



Providing Safe Drinking Water In America

1996 National Public Water Systems Compliance Report and Update on Implementation of the 1996 Safe Drinking Water Act Amendments

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Contents

SECTION I - EXECUTIVE SUMMARY

Assessing PWS Compliance With Drinking Water Standards.....	1
Results in Brief.....	2
Activities Underway to Implement the SDWA Amendments of 1996.....	4
Promoting Public Information and Involvement.....	4
Providing Tools to States, Tribes, and Water Systems to Improve Compliance.....	5
Helping Small Systems Provide Safe Drinking Water.....	6
Focusing Safety Standards on the Most Serious Health Risks.....	7
Exercising New Enforcement Authorities and Undertaking Compliance Assistance.....	7
Improving the Data that Describes America's Drinking Water.....	9
Recommendations.....	9
Future Direction.....	11

SECTION II NATIONAL COMPLIANCE REPORT

Part I - Introduction.....	13
Purpose.....	13
Statutory Requirements.....	13
Compliance Report.....	13
Stakeholder Involvement.....	13
Part II - National and State Public Drinking Water Programs.....	14
EPA Regulations.....	14
Public Water Systems.....	15
Part III - PWS Compliance Data and Analysis.....	16
Data Analysis.....	16
Community Water Systems.....	18
Monitoring and Reporting Violations by System Size.....	20
Contaminant Level and Treatment Technique Violations by System Size.....	21
Non-Transient Non-Community Water Systems.....	22
Transient Non-Community Water Systems.....	22
Variance and Exemptions.....	22
Quality of Data.....	22
Part IV - Evaluation and Summary of State Reports.....	23
State Enforcement and Compliance Assistance Programs.....	24
Information on State Reports.....	24
State by State Summaries.....	26
Part V - Conclusions and Recommendations.....	27

SECTION 3 - TRIBAL COMPLIANCE REPORT

Part I - Introduction	29
Purpose.....	29
Workgroup and Stakeholder Process	29
Role of Other Federal Agencies	29
Part II - PWSs on Indian Reservations	29
Part III - Compliance Data and Analysis	30
Compliance Analysis.....	31
Enforcement and Compliance Activities	31
Compliance Assistance	32
Infrastructure Needs.....	33
Additional Small System Needs	33
Financial Assistance	33
Part IV - Conclusions and Recommendations	34

APPENDICES

Appendix A - Glossary of Terms	A-3
Appendix B - Summaries of Annual State Public Water System Reports	B-3

TABLES AND FIGURES

Table 1: Public Water System Inventory in Calendar Year 1996	15
Table 2: Summary of Drinking Water Regulations for PWSs.....	17
Table 3: Summary of Elements Reported by States.....	25
Table 4: Number of Violations and Numbers of Informal Enforcement Actions	32
Table A-1: Significant Monitoring Violations for Annual State Public Water System Reports	A-5
Figure 1: Size Distribution of PWSs-Number of Systems.....	17
Figure 2: Size Distribution of PWSs-Population Served	17
Figure 3: Number of Community Water Systems with Monitoring and Reporting Violations by System Size	20
Figure 4: Population Served by Community Water Systems with Monitoring and Reporting Violations by System Size	20
Figure 5: Number of Community Water Systems with Maximum Contaminant Level and Treatment Technique Violations	21
Figure 6: Population Served by Community Water Systems with Maximum Contaminant Level and Treatment Technique Violations by System Size	21
Figure 7: Location of American Indian Tribal Lands.....	30
Figure 8: Number of PWSs on Tribal Lands with Violations by Rule	31

Section I - Executive Summary

Safe drinking water is a cornerstone of public health protection. One of the major goals of the Environmental Protection Agency (EPA) is to ensure that the drinking water of all Americans is safe. This report describes how well we are meeting that goal, the steps we need to take to improve the data that allow us to measure that goal, and the activities under way that will allow us to meet the goal more quickly.

The most important news is good. The nation's drinking water is generally safe. In 1996, the vast majority of people in the nation received water from systems that had no reported violations of maximum contaminant levels (MCLs) and treatment technique requirements or significant monitoring and reporting requirements. Further good news is that, since the passage of the Safe Drinking Water Act (SDWA) Amendments of 1996, EPA and its public and private partners have worked vigorously to develop and begin to use many new tools to enhance the quality of the nation's drinking water. However, in gathering and analyzing the data to provide both specific compliance and general public information, EPA and its partners have realized that we have questions about the quality of some of the data contained in our Safe Drinking Water Information System. Nonetheless, when viewed in the aggregate, this data presents an overall picture of public water systems (PWSs) compliance on a national basis. We present here the general findings concerning the compliance status of PWSs and make recommendations to improve compliance as well as to improve the quality of the data.

This report on PWS compliance is mandated by the 1996 SDWA Amendments and provides information on the compliance status of PWS, including PWSs located on Indian reservations, for calendar year 1996. In 1993, the Administration proposed sweeping revisions to the SDWA to supply many of the ingredients that are vital to providing safe drinking water, but were lacking in the law at that time. In August 1996,

Congress adopted and President Clinton signed into law amendments to the SDWA that provide these new ingredients. Accordingly, this report also discusses the variety of activities that the Agency has undertaken in the last two years since the passage of the 1996 Amendments to capitalize on the new opportunities and authorities provided by those Amendments including: promoting public information and involvement; providing tools to States, Tribes and water systems to improve compliance; helping small systems provide safe drinking water; focusing safety standards on the most serious health risks; and exercising new enforcement authorities and undertaking compliance assistance activities.

This national report is an annual requirement for EPA. Subsequent reports will reflect new actions that EPA and its partners have taken to improve compliance and data quality since 1996.

ASSESSING PWS COMPLIANCE WITH DRINKING WATER STANDARDS

The public and water supply managers must know whether drinking water systems are in compliance with the drinking water standards mandated by law. PWSs are responsible for reporting their monitoring results to the States. The 1996 SDWA Amendments require that States prepare annual reports on the compliance of PWSs within their State and make summaries available to the public, and that EPA produce an annual national compliance report. This first report presents compliance information for 1996 using State and Tribal data from EPA's Safe Drinking Water Information System (SDWIS/FED) and discusses ways to improve both the data and the overall compliance picture. SDWIS/FED is an exceptions-based database, meaning that only violations or instances of non-compliance are recorded. The information presented in this report is a summary of data provided to the Agency through SDWIS/

FED and includes information on health-based violations (i.e., MCL, treatment technique) and significant monitoring and reporting violations.

An MCL is the maximum permissible level of a contaminant in water which is delivered to any user of a public water system. The MCL is set as close to the level where there are no known or anticipated health effects as is feasible with the use of the best technology or treatment techniques. EPA sets treatment techniques, instead of MCLs, where it is infeasible to monitor and ascertain the level of a particular contaminant. The required treatment techniques are designed to prevent known or anticipated health effects.

For this report, a significant monitoring and reporting violation occurs when a PWS collects none of the samples or submits none of the reports required by a particular regulatory provision, or met the significant noncompliance definition for the Lead and Copper Rule or the Surface Water Treatment Rule (see Appendix A). EPA is concerned with these violations because without the required monitoring, EPA and States do not know the quality of the water being delivered to consumers. Thus, people may be at risk without knowing it and appropriate steps to safeguard public health cannot be taken by the States or EPA or by the consumers themselves.

In their reports, States also presented EPA with compliance data for which many used data from their own information systems. EPA has compiled summaries of the State data in Appendix B.

Fifty-one of 56 States, Commonwealths, and Territories prepared compliance reports. EPA compiled compliance information for American Samoa, Guam, and the Northern Mariana Islands. EPA also prepared reports for States and Tribes that do not have primary enforcement responsibility for drinking water programs, including Wyoming, Washington, DC, and water systems located on Indian reservations.

RESULTS IN BRIEF

In 1996, the vast majority of people in the nation received water from systems that had no reported violations of MCL and treatment technique requirements or significant monitoring

and reporting requirements. The report looks at the compliance status of all types of public water systems; however, much of the report focuses on community water systems because the majority of the population obtains drinking water from community water systems. Within the limitations of data quality, as discussed below, some of the most notable findings are:

The nation's drinking water is generally safe — 86 % of the country's population served by community water systems drank water from systems that reported no violations of any health-based drinking water standards.

- 94% of all *public water systems* had no reported MCL or treatment technique violations.
- 91% of *community water systems* had no reported MCL or treatment technique violations. Violations were primarily of the Total Coliform Rule and Surface Water Treatment Rule - rules which protect against microbiological contamination of drinking water.
- 94% of *non-transient non-community water systems* had no reported MCL or treatment technique violations. Most of the systems with a reported violation violated the Total Coliform Rule.
- 95% of *transient non-community water systems* had no reported MCL or treatment technique violations. As with non-transient non-community water systems, most of the systems violated the Total Coliform Rule.

Nationwide, most violations are of significant monitoring and reporting requirements.

- In 1996, there were 141,617 MCL, treatment technique, and significant monitoring and reporting violations reported by 47,918 of the 170,942 public water systems in the nation. 87% were for violations of significant monitoring and reporting requirements. 13% were for violations of MCL and treatment technique requirements.
- 76% of all *public water systems* had no reported violations of significant monitoring and reporting requirements.

- 72% of *community water systems* had no reported violations of significant monitoring and reporting requirements. The Lead and Copper Rule and Total Coliform Rule accounted for most of the systems with violations.
- 66% of *non-transient non-community water systems* had no reported violation of significant monitoring and reporting requirements. The Lead and Copper Rule and Total Coliform Rule accounted for most of the systems with violations.
- 80% of *transient non-community water systems* had no reported violation of significant monitoring and reporting requirements. The Total Coliform Rule and Nitrate Rule accounted for most of the systems with violations.

Although the number of large systems with a reported violation is relatively small, the population that is served by these systems can be large.

- 9% of the 5,151 *community water systems* with an MCL or treatment technique violation were for large systems. These systems served 30 million people. The Surface Water Treatment Rule, Total Coliform Rule, or Lead and Copper Rule are the rules most frequently violated by large water systems.
- 2% of the 15,182 *community water systems* with a significant monitoring and reporting violation were large systems. These systems served 17 million people. The rules pertaining to total coliform, surface water treatment, organic chemicals, and nitrate accounted for most of these systems with violations.

Most violations are reported in small water systems that serve fewer than 3,300 people.

- Small systems comprised 96% of the 15,182 *community water systems* with a significant monitoring and reporting violation. These systems served 5.0 million people.
- Small systems comprised 82% of the 5,151 *community water systems* with an MCL

and treatment technique violation. These systems served 2.3 million people.

- Virtually all of the non-transient and transient non-community water systems are small, therefore, most violations for these system types occurred in small systems.

Approximately 10% of public water systems located on Indian reservations had a reported violation of an MCL or treatment technique requirement. Most violations were for significant monitoring and reporting violations which might prevent other MCL and treatment technique violations from being detected.

- 45% of the 920 public water systems on Indian reservations reported a violation. 75% of the systems with a violation serve fewer than 500 people.
- The majority of violations (97%) were of significant monitoring and reporting requirement, primarily for the Total Coliform Rule and chemical contaminants. The Total Coliform Rule also accounted for most of the reported health-based violations.

There were no reported violations of variance and exemptions in 1996.

- Very few of the States issued variances and exemptions in 1996.

Compliance data in many individual State databases differs from that reported to the Federal database.

- When viewed in the aggregate, comparison of national data from SDWIS/FED with that totaled from all individual State reports showed 19% more violations in State reports than in SDWIS/FED, most of which could be accounted for by differences in violation reporting of significant monitoring and reporting requirements for chemical contaminants.
- A State-by-State comparison of SDWIS/FED data with that included in State compliance reports, most of which were

developed using information from a State's own data system, revealed differences, with both over- and under-reporting by States into SDWIS/FED.

- EPA also discovered problems with EPA Regional reporting of data for PWSs on Indian reservations into SDWIS/FED.

Although the data show that the nation's drinking water is generally safe, more work needs to be done to improve compliance in specific areas and to improve the quality of the data. Recommendations to improve both compliance and data quality are presented at the end of this summary.

ACTIVITIES UNDERWAY TO IMPLEMENT THE SDWA AMENDMENTS OF 1996

The Clinton Administration has always recognized that many tools and resources are essential to ensure that Americans have drinking water that meets all health standards. The SDWA Amendments of 1996 provided many new authorities to enable EPA to more quickly meet its goal of safe drinking water. Now, two years after passage of the 1996 Amendments, EPA has exercised these authorities and finalized every product required in the law to date and has done so with maximum stakeholder involvement. This stakeholder participation included more than 100 public meetings, public review and comment of documents, and the help of the National Drinking Water Advisory Council and its associated working groups.

PROMOTING PUBLIC INFORMATION AND INVOLVEMENT

The public has a right to know what is in its drinking water and to participate in decisions affecting that drinking water. The 1996 Amendments include a strong and pervasive ethic of public information and involvement, and in this second year of implementing the Amendments, EPA and its partners have produced major tools and undertaken a variety of activities to ensure that the public is well informed.

- **Consumer Confidence Reports:** Consumer confidence reports are the centerpiece of

the right-to-know provisions in SDWA. In August 1998, EPA finalized a rule to require drinking water systems to provide annual reports to their customers on the state of their drinking water supply. The information contained in these reports will enable Americans to make practical, knowledgeable decisions about their health and their environment. The

Consumer Confidence Reports will provide Americans with annual snapshots of their drinking water supply.

reports also provide a way for the public to get more information about other provisions required by the 1996 Amendments such as assessments of drinking water source quality.

- **Each report must provide consumers with the following fundamental information about their drinking water:** The source of the water; a brief summary of its susceptibility to contamination (based on assessments of drinking water source quality that States will complete over the next five years); the level (or range of levels) of any contaminant found in the drinking water, compared with EPA's health-based standard; the likely source of that contaminant in the local drinking water supply; the potential health effects of any contaminant detected in violation of an EPA health standard; an accounting of any actions a system takes to restore safe drinking water; an educational statement for vulnerable populations, such as children, about avoiding certain contaminants; educational information on nitrate, arsenic, or lead in areas where these contaminants are detected at levels more than 50% above EPA's standard; and phone numbers for additional sources of information, including that of the water system and EPA's Safe Drinking Water Hotline.
- **Ensuring Public Access to Additional Information:** EPA is acting to ensure that new public information tools are made available to the public. This year, EPA worked with States on ways to make the results of their up-coming source water assessments available to the public, and

has formed a Public Right-to-Know working group of the National Drinking Water Advisory Council to discuss how to make drinking water information available to the public, and how to involve them in making decisions with that information.

- **Using the Internet to Increase Public**

Access: EPA has been working over the past year to make drinking water information available to the public via the Internet (<http://www.epa.gov/safewater>). EPA has created and will expand a geographic information site where consumers will be able to get information about their water, including their local drinking water supply. This will include information on violations of drinking water standards, State compliance reports, water system consumer confidence reports, and State drinking water information and contacts.

- **Preparing for Greater Public Involvement:**

In its effort to develop more effective and durable policies, EPA has continued to uphold the law's ethic of public involvement in its decision-making processes by holding public meetings and providing an opportunity for public review of draft documents. By maintaining this high level of public involvement, resulting in consensus building whenever possible, EPA is demonstrating on a national level the benefits of the types of public involvement that the 1996 SDWA Amendments also specify extensively for States. While SDWA provides States with flexibility and substantial Federal funding to meet the challenging task of building several important new programs, it also adds a public participation framework to enable States to involve their residents in, and strengthen the substantive content of, their efforts.

Over the past two years, as EPA has worked closely with States to provide guidance and implement programs, we have also worked to advance statutorily required public involvement in key areas such as: State decisions on the use of the Drinking Water State Revolving Fund for projects and programs; development and implementation of State source water assessment programs; the framing of State programs to strengthen the technical, financial, and mana-

gerial capacity of water systems; and in State consideration of variance and exemption requests.

PROVIDING TOOLS TO STATES, TRIBES, AND WATER SYSTEMS TO IMPROVE COMPLIANCE

The 1996 SDWA Amendments gave the nation a new approach to drinking water protection which focuses attention on the highest public health priorities. This includes a holistic approach to prevention and protection, an emphasis on the public's right-to-know, and a series of building blocks for States and water suppliers that can help in implementation. Two years after passage of the Amendments, most of these building blocks are in place. These activities will assist EPA and the States as they work to assure compliance with drinking water standards.

- **Drinking Water State Revolving Fund (DWSRF):**

The 1996 Amendments created the DWSRF to enable States to help water systems finance infrastructure improvements that are needed to solve compliance and public health problems. States can also use these funds to help systems protect their source water and improve water system management. Congress has appropriated \$2 billion for the DWSRF through FY'98. By the end of FY'98, every State will have a DWSRF program approved by EPA, and will have received at least its first commitment of funds ("capitalization grant").

- **Capacity Development:** Capacity refers to the technical, financial, and managerial capability of a water system to plan for, achieve, and maintain compliance with drinking water standards. Capacity development is a State effort to help drinking water systems improve their finances, management, infrastructure, and operations so they can provide safe drinking water consistently, reliably, and cost-effectively. Many small drinking water systems have difficulty complying with some of the complex provisions of the SDWA because their capacity is often constrained by their limited economies of scale. The new SDWA has several features

with great potential to increase system capacity, and thereby correct and prevent noncompliance. In August 1998, EPA released guidance and information to help States work together with water systems to carry out new capacity development provisions from the law, including a requirement that States have authority to prevent the formation of new public water systems that lack the capability to operate and manage a drinking water system. States must also implement a strategy to help existing systems develop the capability to operate and maintain their system and ensure long-term compliance.

- **Water System Operator Certification:** Operator competency is critical to the protection of public health and maintenance of safe, effective, and reliable water treatment plants and distribution lines. In February 1998, EPA released information for States on recommended operator certification requirements, developed through a partnership with States, water systems, and the public. By February 1999, EPA will issue final guidelines for States to use in making changes to their operation certification programs.
- **Source Water Protection:** The first step in a multiple barrier approach to drinking water protection is preventing contamination of drinking water sources. This avoids the need to pay for costly treatment to remove contamination after it occurs. In August 1997, EPA issued a source water assessment and protection guidance for States to use to complete source water assessments for their public water systems. States, water systems, and the public can work together using Federal funding to protect the highest priority sources identified in the assessments. During this past year, States have been working diligently to prepare their assessment programs, which are due to EPA by February 1999.
- **Proposed Regulation for Underground Injection Control Class V Wells:** Some shallow waste disposal wells pose a threat to underground sources of drinking water. On July 17, 1998 EPA issued a proposal, for public comment, in the *Federal Register* to regulate specific types of high-risk wells,

such as large cesspools, motor vehicle wells, and industrial wells, located in source water protection areas for systems using groundwater. When finalized in 1999, this regulation will give States a new tool for source water protection efforts.

