

CONNECTICUT DEPARTMENT OF PUBLIC HEALTH
BUREAU OF REGULATORY SERVICES
DIVISION OF ENVIRONMENTAL HEALTH
WATER SUPPLIES SECTION
PUBLIC WATER SYSTEMS VIOLATIONS REPORT
CALENDAR YEAR 2001

CONNECTICUT DEPARTMENT OF
PUBLIC HEALTH

Keeping Connecticut Healthy
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INTRODUCTION

The Connecticut Department of Public Health (DPH) is the State's lead agency in all matters related to the purity and adequacy of drinking water. Connecticut's "primacy" status, granted by the United States Environmental Protection Agency (EPA) allows DPH to implement and enforce provisions of the Federal Safe Drinking Water Act (SDWA) through State statutes and regulations in the Public Health Code. The Water Supplies Section (WSS) in the Department's Bureau of Regulatory Services administers the statewide drinking water program associated with the SDWA.

In 1996, the United States Congress amended the SDWA. One of the most important provisions in the amendments is the public information component that requires State drinking water programs to issue an annual report on violations incurred by public water systems (PWS). States must also make this report available to the public. This document comprises DPH's annual report which must be made available to the public and submitted to EPA by July 1, 2002. This report covers the calendar year 2001.

PUBLIC WATER SYSTEMS IN CONNECTICUT

WSS exercises regulatory oversight of approximately 3,120 PWS throughout Connecticut. These PWS fall into three categories. Community PWS, of which there are about 580, serve at least 25 year round residents. In Connecticut, approximately 80% of the state's population of 3.4 million people obtain their drinking water from community water systems. Non-transient non-community PWS, of which there are approximately 670, serve at least 25 of the same individuals, other than year round residents, for more than six months per year. Examples of non-transient non-community PWS are schools, day care centers, and factories. Finally, there are about 1,870 transient non-community PWS in Connecticut which provide drinking water to places like restaurants and campgrounds. The total number of PWS in Connecticut is approximately 800 less than last year. This is due to our effort to identify and regulate transient non-community PWS. A number of these systems have either interconnected with another PWS, gone out of business, or were determined not to be transient non-community PWS.

Over two-thirds of the population on community PWS are supplied by surface water. Groundwater serves the remaining population on community water systems, and almost all non-community PWS rely on groundwater.

REGULATION OF CONTAMINANTS

PWS are required to monitor and test their drinking water. Community PWS monitor and test for all regulated microbiological, chemical and radionuclide contaminants. Non-transient non-community PWS monitor and test for all regulated microbiological and chemical contaminants. Transient non-community PWS are required to monitor and test for microbiological contaminants and two chemical contaminants (nitrate and nitrite). EPA sets national limits or standards known as Maximum Contaminant Levels (MCL) for all regulated contaminants. The MCL represents the maximum permissible level of a contaminant in the water.

PWS submit the results of their water quality tests to WSS. WSS reviews each test result to determine compliance. An exceedance of an MCL is a violation. PWS also incur violations if they fail to properly monitor their water supply.

EPA also establishes minimum treatment techniques. This report includes violations of treatment techniques under the Lead and Copper Rule and the Surface Water Treatment Rule. For this report, violations of these two treatment techniques means a failure to meet operational and PWS requirements under the two rules.

CALENDAR YEAR 2001 REPORT OF PUBLIC WATER SYSTEM VIOLATIONS

This annual violation report includes four types of violations. The first type of violations are exceedances of MCLs. The second are for treatment technique violations under the Surface Water Treatment Rule and the Lead and Copper Rule. The third are for significant monitoring violations which are defined by EPA as a PWS failure to collect a required sample or submit a required water quality test result to WSS. The fourth are for community PWS that failed to produce a consumer confidence report (CCR), deliver it to the public, and provide a copy of the report to the State.

When a PWS has a violation, WSS provides technical assistance to the PWS to ensure that it implements all required procedures associated with the violation such as public notification and any necessary corrective action such as the installation of appropriate treatment. At this time, EPA is enforcing the CCR in Connecticut and is working closely with the WSS to ensure that all community PWS comply.

