

**Annual Report on Public Water System
Violations
Vermont Water Supply Division**

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INTRODUCTION

Vermont's Department of Environmental Conservation (DEC) is authorized by the U.S. Environmental Protection Agency (EPA) to administer the Public Water Supply System program in the state. DEC's Water Supply Division implements the program. The division's primary goal is to ensure that citizens and visitors of the Green Mountain State have drinking water that is safe for human consumption. To maintain the authority to administer the program (also called primacy), the state has to implement and enforce rules that are at least as stringent as the federal drinking water regulations.

To comply with federal regulations, DEC promulgated the State's Water Supply Rule (Chapter 21 of the Environmental Protection Rules) on September 24, 1992. The rule was revised in 1996, 1999, 2002 and again in 2005 to incorporate the 1996 amendments to the federal Safe Drinking Water Act (SDWA). The 1996 amendments strengthened many aspects of the SDWA, including government and water system accountability, and public awareness and involvement. The new "Right-to-know" provisions will give citizens the information they need to make their own health decisions, allow increased participation in drinking water decision-making, and promote accountability at the water system, state, and federal levels.

One of the "Right-to-know" provisions requires states with primacy to prepare an annual Public Water System Compliance Report. The report must include the name and Water System Identification (WSID) number of each public water system that violated SDWA regulations during the year. The nature of each violation must also be reported, as well as the total number of violations that occurred in the state. The report for the previous calendar year must be submitted to EPA and available to the public by July 1st, annually. Then, EPA must summarize and evaluate the reports submitted by the states in an annual national report.

This document is the State of Vermont's annual Public Water System Compliance Report for calendar year 2005. In addition to information on SDWA violations, the report includes an overview of the drinking water program and the state's compliance and technical assistance and enforcement activities.

OVERVIEW OF THE DRINKING WATER PROGRAM

Drinking Water Program Regulations

The SDWA aims to ensure that public water supplies meet national standards that protect consumers from harmful contaminants in drinking water. EPA regulations under the SDWA apply to public water systems. Public water systems, which can be publicly or privately owned, provide drinking water to at least 25 people or 15 service connections for at least 60 days per year. The regulations divide public water systems into three categories (Figure 1) based on 2 characteristics such as where they serve customers and how often they serve the same people. (Figure 1. The three types of public water)

Water systems with different characteristics are then subject to different regulations.

The national primary drinking water regulations require public water systems to meet limits for contaminants in drinking water, use specific treatment techniques, and monitor, report, and keep records to ensure that drinking water is safe for human consumption. The limits on contaminant levels, known as Maximum Contaminant Levels (MCLs), set the maximum permitted level of a contaminant in water delivered to a user of a public water system. EPA has set MCLs for more than 80 contaminants. There are MCLs both for contaminants that can cause acute health effects after short-term exposure and for contaminants that can cause chronic health effects after long-term exposure. Additional information on the health effects of specific contaminants can be found on the federal EPA website (<http://www.epa.gov/safewater>). An MCL violation occurs when tests indicate that the level of a contaminant in treated water is above the MCL (Figure 2 lists the main types of violations).

Figure 1. The three types of public water systems

1. Community Water Systems provide drinking water to year round residents.
2. Non-transient Non-community Water Systems serve the same people for more than 6 months in a year (e.g. schools or factories with their own water source).
3. Transient Non-Community Water Systems provide water where people do not remain for long periods of time (e.g. campgrounds, restaurants, hotels with their own water source.)

For some regulations, EPA establishes a treatment technique requirement instead of an MCL. Treatment techniques protect drinking water where it is impractical to monitor and determine the level of a particular contaminant. The required treatment techniques are designed to prevent known or anticipated health effects. Treatment technique requirements have been established under both the Surface Water Treatment Rules and the Lead and Copper Rule. A violation of a treatment technique indicates that the system failed to treat water as specified to minimize the presence of potentially harmful contaminants.

