. In addition, EPA requires PWSs to monitor for unregulated contaminants to provide data for future regulatory development. Finally, EPA requires PWSs to notify their consumers when they have violated these regulations. The 1996 Amendments to the SDWA require consumer 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, and the Commonwealth of the Northern Mariana Islands.

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 primary enforcement authority or 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 they can enforce the program requirements. EPA can also set other requirements for states to meet in order to qualify and maintain primacy. Once a state receives primacy, it has the responsibility to administer all applicable terms of the National Primary Drinking Water Regulations with EPA oversight. In addition, EPA can provide federal funding to states that have been given primacy.

The 1986 SDWA Amendments gave Indian Tribes the right to apply for and receive primacy. EPA currently administers PWSS Programs on all Indian lands except the Navaho Nation, which was granted primacy in 2000.

Under the authority given to it by Congress through the SDWA and its amendments, EPA promulgates National Primary Drinking Water Regulations to assure the safety of drinking water at the national level. The Regulations are made up of a series of individual regulations which address specific concerns in drinking water. As new concerns are developed, new regulations can be added to the Regulations. Most new regulations address specific contaminants or drinking water issues and contain its own set of monitoring and reporting requirements, MCLs and TTs. Other regulations set forth requirements for informing the public about drinking water quality. States must adopt each new rule along with a set of primacy requirements in order to attain primary enforcement authority for that rule. EPA is also required to reassess its existing MCLs periodically as well as continually assess new contaminants for regulation.

The table below lists the rules which EPA currently enforces and their effective dates:

	RULE	PROMULGATION DATE	EFFECTIVE DATE
1.	Phase I Volatile Organic Chemical Rule	July 08, 1987	January 09, 1989
2.	Total Coliform Rule	June 29, 1989	December 31, 1990
3.	Surface Water Treatment Rule	June 29, 1090	December 31, 1990
4.	Lead and Copper Rule	June 07, 1991	December 07, 1992
5.	Phase II Synthetic Organic/Inorganic Chemical Rule	January 30, 1991	January 01, 1993
6.	Phase V Synthetic Organic/Inorganic Chemical Rule	July 17, 1992	January 01, 1993
7.	Stage 1 Disinfectant/Disinfection By-Products Rule	January 16, 1998	February 16, 1999
8.	Consumer Confidence Report Rule	August 19, 1998	October 19, 1999
9.	Lead and Copper Rule Minor Revisions	September 19, 1999	April 11, 2000
10.	Public Notification Rule	May 04, 2000	June 05, 2000
11.	Unregulated Contaminant Monitoring Rule	September 17, 1999	January 1, 2001
12.	Interim Enhanced Surface Water Treatment Rule	December 16, 1998	January 1, 2002
13.	Long Term 1 Enhanced Surface Water Treatment Rule	January 14, 2022	February 13, 2002
14.	Revised Radionuclides Rule	December 7, 2000	December 8, 2003

15.	Filter Backwash Rule	June 8, 2001	June 8, 2004
16.	Arsenic and Clarifications to Compliance and New Source Water Monitoring Rule	January 22, 2001	January 23, 2006
17.	Long Term 2 Enhanced Surface Water Treatment Rule	January 5, 2006	March 6, 2006
18.	Stage 2 Disinfectant/Disinfection By-Products Rule	January 5, 2006	March 6, 2006
19.	Ground Water Rule	October 11, 2006	December 1, 2009
20.	Revised Total Coliform Rule	February 13, 2013	April 1, 206

Definitions. For the purpose of better understanding this report, the following terms are defined:

Annual State PWS Report. Each quarter, primacy states submit data to the Safe Drinking Water Information System (SDWIS), an automated database maintained by EPA. The data submitted include, but are not limited to, PWS inventory information, the incidence of Maximum Contaminant Level, Maximum Residual Disinfectant Level, monitoring, and TT violations; and information on enforcement activity related to these violations. Section 1414(c) (3) of the SDWA requires states to provide EPA with an annual report of violations of the primary drinking water standards. This report provides the numbers of violations in each of five categories: MCLs, TTs, variances and exemptions, significant monitoring violations, and significant consumer notification violations and will be made part of the national compliance report.