- **Support for Indian Tribes:** The problems facing public water systems located on Indian reservations are significant. Many of the systems face challenges related to their small size (75% of systems serve populations fewer than 500) and limited sources of revenue. Many of the tools discussed above include funding and provisions to address the special problems of these public water systems. In addition, the 1996 SDWA Amendments provided that 1.5% of the amount appropriated for the DWSRF program be made available to water systems on Tribal lands in the form of grants. This translated into \$30 million for fiscal years 1997 and 1998.

HELPING SMALL SYSTEMS PROVIDE SAFE DRINKING WATER

Although they serve a small percentage of the nation's *population*, water *systems* serving fewer than 10,000 persons constitute the majority of all community drinking water systems. Small systems often do not have a full-time operator, and their limited customer base often makes compliance with public health standards difficult due to affordability problems. The 1996 Amendments created several new tools to help address the special needs of small systems.

- **List of Small System Compliance Technologies:** In August 1998, EPA published a list of alternative technologies that small systems may use to remove or treat regulated contaminants. These alternative technologies give small systems more flexibility in choosing the most cost-effective methods to meet drinking water standards.
- **Variances and Exemptions:** In August 1998, EPA revised its variance and exemption rule, which provides a framework to help small systems comply with drinking water standards. Variances allow a small system that cannot afford to comply with a drinking water standard to deviate from the standard under certain conditions, as long

as the drinking water is still protective of public health. Exemptions allow a water system extra time to obtain needed financial assistance, develop an alternative source of water, engage in management or restructuring changes, or make any other effort needed to bring the system into compliance.

- **Technical Assistance:** EPA is now supporting a total of eight technology assistance centers, based at universities, to help small drinking water systems with training, technical assistance, and technology demonstrations. With grant support from EPA, university-based Environmental Finance Centers are assisting States in developing and implementing innovative programs to help small systems build their capacity. In addition, up to two percent of a State's DWSRF capitalization grant may be used to provide technical assistance to systems serving fewer than 10,000 persons, and the SDWA requires that at least 15% of the DWSRF be made available to small systems.

FOCUSING SAFETY STANDARDS ON THE MOST SERIOUS HEALTH RISKS

Strengthening research to support development of regulations based on sound science is one of the most significant provisions in the 1996 Amendments. The first major products of that scientific focus were produced in 1998. These products demonstrate the principles of targeting and focusing research on high risk contaminants and expanding public involvement in the rulemaking process by enhancing public access to data.

- **The Contaminant Candidate List:** In February 1998, EPA published its Contaminant Candidate List (CCL), which is the strategic blueprint for future standards development and public health decisions. The CCL is a list of currently unregulated contaminants that are known or anticipated to occur in drinking water. The list will help EPA, States, and water systems focus their efforts on contaminants that pose the greatest risks to public health. Contaminants for priority drinking water

research, occurrence monitoring, and guidance development, including health advisories, will be drawn from the CCL. EPA will also use this list to outline a plan of action, required by the year 2001, for making regulatory decisions on developing standards for five or more contaminants.

- **Strengthening Research:** EPA has expanded its research in occurrence studies, health effects, analytical methods, and treatment approaches to support its standard-setting priorities under the CCL. In addition, as required by the 1996 Amendments, EPA has developed, and is carrying out, its long-term research plans for arsenic and the microbial and disinfectants/disinfection byproducts cluster of rules.
- **Microbial and Disinfectants/Disinfection Byproducts Rules:** Congress and the Administration agree that microbial contaminants in drinking water, such as *Cryptosporidium*, pose the greatest potential risk to human health. The 1996 Amendments required EPA to issue several rules to control these contaminants and the byproducts of chemicals used to control them. In late 1998, EPA will dramatically advance public health protection by finalizing the first set of these rules, the Interim Enhanced Surface Water Treatment Rule and the Stage I Disinfectants/Disinfection Byproducts Rule.

EXERCISING NEW ENFORCEMENT AUTHORITIES AND UNDERTAKING COMPLIANCE ASSISTANCE

The 1996 Amendments strengthened EPA and State enforcement and penalty authorities. In recognition of the fact that enforcement is an effective tool in returning systems to compliance and ensuring that water systems which do not comply do not enjoy a competitive advantage over others that do, the Amendments streamlined the process for issuing Federal administrative orders, raised the amount EPA could collect in administrative penalties, and required States as a condition of primacy to have administrative penalty authority. As with other provisions of the 1996 Amendments, EPA and the States are working to implement these provisions and will provide more detail in future reports.

EPA's current enforcement priorities focus on those regulations and contaminants which pose the greatest risk to public health, i.e., the microbiological regulations (Total Coliform Rule and Surface Water Treatment Rule), lead and copper, and other acute contaminants (e.g., nitrate).

In fiscal year 1996, the Agency issued 1,039 notices of violation, 254 final administrative orders, 40 complaints for penalty, and 9 new civil referrals. In 1997, EPA issued 266 notices of violation, 392 Federal administrative orders, 12 complaints for penalty, and 4 new civil referrals.

To complement its enforcement activities, EPA also undertakes compliance assistance to

increase understanding of, and compliance with, drinking water requirements. The Agency conducted more than 3,180 compliance assistance activities, including on-site visits to public water systems and development and distribution of compliance assistance tools. The Agency is also developing a Compliance Assistance Center, the Local Government Environmental Assistance Network (LGEAN), which is designed to help local government officials stay abreast of the latest environmental requirements and technologies, including drinking water issues. LGEAN is coordinated by a number of partners, such as drinking water and governmental associations. The network will help governments disseminate information on drinking water to help water facilities treat water more effectively and will field questions on environmental compliance and

The box below lists EPA's major products in support of SDWA implementation.

Programs	1 st year (August 1996-97)	2 nd year (August 1997-98)	Future
Public Information/Involvement	<ul style="list-style-type: none"> • Expansion of National Drinking Water Advisory Council (NDWAC) 	<ul style="list-style-type: none"> • Consumer Confidence Report Regulation • Compliance Reports 	<ul style="list-style-type: none"> • National Contaminant Occurrence Data Base • Revised public notification • Right-to-Know NDWAC Working Group
Tools for States and Water Systems	<ul style="list-style-type: none"> • Drinking Water State Revolving Fund Guidelines • Source Water Assessment and Protection Guidance • Drinking Water Infrastructure Needs Survey • Alternative Monitoring Guidance 	<ul style="list-style-type: none"> • Information on Operator Certification • Capacity Development Guidance • Environmental Finance Centers • Proposed Class V UIC Rule 	<ul style="list-style-type: none"> • Operator Certification Guidelines • Federal support of State source water assessment activities through Clean Water Action Plan • Final Class V UIC Rule • State ground water protection reports • Local Governmental Environmental Assistance Network
Small System Needs	<ul style="list-style-type: none"> • Treatment technologies list for Surface Water Treatment Rule 	<ul style="list-style-type: none"> • Compliance technologies list • Variance and Exemptions Rule • Technology Assistance Centers 	<ul style="list-style-type: none"> • NDWAC Small Systems Working Group
Risk-Based Standards Setting	<ul style="list-style-type: none"> • Research plans for Microbial/Disinfection Byproducts and Arsenic 	<ul style="list-style-type: none"> • Contaminant Candidate List 	<ul style="list-style-type: none"> • National Contaminant Occurrence Data Base • Unregulated Contaminant Monitoring Rule

assistance information for State and local officials, inspectors, and regulators.

IMPROVING THE DATA THAT DESCRIBES AMERICA'S DRINKING WATER

The nation needs reliable data in order to manage its drinking water program. It is of great importance to EPA and its partners to improve quality and accuracy of drinking water. EPA has collected data from States for approximately 20 years on violations of drinking water standards and stored them in an EPA data system that has recently been modernized and renamed the Safe Drinking Water Information System (SDWIS/FED). Portions of SDWIS/FED that are under development will better track compliance with existing and future regulations, track drinking water goals developed to meet the Government Performance and Results Act, and also make data recovery easier for the public. In preparing the compliance information described below, it became clear that some SDWIS/FED data should be updated or checked for reliability.

To ensure SDWIS/FED data reliability, EPA is undertaking a series of steps which are outlined in the recommendations described later in this report.

In addition to having information about actual violations of drinking water standards for treated drinking water, the nation also needs information on the occurrence of contaminants in our *sources* of drinking water. The SDWA Amendments of 1996 mandated that EPA prepare a National Contaminant Occurrence Data Base (NCOD) by 1999 that will contain information about the pollutants found in sources of drinking water. NCOD will draw on other databases from both inside EPA and from our partners such as the U.S. Geological Survey, and will also include information from forthcoming State and Tribal source water assessments. The Data Base will give both managers and the public information on the quality of water which is subsequently treated to become our drinking water.

The planned improvements to violations data in SDWIS/FED as well as the new data available in 1999 through the NCOD will give both the

public and the drinking water community a better picture of the quality of our drinking water.

RECOMMENDATIONS

The SDWA Amendments of 1996 require that the Administrator make "recommendations concerning the resources needed to improve compliance" within the national compliance report. This report makes general recommendations as to where States and EPA should direct their efforts, based on existing resource levels and appropriations, to improve compliance.

States and EPA should work together to address the most significant findings identified in this report:

States and EPA should work together to address violations of significant monitoring and reporting requirements.

- For *large* community water systems, actions should address all rules. Failure by these systems to monitor can mask public health problems that affect many people and, as a result, formal enforcement should be an integral part of any action taken.
- For *small* and *medium* community water systems, actions should focus primarily on the Lead and Copper Rule, Total Coliform Rule, and the Nitrate Rule. This strategy should include compliance assistance and enforcement, where appropriate. The strategy should also focus on the Surface Water Treatment Rule because violations indicate an increased risk from microbiological contamination.

States and EPA should work together to address violations of MCL and treatment technique requirements.

- For *large* community water systems, actions should address all rules, with an emphasis on the Total Coliform Rule, Surface Water Treatment Rule and the Lead and Copper Rule. Formal enforcement is especially appropriate for large water systems, particularly those failing to install

or upgrade filtration treatment as required by the Surface Water Treatment Rule, and for facilities with continuing or repeated violations.

- For *small* and *medium* size community water systems, actions should focus on the Total Coliform Rule and Surface Water Treatment Rule. All available tools should be considered when responding to violations, in order to address the particular capacity development needs of these systems. Technical assistance should be made available to ensure that systems can return to, and remain in, compliance. While compliance assistance is often adequate to ensure long-term compliance, when a system does not respond to assistance, formal enforcement should be used.

States and EPA should work together to address violations at non-community water systems.

- States and EPA should identify the reasons for significant monitoring and reporting violations at non-community systems and take appropriate action. In particular, attention should focus on the Total Coliform, Lead and Copper, and Nitrate Rules for non-transient non-community water system; and Total Coliform and Nitrate Rules for transient non-community water systems.
- Most non-transient and transient non-community water systems are small and face problems that are unique to small systems. EPA and States should take an approach that addresses the special needs of these systems, including compliance assistance and enforcement, where appropriate.

EPA should take action to improve compliance of PWSs on Indian reservations.

- EPA should work cooperatively with water systems on Indian reservations to improve compliance with monitoring and reporting requirements, particularly for Total

Coliform Rule and chemical contaminant requirements. This can be accomplished through compliance assistance such as increasing EPA's field presence, conducting more frequent sanitary surveys and providing technical assistance, and enforcement, as appropriate.

- EPA should improve its collection and maintenance of compliance data for PWS on Indian reservations.

EPA and States should work cooperatively to improve the quality of compliance data.

- **Further define the issue:** EPA should work closely with States and utilities to define the data quality issue in detail. EPA will hold several stakeholder meetings across the country, and convene a special focus group to make recommendations. This group will work with ongoing groups and efforts such as the Association of State Drinking Water Administrators/EPA Data Management Steering Committee, the Office of Enforcement and Compliance Assurance (OECA) enforcement systems reengineering efforts, and the National Drinking Water Advisory Council Right-to-Know workgroup.
- **Ensure seamless data transfer to the Federal data system:** EPA will increase efforts to make it easier to use drinking water information systems, and processes to transfer data to them electronically. For the national-level SDWIS/FED, EPA will simplify both data entry and retrieval, and public access. For States and Tribes, EPA will accelerate development of the core modules of SDWIS/STATE, and increase electronic data transfer for those States that will continue to use their own data systems.
- **Improve SDWIS data quality:** EPA and States need to work together to improve the quality of data in SDWIS and in individual State systems. In this effort, EPA and States can jointly develop quality management plans for SDWIS data. We can also take steps to improve the quality of data monitoring and reporting at all levels –

utility, laboratory, State, EPA Regions, and EPA Headquarters. These steps will include more frequent verification of data at all steps of the process, vigorous follow-up of findings from the verification efforts, and increased training in and accountability for system use and data quality activities.

- **Include compliance data in the effort to integrate drinking water information:**

EPA is working to provide to managers and the public a comprehensive picture of drinking water quality, including both compliance and source water quality information. This effort will integrate drinking water source information from the developing National Contaminant Occurrence Data Base (which will access multiple data bases of EPA, the U.S. Geological Survey, and others on ambient water quality) as well as water quality in public water systems. As more reliable SDWIS data is generated in the future, EPA will incorporate that data into this comprehensive effort to portray drinking water quality.

FUTURE DIRECTION

This report on 1996 data is the first in an annual series of reports presenting drinking water compliance data and a national analysis of compliance, as well as recommendations to improve PWS compliance. The report shows that there is a need for improvements in both compliance and reporting of the data describing compliance. Compliance with drinking water regulations is one of the primary goals for EPA under the Government Performance and Results Act, and EPA has already initiated activities to address many of the findings and recommendations in the report. EPA will work with States to address the recommendations and will use these reports to establish a baseline against which we will monitor progress.

In addition, States and EPA need to continue to aggressively implement the SDWA Amendments of 1996, including development and implementation of new regulations, source water protection activities, capacity development activities, operator certification, and full implementation of the State Revolving Fund. These activities will

result in improvements in PWSs and ultimately in the quality of the drinking water provided to the public. Also, EPA and the States need to ensure implementation of and compliance with the consumer confidence regulations as the centerpiece of the right-to-know provisions of the SDWA. It is critical that these rules be implemented.

Because this first report is based on calendar year 1996 data, the data did not reflect improvements to the drinking water program that are being made as a result of the many activities initiated following enactment of the 1996 SDWA Amendments. A vital lesson learned during the 12 years following passage of the earlier 1986 SDWA is that safe drinking water must be achieved by a multi-action approach that includes: providing for public information and involvement; providing tools to States, Tribes, and water systems to help them supply safe water; paying special attention to the needs of small systems; risk-based decision-making to provide the best safety standards; and providing compliance assistance and taking enforcement actions where violations occur. The new tools provided by the 1996 Amendments will, in time, help improve the quality of the public's drinking water and compliance at PWSs, including PWSs located on Indian reservations. The many actions EPA and its partners have undertaken in the first two years of implementation of the 1996 SDWA Amendments will bear fruit in providing better information about drinking water quality and reducing the number of violations of drinking water standards. Future reports will track that progress, to the benefit of all Americans.

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Section 2 - National Compliance Report

PART I - INTRODUCTION

PURPOSE

The purpose of the remaining sections of this report is to provide additional information to the general public, Federal and State regulators, and Tribal governments on the compliance status of public water systems (PWSs), including those located on Indian reservations and serving Indian Tribes, for calendar year 1996. This report summarizes and evaluates the compliance information and makes recommendations concerning actions that the U.S. Environmental Protection Agency (EPA) and States need to take to improve compliance at public water systems. Section 2 of this report addresses national compliance of PWSs in the U.S. States and Territories. Section 3 focuses on compliance of PWSs on Indian reservations.

STATUTORY REQUIREMENTS

The Safe Drinking Water Act (SDWA) Amendments of 1996 (PL 104-182) made fundamental changes in the nature of the drinking water program at the Federal, State, Tribal and local levels. This report has been prepared to meet one of these new requirements. Specifically, Section 1414(c)(3) of the amendments requires that:

- States with primary enforcement responsibility (primacy) prepare and submit to EPA an annual report on PWS violations. States were required to submit their first report by January 1, 1998. These reports must address violations of national primary drinking water regulations with respect to maximum contaminant levels (MCLs), treatment requirements, significant monitoring requirements, and variances and exemptions.

- States with primacy publish and distribute summaries of their reports and indicate where the full report is available for review.
- EPA summarize and evaluate the States' reports in an annual national report, of which this is the first. This report must make recommendations concerning the resources needed to improve compliance with the SDWA. The report must also address PWS compliance on Indian reservations, enforcement activities undertaken, and financial assistance provided by EPA to Indian reservations.

In addition to requiring State and national compliance reports, the amendments include two other provisions designed to give consumers more information about the quality of their drinking water. These are:

- A requirement that community water systems issue annual Consumer Confidence Reports that contain information on the source of the water supply, the levels of detected contaminants found in drinking water, information on the health effects of contaminants found in violation of national standards, and information on unregulated contaminants.
- A provision that improves the procedures for how and when public water systems must notify their customers when drinking water regulations are violated.

STAKEHOLDER INVOLVEMENT

In developing this report, EPA convened several workgroups and stakeholder groups consisting of EPA, States, environmental and public health groups, water system operators, trade associations, representatives from Indian Tribes, Tribal professional environmental organiza-

tions, and Tribal water utility managers and water operators and coordinated with the Indian Health Service and Bureau of Indian Affairs.

PART II - NATIONAL AND STATE PUBLIC DRINKING WATER PROGRAMS

To understand the compliance information presented in this report, it is helpful to understand the Public Drinking Water Program. In order for a State, Territory, or Tribe to be given the primary enforcement responsibility to run a drinking water program (called primacy), it must adopt regulations that are at least as stringent as Federal regulations and demonstrate capacity to enforce those regulations and implement other activities to ensure compliance. Of the 56 States and Territories, all but Wyoming and the District of Columbia have primacy. EPA Regional Offices administer the program within these two jurisdictions. EPA also administers the program on all Tribal lands.

EPA REGULATIONS

The Safe Drinking Water Act requires that the EPA establish national primary drinking water regulations. These regulations set national limits on contaminant levels in drinking water to ensure that the water is safe for human consumption. These limits, known as MCLs, set the maximum permissible level of a contaminant in water delivered to a user of a PWS. At the Federal level, EPA has set drinking water standards, or MCLs, for more than 80 contaminants. An MCL is the maximum permissible level of a contaminant in water which is delivered to any user of a public water system. There are MCLs for both contaminants that cause acute health effects after a short-term exposure and 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 EPA web site (<http://www.epa.gov/safewater>).

For some regulations, EPA sets a treatment technique requirement where it is infeasible to monitor and ascertain 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 Rule and the Lead and Copper Rule. A violation of a treatment technique indicates that the system failed to treat the water as specified to minimize the presence of potentially harmful contaminants.

EPA also sets monitoring, reporting, and record keeping requirements that PWSs must follow. A monitoring or reporting violation can occur when a PWS 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 or as required by law. Only significant monitoring and reporting violations were analyzed in this report, as required by the 1996 SDWA Amendments. A significant monitoring and reporting violation occurs when a PWS collects none of the samples or submits none of the reports required by a particular regulatory provision. It can also occur if a PWS collects less than 90% of the samples or submits less than 90% of the reports required by the Surface Water Treatment Rule. Appendix A contains additional information about the definition and application of significant monitoring and reporting violations.