EPA also sets monitoring, reporting, and record keeping requirements that public water systems must follow. A monitoring or reporting violation can occur when a public water system either fails to take the required number of samples or perform a required analysis, or fails to report the results of an analysis performed in a timely manner as required by law. The SDWA requires the state to report only significant monitoring and reporting violations in their annual Public Water System Compliance Report. A significant monitoring and reporting violation occurs when a public water system collects none of the samples or submits none of the reports required by a particular regulatory provision. A significant monitoring and reporting violation can also occur if a public water system collects fewer than 90% of the samples or submits fewer than 90% of the reports required by the Surface Water Treatment Rules. Public water systems are required to report all monitoring results to the state. The state analyzes the monitoring results, determines compliance, and reports violations to EPA on a quarterly basis.

The state may grant a public water system a variance or exemption from national primary drinking water standards, provided that the terms of the variance or exemption adequately protect public health. As provided by the SDWA, variances are available to public water systems that cannot comply with national primary drinking water regulations (due to water quality, or, in the case of small systems, inadequate financial resources). Variances generally allow a public water system to comply with less stringent, but still protective standards based on a specific EPA approved technology available to the system. An exemption allows the public water system with compelling circumstances (including economic considerations) additional time to achieve compliance with applicable SDWA requirements. An exemption is limited to three years, although extensions of up to six additional years are available to very small public water systems under certain defined conditions.

Figure 2. The three main types of drinking water regulation violations.

Maximum contamination level (MCL) violation - occurs when a test indicates that the level of a contaminant in treated water is above EPA or the state's legal limit (states may set standards equal to, or more protective than, EPA's). These violations indicate a potential health risk, which may be immediate or long term.

Treatment technique violation - occurs when a water system fails to treat its water in the way prescribed by the state or EPA (e.g., by not applying corrosion control if lead levels are too high). Treatment technique violations indicate a potential health risk to consumers.

Monitoring and reporting violation - occurs when a system fails to test its water for certain contaminants, or fails to report test results in a timely fashion or provide required public notices. If a water system does not monitor its water properly, no one can know whether or not its water poses a health risk to consumers.

Currently, no variances or exemptions have been granted in Vermont.

Vermont's Public Water Systems

The 1,443 public water systems in Vermont include 457 community, 252 non-transient non-community (NTNCs), and 734 transient non-community (TNCs) systems. The TNCs represent the largest number of systems in the state. Most of these systems are small businesses (e.g., service stations and restaurants) or recreational areas (i.e., campgrounds and parks) that serve a large number of people for a short time. Although TNCs serve a large population, they provide water to the same people for only a short time.

Because people consume most of their drinking water at their places of residence, community systems are the primary focus of the state drinking water program. The State of Vermont is unique in that, compared with the entire nation, a large percentage of the population is served by small community systems (i.e. serving less than 3,300 people). The 425 smaller systems in Vermont supply water to about 40% of the total population served by community systems. Nationally, only 10% of the total population served by community systems are supplied by smaller systems.

COMPLIANCE AND TECHNICAL ASSISTANCE

The Water Supply Division's primary goals are to protect public health, retain primacy under the federal SDWA, and apply an enforcement strategy designed to encourage compliance with the law. One of the greatest challenges for the state's drinking water program is related to the smaller water systems (those serving 3,300 or fewer people). These systems are faced with increasing costs related to regulatory mandates and the need for basic infrastructure repairs and replacements. Many of Vermont's smaller systems lack a sufficient customer base among which to spread costs, however. The smaller systems typically serve rural communities, often composed of residential customers that are less able to pay substantial amounts for their water (compared to industrial and commercial customers).

Vermont's smaller water systems are developing an increased awareness of the components necessary to providing safe drinking water today and into the future. These components can be grouped into technical, managerial, and financial capabilities. To assist systems, the state is implementing a capacity development program as required by the 1996 amendments to the SDWA. The program's goal is to ensure that no new systems are created that lack capacity to meet drinking water standards now and in the future, and to help existing systems develop sufficient capacity.

In addition to system capacity, the 1996 SDWA amendments include an added emphasis on prevention. Expanding upon the existing ground water protection strategy, the amendments establish new efforts to assess and protect surface water sources of drinking water. In response to the amendments, the Water Supply Division is implementing the source water assessment program to assess the susceptibility to contamination of each public water system. Each assessment will provide information to serve as the foundation for a source water protection program. Specifically, the assessment will delineate the source water protection area, inventory the significant potential sources of contamination, and help gain a better understanding of the source's susceptibility to contamination. The Water Supply Division also provides other types of technical assistance for public water systems, including the efforts listed in Figure 7.

