

**California Department of Health Services**  
**Drinking Water Program**  
**Public Water System Violations Report**  
**(Calendar Year 1999)**

**SECTION I: Introduction**

The Safe Drinking Water Act (SDWA) Amendments of 1996 included provisions requiring States to complete annual reports on violations of primary drinking water regulations by the public water systems in their state. The report is required to include violations with respect to (1) maximum contaminant levels (MCL) of primary drinking water standards, (2) treatment techniques, (3) variances and exemptions, and (4) significant monitoring requirements. The states are also required to make this annual report available to the public and to distribute summaries of the report.

The California Department of Health Services (Department) is designated by the United States Environmental Protection Agency (USEPA) as the primacy agency to administer and enforce the requirements of the federal SDWA in California. The Department's drinking water regulatory program covers all public water systems defined under state and federal statutes. The State of California and the Department have adopted statutes and regulations to implement the requirements of the SDWA Amendments of 1996.

The Department has delegated the authority to implement the requirements of the SDWA to thirty-four (34) counties in California. This delegated authority only applies to small public water systems serving less than 200 service connections. The delegated counties regulate approximately 5,000 small public water systems statewide. The Department retains the regulatory authority over the small public water systems in the remaining twenty-four (24) non-delegated counties.

The Department submits drinking water regulatory program data to the USEPA electronically for entry into the Safe Drinking Water Information System (SDWIS) on a quarterly basis. The data submitted to SDWIS includes (1) public water system inventory statistics, (2) the incidence of Maximum Contaminant Level (MCL), Major Monitoring and Treatment Technique violations, and (3) the enforcement actions taken by the Department against public water systems for violations. The USEPA regions also report federal enforcement actions into the SDWIS database.

Public water systems are required to conduct routine monitoring of regulated contaminants present in their drinking water supply. The failure of a public water system to conduct the required monitoring is considered a monitoring violation. A monitoring violation also results when a public water system fails to report monitoring results to the appropriate regulatory agency.

A significant monitoring violation under the Surface Water Treatment Rule occurs when fewer than ten percent (10%) of the required water samples are taken or monitoring results are not reported during a reporting interval.

This annual report is based on violations data retrieved from SDWIS for the period of January 1, 1999 through December 31, 1999. A complete copy of this report is available to the public on the

Department's website at [www.dhs.ca.gov/ps/ddwem/publications/pubindex.htm](http://www.dhs.ca.gov/ps/ddwem/publications/pubindex.htm). In addition, the public can request a copy of the report by contacting the Department at (916) 323-6111.

## **SECTION II: Summary of Violations**

This section identifies the categories of violations and summarizes the SDWIS violations information provided in Appendix A. In addition, a brief explanation of the violations is provided.

### **Organic Contaminants**

Fifty-nine (59) organic contaminants were monitored by public water systems in California during 1999 for compliance with primary drinking water standards. There was only one (1) reported MCL violation for the contaminant tetrachloroethylene. The violation is summarized in Appendix A and the name of the water system reporting the MCL violation is included in Appendix B.

### **Inorganic Contaminants**

Seventeen (17) inorganic contaminants were monitored by public water systems in California during 1999 for compliance with primary drinking water standards. Of those seventeen (17) inorganic contaminants monitored, violations were reported for two (2) of the inorganic contaminants: arsenic and nitrate. A total of twenty-four (24) violations of these inorganic contaminants were reported by twenty-three (23) public water systems. The arsenic MCL violation was reported by one (1) public water system and twenty-two (22) other public water systems reported the twenty-three (23) nitrate MCL violations. The violations are summarized in Appendix A and a list of the water systems reporting MCL violations of inorganic contaminants is included in Appendix B.

#### Radionuclides

During 1999, there was one (1) reported MCL violations for the six (6) radionuclide contaminants monitored by public water systems in California. The monitored radionuclide primary drinking water standards include Gross alpha, gross beta, radium-226 and 228, tritium, strontium-90, and uranium. One (1) public water system reported gross alpha MCL violation and is included in Appendix A and B.

### **Total Coliform Rule**

The Total Coliform Rule violation data identifies the presence of microbiological contamination in drinking water supplies. Public water systems are required to monitor for coliform bacteria as the basis for establishing compliance with the bacteriological MCL. During 1999, a total of 366 bacteriological MCL violations were reported in California. These violations were reported by 304 public water systems. An additional 626 significant monitoring and/or reporting violations were reported by 410 public water systems during the year as shown in Appendix A.

Thirty (30) public water systems reported a total of thirty-one (31) acute MCL violations, and 276 public water systems reported 335 non-acute MCL violations. An acute MCL violation indicates that a water system detected fecal coliform or E. coli bacteria in their drinking water supply. A non-acute MCL violation indicates that a public water system detected total coliform bacteria in their drinking water supply. A list of the public water systems reporting the acute and non-acute bacteriological MCL violations is included in Appendix B.

The 626 monitoring violations identified by 410 water systems indicate that these water systems did not complete the required bacteriological monitoring for their water systems for at least one month

during the year. The list of water systems in violation of monitoring requirements was not available to the Department from SDWIS.