PWSs are required to report all monitoring results to their primary enforcement responsibility. States and Territories with primacy analyze the monitoring results, determine compliance, and report violations to EPA on a quarterly basis. EPA maintains these violations in the national Safe Drinking Water Information System (SDWIS/FED). SDWIS/FED is an exceptions-based database, meaning that only violations or instances of non-compliance are recorded.

States that have primacy, or EPA where it administers the program, may grant a PWS a variance or exemption from national primary drinking water standards, provided that the terms adequately protect public health. As provided by the SDWA, variances are available to PWSs that cannot comply with national primary drinking water regulations (due to source water quality, or, in the case of small systems, affordability). Variances generally allow a PWS to comply with less stringent, but still protective standards based on a specific technology available to the system. An exemp-

tion allows a PWS with compelling circumstances (including economic considerations) an extension of time before it must comply with applicable SDWA requirements. An exemption is limited to three years, although extensions of up to six additional years are available to very small PWS under certain conditions.

PUBLIC WATER SYSTEMS

Public water systems must meet the requirements described above. A PWS is defined as a system that has at least 15 service connections or serves an average of at least 25 people for at least 60 days per year. There are three types of PWSs:

- Community water systems are those that serve the same people year-round (e.g., cities, towns, villages, and mobile home parks).
- Non-transient non-community water systems are those that serve at least 25 of the same people for at least six months of the year (e.g., schools, day care centers).

- Transient non-community water systems are those that serve transient populations (e.g., rest stops, campgrounds, and parks).

In 1996, there were 170,942 public water systems (Table 1). The following presents a breakdown of these systems by type:

- Community water systems: 54,728 systems serving 249 million people.
- Non-transient non-community water systems: 20,061 systems serving 6.1 million people.
- Transient non-community water systems: 96,153 systems serving 16.2 million people.

Each of these three types of systems is regulated differently. Community water systems and non-transient systems must comply with all regulations. Transient systems do not have to comply with the regulations for contaminants that cause chronic health effects because the users of transient systems are not exposed to the contaminants long enough for adverse

Table 1: Public Water System Inventory in Calendar Year 1996

Public Water System Inventory Data						
	Community Water Systems (CWSs)		Non-transient Non-community Water Systems (NTNCWSs)		Transient Non-community Water Systems (TNCWSs)	
Water Source	Number of Systems	Population Served (Millions)	Number of Systems	Population Served (Millions)	Number of Systems	Population Served (Millions)
Surface	10,500 (19%)	160 (64%)	760 (4%)	.8 (13%)	2,143 (2%)	.9 (6%)
Ground	44,219 (81%)	89 (36%)	19,300 (96%)	5.3 (87%)	94,009 (98%)	15.3 (94%)
Total	54,728 (100%)	249 (100%)	20,061 (100%)	6.1 (100%)	96,153 (100%)	16.2 (100%)
Percent of Total PWSs	32%	—*	12%	—*	56%	—*

*Populations for all three categories are not totaled as some people are served by multiple categories of water systems.

Source: Safe Drinking Water Information System

health effects to occur. Table 2 provides a summary of drinking water regulations as they apply to the three types of PWSs.

PWSs can also be classified according to the size of the population that is being served. EPA frequently analyzes compliance trends based on three PWS size categories:

- Small systems: serve 25 to 3,300 persons.
- Medium systems: serve 3,301 to 10,000 persons.
- Large systems: serve more than 10,000 persons.

The number of systems in each size classification in 1996 and the total population that they serve are shown in Figures 1 and 2.

As these figures show, the number of large systems is small, but they serve a much greater population than is served by the smaller systems.

PWSs obtain their water from:

- Surface water sources which include rivers, lakes, and reservoirs.
- Ground water sources that are supplied from wells drilled into underground aquifers.

Some PWSs obtain their water from a combination of the two types of sources or purchase their water from another PWS. In 1996, surface water served as the source for approximately 8% of the PWSs serving approximately 60% of the total population served by PWSs (Table 1). Ground water served as a source for approximately 92% of the PWSs, serving approximately 40% of the population served by PWSs.

PART III - PWS COMPLIANCE DATA AND ANALYSIS

EPA has compiled and reviewed 1996 violations data available from the Annual State Public Water Systems Reports and national PWS data from EPA's SDWIS/FED database. The national analysis uses SDWIS/FED data, rather than data from the State reports, primarily because EPA conducted analyses at the national level using information that was not required or

included in the Annual State Public Water Systems Reports. Summaries of data from State reports can be found in Appendix B. In developing this report, EPA and its partners have realized that we have questions about the quality of some of the data contained in SDWIS/FED. Nonetheless, when viewed in the aggregate, this data presents an overall compliance picture of PWSs nationwide. Later in this report is a discussion of data quality concerns and recommendations to address these concerns.

DATA ANALYSIS

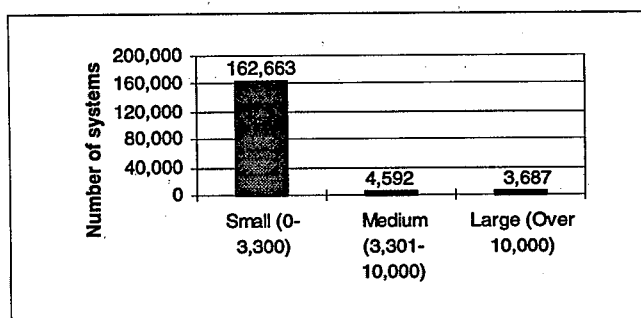
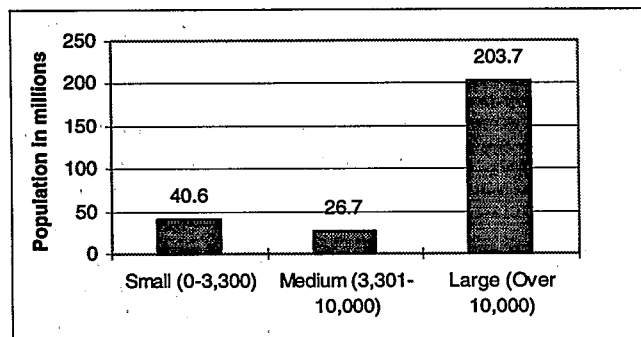
In 1996, the vast majority of people in the nation received water from systems that had no reported violations of MCL and treatment technique requirements or significant monitoring and reporting requirements. The report looks at the compliance status of all types of public water systems; however, much of the report focuses on community water systems because the majority of the population obtains drinking water from community water systems. Within the limitations of data quality, as discussed in this report, some of the most notable findings are:

The nation's drinking water is generally safe — 86 % of the country's population served by community water systems drank water from systems that reported no violations of any health-based drinking water standards.

- 94% of all *public water systems* had no reported MCL or treatment technique violations.
- 91% of *community water systems* had no reported MCL or treatment technique violations. Violations were primarily of the Total Coliform Rule and Surface Water Treatment Rule - rules which protect against microbiological contamination of drinking water.
- 94% of *non-transient non-community water systems* had no reported MCL or treatment technique violations. Most of the systems with a reported violation violated the Total Coliform Rule.
- 95% of *transient non-community water systems* had no reported MCL or treatment

Table 2: Summary of Drinking Water Regulations for PWSs

Applicability of Current Regulations			
Contaminant/Rule	Community Water Systems	Non-transient non-community water systems	Transient non-community water systems
Organic Contaminants	All	All	Some (Only epichlorohydrin and acrylamide)
Total Trihalomethanes (TTHM)	Some (Only systems serving more than 10,000)	None	None
Inorganic Contaminants	All	Some (All except arsenic and fluoride)	None
Nitrate and Nitrite	All	All	All
Radionuclides	All	None	None
Total Coliform Rule	All	All	All
Surface Water Treatment Rule	Some (Only PWSs using surface water or ground water sources under the direct influence of surface water)	Some (Only PWSs using surface water or ground water sources under the direct influence of surface water)	Some (Only PWSs using surface water or ground water sources under the direct influence of surface water)
Lead and Copper Rule	All	All	None

Figure 1: Size Distribution of PWSs
Number of SystemsFigure 2: Size Distribution of PWSs
Population Served

technique violations. As with non-transient non-community water systems, most of the systems violated the Total Coliform Rule.

Nationwide, most violations are of significant monitoring and reporting requirements.

- In 1996, there were 141,617 MCL, treatment technique, and significant monitoring and reporting violations reported by 47,918 of the 170,942 public water systems in the nation. 87% were for violations of significant monitoring and reporting requirements. 13% were for violations of MCL and treatment technique requirements.
- 76% of all *public water systems* had no reported violations of significant monitoring and reporting requirements.
- 72% of *community water systems* had no reported violations of significant monitoring and reporting requirements. The Lead and Copper Rule and Total Coliform Rule accounted for most of the systems with violations.
- 66% of *non-transient non-community water systems* had no reported violation of significant monitoring and reporting requirements. The Lead and Copper Rule and Total Coliform Rule accounted for most of the systems with violations.
- 80% of *transient non-community water systems* had no reported violation of significant monitoring and reporting requirements. The Total Coliform Rule and Nitrate Rule accounted for most of the systems with violations.

Although the number of large systems with a reported violation is relatively low, the population that is served by these systems can be large.

- 9% of the 5,151 *community water systems* with an MCL or treatment technique violation were for large systems. These systems served 30 million people. The Surface Water Treatment Rule, Total Coliform Rule, and Lead and Copper Rule are the rules most frequently violated by large water systems.

- 2% of the 15,182 *community water systems* with a significant monitoring and reporting violation were large systems. These systems served 17 million people. The rules pertaining to total coliform, surface water treatment, organic chemicals, and nitrate accounted for most of these systems with violations.

Most violations are reported in small water systems that serve fewer than 3,300 people.

- Small systems comprised 96% of the 15,182 *community water systems* with a significant monitoring and reporting violation. These systems served 5.0 million people.
- Small systems comprised 82% of the 5,151 *community water systems* with an MCL and treatment technique violation. These systems served 2.3 million people.
- Virtually all of the non-transient and transient non-community water systems are small, therefore most violations for these system types occurred in small systems.

In the remainder of this analysis, compliance data will be presented by type of water system. This is being done to prevent double counting of population when presenting the number of people served by systems reporting a violation. For example, it is possible that the same person could drink water from three different sources during a day by drinking water from their residence (served by a community water system), their school (served by a non-transient non-community water system), and at a campground or highway rest stop (served by a transient non-community water system). Including that same person three times in the population figures would be misleading.

COMMUNITY WATER SYSTEMS

There are 54,728 *community water systems* in the nation which serve a population of approximately 248 million people. The remaining population of the country receives residential water from individual wells or from water systems that are too small to meet the defini-

tion of a Federal public water system (i.e. they serve fewer than 25 people).

Community water systems can be further categorized as follows:

- Small systems: 46,827 systems serving 25 million people.
- Medium systems: 4,332 systems serving 25 million people.
- Large systems: 3,569 systems serving 198 million people.

Of these 54,728 systems, 91% had no reported violations of MCL or treatment technique requirements. Approximately 66% had no reported violations of MCL and treatment technique requirements and had no significant monitoring and reporting violations.

Most of the violations experienced by community water systems were for failure to monitor the drinking water and report the results to the State. While monitoring and reporting violations do not necessarily indicate a health risk, if a system fails to monitor it may not be aware of the potential health risk posed by a contaminant which may be present, but undetected.

While the data show that *small systems* have the largest number of MCL violations, a much *larger population* is served by *large systems* with violations.

Figures 3 through 6 present a breakdown of MCL, treatment technique, and significant monitoring and reporting violations by rule. As shown in Figure 4, the rules with the greatest number of significant monitoring and reporting violations are the Lead and Copper, the Total Coliform, and Nitrate Rules. Most of the systems with these types of violations are small. A different picture is presented if population affected is considered instead of number of systems.

Figure 4 shows that large systems which violate significant monitoring and reporting requirements serve more people than small and medium systems which violate these requirements. The only exception to this is the Lead and Copper Rule, where both small and large

systems with violations serve approximately the same population. Figure 4 also shows that a higher percentage of the population was served by systems with violations of significant monitoring and reporting requirements for total coliform, lead and copper, and nitrate/nitrite than for other rules.

Turning to MCL and treatment technique requirements, Figure 5 shows that community water systems violate the Total Coliform Rule and Surface Water Treatment Rule more often than other rules. Most of the systems in violation are small.

However, when considering the population served by systems in violation (Figure 6), a higher percentage of the population was served by community water systems with violations of the Surface Water Treatment Rule, the Total Coliform Rule, and the Lead and Copper Rule, respectively. Again, large systems are responsible for the greatest portion of the population served by systems in violation.

The reason for the systems in violation of the Surface Water Treatment Rule is that filtration treatment was required for a number of large systems. Although the law required this treatment to be in place by 1993, for a variety of reasons including planning, design and construction of the complex infrastructure needed to install filtration, this has taken longer than anticipated.

In 1996, the population served by small and medium systems in violation of the Total Coliform Rule MCL was about 3 million people. A much larger population (approximately 9 million) served by large systems was in violation of the Total Coliform Rule owing primarily to violations in 3 major systems serving populations more than 500,000.

The population served by systems in violation of treatment technique requirements of the Lead and Copper Rule were served primarily by large water systems. This is because all large systems are required to install corrosion control, whereas only those small and medium systems exceeding an action level must install corrosion control. Additionally, large systems are given less time to comply with the rule than small and medium systems.

Figure 3: Number of Community Water Systems with Monitoring and Reporting Violations by System Size

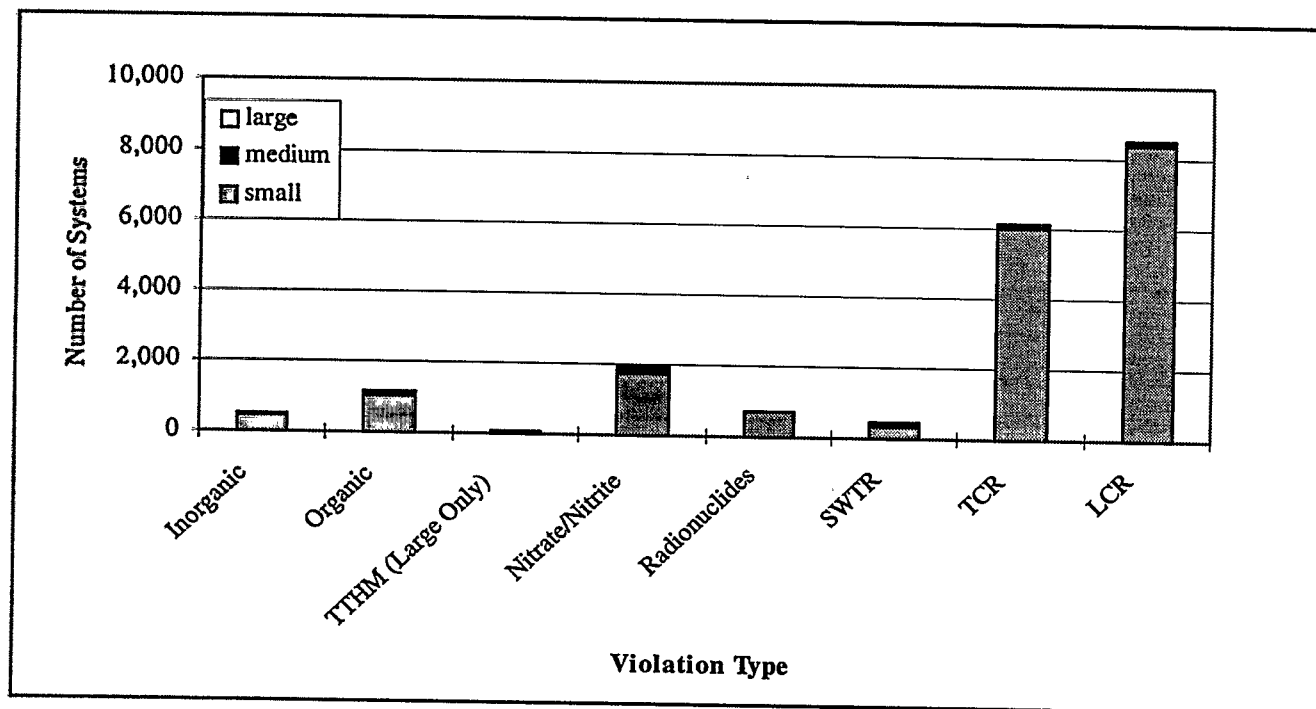


Figure 4: Population Served by Community Water Systems with Monitoring and Reporting Violations by System Size

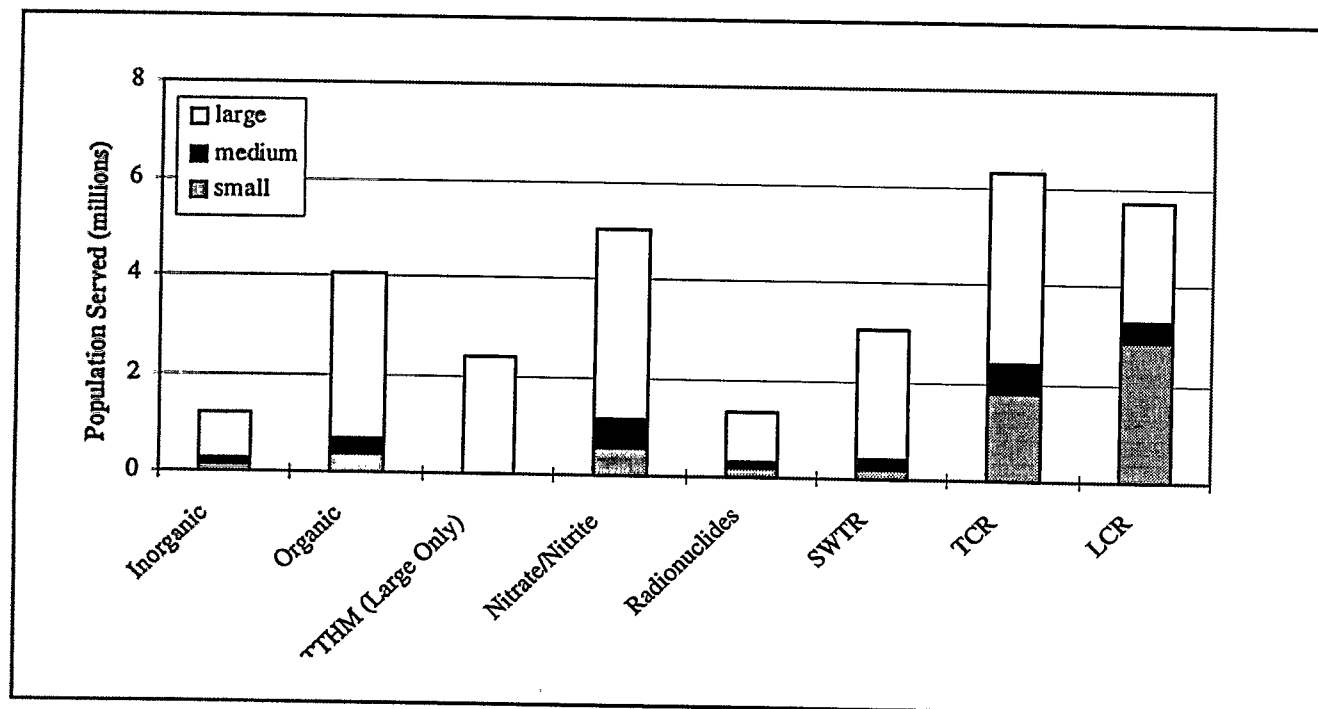


Figure 5: Number of Community Water Systems with Maximum Contaminant Level and Treatment Technique Violations