Figure 7. Types of assistance the Water Supply Division provides to help water systems remain in, and return to, compliance.

- conducting sanitary surveys every 3-5 years
- issuing chemical monitoring waivers, when appropriate
- providing on-site assistance
- publishing newsletters and contributing articles to other newsletters
- sending compliance reminder letters and pre-violation warning letters
- developing a coordinated training calendar
- participating in operator training
- holding public information meetings
- reviewing water systems plans and specifications
- issuing Temporary Operating Permits which identify system deficiencies and include compliance schedules
- providing financial assistance for system improvements through the State Revolving Fund
- using non-profit groups, such as Northeast Rural Water Association, to assist systems
- making telephone calls to remind systems of their requirements
- coordinating with the Waste Management Division for on site investigation/cleanup
- conducting source water assessments and reviewing source protection plans.

VIOLATIONS AND ENFORCEMENT ACTIVITIES

The goals of enforcement actions, which are coordinated by the Water Supply Division's enforcement workgroup, are to deter future violations in order to protect human health. If a public water system violates a federal or state regulation, notification of the violation(s) is sent to the system. The notification usually requires the system to inform the public of the violation and to return to compliance. If the system does not comply, the state will take appropriate enforcement actions.

In most cases, issuance of a Notice of Alleged Violation (NOAV) is the first step in the enforcement process. An NOAV serves as formal notification to the water system that the Water Supply Division believes a violation is occurring or has occurred. If a system fails to comply with the conditions in the NOAV, the enforcement workgroup will evaluate compliance status and decide whether further enforcement action is necessary.

The next enforcement action may be to refer the case to the Agency of Natural Resources Enforcement Division. The Water Supply Division works closely with the Enforcement Division until a final action has been completed. Typically an Assurance of Discontinuance (AOD) is the first course of action taken by the Enforcement Division.

An AOD is an agreement signed by the owner of the water system and the Commissioner of the Department of Natural Resources which sets milestones and schedules for the system to achieve compliance. When signed by the Environmental Law Judge, it assumes

the authority of a court order. The agreement generally includes a penalty for the economic benefit of noncompliance plus a penalty for the actual violation(s).

If the Enforcement Division, in consultation with the Water Supply Division, is unable to settle a violation with an AOD, further enforcement action may include issuance of an Administrative Order (AO). If the Enforcement Division determines that defending an AO will require more resources than are available within the ANR, it may refer the case to the Attorney General's office for further action.

The Water Supply Division's enforcement workgroup concentrates on group enforcement actions (e.g., enforcing against all public community systems for failure to conduct proper monitoring), instead of an all-encompassing approach for individual water systems. Enforcement efforts during 2003 focused on systems that failed to complete ground water under the direct influence of surface water determinations, have a certified operator, meet chemical monitoring and public notification requirements, to do Lead Public Education, or comply with milestones to correct deficiencies outlined in their permit to operate.

In 2005, the Water Supply Division issued Notices of Alleged Violations (NOAVs) to **593** water systems: 288 community systems, **143** transient non-community systems (TNCs), and **162** non-transient non-community systems (NTNCs). Most of the NOAVs issued to community and NTNCs were for failure to conduct water quality monitoring or correct system deficiencies. The NOAVs issued to TNCs were mainly for failure to conduct water quality monitoring.

Two AODs were issued by the Enforcement Division in 2005. One AOD with a \$15,000 penalty was issued for falsification of bacteriological data. The other AOD had a stipulated penalty if compliance with source permitting technical standards was not achieved; compliance was achieved before the penalty due date. Three other cases were referred to the Enforcement Division, and will be resolved in 2006.

Violation Reporting

The state reports violation and enforcement information to EPA quarterly. These reports include public water system inventory information, updates on new and existing enforcement actions, and Maximum Contaminant Level (MCL), major monitoring, and treatment technique violations. In addition, the state prepares an annual compliance report by July 1st for the previous calendar year. This report provides the total numbers of violations during the year for each of the categories required in the Safe Drinking Water Act: 1) MCLs, 2) Treatment Techniques, and 3) Significant Monitoring & Reporting violations. Figure 8 provides a description of each violation category. The annual report also includes the name and WSID number of the systems with violations.