During calendar year 2001 DPH issued 183 formal enforcement actions to PWS. The actions taken included 74 Consent Orders, 4 Administrative Orders, and 105 Notices of Violation with Civil Penalty. The majority of these formal enforcement actions were issued to community and non-transient non-community PWS that incurred significant monitoring and reporting violations. The increase in the number of formal enforcement actions from Calendar year 2000 to 2001 is due to WSS initiating actions against non-transient non-community PWS that incurred significant monitoring and reporting violations during 2001.

Connecticut does not have any PWS that have been granted a variance or exception, therefore there has not been any violations of variances or exceptions in calendar year 2001.

Our goal is to oversee the PWS return to compliance as quickly as possible. WSS remains committed to continue its positive working relationship with the PWS for the express purpose of protecting public health by minimizing violations.

REPORT EXPLANATION

The majority of PWS with violations are small systems serving populations of less than 1,000 people. Small PWS are the most frequent violators of Federal and State drinking water mandates. WSS devotes considerable time and effort to helping small community and non-community PWS understand and comply with their mandated requirements. WSS has begun to identify and regulate transient non-community PWS, and as expected there has been a large increase in significant monitoring, reporting, and MCL violations. As the WSS continues to identify, regulate, and take enforcement actions against transient non-community PWS, its logical to assume that the increase in significant monitoring, reporting and MCL violations will continue.

The attached tables present data on PWS violations in calendar year 2001. Table A reports violations by the three types. Table B covers MCL violations, Table C covers treatment technique violations, Table D covers significant monitoring and reporting violations and Table E covers consumer confidence report violations. The definitions appended to Table A further explain the terms in the report and tables.

MCL VIOLATIONS: (refer to Table B)

In calendar year 2001, WSS issued 474 violations to 265 PWS for exceedances of MCLs. Fifty-two community and 213 non-community PWS incurred MCL violations.

Microbiological: Ninety-six percent of all MCL violations in calendar year 2001 were for microbiological contamination of public water supplies.

1. Total Coliform - Forty-two community, 55 non-transient non-community and 145 transient non-community PWS were issued a total of 421 total coliform MCL violations. A PWS incurs a violation for total coliform when the test result shows the presence of coliform bacteria in the water. When a violation occurs, the WSS assists the PWS with identifying the source of the coliform bacteria. Total coliforms are common in the environment and are generally not harmful themselves. The presence of these bacteria in drinking water, however, generally indicates a problem with the system that should be corrected. The problem is often corrected through system improvements and chlorination of the system. Forty-one of the community, 48 of the non-transient non-community and 143 of the transient non-community PWS have now returned to compliance. In addition, ten systems that incurred total coliform MCL violations during 2001 no longer meet the definition of a PWS.

2. Total Coliform Acute - Five community, 5 non-transient non-community and 20 transient non-community PWS were issued a total of 37 total coliform acute MCL violations. An acute total coliform violation occurs when fecal coliform or E. coli bacteria is detected in the system's water. E. coli bacteria are generally not harmful themselves, but their presence in drinking water is serious because they usually are associated with sewage or animal wastes.

PWS must notify customers that E. coli bacteria have been found in the water, and WSS strongly encourages the system to request that its customers boil their water until the source is free of contamination.

For E. coli bacteria contamination, WSS assists the PWS with completing a careful inspection of the well and surrounding area. This inspection often reveals the source of the contamination. Chlorination of the well and removal of the identified contaminant source usually returns the system to compliance. Twenty-seven of the 30 PWS that incurred violations have now returned to compliance and 1 system is no longer a PWS. The WSS will continue to work with the remaining 2 PWS while they complete system improvements. These improvements should resolve the violations and return them to compliance.

Chemical and Radionuclides: In calendar year 2001, ten PWS in Connecticut incurred 16 violations for MCL exceedances of 4 different regulated chemicals. Long-term exposure to these chemicals can pose serious risk to public health. Additionally, infants can become ill if exposed to high levels of nitrate for a short period of time.

Regulated contaminants can occur naturally in the ground. They can also be the result of releases to the ground from commercial and industrial processes or improper disposal of hazardous waste.