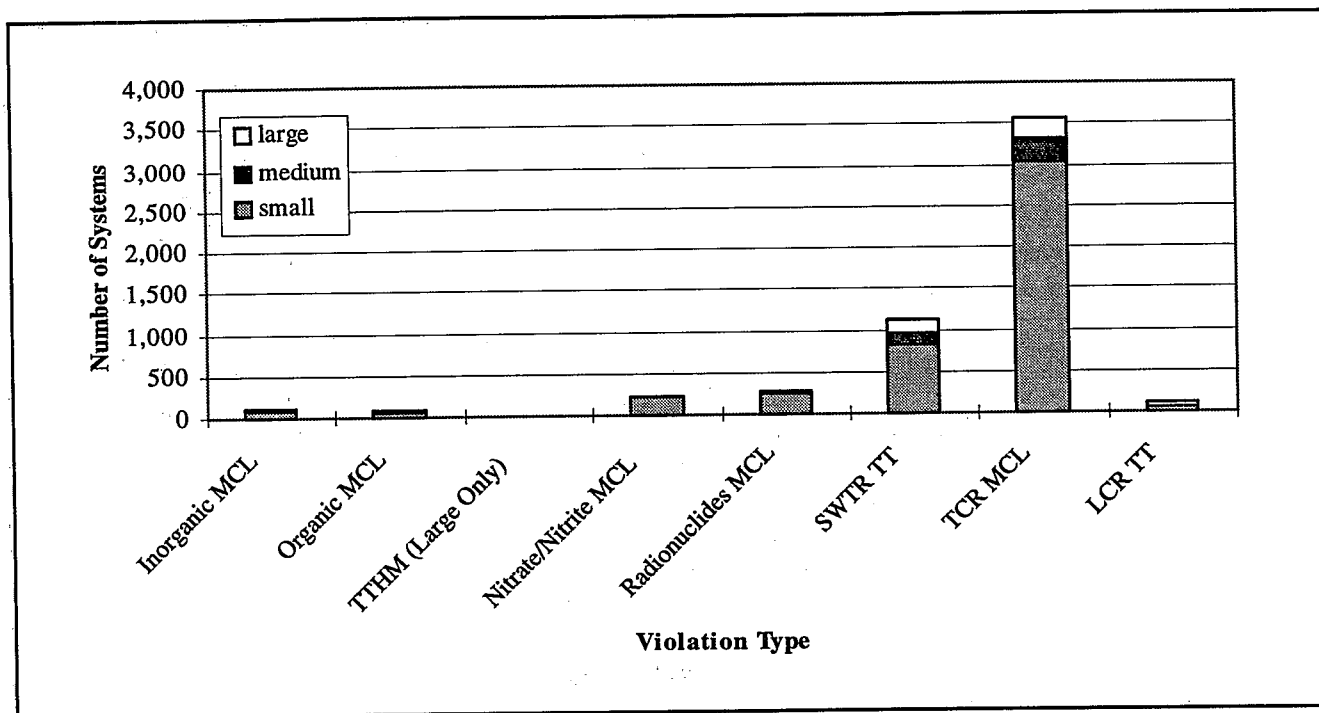
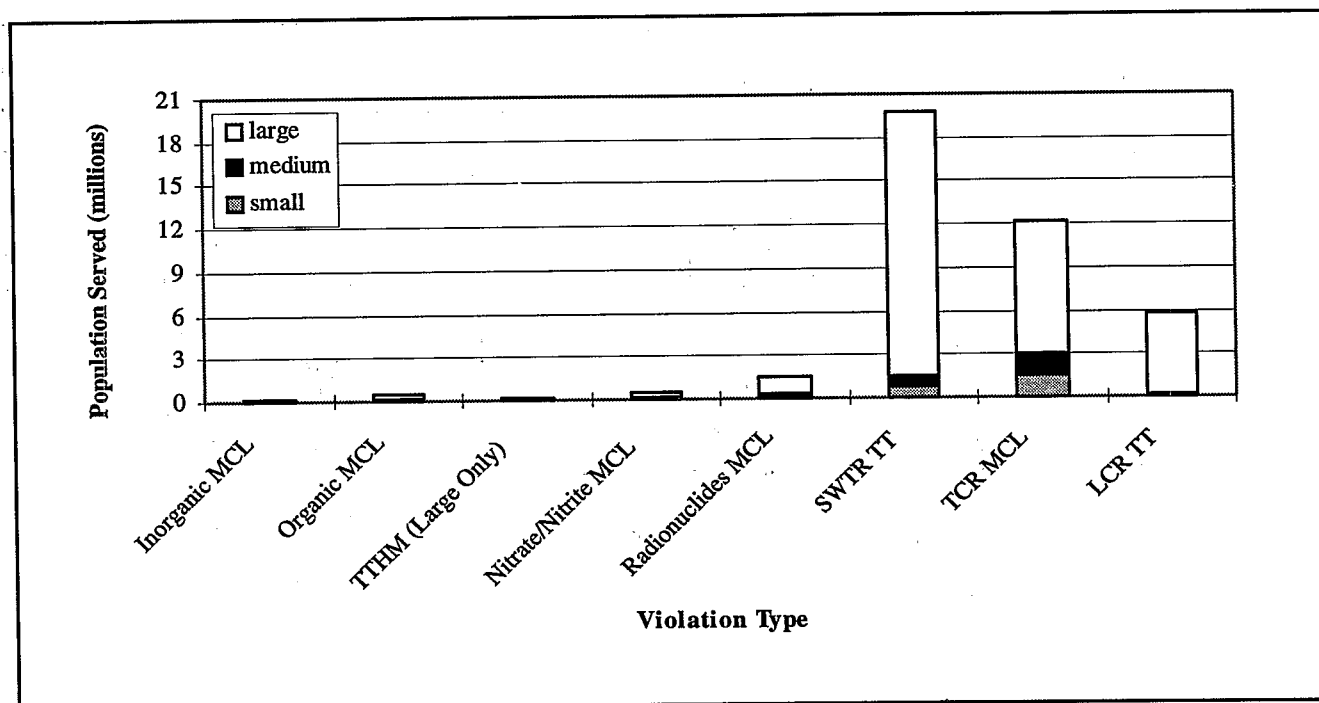


Figure 6: Population Served by Community Water Systems with Maximum Contaminant Level and Treatment Technique Violations by System Size



NON-TRANSIENT NON-COMMUNITY WATER SYSTEMS

The majority (94%) reported no violations of health-based standards. Approximately 62% of non-transient non-community water systems reported no MCL or treatment technique violations and no significant monitoring and reporting violations in 1996. Most of the violations were for significant monitoring and reporting.

General findings for non-transient non-community are:

- Of the MCL and treatment technique requirements, more systems violated the Total Coliform Rule than other rules, with 5% of the systems reporting an MCL violation.
- More systems violated the significant monitoring and reporting requirements of the Lead and Copper Rule and the Total Coliform Rule, with 21% and 14% of the systems reporting violations, respectively.

TRANSIENT NON-COMMUNITY WATER SYSTEMS

Transient systems are required to comply with the Total Coliform Rule, nitrate, and the Surface Water Treatment Rules only. However, because only 2.1% of transient systems use surface water as a source, most transient systems are not subject to the Surface Water Treatment Rule.

Overall 95% of transient systems reported no violations of MCL or treatment technique requirements and 77% of the systems reported no MCL, treatment technique, or significant monitoring and reporting violations. However, 16% of the systems had significant monitoring and reporting violations for the Total Coliform Rule and 8% for the Nitrate Rule. The percent of systems that violated the MCL for Total Coliform and nitrate were 4% and 0.3%, respectively.

For both non-transient non-community and transient non-community water systems, there was a relatively high proportion of systems reporting significant monitoring and reporting requirements of the Total Coliform Rule and a relatively low proportion of MCL violations of the rule. It is possible that if the compliance rate

for monitoring and reporting increases, the compliance rate for the MCL could decrease.

VARIANCE AND EXEMPTIONS

There are very few PWSs currently operating under a variance or exemption. The SDWIS/FED database did not show any variance or exemption violations for 1996.

QUALITY OF DATA

The compliance numbers presented in this report were taken from the national SDWIS/FED database. States are required to submit data to SDWIS/FED quarterly. EPA assesses progress in the implementation of regulations, develops its national enforcement and compliance priorities and strategies, and provides information to the public based, in part, on analysis of the data in SDWIS/FED.

Most States, on the other hand, develop a database system that tracks more information than that contained in SDWIS/FED. State data systems often track monitoring results, compliance assistance activities, and enforcement actions. Most States used their own data system in developing their State compliance reports.

Because the SDWIS/FED database relies on data provided by the States, one may expect that these numbers should be comparable to those in the States' own data systems. Unfortunately, this is not the case with many States. As with any large, complex database network, especially one like SDWIS/FED that is under development, there are numerous difficulties in uploading data and correcting identified problems.

Comparison of State and SDWIS/FED data revealed both over and under-reporting by States into SDWIS/FED across all rules, with State data showing 19% more violations than SDWIS/FED on a national basis. State chemical MCL and monitoring and reporting violations were virtually identical to information in SDWIS/FED. The rule with the greatest discrepancy rate was the Lead and Copper Rule. SDWIS/FED contained almost three times as many Lead and Copper monitoring and reporting violations as the State reports. Most of this discrepancy, however, can be attributed to six

States. SDWIS/FED data for Lead and Copper treatment technique violations is less than half of what States reported for these violations.

EPA periodically conducts data verifications (independent, on-site audits of State records) of State programs to ensure that the State is determining compliance in accordance with Federal regulations and to detect differences between data in the State database and SDWIS/FED. Data verifications¹ show larger discrepancies by States in reporting on non-community water systems than for other types, particularly in the area of significant monitoring violations.

There are many reasons for these data discrepancies, including:

- SDWIS/FED is a complex database. Data entry procedures in SDWIS/FED are cumbersome and data retrieval is not user friendly.
- States use different data systems and designs.
- Data management and analysis of SDWIS/FED data is generally a lower priority for some States and Regional Offices. This lack of emphasis frequently leads to insufficient training, poor coordination among program and data managers, and situations where the responsibility for management of data systems does not lie with the people who use and need the data.

EPA is working with the States to improve the reporting system and reduce data discrepancies, to the maximum extent possible. Some of the activities underway are:

- EPA, in cooperation with the States, is developing a State data system known as SDWIS/STATE. It is intended to improve data quality and data transfers between

States and EPA. Nine States and two EPA regions currently have SDWIS/STATE installed.

- EPA is:
 - Improving data entry by updating and streamlining documentation and training materials.
 - Preparing Quality Assurance manuals for use by States and Regions.
 - Investigating mechanisms for making data retrieval more user friendly. EPA is also using the database to track progress toward meeting performance measures and making SDWIS/FED information publicly available through the internet site, Envirofacts. As the database is used more, and becomes easier to use, States will have a greater incentive to improve the quality of data in it.
 - Conducting data verifications in many States each year. One of the components of these verifications is to identify discrepancies between the State system and SDWIS/FED.

PART IV - EVALUATION AND SUMMARY OF STATE REPORTS

EPA has received 1996 Annual State Public Water System Reports from 51 primacy States, Commonwealths, and Territories. As the primary enforcement agency, EPA prepared reports for the District of Columbia and Wyoming, and provided data on Indian Tribes, which do not have primary enforcement responsibility for the drinking water program.

The evaluation of these annual reports is organized into three subsections:

- State enforcement and compliance assistance programs.
- Information on the State reports.
- State-by-State summaries.

¹Data verifications were conducted for the following States from 1995 to 1997: Arkansas, Colorado, Connecticut, Delaware, Florida, Georgia, Indiana, Kansas, Louisiana, Maine, Maryland, Massachusetts, Michigan, Nebraska, New Hampshire, New Mexico, North Carolina, Ohio, Pennsylvania, Rhode Island, Texas, Vermont, Virgin Islands, Virginia, West Virginia, and Wyoming.

STATE ENFORCEMENT AND COMPLIANCE ASSISTANCE PROGRAMS

States engage in a variety of activities, including formal enforcement actions, informal actions, and compliance and technical assistance to help PWSs remain in, and return to, compliance. Additionally, all States have operator certification programs that require many PWS operators to be licensed by the appropriate authorities. State efforts may include:

- Conducting on-site visits and sanitary surveys at PWSs (i.e., an on-site review of the water sources, facilities, equipment, operations, and maintenance of a PWS to evaluate the adequacy of these elements for producing and distributing safe drinking water).
- Helping systems invest in preventive measures.
- Providing financial assistance for system improvements through the Drinking Water State Revolving Fund.
- Reviewing water system plans and specifications.
- Conducting training sessions.
- Holding public information meetings.
- Loaning specialized monitoring equipment.
- Publishing informational bulletins and newsletters on training events, etc.

Unless there is an immediate health risk, formal enforcement actions may be initiated several months after the violation is detected and reported. The reason for this delay is that, when appropriate, States commonly undertake a variety of informal actions and compliance assistance measures to try to get PWSs back into compliance as quickly as possible. Informal actions may include the following activities:

- Compliance reminder letters or notices of violations.
- Field visits.
- Telephone calls.

Formal enforcement actions may include the following activities:

- Bilateral compliance agreements.
- Citations.
- Administrative orders.
- Criminal complaints with penalties.
- Civil referrals to State Attorneys General or to the Department of Justice.
- Emergency orders.
- Criminal cases.
- Fines or administrative penalties.
- Other sanctions such as denying permission for system expansion.

Information on State enforcement activities for Fiscal Year (FY) 1996 can be found in EPA's *FY 1996 State by State Enforcement Data Summaries* (August 1997) available on the internet (<http://es.epa.gov/index.html>).

In conclusion, States undertake a variety of formal and informal activities to return violating systems to compliance and to ensure that the public has safe drinking water. While EPA did not analyze compliance assistance and enforcement data in this report, it may do so in future reports. EPA encourages States to include this information in future reports to provide a more complete picture of PWS compliance.

INFORMATION ON STATE REPORTS

EPA reviewed each State report to determine whether it met the requirements of the 1996 Amendments to the SDWA. The contents of the State reports are summarized in Table 3. The table indicates whether a report was submitted to EPA, whether all required elements of the report were included, and whether the State included a list of PWSs with MCL violations or treatment technique violations. The chart also includes a column indicating if information was provided on the public availability and distribution of State reports. Publication and distribution of summaries of the report and indication of where the full report is available for public review is a statutory requirement of the 1996 SDWA Amendments. This summary chart also indicates whether any additional information was included in the report that would be of interest to the public.

Table 3: Summary of Elements Reported by States

State	Submitted Report	Reported On Violations Categories			Reported on V/E*	Report Identified Each System with MCL and TT Violations	Provided Information to Public on Availability	Report Provided Additional Information
		MCL	M/R	TT				
Alabama	×	×	×	×	×	×	×	×
Alaska	×	×	×	×		×	×	×
American Samoa								
Arizona	×	×	×	×				
Arkansas	×	×	×	×	×	×	×	×
California	×	×	×	×	×	×	×	×
Colorado	×	×	×	×	×	×	×	×
Connecticut	×	×	×	×	×	×	×	×
DC	×	×	×	×	×	×	×	×
Delaware	×	×	×	×		×	×	×
Florida	×	×	×	×	×		×	×
Georgia	×	×	×	×	×	×	×	×
Guam								
Hawaii	×	×	×	×	×	×	×	×
Idaho	×	×	×	×			×	×
Illinois	×	×	×	×	×	×	×	×
Indiana	×	×	×	×	×	×	×	×
Iowa	×	×	×	×	×	×	×	×
Kansas	×	×	×	×		×	×	×
Kentucky	×	×	×	×	×	×	×	×
Louisiana	×	×	×	×				×
Maine	×	×	×	×	×	×	×	×
Maryland	×	×	×	×	×	×	×	×
Massachusetts	×	×	×	×	×	×	×	
Michigan	×	×	×	×	×	×	×	×
Minnesota	×	×	×	×	×	×	×	
Mississippi	×	×	×	×	×		×	×
Missouri	×	×	×	×	×	×	×	×
Montana	×	×	×	×	×		×	×
Nebraska	×	×	×	×		×	×	×
Nevada	×	×	×	×	×	×	×	×

Table 3 (Continued): Summary of Elements Reported by States

State	Submitted Report	Reported On Violations Categories			Reported on V/E*	Report Identified Each System with MCL/TT Violations	Provided Information to Public on Availability	Report Provided Additional Information
		MCL	M/R	TT				
New Hampshire	*	*	*	*			*	*
New Jersey	*	*	*	*	*	*	*	*
New Mexico	*	*	*	*	*	*		*
New York	*	*	*	*	*	*	*	*
North Carolina	*	*	*	*		*	*	*
North Dakota	*	*	*	*	*	*	*	*
Northern Mariana Islands								
Ohio	*	*	*	*	*	*	*	*
Oklahoma	*	*	*	*	*	*	*	*
Oregon	*	*	*	*	*	*	*	*
Pennsylvania	*	*	*	*	*	*	*	*
Puerto Rico	*	*	*	*	*	*	*	*
Rhode Island	*	*	*	*	*		*	*
South Carolina	*	*	*	*	*	*	*	*
South Dakota	*	*	*	*	*		*	*
Tennessee	*	*	*	*	*	*	*	*
Texas	*	*	*	*	*	*		*
Utah	*						*	
Vermont	*	*	*	*	*	*	*	*
Virgin Islands	*	*	*	*	*	*	*	*
Virginia	*	*	*	*		*	*	*
Washington	*	*	*	*	*	*	*	*
West Virginia	*	*	*	*			*	
Wisconsin	*	*	*	*	*		*	*
Wyoming	*	*	*	*	*	*	*	

MCL - Maximum Contaminant Level, M/R - Significant Monitoring and Reporting, TT - Treatment Technique, V/E - Variance and Exemption.

*This designation indicates that the State addressed the use of variances and exemptions in the State Report. It does not indicate that any violations were necessarily reported or that variances or exemptions were issued.