Figure 8. Description of the violation categories.

1. Maximum Contaminant Level (MCL)

Under the SDWA the EPA sets national standards on contaminant levels in drinking water to ensure that the water is safe for human consumption. These standards are known as Maximum Contaminant Levels (MCLs). This report includes MCL violations for the regulated chemical contaminants and the microbiological contaminants under the Total Coliform Rule.

2. Treatment Techniques (TT)

For some regulations, the EPA establishes treatment techniques in lieu of an MCL to control unacceptable levels of certain contaminants. For example, treatment techniques have been established for viruses, bacteria, and turbidity. This report includes treatment technique violations for Acrylamide and Epichlorohydrin, the Surface Water Treatment Rule, and the Lead and Copper Rule.

3. Significant Monitoring & Reporting (M&R) Violations

A PWS is required to monitor and verify that the levels of contaminants present in the water do not exceed the MCL. Generally, the larger the population served by a water system, the more frequent the monitoring and reporting (M/R) requirements. If a PWS fails to have its water tested as required, then a monitoring violation occurs. A monitoring violation also includes failure to report test results correctly to the primacy agent.

For this report, significant monitoring and reporting violations are defined as any major monitoring violation that has occurred during the specified report interval. A major monitoring violation (except for the Surface Water Treatment Rule) occurs when no samples were taken or no results were reported during a compliance period. A major Surface Water Treatment Rule M/R violation occurs when fewer than 10% of the required samples are taken or no results are reported during a reporting interval. A minor violation occurs when some but not all of the required numbers of samples are taken. This report includes significant monitoring violations for chemical monitoring, the Total Coliform Rule, the Surface Water Treatment Rule, and the Lead and Copper Rule.

The following table *2005 Violations – Vermont Public Water Systems* reports the number of violations and systems with violations for all public water systems during 2005. Note that subtotals indicating the number of systems with violations may not equal the sum of the column because some systems had more than one type of violation (i.e., different SDWIS codes).

Definitions for table headings are as follows:

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

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. See Figure 9.

Figure 9. EPA Violation Codes, Code Type and Name

TYPE_CODE	CATEGORY_CODE	NAME
01	MCL	MCL, SINGLE SAMPLE
02	MCL	MCL, AVERAGE, WITHOUT NO. EXCEEDANCE
02	MCL	MCL, AVERAGE, WITH NO. EXCEEDANCE
03	MON	MONITORING, ROUTINE MAJOR
03	MON	MONITORING, ROUTINE MINOR
04	MON	MONITORING, CONFIRMATION/CHECK MINOR
04	MON	MONITORING, CONFIRMATION/CHECK MAJOR
05	PN	NOTIFICATION, STATE
06	PN	NOTIFICATION, PUBLIC
07	TT	TREATMENT TECHNIQUES (NON-SWTR)
08	V/E	VARIANCE/EXEMPTION/OTHER COMPLIANCE
09	RPT	RECORD KEEPING
09	RPT	RECORD KEEPING FOR INDI. FILTER /FBR
10	RPT	OPERATIONS REPORT
11	MCL	MAX RES DISINFECT LVL (MRDL)
11	MON	MAX RES DISINFECT LVL (MRDL) MONITORING
11	MCL	MAX RES DISINFECT LVL (MRDL) NON-ACUTE
12	TT	QUALIFIED OPERATOR FAILURE
13	MCL	MAX RES DISINFECT LVL (MRDL) ACUTE
21	MCL	MCL (TCR), ACUTE
22	MCL	MCL (TCR), MONTHLY
23	MON	MONITORING (TCR), ROUTINE MAJOR
24	MON	MONITORING (TCR), ROUTINE MINOR
25	MON	MONITORING (TCR), REPEAT MAJOR
26	MON	MONITORING (TCR), REPEAT MINOR
27	MON	MONITORING, ROUTINE (DBP), MAJOR
27	MON	MONITORING, ROUTINE (DBP), MINOR
27	MON	FAILURE TO HAVE MONITORING PLAN (DBP)