Public Water System (PWS). A 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, non-transient non-community, or transient non-community systems. For this report when the acronym "PWS" is used, it means systems of all types unless specified in greater detail.

Maximum Contaminant Level (MCL). Under the SDWA, the EPA sets national limits for specific contaminants in drinking water to ensure that the water is safe for human consumption. These limits are known as MCLs.

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.

Treatment Techniques (TT). For some regulations, the EPA establishes TTs in lieu of an MCL to control unacceptable levels of certain contaminants. For example, TTs have been established for viruses, some bacteria, and turbidity.

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 or MRDL. If a PWS fails to have its water tested as required or fails to report test results correctly to the primacy agent, a monitoring and reporting violation occurs.

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

Consumer Notification. Every Community PWS is required to deliver to its customers a brief annual water quality report, also known as the Consumer Confidence 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 completely failed to provide its customers the required annual water quality report.

Public Notification Violations. The Public Notification Rule requires all PWS 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 Violation. For this report, significant public notification violation occurs when a PWS completely 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.

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 or exceed the MCL. To obtain a variance, the system must agree to install the best available technology, TT, or other means of limiting drinking water contamination that the EPA 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. The variance shall be reviewed not less than every five (5) years to determine if the system remains eligible for the variance. In Guam, variances is not allowed.

A primacy state can grant an exemption temporarily relieving a PWS of its obligation to comply with an MCL, TT, 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 TT requirement. The state will require the PWS to comply with the MCL or TT as expeditiously as practicable, but not later than three (3) years after the otherwise applicable compliance date. In Guam, exemption is not allowed.

II. Guam 2021 Drinking Water Compliance

Guam's annual compliance report is based on Federal records. Eight (8) public water systems were regulated in Guam as of December 31, 2021.

Violations. A summary of the 2021 drinking water MCL, TT, and significant monitoring/reporting violations is shown in Appendix A. The table in the appendix is organized by contaminant type: Organic Contaminants, Disinfectant/Disinfection By-Products (DBP) Rule, Radionuclides, Revised Total Coliform Rule, Surface Water Treatment Rule, and Inorganic chemicals, Lead and Copper Rule, and Ground Water Rule. A summary of the violations is listed and with the water system names is provided in Appendix B.

Guam EPA issued seven (7) violation notices to one (1) system which incurred violations in 2021 for failure to monitor under the **Revised Total Coliform Rule**.

There were no MCL for any of the 75 contaminants regulated under the **Phase I Volatile Organic Chemical, or Phases II and V Synthetic Organic/Inorganic Chemical Rules**.

There were no MCL violations for **Radiological** contaminants, and no significant monitoring or reporting violations.

There were no TT violations for **Surface Water Treatment Rule,** and no significant monitoring violations.

There were no violations of the **Lead and Copper Rule**, and no violations of the **Ground Water Rule** triggered source water monitoring or TT requirements.

All community water systems complied with the **Consumer Confidence Rule** and delivered an annual water quality or consumer confidence report by the due dates.

Variances or Exemptions are not allowed on Guam.

Summary. For 2021, the Guam Safe Drinking Water Program identified one (1) Non-Transient Non-Community Water System was issued a violation for failure to monitor under the RTCR and two (2) Community Water Systems that are on increased monitoring on quarterly for at least one year for IOC and SOC was **not** issued a violation for MCL until 4 quarters of data is collected and reviewed in 2022 to determine if the systems are in violation.

1. The Cocos Island Water System (PWS ID# GU0000011) incurred seven (7) monitoring violations under the RTCR from January 2021 to July 2021. The system was forced to temporarily shut down its operations under the Governor of Guam's Executive Order on the COVID-19 pandemic that impacted the tourism industry on Guam which affected the Cocos Island Resort. In August 2021, the system decided to permanently close its operations until such time the tourism industry is restored. The system's classification changed to a non-public water system serving only one (1) staff to guard the island.