STATE BY STATE SUMMARIES

EPA has developed a State-by-State summary of information reported in each State report which is located in Appendix B. A standardized format

was used that includes an overall summary of the violations data specified in Section 1414 of the 1996 SDWA Amendments (i.e., violations with respect to MCLs, treatment technique violations, significant monitoring and reporting

violations, and variances and exemptions). Information on how and where to obtain a copy of each State report has been included on the respective summary chart.

EPA has not interpreted the data in Appendix B and does not pass judgement on whether the States have fully reported all violations. Readers should interpret the violation data provided in the State summaries in the context of each specific State and its individual drinking water program. Although PWSs are required to report all violations to the State, States vary in the areas emphasized by their program. Thus, a large number of violations under a certain rule (e.g., the Lead and Copper Rule), may only indicate that a State devoted more attention and resources to that rule than other rules and, as such, the data reported are more complete.

A list of all PWSs having either MCL or treatment technique violations in 1996 has also been developed for many States and provided by States to EPA. Copies of these lists will be available from EPA's Safe Drinking Water Hotline at (800) 426-4791.

PART V - CONCLUSIONS AND RECOMMENDATIONS

The nation's drinking water is generally safe. In 1996, the vast majority of people in the nation received water from systems that had no reported violations of MCL and treatment technique requirements or significant monitoring and reporting requirements. Significant challenges, however, remain to improve compliance with the SDWA Amendments of 1996.

Compliance data in many individual State databases differs from that reported to the Federal database. Still, when viewed in the aggregate, the data presents an overall national compliance picture of PWSs.

States and EPA should work together to address the most significant findings identified in this report:

States and EPA should work together to address violations of significant monitoring and reporting requirements.

- For *large* community water systems, actions should address all rules. Failure by these systems to monitor can mask public health problems that affect many people and, as a result, formal enforcement should be an integral part of any action taken.
- For *small* and *medium* community water systems, actions should focus primarily on the Lead and Copper Rule, Total Coliform Rule and the Nitrate Rule. This strategy should include compliance assistance and enforcement, where appropriate. The strategy should also focus on the Surface Water Treatment Rule because violations indicate an increased risk from microbiological contamination.

States and EPA should work together to address violations of MCL and treatment technique requirements.

- For *large* community water systems, actions should address all rules, with an emphasis on the Total Coliform Rule, Surface Water Treatment Rule and the Lead and Copper Rule. Formal enforcement is especially appropriate for large water systems, particularly those failing to install or upgrade filtration treatment as required by the Surface Water Treatment Rule, and for facilities with continuing or repeated violations.
- For *small* and *medium* size community water systems, actions should focus on the Total Coliform Rule and Surface Water Treatment Rule. All available tools should be considered when responding to violations, in order to address the particular capacity development needs of these systems. Technical assistance should be made available to ensure that systems can return to, and remain in, compliance. While compliance assistance is often adequate to ensure long-term compliance, when a system does not respond to assistance, formal enforcement should be used.

States and EPA should work together to address violations at non-community water systems.

- States and EPA should identify the reasons for significant monitoring and reporting violations at non-community systems and take appropriate action. In particular, attention should focus on the Total Coliform, Lead and Copper, and Nitrate Rules for non-transient non-community water systems; and Total Coliform and Nitrate Rules for transient non-community water systems.
- Most non-transient and transient non-community water systems are small and face problems that are unique to small systems. EPA and States should take an approach that addresses the special needs of these systems, including compliance assistance and enforcement, where appropriate.

EPA and States should work cooperatively to improve the quality of compliance data.

- **Further define the issue:** EPA should work closely with States and utilities to define the data quality issue in detail. EPA will hold several stakeholder meetings across the country, and convene a special focus group to make recommendations. This group will work with ongoing groups and efforts such as the Association of State Drinking Water Administrators/EPA Data Management Steering Committee, the Office of Enforcement and Compliance Assurance (OECA) enforcement systems reengineering efforts, and the National Drinking Water Advisory Council Right-to-Know workgroup.
- **Ensure seamless data transfer to the Federal data system:** EPA will increase efforts to make it easier to use drinking water information systems, and processes to transfer data to them electronically. For the national-level SDWIS/FED, EPA will

simplify both data entry and retrieval, and public access. For States and Tribes, EPA will accelerate development of the core modules of SDWIS/STATE, and increase electronic data transfer for those States that will continue to use their own data systems.

- **Improve SDWIS data quality:** EPA and States need to work together to improve the quality of data in SDWIS and in individual State systems. In this effort, EPA and States can jointly develop quality management plans for SDWIS data. We can also take steps to improve the quality of data monitoring and reporting at all levels – utility, laboratory, State, EPA Regions, and EPA Headquarters. These steps will include more frequent verification of data at all steps of the process, vigorous follow-up of findings from the verification efforts, and increased training in and accountability for system use and data quality activities.
- **Include compliance data in the effort to integrate drinking water information:** EPA is working to provide to managers and the public a comprehensive picture of drinking water quality, including both compliance and source water quality information. This effort will integrate drinking water source information from the developing National Contaminant Occurrence Data Base (which will access multiple data bases of EPA, the U.S. Geological Survey, and others on ambient water quality) as well as water quality in public water systems. As more reliable SDWIS data is generated in the future, EPA will incorporate that data into this comprehensive effort to portray drinking water quality.

Section 3 - Tribal Compliance Report

PART I - INTRODUCTION

PURPOSE

The purpose of this section of the 1996 National Annual Public Water Systems Compliance Report¹ is to provide information on the compliance status of public water systems (PWSs) on Indian reservations.

WORKGROUP AND STAKEHOLDER PROCESS

In order to develop this section of the report, the U.S. Environmental Protection Agency (EPA) established a workgroup consisting primarily of EPA Regional Office staff who work most directly with PWSs on Indian reservations and shared the report with Tribal representatives and water system operators. EPA also contacted the Indian Health Service and Bureau of Indian Affairs.

EPA held a series of teleconference calls with stakeholders and one face-to-face meeting to collect comments from stakeholders. Stakeholders included representatives of Indian Tribes, professional environmental organizations, and members of the Native American Water Association. Tribal water systems operators, as well as officials of Tribal governments, were represented. EPA solicited comments on drafts of this section of the report from approximately 400 Tribal representatives that included Tribal Leaders, Tribal Environmental Officers, and Tribal water utility managers and operators.

ROLE OF OTHER FEDERAL AGENCIES

EPA works with other Federal agencies in helping implement the drinking water program

at PWSs on Tribal lands. The mission of the Indian Health Service is to provide a comprehensive health services delivery system for American Indians and Alaska Natives along with the opportunity for maximum Tribal involvement in developing and managing programs to meet health needs. The Indian Health Service maintains a sanitation facilities construction program and has implemented Sanitation Deficiency System procedures to identify, and report annually to Congress, the sanitation deficiencies of all American Indian and Alaska Native Homes and communities.

The Bureau of Indian Affairs is the primary Federal agency fulfilling the United States' trust responsibilities to Tribes and Native Villages. The Bureau of Indian Affairs works with Tribal managers in protecting and managing trust resources. As the Bureau of Indian Affairs expands its expertise in environmental management, it will work with Tribes, Native Villages, and other Federal agencies, such as EPA and the Indian Health Service, to ensure that PWSs in Indian country are in compliance.

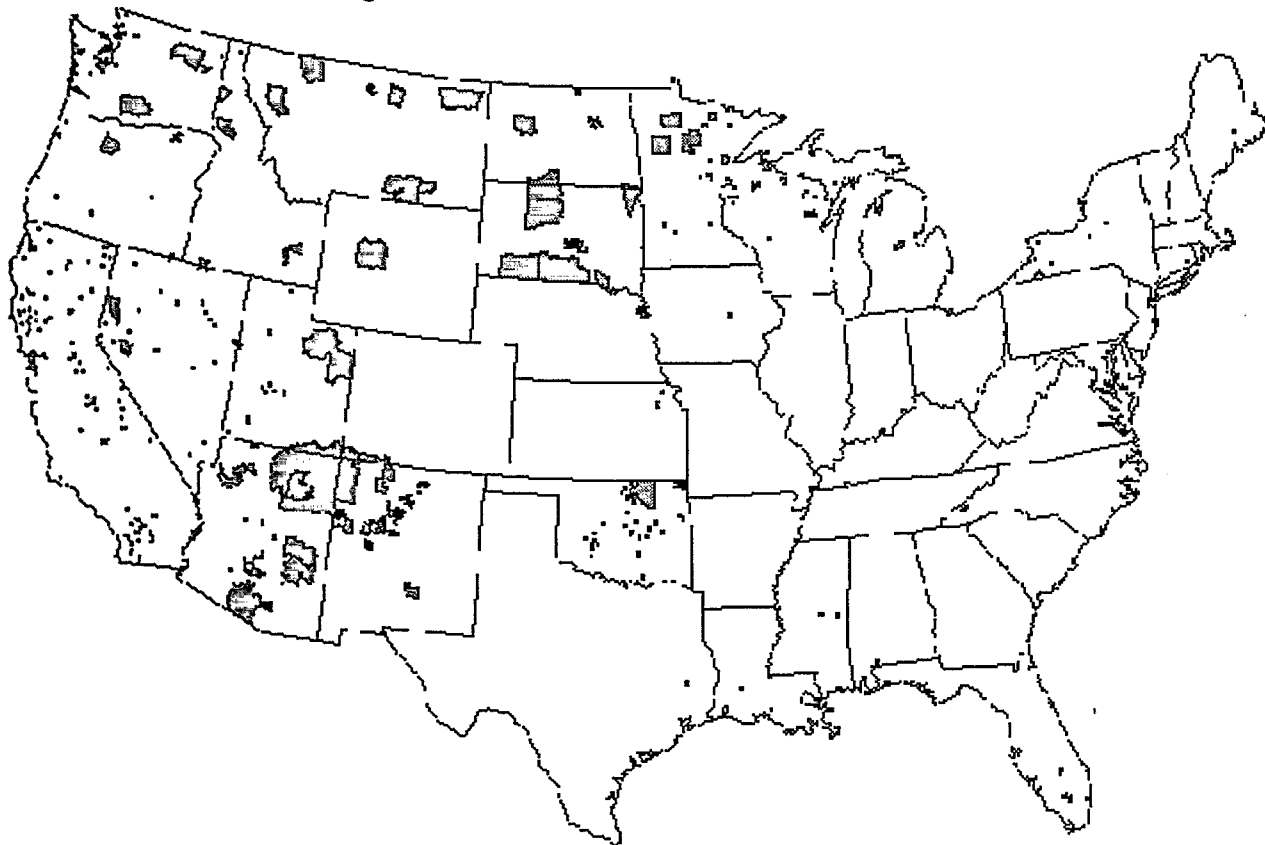
PART II - PWSS ON INDIAN RESERVATIONS

Tribes are eligible to receive primary enforcement responsibility (primacy) to administer their drinking water program. However, because no Tribe has received primacy to date, EPA implements the drinking water program on all Indian lands (Figure 7).

During calendar year 1996, there were 732 community water systems, 75 non-transient non-community water systems, and 113 tran-

¹Under Section 1414(c)(3)(B) of the Safe Drinking Water Act (SDWA), as amended in 1996, EPA is required to prepare an annual report which analyzes PWS violations, enforcement activities, and financial assistance to PWSs located on Indian reservations. The report must also summarize notices submitted by PWSs serving Indian Tribes pursuant to subparagraph (C) or (D) of paragraph (2) and make recommendations concerning resources needed to improve compliance. However, because regulations implementing the public notice provisions of subparagraph (C) or (D) of paragraph (2) were not yet effective during calendar year 1996, they are not included in this report.

Figure 7. Location of American Indian Tribal Lands



sient non-community water systems located on Indian lands. These 920 PWSs served a population of approximately 500,000. Most of these systems are small and serve fewer than 500 people. According to EPA's data, there were no PWSs on Indian lands in 1996 that served more than 100,000 people, and only two served populations of more than 10,000.

PART III - COMPLIANCE DATA AND ANALYSIS

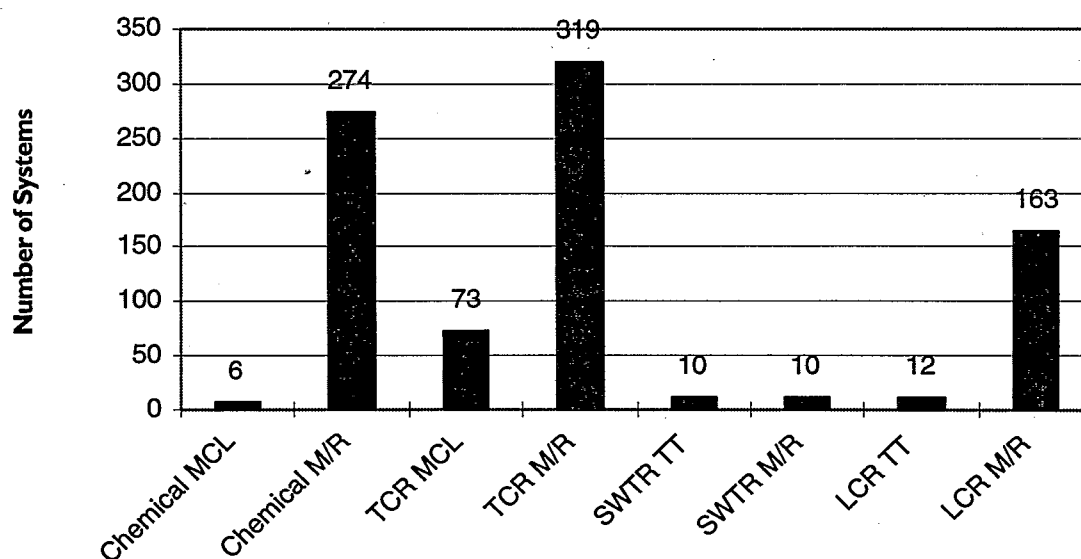
EPA used a variety of approaches to assess compliance of PWSs located on Indian reservations. The national drinking water database, the Safe Drinking Water Information System (SDWIS/FED), was the primary source of information for this report. The EPA Regional Offices are responsible for keeping information in SDWIS/FED current.

In developing this report, EPA found that inventory and violations data for 1996 were not fully reported in SDWIS/FED. The quality and

amount of these data vary from Regional Office to Regional Office within EPA. Traditionally data quality has been a priority secondary to program implementation for many Regions. Due to competing resources, personnel concentrate on correcting sanitary deficiencies rather than collecting data and arranging for data to be reported on a long-term basis. EPA Headquarters is working to improve its Tribal compliance data, for example, by offering SDWIS/FED training to Regional program office personnel on a more frequent basis, by developing a Quality Assurance manual to help ensure better data entry, and by promoting streamlined documentation.

This section on Tribal compliance does not include compliance figures for Alaska Native Villages because the State of Alaska included them within the State report. EPA likewise included them within Section 2 of this report. However, the discussion on financial assistance and conclusions and recommendations within this section are applicable to Alaska Native water systems.

Figure 8. Number of PWSs on Tribal Lands with Violations by Rule.



COMPLIANCE ANALYSIS

For 1996, 410 of the 920 PWSs on Indian reservations recorded violations. More than 97 percent of these violations were significant monitoring and reporting violations. Monitoring requirements for the Total Coliform, chemical monitoring, and the Lead and Copper Rules were most frequently violated (Figure 8). There were few violations of the maximum contaminant level (MCL) and treatment technique requirements, with roughly 90% of all systems reporting no violations. It is important to note, however, that the high number of monitoring and reporting violations could mean other MCL and treatment technique violations were undetected.

ENFORCEMENT AND COMPLIANCE ACTIVITIES

EPA can take formal and informal enforcement actions against PWSs. There are several types of formal enforcement actions which can be taken against PWSs, including: administrative and emergency orders, bilateral compliance agreements, civil referrals to the Department of Justice and criminal cases. In 1996, there were no formal enforcement actions taken against

PWSs on Indian reservations. EPA does not generally pursue formal enforcement actions against PWSs on Indian reservations which have not performed all their required monitoring and reporting. This is consistent with the National EPA Indian Policy which stresses working cooperatively with Tribes. Although there may be situations where formal enforcement is appropriate (e.g., against non-Tribally owned PWSs), in most cases, compliance assistance is generally used, rather than formal enforcement.

Informal enforcement or compliance assistance includes:

- Making telephone calls to discuss potential or actual violations.
- Sending compliance reminder letters or pre-warning violation letters.
- Meetings with Tribal Leaders, utility managers, or PWS operators.
- Conducting on-site visits.
- Issuing notices of violation (while this action is normally a formal enforcement action, EPA has created a subset of notices

Table 4. Number of Violations and Numbers of Informal Enforcement Actions

1996 PWSs and Violations	Number
Total Number of PWSs	920
Total Number of Violations Issued	8,677
Total Number of PWSs with Violations	410
Enforcement Actions in Response to Violations	Number Issued
Federal Notice of Violation issued by EPA Regional Offices. This is usually a formal action, however, some Regions use it as an informal action with Tribes.	3
Federal Violation or Reminder Notice issued by the EPA Regional Offices.	1,558
Federal Public Notification requested by EPA Regional Offices to be sent to consumers of a PWS regarding violations and health risk.	209
Federal public notification to consumers of a PWS regarding violations and health risk issued by EPA Regional Offices.	67

Source: Safe Drinking Water Information System

of violation that function as informal enforcement responses for Indian Tribes).

Table 4 depicts the numbers of informal enforcement actions in relation to the total number of PWSs on Indian reservations. The largest numbers of informal enforcement actions are Federal Violation or Reminder Notices. For calendar year 1996, EPA issued 1,558 Federal Violation or Reminder Notices.

COMPLIANCE ASSISTANCE

EPA has developed a number of approaches for working toward assuring compliance of PWSs on Indian reservations. This subsection discusses compliance assistance using examples since compliance assistance actions are not generally represented in the SDWIS/FED database. Technical assistance is an important part of compliance assistance. Technical assistance can include circuit rider programs that make expert operators available to several water systems and provide information through site visits, mailings and hotlines.

Region 5, for example, oversees Federally recognized Tribes in Michigan, Minnesota, and

Wisconsin, and provides technical assistance to Indian Tribes through a circuit rider program. Recently, the Region has conducted six workshops and created four newsletters specific to Tribal interests. Region 5 staff also issued notices of non-compliance (similar to a notice of violation) and provided telephone follow-up.

Region 8 implements the program on Indian reservations in six states: Utah, Colorado, Wyoming, Montana, North Dakota, and South Dakota. Various methods of technical and compliance assistance are offered to Tribes, including circuit riders, and training arranged through EPA, the Indian Health Service, the Bureau of Reclamation, the Rural Water Association, and the Rural Community Assistance Program. In addition, Region 8 staff routinely provide Tribal PWS operators with information on updated monitoring and reporting requirements, such as a yearly monitoring requirement letter customized for PWSs located within each reservation in the Region. Technical assistance is an integral part of the enforcement/compliance assistance process, which follows the Regional and National Indian Policy.