27	MON	MONITORING, (DBP) WITH NO. MISSING SAMP
28	SS	SANITARY SURVEY (TCR)
29	MON	FAILURE TO PRODUCE CPE (IESWTR)
29	MON	FAILURE TO PRODUCE FILTER ASSESSMENT
31	MON	MONITORING, RTN/RPT MAJOR (SWTR-UNFILT)
31	MON	MONITORING, RTN/RPT MINOR (SWTR-UNFILT)
36	MON	MONITORING, RTN/RPT MINOR (SWTR-FILTER)
36	MON	MONITORING, RTN/RPT MAJOR (SWTR-FILTER)
37	TT	FAILURE TO PROFILE/CONSULT (IESWTR)
38	MON	MONITORING, ROUTINE (IESWTR), MAJOR
38	MON	MONITORING, ROUTINE (IESWTR), MINOR
39	MON	FAILURE TO SUBMIT PLANT SCHEMATIC (FBR)
40	TT	FAILURE TO PROPERLY RECYCLE (FBR)
41	TT	RES DISINFECT CONCENTRATION (SWTR)
41	TT	MONTHLY COMB. FILTER EFFLUENT (SWTR)
41	TT	SINGLE COMB. FILTER EFFLUENT (SWTR)
42	TT	FAILURE TO FILTER (SWTR)
43	TT	SINGLE COMB. FILTER EFFLUENT (IESWTR)
44	TT	MONTHLY COMB. FILTER EFFLUENT (IESWTR)
46	TT	INADEQUATE DBP PRECURSOR REMOVAL
47	TT	UNCOVERED STORAGE FACILITY (IESWTR)
51	MON	INITIAL TAP SAMPLING (PB/CU)
52	MON	FOLLOW-UP OR ROUTINE TAP M/R (PB/CU)
53	MON	WATER QUALITY PARAMETER M&R
56	MON	INITIAL/FOLLOW-UP/ROUTINE SRC WTR M/R
57	RPT	OCCT/SOWT RECOMMENDATION/STUDY
58	TT	OCCT/SOWT INSTALLATION DEMONSTRATION
59	TT	WATER QUALITY PARAMETER NON-COMPLIANCE
63	TT	MPL NON-COMPLIANCE (PB/CU)
64	TT	LEAD SERVICE LINE REPLACEMENT (PB/CU)
65	RPT	PUBLIC EDUCATION (PB/CU)
71	RPT	CCR REPORT
72	RPT	CCR ADEQUACY/AVAILABILITY/CONTENT
75	PN	PUBLIC NOTICE RULE LINKED TO VIOLATION
76	PN	PUBLIC NOTICE RULE NOT LINKED VIOLATION

Analyte Code: Four-digit SDWIS Contaminant Codes have also been included in the chart for specific Maximum Contaminant Level or Monitoring & Reporting violations.

System Type: This indicates whether the public water system is a community (C), a non-community non-transient (NTNC) or a transient non-community (TNC). Examples of NTNCs are schools and businesses; for TNCs, restaurants or inns.

Compliance Period: When system was supposed to sample as required by regulations.

Maximum Contaminant Level (MCL): The standard set for a contaminant or 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.

Significant Monitoring/Reporting Violations (M&R): All public water systems are required to sample their water for drinking water contaminants. 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.

Treatment Techniques (TT): A water disinfection process that EPA requires instead of an MCL for contaminants that laboratories cannot adequately measure. Failure to meet other operational and system requirements under the Surface Water Treatment and the Lead and Copper Rules have also been included in this category of violation for purposes of this report.

Contaminant-Specific Information

Organic Contaminants (VOCs and SOCs)

Organic Contaminants are carbon-based compounds, such as industrial solvents and pesticides. These contaminants generally get into water through runoff from crop land, discharge from factories, or contamination from underground fuel storage tanks. EPA has set legal limits on 54 organic contaminants that are to be reported [40 CFR 141.61]. Individual organic contaminants are classified as being either volatile organic compounds (VOCs) or synthetic organic compounds (SOCs).

A statewide waiver has been approved for the following chemicals by the EPA: Dibromochloropropane (DBCP), Dalapon, Diquat, Endothall, Glyphosate, and Dioxin.

Ethylene Dibromide testing is required for only groundwater systems. A statewide waiver has been approved for surface water systems by the EPA.