### **Surface Water Treatment Rule**

The Surface Water Treatment Rule establishes treatment techniques in lieu of MCL's for Giardia lamblia, viruses, bacteria, Legionella, heterotrophic plate count, and turbidity. Five (5) unfiltered water systems reported eight (8) turbidity MCL violations. A list of the unfiltered water systems with MCL violations is listed in Appendix B. Ten (10) public water systems using filtration reported twenty-two (22) violations of the treatment technique that had been established for their water system. Two (2) of these ten (10) water systems reported multiple violations of their treatment technique. A list of the public water systems reporting treatment technique violations is included in Appendix B.

An additional fifty-three (53) unfiltered public water systems have violated the requirement to install filtration for their drinking water supply. A list of the public water systems that have not installed filtration is included in Appendix B.

### **Lead and Copper Rule**

In May 1991, National Primary Drinking Water Regulations for Lead and Copper were promulgated by the USEPA. The State of California did not adopt regulations implementing the federal Lead and Copper Rule until September 16, 1996. Consequently, the USEPA assumed the responsibility for administering the Lead and Copper Rule in California from 1991 through late 1996. The currently available violation data from SDWIS reflects violations that occurred during 1992 through 1994 as provided by the USEPA into the SDWIS database at that time. The SDWIS database does not contain any data which reflects new Lead and Copper Rule violations that occurred during calendar year 1999.

## **SECTION III: Conclusions**

Overall, the drinking water quality delivered by the public water systems to the citizens of California generally meets all of the state and federal drinking water standards and is safe to drink. The significance of the identified violations for each contaminant category is as follows.

### **Organic Contaminants**

99.85% of California's population served by PWS received drinking water that satisfied all of the primary drinking water standards for organic contaminants.

### **Inorganic Contaminants**

Approximately 99.44% of California's population served by PWS received drinking water that satisfied all of the primary drinking water standards for inorganic contaminants.

The inorganic contaminant MCL violations were reported by twenty-four (24) public water systems for two (2) inorganic contaminants: arsenic and nitrate. The arsenic violation was reported by one (1) public water system that serves a population of forty (40) people which represents less than 0.01% of the state total population. Consuming/ingesting drinking water for prolonged periods with arsenic could cause dermal and nervous system toxicity effects.

Nitrate MCL violations (greater than 10.0 mg/l) were reported by twenty-three (23) water systems which serve a total population of approximately 191,522. The affected population represents 0.59% of

the state total population. Consuming/ingesting drinking water with excessive nitrate levels can cause serious illness and possible death in infants that are less than six (6) months of age.

### **Total Coliform Rule**

Approximately 98.17% of California's population received drinking water from PWS that continuously satisfied the primary drinking water standards for bacteriological quality throughout the year.

The thirty (30) water systems that reported acute bacteriological MCL violations serve a total population of approximately 82,507, which represents 0.26% of the state population. These water systems reported thirty-one (31) acute bacteriological MCL violations. Twenty-nine (29) public water systems reported single acute bacteriological MCL violations and one (1) water system reported two (2) single consecutive violations. The single violations indicate that the circumstances causing the violations were corrected immediately. As a result of these violations, the affected population was briefly exposed to a significant public health risk due to bacteriological contamination of their drinking water supplies.

The 276 public water systems that reported 335 non-acute bacteriological MCL violations serve a total population of approximately 539,746, which represents 1.67% of the state population. These non-acute bacteriological violations do not necessarily indicate that the affected population was exposed to a public health risk. Typically, these violations are the result of improper water sampling and/or inadequate cleaning of water distribution systems.

The 410 water systems reported 626 bacteriological monitoring violations. The failure to complete the required bacteriological monitoring does not enable the water system to determine compliance with the primary drinking water standards for bacteriological quality.

### **Surface Water Treatment Rule**

Approximately 98.89% of California's population served by PWS that use surface water, received drinking water that continuously satisfied the filtration treatment and monitoring provisions of the Surface Water Treatment Rule, throughout the year.

The five (5) unfiltered water systems that reported turbidity MCL violations serve a total of 4,905 people, which represents less than 0.02% of the state population. The ten (10) water systems that reported treatment technique violations serve a total population of 225,417, which represents less than 0.70% of the state population. Eight (8) of these water systems reported the violation for only one (1) month and met the requirement during the remaining eleven months of the year. One (1) public water system reported the violation for six (6) months and one (1) additional public water system reported the violation for eleven (11) months. Treatment technique violations are typically reported as a result of elevated turbidity levels in the water or a failure to maintain the required level of disinfection. High turbidity levels or inadequate disinfection are indicators of potential breakthrough of cryptosporidium, giardia, bacteria, or viruses in the treatment process.

The fifty-three (53) water systems with "failure to filter" violations represent unfiltered public water systems which have not complied with the USEPA requirement to install filtration treatment. The total population served by these unfiltered water systems is approximately 133,526. The failure of these water systems to install filtration treatment may expose the affected population to a potential health risk from cryptosporidium, giardia, viruses, and bacteria in the drinking water supply.

The Department has issued compliance orders or agreements to enforce the required installation of filtration treatment for all fifty-three (53) unfiltered water systems in violation.

### Enforcement Activities

In response to the violations identified in this report for 1999, a total of 1,273 enforcement letters, 277 citations, and twenty (20) compliance orders were issued to affected public water systems. This aggressive enforcement is a key element of the Department's overall regulatory strategy to bring all public water systems into full compliance with the drinking water regulations and ensure that all Californians receive safe drinking water.