Region 9's program works toward compliance with drinking water regulations through its field presence, technical assistance to Tribes, and cooperative working relationships within EPA, and with other agencies such as the Indian Health Service. The Region, which has the national lead for the program on all Navajo lands, made about 100 on-site inspections of facilities during 1996.

INFRASTRUCTURE NEEDS

The EPA Drinking Water Infrastructure Needs Survey, First Report to Congress (published in January 1997), addresses the needs for capital improvements of PWSs in the nation and for Indian Tribes. The Needs Survey discusses the needs associated with treatment, transmission, distribution, storage, and compliance with the SDWA, and the needs of small PWSs.

The EPA Drinking Water Infrastructure Needs Survey reports the following for Tribal needs:

- \$560 million is needed for infrastructure improvements at water systems on Indian reservations.
- Average 20-year need on a per-household basis for water systems on Indian reservations is much greater than that for non-Tribal households served by small systems. The estimated 20-year per household need, in 1995 dollars, is \$6,200, which compares with \$3,300 per household for other small systems around the country.
- EPA determined that these needs are higher for a number of reasons:
 - Since they are often remote, improvements at systems on Indian reservations can be expensive.
 - Systems on Indian reservations are often located in arid regions, making water sources hard to find. Where sources do exist, they are often of poor quality and are expensive to treat.
 - As with all small communities, American Indian communities lack economies of scale.
- This high cost of infrastructure is a heavy burden because many American Indian people live through traditional subsistence

farming, hunting, and fishing and do not generate significant cash income.

ADDITIONAL SMALL SYSTEM NEEDS

Many small PWSs need to enhance their technical, financial, and managerial capabilities in order to ensure consistent compliance with SDWA requirements. Often, noncompliance can be traced back to weaknesses in one or more of these three elements of capacity. Capacity development is especially important and problematic for PWSs on Indian reservations.

Protection of public health and compliance with drinking water requirements is also directly related to operation and maintenance. PWSs on Indian reservations, like many small PWSs, face the challenge of addressing the considerable costs associated with properly operating and maintaining a PWS. Many PWSs on Indian reservations lack a viable utility organization which can accurately project and establish an appropriate rate structure to cover operation and maintenance costs. Once these costs are translated into user fees, the PWS must face the task of billing and collecting fees from customers which is a challenge when the cost per household may be beyond the means of some households being served. Additionally, the costs of compliance monitoring are not always factored into the operating budget. Failure to set aside adequate funds for performing the required contaminant monitoring is likely to result in monitoring violations.

FINANCIAL ASSISTANCE

EPA provides financial assistance to PWSs on Indian reservations in several ways. One approach is to build Tribal capacity. Capacity building entails providing Tribes with grants, training, and program technical assistance as they develop their own environmental programs. A significant source for building capability is through grants provided under the General Assistance Program. Under a second approach, EPA's Office of Ground Water and Drinking Water provides funding for specific program priorities. Historically, 3% of the appropriation for State implementation of the Public Water System Supervision program is used for implementation of the program on Tribal Lands. The funds are used by EPA to operate its Tribal Public Water System Supervi-

sion program. About \$2.3 million was used for implementing the Public Water System Supervision program on Tribal lands in Fiscal Year 1996. Additionally, a number of grants have been awarded to Indian Tribes and Tribal Organizations to address various aspects of the drinking water program.

In Fiscal Year 1998, EPA received \$3.8 million, in addition to the 3% set-aside, to be used for activities such as:

- Public Water System Supervision Program Primacy Workshops - EPA is planning to provide general outreach material to all Tribes eligible to pursue primary enforcement responsibility.
- Capacity Development - EPA is providing funds for Tribal capacity development projects.
- Source Water Protection - EPA is providing funds for Tribal source water protection projects.
- Operator Certification - EPA is developing a voluntary Operator Certification Program for Tribes and will use funds to provide operator training and certification to Tribal operators.

Examples of additional support provided by Regional Offices include circuit rider programs to help Tribes develop self-supportive PWSs on Indian reservations, conducting laboratory analyses of samples required for monitoring, and awarding grants to address operator training and wellhead protection.

In the 1996 Amendments to the SDWA, an infrastructure funding program was established to improve water supplies. Each year, 1.5 percent of the year's appropriation for the national Drinking Water State Revolving Fund program will be set aside as grants to improve infrastructure for water systems on Indian reservations and in Alaska Native Villages. The initial set-aside from the 1997 appropriation amounted to \$19.25 million, and an additional \$10.87 million was set-aside from the 1998 appropriation. The Amendments also authorized grants to the State of Alaska for the benefit of rural and Native villages. Although the authorized \$15 million annual grant, for fiscal years 1997 through 2000, targets construction needs,

a portion of the funds can be used to support technical assistance.

Additional technical assistance for small PWSs is also provided under Section 1442(e) of the SDWA, which states that a portion of the funding appropriated under the section shall be used to provide technical assistance to small PWSs owned or operated by Indian Tribes. For example, EPA currently has two cooperative agreements funded under Section 1442(e) of the SDWA with the National Rural Water Association and the Rural Community Assistance Program to provide support to PWSs.

PART IV - CONCLUSIONS AND RECOMMENDATIONS

Approximately 90% of the PWSs located on Indian lands reported no violations of MCL and treatment technique requirements. More than 97% of the violations reported by systems on Indian lands were for failure to meet monitoring and reporting requirements. It is important to note that while MCL and other treatment technique violations were low, the high number of monitoring and reporting violations could indicate that MCL and treatment technique violations are not being detected. In developing this report, EPA found that 1996 violations data for PWSs on Indian reservations were not fully reported by the Regions to SDWIS/FED.

- **EPA should take action to improve compliance of PWSs on Indian reservations.**
 - EPA should work cooperatively with water systems on Indian reservations to improve compliance with monitoring and reporting requirements, particularly for Total Coliform Rule and chemical contaminant requirements. This can be accomplished through compliance assistance such as increasing EPA's field presence, conducting more frequent sanitary surveys, and providing technical assistance and enforcement, as appropriate.
 - EPA should improve its collection and maintenance of compliance data for PWSs on Indian reservations.

Appendix A

Glossary of Terms

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Acute Contaminants

Short-term exposure to acute contaminants, such as bacteria, protozoa, viruses, and nitrate, may result in immediate illness and, in some cases, death.

Administrative Order

Administrative orders are written documents, considered to be formal enforcement actions, which are issued by EPA or the States to address the noncompliance of a public water system, usually by means of a schedule with enforceable milestone dates.

Bilateral Compliance Agreements

Bilateral compliance agreements are written documents, considered to be formal enforcement actions signed by the water system and EPA or the State. They contain a compliance schedule with enforceable milestone dates.

Chronic Contaminants

Exposure to chronic contaminants, such as organic chemicals (volatile and synthetic), inorganic chemicals (e.g., metals, lead and copper) and radionuclides, may result in severe health effects that can recur frequently or develop slowly as a result of long-term exposure.

Coliform Bacteria

Microorganisms found in nature, in any decaying substance and also in the intestinal tract of humans and animals. Their presence in water can indicate a lapse in treatment and potential contamination by pathogens.

Community Water System

A community water system (CWS) is a public water system that serves at least 15 service connections used by year-round residents or regularly serves at least 25 year-round residents (e.g., homes, apartments and condominiums that are occupied year-round as primary residences).

Cryptosporidium

Cryptosporidium is a protozoa that causes the gastrointestinal disease cryptosporidiosis. The most serious, and sometimes deadly, consequences of cryptosporidiosis tend to be focused

among members of the population with compromised immune systems.

Disinfection

Disinfection is a type of drinking water treatment, where microbiological contamination is inactivated by using chlorine, chloramines, and chlorine dioxide or ozone.

Inorganic Chemicals

These are non-carbon based, mostly naturally-occurring compounds, such as metals, nitrates, and asbestos. EPA has established MCLs for 15 inorganic contaminants.

Lead and Copper Rule

Compliance with the Lead and Copper Rule indicates that a public water system has taken steps to minimize the risk of exposure to lead and copper from drinking water by monitoring for these contaminants and installing corrosion control where required.

Maximum Contaminant Level

A maximum contaminant level (MCL) is the maximum permissible level of a contaminant in water delivered to any user of a public water system.

Monitoring and Reporting

EPA established monitoring and reporting schedules, or contaminant-specific minimum testing schedules and operational reporting requirements, for public water systems.

Nitrate and Nitrite

Nitrate and nitrite are inorganic compounds that can enter water supplies from fertilizer runoff and sanitary wastewater discharges. Nitrates in drinking water are associated with methemoglobinemia, or blue baby syndrome, where nitrate reduces the blood's ability to carry oxygen.

Non-transient Non-community Water System

A non-transient non-community water system (NTNCWS) is a public water system that serves at least 25 of the same persons for over six months per year. A typical example of a non-transient non-community water system is a

school or an office building that has its own water source, such as a drinking water well.

Notice of Violation

A notice of violation (NOV) is a written document, usually considered to be a formal enforcement action, issued by EPA or the States regarding a public water system's violations of applicable drinking water standards or schedule requirements. The notice of violation specifically describes the violations and seeks a return to compliance.

Pathogens

These are microorganisms (e.g., bacteria, viruses, or parasites) that can cause disease in humans and animals.

Public Water System

A public water system (PWS) is a system that provides piped water for human consumption and serves at least 25 persons or has at least 15 service connections. A public water system can be either a community water system, a non-transient non-community water system, or a transient non-community water system.

Radionuclides

Radioactive particles, such as radium-226, radium-228, gross alpha, and beta particle/photon radioactivity, can occur naturally in water or may result from human activity. EPA has established MCLs for beta/photon emitters, alpha emitters, and combined radium 226/228.

Regional Offices

Regional Offices are responsible for Environmental Protection Agency Regional programs within their respective jurisdictions. Regional Offices cooperate with Federal, State, interstate, and local agencies, as well as with industry, academic institutions, and other private groups to ensure that Regional needs are addressed and that Federal environmental laws are upheld.

Significant Monitoring Violations

Section 1414 of the 1996 SDWA Amendments requires States and EPA to report on "significant" monitoring and reporting violations, as determined by the Administrator. For purposes

of this report, "significant" monitoring violations are classes of monitoring violations reported to the Safe Drinking Water Information System (SDWIS) that can be segregated from other monitoring violations reported to SDWIS and must be listed in a State's annual report. These violations occur when, during a relevant compliance period, a public water system collects none of the samples or submits none of the reports required by a particular regulatory provision. Significant Monitoring Violations vary with different contaminant rules (e.g., Total Coliform Rule, Surface Water Treatment Rule, Lead and Copper Rule, Total Trihalomethanes, and Radionuclides).

Table A-1 provides definitions of significant monitoring violations States must report for each primary standard currently in effect, along with the associated SDWIS violation and contaminant codes.

Surface Water Treatment Rule

Compliance with the Surface Water Treatment Rule (SWTR) indicates that a public water system has taken steps to reduce exposure to microbiological contamination through filtration and disinfection or disinfection and watershed control.

Total Coliform Rule

The Total Coliform Rule establishes limits on coliform bacteria in water distribution systems. Although coliform bacteria usually are not pathogenic, they may indicate the presence of pathogens.

Transient Non-Community Water System

A transient non-community water system means a non-community water system that does not regularly serve at least 25 of the same persons over six months per year.

Treatment Technique

These are treatment methods required by EPA to minimize the level of a contaminant in drinking water. In cases where EPA has determined it is not technically or economically feasible to establish an MCL, EPA can instead specify a treatment technique.

Table A-1: Significant Monitoring Violations for Annual State Public Water System Reports

Rule	Violation Type	Description	SDWIS Violation Code ¹	SDWIS Contaminant Code
Total Coliform Rule	Major Routine	No samples collected during a compliance period	23	3100
	Major Repeat	No follow-up samples collected after a positive total coliform sample or no speciation	25	3100
Surface Water Treatment Rule	Major (filtered)	Collected less than 90% of samples required during a compliance period	31	none
	Major (unfiltered)	Collected less than 90% of samples required during a compliance period	36	none
Lead and Copper Rule	Initial Lead and Copper Tap	Failure to collect the initial tap samples followed by a failure to correct that omission within three months for large systems, 6 months for medium systems, and 12 months for small systems, or the failure to submit the associated report.	51	
	Follow-up or Routine Lead and Copper Tap	Failure to collect 1 or more required samples.	52	
Phase I, II, IIB, and V Rules	Regular Monitoring	Failed to collect any required samples ²	By contaminant	
Total Trihalo-methanes	Regular Monitoring	Failed to collect any required samples	03	2950
Radionuclides	Regular Monitoring	Failed to collect any required samples	03	4000, 4101, 4010

¹The Safe Drinking Water Information System (SDWIS) makes no distinction between the sampling violations and the reporting violations associated with a sample collection requirement. Both violations are reported under the same SDWIS violation code.

²As described in the consolidated summary, failure to collect "any samples" means none of the required samples were collected.

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Appendix B

Summaries of State Annual Compliance Reports

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CONTENTS

Alabama	B-5	Montana	B-33
Alaska	B-6	Nebraska	B-34
American Samoa	B-7	Nevada	B-35
Arizona	B-8	New Hampshire	B-36
Arkansas	B-9	New Jersey	B-37
California	B-10	New Mexico	B-38
Colorado	B-11	New York	B-39
Connecticut	B-12	North Carolina	B-40
Delaware	B-13	North Dakota	B-41
District of Columbia	B-14	Northern Mariana Islands	B-42
Florida	B-15	Ohio	B-43
Georgia	B-16	Oklahoma	B-44
Guam	B-17	Oregon	B-45
Hawaii	B-18	Pennsylvania	B-46
Idaho	B-19	Puerto Rico	B-47
Illinois	B-20	Rhode Island	B-48
Indiana	B-21	South Carolina	B-49
Iowa	B-22	South Dakota	B-50
Kansas	B-23	Tennessee	B-51
Kentucky	B-24	Texas	B-52
Louisiana	B-25	Utah	B-53
Maine	B-26	Vermont	B-54
Maryland	B-27	Virgin Islands	B-55
Massachusetts	B-28	Virginia	B-56
Michigan	B-29	Washington	B-57
Minnesota	B-30	West Virginia	B-58
Mississippi	B-31	Wisconsin	B-59
Missouri	B-32	Wyoming	B-60

The U.S. Environmental Protection Agency (EPA) developed a summary of information for each State report. For example, see the summary for the Alabama report on page B-5. A standardized format was used that includes an overall summary of the violations data specified in Section 1414 of the 1996 Safe Drinking Water Act (SDWA) Amendments (i.e., violations with respect to maximum contaminant levels (MCLs), treatment technique violations, significant monitoring and reporting requirements*, and variance and exemptions).

The purpose of the State summaries is simply to summarize the data provided in the State reports. EPA has not interpreted the data in this section and does not pass judgement on whether the States have fully reported all violations. EPA's evaluation of the State reports and compliance and data issues is discussed as part of the findings and recommendations in Section 2.

VIOLATIONS FOR 1996

MCL, treatment technique, and significant monitoring violations data were summarized into four categories:

- Violations of specific contaminant requirements.**
- Violations for the Total Coliform Rule.
- Violations of the Surface Water Treatment Rule.
- Violations for the Lead and Copper Rule.

Where data for violations or systems in violation totals are not available from the State reports, data from the Federal version of the Safe Drink-

ing Water Information System (SDWIS/FED) have been included.

The numbers of violations and the numbers of individual PWSs in violation for the State were summarized for these four categories for MCL, treatment technique, and significant monitoring requirements violations.

1996 TOTALS

The total number of systems, the total number of violations reported, and the total number of PWSs in violation in 1996 are also given.

VARIANCES AND EXEMPTIONS

Data on variance and exemption violations were generally not reported as very few of the States had variances or exemptions in force in 1996. Information on variance and exemption violations is summarized separately.

DISCUSSION

Any additional information that is provided in the State report is summarized.

WHERE TO OBTAIN 1996 ANNUAL PUBLIC WATER SYSTEMS REPORT

Available information is provided on obtaining a copy of the State or Territorial report.

*For this report, "significant" monitoring and reporting violations occur when a public water system (PWS) collects none of the samples or submits none of the reports required by a particular regulatory provision, or collects less than 10% of the samples or submits less than 10% of the reports required by the Surface Water Treatment Rule. A comprehensive definition of significant monitoring and reporting violations, including exceptions to the definition for the Total Coliform Rule and Lead and Copper Rule is included in the report glossary in Appendix A.

**MCL and significant monitoring violations for organic, inorganic, total trihalomethane (TTHM), nitrate and nitrite, and radionuclide contaminants.

State of Alabama 1996 Annual State Public Water Systems Report

VIOLATIONS FOR 1996

Violations Category	MCL		Treatment Technique		Significant Monitoring	
	Violations	Systems in Violation	Violations	Systems in Violation	Violations	Systems in Violation
Chemical Contaminant Group ¹	10	5			384	64*
Total Coliform Rule	37	35			70	49
Surface Water Treatment Rule			14	2	0	0
Lead and Copper Rule			0	0	20	20

¹The Chemical Contaminant Group includes MCL violations and significant monitoring violations for organic, inorganic, total trihalomethane (TTHM), nitrate and nitrite, and radionuclide contaminants.

*Sum of organics (22), inorganics (37), and radionuclides (5) subtotals.

Shaded areas of this chart are not applicable.

1996 TOTALS

Total Number of Regulated Systems	762
Total Number of Systems in Violation	175*
Total Number of Violations	535

*Sum of State systems in violation potentially contains double counting.

1996 VARIANCES AND EXEMPTIONS

Alabama does not grant variances or exemptions to PWSs.

DISCUSSION

General PWS inventory information is provided in Alabama's report. Alabama's Water Supply Branch conducts annual inspections of all PWSs in the State. Water supply, storage, and distribution deficiencies or inadequacies are identified and discussed. During the 1996 calendar year, Alabama reported that 79% of its PWSs were in compliance with drinking water regulations.

This page provides a summary of the data reported by the State of Alabama. EPA has not interpreted the information provided and is not commenting on whether the State of Alabama has fully reported all violations.

WHERE TO OBTAIN 1996 ANNUAL STATE PUBLIC WATER SYSTEMS REPORT

Alabama's State Report, including information about Alabama Public Water System Violations, is available by accessing the State's Web site at <http://www.adem.state.al.us/viorep96.html> or contacting the State at Water Supply Branch - ADEM, P.O. Box 301463, Montgomery, AL 36130, phone (334) 271-7791.

State of Alaska 1996 Annual State Public Water Systems Report

VIOLATIONS FOR 1996

Violations Category	MCL		Treatment Technique		Significant Monitoring	
	Violations	Systems in Violation	Violations	Systems in Violation	Violations	Systems in Violation
Chemical Contaminant Group ¹	4	2			2,730	330
Total Coliform Rule	45	42			1,611	732
Surface Water Treatment Rule			321	90	800	163
Lead and Copper Rule			0	0	362	136

¹The Chemical Contaminant Group includes MCL violations and significant monitoring violations for organic, inorganic, total trihalomethane (TTHM), nitrate and nitrite, and radionuclide contaminants.