Public water systems are required to certify annually in writing to the Water Supply Division that the combination of percent monomer and treatment chemical dosage does not exceed certain levels when coagulant aids, which contain the monomers Acrylamide and Epichlorohydrin, are used to treat drinking water.

EPA Analyte Codes, the contaminant name, and the corresponding MCL (mg/l) are given below for the organic contaminants (VOC and SOC groups).

2981 1,1,1-Trichloroethane 0.2
2977 1,1-Dichloroethylene 0.007
2985 1,1,2-Trichloroethane 0.005
2378 1,2,4-Trichlorobenzene 0.07
2931 1,2-Dibromo-3-chloropropane (DBCP) 0.0002
2980 1,2-Dichloroethane 0.005
2983 1,2-Dichloropropane 0.005
2063 2,3,7,8-TCDD (Dioxin) 3x10⁻⁸
2110 2,4,5-TP 0.05
2105 2,4-D 0.07
2265 Acrylamide
2051 Alachlor 0.002
2050 Atrazine 0.003
2990 Benzene 0.005
2306 Benzo[a]pyrene 0.0002
2046 Carbofuran 0.04
2982 Carbon tetrachloride 0.005
2959 Chlordane 0.002
2380 cis-1,2-Dichloroethylene 0.07
2031 Dalapon 0.2

2035 Di(2-ethylhexyl)adipate 0.4
2039 Di(2-ethylhexyl)phthalate 0.006
2964 Dichloromethane 0.005
2041 Dinoseb 0.007
2032 Diquat 0.02 NA
2033 Endothall 0.1
2005 Endrin 0.002
2257 Epichlorohydrin
2992 Ethylbenzene 0.7
2946 Ethylene dibromide 0.00005
2034 Glyphosate 0.7
2065 Heptachlor 0.0004
2067 Heptachlor epoxide 0.0002
2274 Hexachlorobenzene 0.001
2042 Hexachlorocyclopentadiene 0.05
2010 Lindane 0.0002
2015 Methoxychlor 0.04
2989 Monochlorobenzene 0.1
2968 o-Dichlorobenzene 0.6
2969 para-Dichlorobenzene 0.075
2383 Total polychlorinated biphenyls 0.0005
2326 Pentachlorophenol 0.001
2987 Tetrachloroethylene 0.005
2984 Trichloroethylene 0.005
2996 Styrene 0.1
2991 Toluene 1
2979 trans-1,2-Dichloroethylene 0.1
2955 Xylenes (total) 10
2020 Toxaphene 0.003
2036 Oxamyl (Vydate) 0.2
2040 Picloram 0.5
2037 Simazine 0.004
2976 Vinyl chlorid* 0.002

SDWIS Codes MCL - Total disinfectant by-products

2950 Total Trihalomethanes 0.080
2456 Total Haloacetic Acids 0.060

Inorganic Contaminants

Inorganic Contaminants are 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]. Few inorganic chemicals have been detected in Vermont's drinking water supplies.

Monitoring for Asbestos is required only for systems that have asbestos/cement pipes in their distribution system. A statewide waiver for groundwater and surface water sources has been approved for Asbestos by the EPA.

EPA Analyte Codes, the contaminant name, and the corresponding MCL (mg/l) are given below for the Inorganic Contaminants (IOCs).

1074 Antimony 0.006
1005 Arsenic 0.05
1094 Asbestos 7 million fibers/R # 10 µm long
1010 Barium 2
1075 Beryllium 0.004
1015 Cadmium 0.005
1020 Chromium 0.1
1024 Cyanide (as free cyanide) 0.2
1025 Fluoride 4.0
1035 Mercury 0.002
1040 Nitrate 10 (as Nitrogen)
1041 Nitrite 1 (as Nitrogen)
1045 Selenium 0.05
1085 Thallium 0.002
1038 Total nitrate and nitrite 10 (as Nitrogen)

Radionuclides

Radionuclides are radioactive particles which can occur naturally in water or result from human activity. EPA has set legal limits on four types of radionuclides: radium-226/228, total uranium, 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: SDWIS Contaminant Code 4000 for alpha radiation above MCL of 15 picocuries/liter (pCi/L). Gross alpha includes radium-226 but excludes radon and uranium.