2. The Andersen Air Force Base (PWS ID# GU0000009) monitored their annual nitrates in 2021 with results of 8.0 mg/L and 8.60 mg/l. Although the nitrate MCL is 10 mg/L pursuant to 40 CFR §141.62, the results were below the MCL. Guam Safe Drinking Water Program placed Andersen Air Force Base on increased monitoring to sample quarterly until they have four consecutive quarters of data. The MCL is determined by a Running Annual Average at each sampling point, and a system which initiated increased monitoring due to a detection will not be considered in violation of the MCL until it has completed one year quarterly sampling.

3. The Guam Water Works Authority (GWA) Northern Water System (PWS ID# GU0000006) monitored for the Synthetic Organic Compounds in 2021. Pentachlorophenol was detected at 2.7 ug/L which exceeded the MCL of 1 ug/L. Because pentachlorophenol was detected, GWA Northern Water System is only required to conduct quarterly monitoring at the sampling point that triggered the systems into the increased monitoring frequency. Quarterly monitoring must continue for at least one (1) year, and until such time Guam EPA determines that the system is reliably and consistently below the maximum contaminant level pursuant to 40 CFR §141.24(h)(iii). This single detection above the MCL does not constitute an MCL violation. Pursuant to 40 CFR §141.24(h)(i) and (ii), compliance with the MCL is determined by a Running Annual Average at each sampling point, and a system which initiated increased monitoring due to a detection will not be considered in violation of the MCL until it has completed one year quarterly sampling.

III. Obtaining a Copy of the 2021 Annual Public Water System Compliance Report

As required by the SDWA, Guam has made the 2021 Annual Public Water System Compliance Report available to the public. Interested individuals can obtain a copy of the 2021 Annual Public Water System Compliance Report for Guam by accessing the Guam Environmental Protection Agency website: https://epa.guam.gov/ or request a copy from the below contacts.

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17-3304 Mariner Avenue Tiyan
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APPENDIX A: MCL, TREATMENT TECHNIQUE, AND SIGNIFICANT MONITORING/REPORTING VIOLATIONS CALENDAR YEAR 2021

Organic Contaminant	MCL (mg/L) Unless specified	MCLs		Treatment Technique		Significant Mon/Rep	
		No. of Violations	No. of Systems w/Violations	No. of Violations	No. of Systems w/Violations	No. of Violations	No. of Systems w/Violations
1,2-Dibromo-3-chloropropane	0.0002	0	0			0	0
1,2-Dichloroethane	0.005	0	0			0	0
1,1-Dichloroethylene	0.007	0	0			0	0
1,2-Dichloropropane	0.005	0	0			0	0
1,1,1-Trichloroethane	0.2	0	0			0	0
1,2,4-Trichlorobenzene	0.07	0	0			0	0
1,1,2-Trichloroethane	0.005	0	0			0	0
2,4-D	0.07	0	0			0	0
2,4,5-TP (Silvex)	0.05	0	0			0	0
Acrylamide				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
Chlordane	0.002	0	0			0	0
Cis-1,2-Dichloroethylene	0.07	0	0			0	0
Chlorobenzene	0.1	0	0			0	0
Dalapon	0.2	0	0			0	0
Di(2-ethylhexyl)adipate	0.4	0	0			0	0
Di(2-ethylhexyl)phthalate	0.006	0	0			0	0
Dichloromethane	0.005	0	0			0	0
Dinoseb	0.007	0	0			0	0
2,3,7,8-TCDD (Dioxin)	0.00000003	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	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

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Organic Contaminant	MCL (mg/L) Unless specified	MCLs		Treatment Technique		Significant Mon/Rep	
		No. of Violations	No. of Systems w/Violations	No. of Violations	No. of Systems w/Violations	No. of Violations	No. of Systems w/Violations
Methoxychlor	0.04	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
Tetrachoroethylene	0.005	0	0			0	0
Toluene	1	0	0			0	0
Total PCBs	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

Disinfection By-Products	MCL (mg/L) Unless specified	MCLs		Treatment Technique		Significant Mon/Rep	
		No. of Violations	No. of Systems w/Violations	No. of Violations	No. of Systems w/Violations	No. of Violations	No. of Systems w/Violations
Halo Acetic Acids (HAA5)	0.060	0	0			0	0
Total Trihalomethanes	0.080	0	0			0	0