Shaded areas of this chart are not applicable.

1996 TOTALS

Total Number of Regulated Systems	1,635
Total Number of Systems in Violation	1,495
Total Number of Violations	5,873

1996 VARIANCES AND EXEMPTIONS

No information was provided on variances or exemptions for Alaska PWSs. SDWIS/FED did not report any variance or exemption violations.

DISCUSSION

General PWS inventory information is provided in Alaska's report. Alaska's 1996 Annual State Public Water Systems Report has been included as part of the 1997 State of Alaska Environment Report. This report summarizes the quality of Alaska's drinking water as well as the significant public health protection and enforcement actions completed by the State from 1993-1997.

This page provides a summary of the data reported by the State of Alaska. EPA has not interpreted the information provided and is not commenting on whether the State of Alaska has fully reported all violations.

WHERE TO OBTAIN 1996 ANNUAL STATE PUBLIC WATER SYSTEMS REPORT

Alaska's State Report is available by accessing the State's Web site at <http://www.state.ak.us/dec/deh/drwater/dwvio96.htm> or by contacting James Weise, Drinking Water/Waste Water Program Manager, Department of Environmental Conservation, 555 Cordova Street, Anchorage, AK 99501, phone (907) 269-7647.

American Samoa 1996 Annual Public Water Systems Report

VIOLATIONS FOR 1996

Violations Category	MCL		Treatment Technique		Significant Monitoring	
	Violations	Systems in Violation	Violations	Systems in Violation	Violations	Systems in Violation
Chemical Contaminant Group ¹	<u>0</u>	<u>0</u>			<u>0</u>	<u>0</u>
Total Coliform Rule	<u>79</u>	<u>10</u>			<u>47</u>	<u>15</u>
Surface Water Treatment Rule			<u>14</u>	<u>14</u>	<u>0</u>	<u>0</u>
Lead and Copper Rule			<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>

¹The Chemical Contaminant Group includes MCL violations and significant monitoring violations for organic, inorganic, total trihalomethane (TTHM), nitrate and nitrite, and radionuclide contaminants.

Data from SDWIS/FED have been included and underlined where data from American Samoa were not available.

Shaded areas of this chart are not applicable.

1996 TOTALS

Total Number of Regulated Systems	<u>21</u>
Total Number of Systems in Violation	<u>19</u>
Total Number of Violations	<u>140</u>

1996 VARIANCES AND EXEMPTIONS

SDWIS/FED did not report any variance or exemption violations.

DISCUSSION

The American Samoa Report was not received, therefore SDWIS/FED data were used.

WHERE TO OBTAIN 1996 ANNUAL PUBLIC WATER SYSTEMS REPORT

A specific source for obtaining a copy of this report has not been provided. General information on its availability may be obtained from: American Samoa Environmental Protection Agency, Office of the Governor, Pago Pago, AS 96799, phone (684) 633-2304.

State of Arizona 1996 Annual State Public Water Systems Report

VIOLATIONS FOR 1996

Violations Category	MCL		Treatment Technique		Significant Monitoring	
	Violations	Systems in Violation	Violations	Systems in Violation	Violations	Systems in Violation
Chemical Contaminant Group ¹	212	112			15,026	275
Total Coliform Rule	211	181			2,232	972
Surface Water Treatment Rule			31	10	470	62
Lead and Copper Rule			Not Available*	Not Available*	Not Available*	Not Available*

¹The Chemical Contaminant Group includes MCL violations and significant monitoring violations for organic, inorganic, total trihalomethane (TTHM), nitrate and nitrite, and radionuclide contaminants.

* "Not Available" is given in the State report summary table.

Shaded areas of this chart are not applicable.

1996 TOTALS

Total Number of Regulated Systems	<u>1,688</u>
Total Number of Systems in Violation	1,612*
Total Number of Violations	18,182

*Sum of State systems in violation potentially contains double counting.

Data from SDWIS/FED have been included and underlined where the State data were not available.

1996 VARIANCES AND EXEMPTIONS

No information was provided on variances or exemptions for Arizona PWSs. SDWIS/FED did not report any variance or exemption violations.

DISCUSSION

A summary table of State data for drinking water violations during 1996 was provided and is summarized above. The Total Coliform Rule MCL systems subtotal is greater than the numbers listed for each type of violation under the Total Coliform Rule.

This page provides a summary of the data reported by the State of Arizona. EPA has not interpreted the information provided and is not commenting on whether the State of Arizona has fully reported all violations.

WHERE TO OBTAIN 1996 ANNUAL STATE PUBLIC WATER SYSTEMS REPORT

A specific source for obtaining a copy of this report has not been provided. General information on its availability may be obtained from: Drinking Water Section, Arizona Department of Environmental Quality, 3033 N. Central, Room 200, Phoenix, AZ 85012-2809, phone (602) 270-4644.

State of Arkansas 1996 Annual State Public Water Systems Report

VIOLATIONS FOR 1996

Violations Category	MCL		Treatment Technique		Significant Monitoring	
	Violations	Systems in Violation	Violations	Systems in Violation	Violations	Systems in Violation
Chemical Contaminant Group	13	6*			0	0
Total Coliform Rule	81	70			439	285
Surface Water Treatment Rule			70	21	60	4
Lead and Copper Rule			0	0	2	2

The Chemical Contaminant Group includes MCL violations and significant monitoring violations for organic, inorganic, total trihalomethane (TTHM), nitrate and nitrite, and radionuclide contaminants.

*Sum of organics (2), inorganics (2), and radionuclides (2) subtotals.

Shaded areas of this chart are not applicable.

1996 TOTALS

Total Number of Regulated Systems	<u>1,151</u>
Total Number of Systems in Violation	423*
Total Number of Violations	665

*Sum of State systems in violation potentially contains double counting.

Data from SDWIS/FED have been included and underlined where the State data were not available.

1996 VARIANCES AND EXEMPTIONS

No variances or exemptions were issued to any PWSs in Arkansas during the calendar year 1996.

DISCUSSION

General PWS inventory information is provided in Arkansas' report. Microbiological MCL violations were mostly among small community and non-community water systems. The systems having these violations served only 1.78% of the total population served by PWSs in Arkansas; 99.75% of the PWSs did not have an organic MCL violation; 99.92% of the PWSs did not have a nitrate MCL violation; and 99.75% of the PWSs did not exceed the radium-226/228 MCL. There were no monitoring violations for chemicals covered under Phases I, II, IIB, and V since

the Arkansas Department of Health performs monitoring of these chemicals on behalf of the PWSs.

This page provides a summary of the data reported by the State of Arkansas. EPA has not interpreted the information provided and is not commenting on whether the State of Arkansas has fully reported all violations.

WHERE TO OBTAIN 1996 ANNUAL STATE PUBLIC WATER SYSTEMS REPORT

Arkansas' State Report is available by accessing the State's Web site at <http://www.health.state.ar.us/eng/doe.htm> or by contacting Usman Patel at Arkansas Department of Health, Division of Engineering, 4815 West Markham, Little Rock, AR 72205-2032, phone (501) 661-2623, fax (501) 661-2032, or upatel@mail.doh.state.ar.us (electronic mail).

State of California 1996 Annual State Public Water Systems Report

VIOLATIONS FOR 1996

Violations Category	MCL		Treatment Technique		Significant Monitoring	
	Violations	Systems in Violation	Violations	Systems in Violation	Violations	Systems in Violation
Chemical Contaminant Group ¹	25	17*			0	0
Total Coliform Rule	340	288			470	327
Surface Water Treatment Rule			78	74	0	0
Lead and Copper Rule			0	0	0	0

¹The Chemical Contaminant Group includes MCL violations and significant monitoring violations for organic, inorganic, total trihalomethane (TTHM), nitrate and nitrite, and radionuclide contaminants.

*Data from the list of PWSs with violations.

Shaded areas of this chart are not applicable.

1996 TOTALS

Total Number of Regulated Systems	8,595
Total Number of Systems in Violation	706*
Total Number of Violations	913

*Sum of State Systems in violation potentially contains double counting.

1996 VARIANCES AND EXEMPTIONS

The California Department of Health Services did not report the issuance of any variances or exemptions into the SDWIS/FED database for calendar year 1996. However, it is the intent of the California Department of Health Services to incorporate information regarding variances and exemptions into subsequent annual reports.

DISCUSSION

A discussion of the significance of identified violations was presented for the California population; 99.9% received drinking water that satisfied all of the primary drinking water standards for organic contaminants; approximately 99.7% received drinking water that satisfied all of the primary drinking water standards for inorganic contaminants; and approximately 97% of California's population received drinking water that satisfied the pri-

mary drinking water standards for bacteriological quality continuously throughout the year. Only 1.5% of the State population was served by PWSs that reported treatment technique violations of the Surface Water Treatment Rule. In response to the identified violations of the Safe Drinking Water Act during 1996, the Department issued 1,331 enforcement letters, 424 citations, and 41 compliance orders to the affected PWSs.

This page provides a summary of the data reported by the State of California. EPA has not interpreted the information provided and is not commenting on whether the State of California has fully reported all violations

WHERE TO OBTAIN 1996 ANNUAL STATE PUBLIC WATER SYSTEMS REPORT

California's State Report is available by accessing the State's Web site at <http://www.dhs.ca.gov/org/ps/ddwem/ddwemindex.htm> or by contacting the State at California Department of Health Services, Division of Drinking Water and Environmental Management, phone (916) 323-6111.

State of Colorado 1996 Annual State Public Water Systems Report

VIOLATIONS FOR 1996

Violations Category	MCL		Treatment Technique		Significant Monitoring	
	Violations	Systems in Violation	Violations	Systems in Violation	Violations	Systems in Violation
Chemical Contaminant Group ¹	26	22			91	79
Total Coliform Rule	85	51			470	336
Surface Water Treatment Rule			65	35	42	17
Lead and Copper Rule			6	6	35	29

¹The Chemical Contaminant Group includes MCL violations and significant monitoring violations for organic, inorganic, total trihalomethane (TTHM), nitrate and nitrite, and radionuclide contaminants.

Shaded areas of this chart are not applicable.

1996 TOTALS

Total Number of Regulated Systems	2,182
Total Number of Systems in Violation	575*
Total Number of Violations	820

*Sum of State systems in violation potentially contains double counting.

1996 VARIANCES AND EXEMPTIONS

No variances were granted to Colorado PWSs during the 1996 calendar year. In Colorado there are presently two exemptions for nitrate. Both systems are on orders to provide public notice and bottled water to the affected population. One of the systems is in the process of installing the necessary treatment, and the other is evaluating the treatment options. There were no variance or exemption violations reported.

DISCUSSION

All failure to monitor violations for chemical contaminants have been corrected, except for two which are in the Administrative Order phase of enforcement. Total Coliform Rule violations resulted in system notification, increased monitoring, and enforcement action so that samples were submitted to verify that the water continues to be safe. Surface Water Treatment Rule

monitoring violations are followed up with enforcement actions on a routine basis. All but three of the 29 PWSs with Lead and Copper monitoring violations have come into compliance with monitoring requirements. Two of these are in the process of monitoring, and the other is under enforcement action.

This page provides a summary of the data reported by the State of Colorado. EPA has not interpreted the information provided and is not commenting on whether the State of Colorado has fully reported all violations.

WHERE TO OBTAIN 1996 ANNUAL STATE PUBLIC WATER SYSTEMS REPORT

Colorado's State Report is available by accessing the State's Web site at <http://www.state.co.us> or by contacting the State at Compliance Monitoring-Data Management, WQCO-CMDM-B2, 4300 Cherry Creek Drive South, Denver, CO 80246-1530.

State of Connecticut 1996 Annual State Public Water Systems Report

VIOLATIONS FOR 1996

Violations Category	MCL		Treatment Technique		Significant Monitoring	
	Violations	Systems in Violation	Violations	Systems in Violation	Violations	Systems in Violation
Chemical Contaminant Group ¹	17	14			258	24
Total Coliform Rule	146	80			77	57
Surface Water Treatment Rule			10	10	1	1
Lead and Copper Rule			4	4	174	163

¹The Chemical Contaminant Group includes MCL violations and significant monitoring violations for organic, inorganic, total trihalomethane (TTHM), nitrate and nitrite, and radionuclide contaminants.

Shaded areas of this chart are not applicable.

1996 TOTALS

Total Number of Regulated Systems	4,460
Total Number of Systems in Violation	290
Total Number of Violations	687

1996 VARIANCES AND EXEMPTIONS

Connecticut did not grant any variances or exemptions to PWSs during 1996.

DISCUSSION

Through technical assistance and enforcement actions, the Connecticut Water Supplies Section has been able to significantly reduce the number of community water systems having monitoring and reporting violations in recent years. The Connecticut Water Supplies Section is in the process of implementing a strategic plan that includes formalization of a technical assistance program to promote compliance.

This page provides a summary of the data reported by the State of Connecticut. EPA has not interpreted the information provided and is not commenting on whether the State of Connecticut has fully reported all violations.

WHERE TO OBTAIN 1996 ANNUAL STATE PUBLIC WATER SYSTEMS REPORT

Connecticut's State Report is available by contacting the State at Department of Public Health, Water Supplies Section, 450 Capitol Avenue, MS#51WAT, P.O. Box 340308, Hartford, CT 06134-0308.

State of Delaware Annual State Public Water Systems Report

VIOLATIONS FOR 1996

Violations Category	MCL		Treatment Technique		Significant Monitoring	
	Violations	Systems in Violation	Violations	Systems in Violation	Violations	Systems in Violation
Chemical Contaminant Group ¹	35	16*			N/A	N/A
Total Coliform Rule	63	54**			N/A	N/A
Surface Water Treatment Rule			N/A	N/A	N/A	N/A**
Lead and Copper Rule			N/A	N/A	84	84**

¹The Chemical Contaminant Group includes MCL violations and significant monitoring violations for organic, inorganic, total trihalomethane (TTHM), nitrate and nitrite, and radionuclide contaminants.

* Data from the list of PWSs with violations.

**Systems in violation for all data categories from the "Compliance Highlights" table are inconsistent with the Summary chart: Total Coliform Rule 53, Surface Water Treatment Rule 0, and Lead and Copper Rule 28.

Shaded areas of this chart are not applicable.

1996 TOTALS

Total Number of Regulated Systems	564
Total Number of Systems in Violation	97*
Total Number of Violations	182

*Sum of State systems in violation potentially contains double counting.

1996 VARIANCES AND EXEMPTIONS

No information was provided on variances or exemptions granted to Delaware PWSs. SDWIS/FED did not report any variance or exemption violations.

DISCUSSION

General PWS inventory information is included in Delaware's report. This report also presented data on the compliance actions taken by the State of Delaware in 1996, which included 95 notices of violation, 95 public notices, 3 administrative orders, and 6 boil water orders. Information on the population served by systems in compliance is also given in Delaware's report. Delaware's public drinking water program conducted 142 inspections, reviewed 190 plans and specifications, provided operator training to 25 people, and

provided lead and copper training to 10 people. The Delaware Office of Drinking Water conducts all the monitoring for 98% of the PWSs (10 systems conduct their own monitoring).

This page provides a summary of the data reported by the State of Delaware. EPA has not interpreted the information provided and is not commenting on whether the State of Delaware has fully reported all violations.

WHERE TO OBTAIN 1996 ANNUAL STATE PUBLIC WATER SYSTEMS REPORT

Delaware's State Report is available by accessing the State's Web site at <http://www.state.de.us/govern/agencies/dhss/lrm/dhss.htm> or by contacting Ed Hallock or Chad Hall at the Division of Public Health, P.O. Box 639, Dover, DE 19903.

District of Columbia 1996 Annual Public Water Systems Report

VIOLATIONS FOR 1996

Violations Category	MCL		Treatment Technique		Significant Monitoring	
	Violations	Systems in Violation	Violations	Systems in Violation	Violations	Systems in Violation
Chemical Contaminant Group ¹	0	0			0	0
Total Coliform Rule	3	1			0	0
Surface Water Treatment Rule			0	0	0	0
Lead and Copper Rule			0	0	0	0

¹The Chemical Contaminant Group includes MCL violations and significant monitoring violations for organic, inorganic, total trihalomethane (TTHM), nitrate and nitrite, and radionuclide contaminants.

Shaded areas of this chart are not applicable.

1996 TOTALS

Total Number of Regulated Systems	<u>2</u>
Total Number of Systems in Violation	1
Total Number of Violations	3

Data from SDWIS/FED have been included and underlined where District data were not available.

1996 VARIANCES AND EXEMPTIONS

EPA has never issued any variances or exemptions to the PWSs in the District of Columbia.

DISCUSSION

General PWS inventory information is provided in the District of Columbia's report. Information was provided from EPA Regional Office since the District of Columbia does not have primary enforcement authority.

WHERE TO OBTAIN 1996 ANNUAL PUBLIC WATER SYSTEMS REPORT

The District of Columbia Report is available by contacting George Rizzo, EPA, Region III, phone (215) 814-5781.

State of Florida 1996 Annual State Public Water Systems Report

VIOLATIONS FOR 1996

Violations Category	MCL		Treatment Technique		Significant Monitoring	
	Violations	Systems in Violation	Violations	Systems in Violation	Violations	Systems in Violation
Chemical Contaminant Group	8	8*			220	220**
Total Coliform Rule	240	223			1,184	888
Surface Water Treatment Rule			0	0	0	0
Lead and Copper Rule			1	1	52	52

The Chemical Contaminant Group includes MCL violations and significant monitoring violations for organic, inorganic, total trihalomethane (TTHM), nitrate and nitrite, and radionuclide contaminants.

*Sum of organics (1), inorganics (4), and radionuclides (3) subtotals.

**Sum of organics (0), inorganics (220), and radionuclides (0) subtotals.

Shaded areas of this chart are not applicable.

1996 TOTALS

Total Number of Regulated Systems	6,958
Total Number of Systems in Violation	1,392*
Total Number of Violations	1,705

*Sum of State systems in violation potentially contains double counting.

1996 VARIANCES AND EXEMPTIONS

No variances or exemptions were granted to any Florida PWSs for the 1996 calendar year.

DISCUSSION

Many of the violations occurred because systems failed to sample on time. The low number of Surface Water Treatment Rule violations is due to the fact that Florida State law required filtration before Federal law and Florida only has 19 surface water systems.

This page provides a summary of the data reported by the State of Florida. EPA has not interpreted the information provided and is not commenting on whether the State of Florida has fully reported all violations.

WHERE TO OBTAIN 1996 ANNUAL STATE PUBLIC WATER SYSTEMS REPORT

Florida's State Report Summary, State rules, forms, and drinking water inventory are available by accessing the State's Web site (<http://www.dep.state.fl.us/water/Wf/dw/dw.htm>).