Combined radium-226 and radium-228: SDWIS Contaminant Code 4010 for combined radiation from these two isotopes above MCL of 5 pCi/L.

Total Uranium: SDWIS Contaminant Code 4006 for total uranium above the MCL. In Vermont, the MCL is 20 ppb.

Gross beta: SDWIS Contaminant Code 4101 for beta particle and photon radioactivity from man-made radionuclides above 4 millirem/year. NA - Systems using surface water sources serving more than 100,000 persons are required to monitor for Gross beta. No surface water systems in Vermont serve more than 100,000 persons.

The MCL for this group of contaminants is based on an annual average of four consecutive quarters. Routine monitoring/reporting violations were reported only for those systems which detected a contaminant during routine monitoring and failed to complete the required repeat monitoring.

4000 Gross alpha 15 pCi/L

4010 Radium-226 and Radium-228 5 pCi/L

4006 Combined Uranium 20 ppb

4101 Gross beta 4 mrem/yr

Total Coliform Rule

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 the one month compliance period, a significant monitoring violation occurs. States are to report four categories of violations:

Fecal (Acute) MCL violation: SDWIS Violation Code 21 indicates that the system found fecal coliform, or E. Coli, potentially harmful bacteria, in its water, thereby violating the rule.

Total Coliform (Non-Acute) MCL violation: SDWIS Violation Code 22 indicates that 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: SDWIS Violation Codes 23 and 25 show that a system did not perform any monitoring. [One number is to be reported for the sum of violations in these two categories.] SDWIS Violation Codes 24 & 26 are minor monitoring violations (some monitoring was done, but was insufficient according to EPA's regulations.)

Surface Water Treatment Rule

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]. Filtered Systems are water systems that have installed filtration treatment [40 CFR 141, Subpart H]. Unfiltered Systems are water systems that do not need to filter their water before disinfecting it because the source is very clean [40 CRR, Subpart H]

Violations of the "Surface Water Treatment Rule" are to be reported for the following four categories:

Monitoring, routine/repeat (for filtered systems): SDWIS Violation Code 36 indicates a system's failure to carry out required tests, or to report the results of those tests.

Treatment techniques (for filtered systems): SDWIS Violation Code 41 shows a system's failure to properly treat its water.

Monitoring, routine/repeat (for unfiltered systems): SDWIS Violation Code 31 indicates a system's failure to carry out required water tests, or to report the results of those tests.

Failure to filter (for unfiltered systems): SDWIS Violation Code 42 shows a system's failure to properly treat its water.

Surface Water Treatment Rule – EPA Violation Codes

Filtered Systems

36 Monitoring, routine/repeat

41 Treatment techniques

Unfiltered systems

31 Monitoring, routine/repeat

42 Failure to filter

Lead and Copper Rule

The Lead and Copper Rule's purpose is to ensure that unhealthy levels of lead (Pb) and copper (Cu) are reduced through corrosion control of a water system. Systems identified as having corrosion problems are required to do follow-up monitoring and reporting.

Violations of the "Lead and Copper Rule" are to be reported for the following four categories:

Initial lead and copper tap monitoring/reporting: SDWIS Violation Code 51 indicates a system's failure to carry out an initial test on Pb/Cu.

Follow-up or routine lead and copper tap monitoring/reporting: SDWIS Violation Code 52 indicates that periodic monitoring is not being done as required.

Treatment installation: SDWIS Violation Codes 58, 62 indicate treatment was not installed to mitigate high levels of Pb/Cu.

Public education: SDWIS Violation Code 65 indicates public education not done.

Lead and Copper Rule – EPA Violation Codes

51 Initial lead and copper tap M/R

52 Follow-up or routine lead and copper tap M/R

58,62 Treatment Installation

65 Public education

Consumer Confidence Report Rule

The Consumer Confidence Report (CCR) Rule requires Public Community Water Systems to issue an annual water quality report to their customers. The CCR for the previous calendar year must be distributed to customers by July 1st of each year. The reports tell where drinking water comes from, what's in it, and how you can help protect it. EPA classifies violations for failure to provide customers a CCR as a Significant Consumer Notification Violation.