Radionuclides	MCL (mg/L) Unless specified	MCLs		Treatment Technique		Significant Mon/Rep	
		No. of Violations	No. of Systems w/Violations	No. of Violations	No. of Systems w/Violations	No. of Violations	No. of Systems w/Violations
Gross Alpha	15 pCi/L	0	0			0	0
Radium 226 and Radium 228	5 pCi/L	0	0			0	0
Gross Beta	4 mrem/yr.	0	0			0	0
Uranium	30 µg/L	0	0			0	0

pCi/L means pico-Curies per liter, mrem/yr. means millirems per year, µg/L means micrograms per liter or parts per billion

APPENDIX A: MCL, TREATMENT TECHNIQUE, AND SIGNIFICANT MONITORING/REPORTING VIOLATIONS CALENDAR YEAR 2021

Surface Water Treatment Rule	MCL (mg/L) Unless specified	MCLs		Treatment Technique		Significant Mon/Rep	
		No. of Violations	No. of Systems w/Violations	No. of Violations	No. of Systems w/Violations	No. of Violations	No. of Systems w/Violations
Filtered Systems							
Monitoring routine/repeat						0	0
Treatment techniques				0	0		
Unfiltered systems							
Monitoring routine/repeat						0	0
Failure to filter				0	0		

Inorganic Contaminant	MCL (mg/L) Unless specified	MCLs		Treatment Technique		Significant Mon/Rep	
		No. of Violations	No. of Systems w/Violations	No. of Violations	No. of Systems w/Violations	No. of Violations	No. of Systems w/Violations
Antimony	0.006	0	0			0	0
Arsenic	0.010	0	0			0	0
Asbestos	7 MFL*	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
Copper	AL = 1.3			0	0		
Fluoride	4.0	0	0			0	0
Lead	AL = 0.015			0	0		
Mercury	0.002	0	0			0	0
Nitrate (as Nitrogen)	10	0	0			0	0
Nitrite (as Nitrogen	1	0	0			0	0
Selenium	0.05	0	0			0	0
Thallium	0.002	0	0			0	0
Total nitrate and nitrite (as Nitrogen)	10	0	0			0	0

*MFL stand for million fibers per liter

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Lead and Copper Rule	MCL (mg/L) Unless specified	MCLs		Treatment Technique		Significant Mon/Rep	
		No. of Violations	No. of Systems w/Violations	No. of Violations	No. of Systems w/Violations	No. of Violations	No. of Systems w/Violations
Initial Lead and Copper Tap monitoring/reporting						0	0
Follow-up or routine lead and copper tap monitoring/reporting						0	0
Treatment installation				0	0		
Public Education				0	0		

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Revised Total Coliform Rule (RTCR)	MCL (mg/L) Unless specified	MCLs		Treatment Technique		Significant Mon/Rep	
		No. of Violations	No. of Systems w/Violations	No. of Violations	No. of Systems w/Violations	No. of Violations	No. of Systems w/Violations
E.coli MCL Violation	Presence	0	0				
Treatment Technique Violation				0	0		
Monitoring Violation						7	1
Reporting Violation						7	1
Sanitary Survey Violation. A failure to meet any state or federal drinking water regulation						0	0

Ground Water Rule	MCL (mg/L) Unless specified	MCLs		Treatment Technique		Significant Mon/Rep	
		No. of Violations	No. of Systems w/Violations	No. of Violations	No. of Systems w/Violations	No. of Violations	No. of Systems w/Violations
Assessment Monitoring	Fecal presence	0	0			0	0
Compliance Monitoring						0	0
Triggered Source Water Monitoring	Fecal presence	0	0			0	0
Failure to meet 4-log removal				0	0		
Failure to correct significant deficiencies identified by sanitary survey				0	0		

APPENDIX B: Guam Calendar Year 2021 Violations

YrMo	Qtr	PWS	SYSNAME	Viotype	Comments
RTCR					
2021	Q1-Q4	GU0000011	COCOS ISLAND WATER SYSTEM	RTCR monitoring/reporting	No sample collected and reported. Cocos Island was temporarily closed due to the Governor of Guam's Executive Order on the COVID19 pandemic. Cocos Island in September 2021 decided to shut down its operations and closed its doors. The system is now a non-public water system.