When a PWS exceeds an MCL it must notify its customers of the violation. At the same time, the PWS takes action to return to compliance by replacing the contaminated source of supply or by identifying and installing treatment specifically designed to reduce the level of the contaminant in the water. The WSS approves all treatment prior to installation. Two of the 10 PWS that incurred violations in calendar year 2001 have returned to compliance. The WSS will continue to work with the remaining 8 PWS in calendar year 2002 in order to return them to compliance.

TREATMENT TECHNIQUE VIOLATIONS:(refer to Table C)

1. Surface Water Treatment Rule - In 1993, EPA issued this rule which required all PWS to filter and disinfect surface water sources of supply. As a result of this requirement, 10 community PWS in Connecticut were mandated to upgrade existing filtration plants or to construct new ones. Because these systems were unable to meet the compliance period for the Surface Water Treatment Rule set by EPA, DPH entered into Consent Orders with them. The Consent Orders include a series of activities which PWS must complete to achieve compliance with the order in a specified timeframe.

At this time, all 10 PWS have completed all activities in their Consent Orders and returned to compliance. The last 2 (Portland Water Department and BHC-Ridgefield) have achieved compliance and are no longer in violation.

2. Lead and Copper Rule - Failure to install treatment for lead or copper or issue public education materials under the Lead and Copper Rule have been defined by EPA as treatment techniques violations in this report. In calendar year 2001, six treatment technique violations were incurred. Four were for failure to provide adequate public education to customers on the health risks associated with the presence of lead in the drinking water and two were for failure to install optimal corrosion control treatment. Three of the four systems that failed to provide adequate public education have now provided that information and returned to compliance. Both PWS that failed to install optimal corrosion control treatment have returned to compliance. The one system that has failed to provide adequate public education will be issued a formal enforcement action.

SIGNIFICANT MONITORING AND REPORTING VIOLATIONS: (refer to Table D)

In calendar year 2001, WSS issued 3,652 violations to 1,219 PWS for failure to monitor and report water quality test results. Each year, PWS have specific monitoring and reporting requirements for that year. When a PWS fails to comply with these requirements, a public health risk may be created due to the absence of test results on the quality of the system's water. The large increase in the number of significant monitoring and reporting violations from calendar year 2000 to 2001 is due to WSS efforts to identify and regulate transient non-community PWS in the past year.

Through technical assistance and enforcement actions, WSS will work to reduce the number of monitoring and reporting violations for both community and non-community PWS in 2002. As the WSS continues to identify and regulate transient non-community PWS, its logical to assume that there will be an increase in significant monitoring and reporting violations.

CONSUMER NOTIFICATION VIOLATION :(Refer to Table E)

EPA issued the Consumer Confidence Rule (CCR) requirement in 1998 and each community PWS must prepare and distribute a CCR report to their customers annually. The report must contain information on the PWS drinking water, including the source water, contaminants detected, health effects of contaminants when violations occur, and likely sources of detected contaminants. WSS is in the process of promulgating regulations to incorporate the CCR. At this time, EPA is enforcing the CCR and is working closely with the WSS to ensure that all community PWS comply. Ten community PWS incurred violations in calendar year 2001 for failure to report in 1999. Eight of the 10 systems have returned to compliance. One PWS has challenged in court that it was a PWS and lost; however they still refuse to comply. The other PWS has distributed a report for calendar year 2000.

CONCLUSION

DPH's annual "Public Water Systems Violations report, Calendar Year 2001" documents the number of systems in Connecticut that violated MCLs, treatment techniques, and monitoring and reporting requirements. Where a violation occurred, WSS acted promptly to ensure that the PWS addressed the problem. PWS that did not correct violations were issued further enforcement actions. An increase in the number of MCL and significant monitoring and reporting violations from calendar year 2000 to 2001 is in large part due to WSS efforts to identify and regulate transient non-community PWS in the past year. As the WSS continues to identify, regulate, and take enforcement action against transient non-community PWS, its logical to assume that there will be an increase in identified significant monitoring, reporting and MCL violations.

Our mission is to protect public health by ensuring the purity and adequacy of drinking water, now and in the future. The Section's enforcement actions and technical assistance efforts are two of the strategies employed by the WSS to achieve our mission. On behalf of the DPH, WSS will continue to capitalize on opportunities to promote compliance among the State's public drinking water systems to achieve this mission.