State of Georgia 1996 Annual State Public Water Systems Report

VIOLATIONS FOR 1996

Violations Category	MCL		Treatment Technique		Significant Monitoring	
	Violations	Systems in Violation	Violations	Systems in Violation	Violations	Systems in Violation
Chemical Contaminant Group ¹	2	2			307	285*
Total Coliform Rule	207	161			767	566
Surface Water Treatment Rule			0	0	0	0
Lead and Copper Rule			0	0	6	134**

¹The Chemical Contaminant Group includes MCL violations and significant monitoring violations for organic, inorganic, total trihalomethane (TTHM), nitrate and nitrite, and radionuclide contaminants.

*Sum of organics (1), total trihalomethanes (0), inorganics (284), and radionuclides subtotals (0).

**Sum includes 132 systems with significant noncompliance determination dates due in 1996.

Shaded areas of this chart are not applicable.

1996 TOTALS

Total Number of Regulated Systems	<u>2,514</u>
Total Number of Systems in Violation	1,148*
Total Number of Violations	1,289

*Sum of State systems in violation potentially contains double counting.

Data from SDWIS/FED have been included and underlined where the State data were not available.

1996 VARIANCES AND EXEMPTIONS

The State of Georgia does not currently grant any variances or exemptions to any PWSs.

DISCUSSION

The majority of all Georgia PWS violations (84%) involved failure to submit a sample, or failure to report test results. There were total coliform violations in 149 community water systems serving a total of 518,623 persons, and 12 fecal coliform violations for PWSs serving a total of 2,819 people.

This page provides a summary of the data reported by the State of Georgia. EPA has not interpreted the information provided and is not commenting on whether the State of Georgia has fully reported all violations.

WHERE TO OBTAIN 1996 ANNUAL STATE PUBLIC WATER SYSTEMS REPORT

Georgia's State Report is available by accessing the State's Web site at <http://www.dnr.state.ga.us/dnr/environ/> or by contacting Betty Butler at Georgia Environmental Protection Division, Suite 1362, East Floyd Tower, Atlanta, GA 30334.

Guam 1996 Annual Public Water Systems Report

VIOLATIONS FOR 1996

Violations Category	MCL		Treatment Technique		Significant Monitoring	
	Violations	Systems in Violation	Violations	Systems in Violation	Violations	Systems in Violation
Chemical Contaminant Group	<u>0</u>	<u>0</u>			<u>0</u>	<u>0</u>
Total Coliform Rule	<u>0</u>	<u>0</u>			<u>0</u>	<u>0</u>
Surface Water Treatment Rule			<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Lead and Copper Rule			<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>

The Chemical Contaminant Group includes MCL violations and significant monitoring violations for organic, inorganic, total trihalomethane (TTHM), nitrate and nitrite, and radionuclide contaminants.

Data from SDWIS/FED have been included and underlined where data from Guam were not available.

Shaded areas of this chart are not applicable.

1996 TOTALS

Total Number of Regulated Systems	<u>10</u>
Total Number of Systems in Violation	<u>0</u>
Total Number of Violations	<u>0</u>

1996 VARIANCES AND EXEMPTIONS

SDWIS/FED did not report any variance or exemption violations.

DISCUSSION

The Guam report was not received, therefore SDWIS/FED data were used.

WHERE TO OBTAIN 1996 ANNUAL PUBLIC WATER SYSTEMS REPORT

A specific source for obtaining a copy of this report has not been provided. General information on its availability may be obtained from: Guam Environmental Protection Agency, Government of Guam, P.O. Box 22439 GMF, Barrigada, GU 96921, phone (671) 472-3863.

State of Hawaii 1996 Annual State Public Water Systems Report

VIOLATIONS FOR 1996

Violations Category	MCL		Treatment Technique		Significant Monitoring	
	Violations	Systems in Violation	Violations	Systems in Violation	Violations	Systems in Violation
Chemical Contaminant Group ¹	0	0			0	0
Total Coliform Rule	10	7			1	1
Surface Water Treatment Rule			128	12	4	1
Lead and Copper Rule			0	0	0	0

¹The Chemical Contaminant Group includes MCL violations and significant monitoring violations for organic, inorganic, total trihalomethane (TTHM), nitrate and nitrite, and radionuclide contaminants.

Shaded areas of this chart are not applicable.

1996 TOTALS

Total Number of Regulated Systems	144
Total Number of Systems in Violation	20
Total Number of Violations	143

1996 VARIANCES AND EXEMPTIONS

There were no variances or exemptions granted for any of the State of Hawaii's PWSs for the calendar year 1996.

DISCUSSION

The vast majority of violations in Hawaii were treatment technique violations for the Surface Water Treatment Rule. By January 1998, of the 12 systems receiving 128 treatment technique violations, 7 remain in noncompliance. One of the 7 has installed a microfiltration facility, and 5 are under enforcement actions to upgrade their water treatment plants. One system uses a "groundwater under the direct influence of surface water" source which will be replaced by a well. The number of Total Coliform Rule

violations has dropped from 25 in 1995 to 5 in 1997.

This page provides a summary of the data reported by the State of Hawaii. EPA has not interpreted the information provided and is not commenting on whether the State of Hawaii has fully reported all violations.

WHERE TO OBTAIN 1996 ANNUAL STATE PUBLIC WATER SYSTEMS REPORT

Hawaii's State Report is available by contacting William Wong at the Safe Drinking Water Branch, Department of Health, 919 Ala Moana Blvd., Room 300, Honolulu, HI 96814-4920, phone (808) 586-4258, fax (808) 586-4370, email (waterbill@aol.com).

State of Idaho 1996 Annual State Public Water Systems Report

VIOLATIONS FOR 1996

Violations Category	MCL		Treatment Technique		Significant Monitoring	
	Violations	Systems in Violation	Violations	Systems in Violation	Violations	Systems in Violation
Chemical Contaminant Group ¹	1	1			784	625*
Total Coliform Rule	421	332			1,372	773
Surface Water Treatment Rule			336	42	0	0
Lead and Copper Rule			N/A**	N/A**	N/A** (2)	N/A** (2)

¹The Chemical Contaminant Group includes MCL violations and significant monitoring violations for organic, inorganic, total trihalomethane (TTHM), nitrate and nitrite, and radionuclide contaminants.

*Sum of organics (17), inorganics (608), and radionuclides (0) subtotals.

**The lead and copper data are not included at this time due to need for a computer update. 1996 lead and copper data will be provided with the 1997 Idaho Violations Report.

Data from SDWIS/FED have been included and underlined where the State data were not available.

Shaded areas of this chart are not applicable.

1996 TOTALS

Total Number of Regulated Systems	2,018
Total Number of Systems in Violation	1,294
Total Number of Violations	2,914

1996 VARIANCES AND EXEMPTIONS

No information is provided on variances or exemptions granted to Idaho PWSs during the 1996 calendar year. SDWIS/FED did not report any variance or exemption violations.

DISCUSSION

General PWS inventory information is provided in Idaho's report. Idaho Division of Environmental Quality, in cooperation with the State's seven district health departments, provides a variety of services including working with PWSs to ensure compliance with minimum Federal requirements, conducting sampling surveys and on-site visits to prevent public health problems, reviewing PWS plans and specifications, conducting training sessions, holding public information meetings, loaning specialized monitoring equipment, publishing informational bulletins and a quarterly drinking water newsletter,

providing a coordinated training calendar, distributing a technical assistance notebook to all PWSs, and issuing monitoring waivers. Bacteriological contamination is more frequent than chemical contamination in Idaho.

This page provides a summary of the data reported by the State of Idaho. EPA has not interpreted the information provided and is not commenting on whether the State of Idaho has fully reported all violations.

WHERE TO OBTAIN 1996 ANNUAL STATE PUBLIC WATER SYSTEMS REPORT

Idaho's State Report is available by accessing the State's Web site (<http://www.magiclink.com/web/tmdl>), and by contacting the Idaho Division of Environmental Quality's six Regional Offices or the State's seven district health departments.

State of Illinois 1996 Annual State Public Water Systems Report

VIOLATIONS FOR 1996

Violations Category	MCL		Treatment Technique		Significant Monitoring	
	Violations	Systems in Violation	Violations	Systems in Violation	Violations	Systems in Violation
Chemical Contaminant Group ¹	323*	205			4,315	221
Total Coliform Rule	158	96			639	210
Surface Water Treatment Rule			23	7	36	10
Lead and Copper Rule			19	19	148	39

¹The Chemical Contaminant Group includes MCL violations and significant monitoring violations for organic, inorganic, total trihalomethane (TTHM), nitrate and nitrite, and radionuclide contaminants.

*30 of these violations are exceedances of a more stringent Illinois Health Standard, not a Federal violation.

Shaded areas of this chart are not applicable.

1996 TOTALS

Total Number of Regulated Systems	6,051
Total Number of Systems in Violation	480
Total Number of Violations	5,138

1996 VARIANCES AND EXEMPTIONS

There are no PWSs in Illinois that have received variances or exemptions during the 1996 calendar year.

DISCUSSION

Over 89% of the population was served by Illinois community water systems that were compliant with all health standards (maximum contaminant levels, treatment techniques, or health advisories) during the calendar year of 1996. Over 96% of the population received drinking water free from the potential of acute (short-term) adverse health effects, and over 92% of the population received drinking water free from the potential of chronic (long-term) health effects.

This page provides a summary of the data reported by the State of Illinois. EPA has not interpreted the information provided and is not commenting on whether the State of Illinois has fully reported all violations.

WHERE TO OBTAIN 1996 ANNUAL STATE PUBLIC WATER SYSTEMS REPORT

The Illinois State Report is available by contacting Roger Selburg, Division Manager, at the Division of Public Water Supplies, Illinois EPA, 1021 N. Grand Avenue - East, P.O. Box 19726, Springfield, IL 62794-9276, phone (217) 785-8653.

State of Indiana 1996 Annual State Public Water Systems Report

VIOLATIONS FOR 1996

Violations Category	MCL		Treatment Technique		Significant Monitoring	
	Violations	Systems in Violation	Violations	Systems in Violation	Violations	Systems in Violation
Chemical Contaminant Group ¹	42	25			2,123	714
Total Coliform Rule	282	260			2,419	1,278
Surface Water Treatment Rule			6	5	8	5
Lead and Copper Rule			1	1	78	65

¹The Chemical Contaminant Group includes MCL violations and significant monitoring violations for organic, inorganic, total trihalomethane (TTHM), nitrate and nitrite, and radionuclide contaminants.

Shaded areas of this chart are not applicable.

1996 TOTALS

Total Number of Regulated Systems	<u>4,505</u>
Total Number of Systems in Violation	1,879
Total Number of Violations	4,959

Data from SDWIS/FED have been included and underlined where the State data were not available.

1996 VARIANCES AND EXEMPTIONS

Indiana did not issue any variances or exemptions during 1996 calendar year.

DISCUSSION

In 1996, the Indiana Drinking Water Branch staff conducted 308 sanitary surveys, 62 vulnerability assessments, 59 well site surveys, 252 technical assistance visits, and 130 MCL follow-up visits. Other compliance assistance activities consist of courtesy reminder letters, monitoring waivers, and outreach. Indiana's report provides analysis of information by type of PWS.

This page provides a summary of the data reported by the State of Indiana. EPA has not interpreted the information provided and is not commenting on whether the State of Indiana has fully reported all violations.

WHERE TO OBTAIN 1996 ANNUAL STATE PUBLIC WATER SYSTEMS REPORT

Indiana's State Report is available by accessing the State's Web site at <http://www.ai.org/idem/owm> or by contacting the State at Indiana Department of Environmental Management, Drinking Water Branch, P.O. Box 7148, Indianapolis, IN 46207-7148.

State of Iowa 1996 Annual State Public Water Systems Report

VIOLATIONS FOR 1996

Violations Category	MCL		Treatment Technique		Significant Monitoring	
	Violations	Systems in Violation	Violations	Systems in Violation	Violations	Systems in Violation
Chemical Contaminant Group ¹	68	13			54	41
Total Coliform Rule	151	126			106	43
Surface Water Treatment Rule			0*	0*	0*	0*
Lead and Copper Rule			45	45	12	12

¹The Chemical Contaminant Group includes MCL violations and significant monitoring violations for organic, inorganic, total trihalomethane (TTHM), nitrate and nitrite, and radionuclide contaminants.

*Iowa has no surface water systems which do not filter.

Shaded areas of this chart are not applicable.

1996 TOTALS

Total Number of Regulated Systems	1,939
Total Number of Systems in Violation	280
Total Number of Violations	436

1996 VARIANCES AND EXEMPTIONS

Iowa does not issue variances or exemptions for MCLs, treatment techniques, or monitoring and reporting requirements.

DISCUSSION

Iowa's report includes percentages of systems in and out of compliance and information on contaminants. 92.6% of Iowa's active PWSs complied with MCLs. Of the 83 regulated contaminants, only 7 were found at levels that exceeded the MCL. 96.8% of Iowa's active PWSs complied with monitoring requirements. Enforcement action information is also presented. During the 1996 calendar year, there was 1 public notice, 8 administrative orders with penalty, 4 administrative orders without penalty, 6 referrals to the attorney general, and 11 formal notices of violation issued.

This page provides a summary of the data reported by the State of Iowa. EPA has not interpreted the information provided and is not commenting on whether the State of Iowa has fully reported all violations.

WHERE TO OBTAIN 1996 ANNUAL STATE PUBLIC WATER SYSTEMS REPORT

Iowa's 1996 State Annual Compliance Report is available by accessing the State's Web site at <http://www.state.ia.us/government/dnr/organiza/epd/wtrsuply/wtrsup.htm> or by contacting the Iowa Department of Natural Resources, Water Supply Section, Wallace State Office Building, 900 East Grand Avenue, Des Moines, IA 50319-0034.

State of Kansas 1996 Annual State Public Water Systems Report

VIOLATIONS FOR 1996

Violations Category	MCL		Treatment Technique		Significant Monitoring	
	Violations	Systems in Violation	Violations	Systems in Violation	Violations	Systems in Violation
Chemical Contaminant Group ¹	100	49			1	1
Total Coliform Rule	86	58			121	59
Surface Water Treatment Rule			27	10	5	3
Lead and Copper Rule			6	6	17	17

¹The Chemical Contaminant Group includes MCL violations and significant monitoring violations for organic, inorganic, total trihalomethane (TTHM), nitrate and nitrite, and radionuclide contaminants.

Shaded areas of this chart are not applicable.

1996 TOTALS

Total Number of Regulated Systems	<u>1,095</u>
Total Number of Systems in Violation	181
Total Number of Violations	355

Data from SDWIS/FED have been included and underlined where the State data were not available.

1996 VARIANCES AND EXEMPTIONS

No information was provided on variances or exemptions during the 1996 calendar year for Kansas PWSs. SDWIS/FED did not report any variance or exemption violations.

DISCUSSION

General PWS inventory data, such as source of water, is provided in Kansas' report, as well as populations affected. 99.7% of the PWSs were in compliance with the ethyl dibromide MCL. A total of 150 persons were affected by ethyl dibromide MCL violations. 97% of the PWSs were in compliance with the selenium MCL. A total of 1,150 persons were affected by selenium MCL violations. Seven PWSs were in violation of the radium MCL and one PWS failed to monitor. The population affected by radium MCL violations was 6,265 and the population affected by the PWSs that failed to sample was 32. 3.2% of the population served

by all PWSs, or 74,205 people, were affected by bacteriological MCL violations. The population affected by bacteriological monitoring violations was 19,453 or 0.8% of the population served by all PWSs.

This page provides a summary of the data reported by the State of Kansas. EPA has not interpreted the information provided and is not commenting on whether the State of Kansas has fully reported all violations.

WHERE TO OBTAIN 1996 ANNUAL STATE PUBLIC WATER SYSTEMS REPORT

The Kansas State Report is available by accessing the State's Web site at <http://www.state.ks.us/public/kdhe/bow.html> or by contacting the State at Public Water Supply Section, Kansas Department of Health and Environment, Bldg. 283, Forbes Field, Topeka, KS 66620, Attn: Peter Armesto, phone (785) 296-6297.

State of Kentucky 1996 Annual State Public Water Systems Report

VIOLATIONS FOR 1996

Violations Category	MCL		Treatment Technique		Significant Monitoring	
	Violations	Systems in Violation	Violations	Systems in Violation	Violations	Systems in Violation
Chemical Contaminant Group ¹	46	23			85	77
Total Coliform Rule	13	11			156	46
Surface Water Treatment Rule			50	21	45	21
Lead and Copper Rule			0	0	NR	NR

¹The Chemical Contaminant Group includes MCL violations and significant monitoring violations for organic, inorganic, total trihalomethane (TTHM), nitrate and nitrite, and radionuclide contaminants.

NR = not reported

Shaded areas of this chart are not applicable.

1996 TOTALS

Total Number of Regulated Systems	718
Total Number of Systems in Violation	139
Total Number of Violations	395

1996 VARIANCES AND EXEMPTIONS

Kentucky has not granted any variances or exemptions to any PWSs.

DISCUSSION

General PWS inventory information and a compliance summary are provided in Kentucky's report. There were 509 PWSs with no violations. There were 53 MCL violations. 34 PWSs had MCL violations. There were 286 significant monitoring and reporting violations. 144 PWSs had significant monitoring and reporting violations. There were 50 treatment technique violations. 21 PWSs had treatment technique violations.

This page provides a summary of the data reported by the State of Kentucky. EPA has not interpreted the information provided and is not commenting on whether the State of Kentucky has fully reported all violations.

WHERE TO OBTAIN 1996 ANNUAL STATE PUBLIC WATER SYSTEMS REPORT

Kentucky's State Report is available by accessing the State's Web site at <http://water.nr.state.ky.us/dow/compsum.htm> or by contacting Vicki Ray, Drinking Water Branch, Division of Water, 14 Reilly Road, Frankfort, KY 40601.

State of Louisiana 1996 Annual State Public Water Systems Report

VIOLATIONS FOR 1996

Violations Category	MCL		Treatment Technique		Significant Monitoring	
	Violations	Systems in Violation	Violations	Systems in Violation	Violations	Systems in Violation
Chemical Contaminant Group ¹	0	0			0	0
Total Coliform Rule	348	262			0	0
Surface Water Treatment Rule			6	5	0	0
Lead and Copper Rule			54	54	7	7

¹The Chemical Contaminant Group includes MCL violations and significant monitoring violations for organic, inorganic, total trihalomethane (TTHM), nitrate and nitrite, and radionuclide contaminants.

Shaded areas of this chart are not applicable.

1996 TOTALS

Total Number of Regulated Systems	<u>1,965</u>
Total Number of Systems in Violation	328*
Total Number of Violations	415

*Sum of State systems in violation potentially contains double counting.

Data from SDWIS/FED have been included and underlined where the State data were not available.

1996 VARIANCES AND EXEMPTIONS

No information was provided on variances or exemptions granted to any Louisiana PWSs during the 1996 calendar year. SDWIS/FED did not report any variance or exemption violations.

DISCUSSION

This page provides a summary of the data reported by the State of Louisiana. EPA has not interpreted the information provided and is not commenting on whether the State of Louisiana has fully reported all violations.

WHERE TO OBTAIN 1996 ANNUAL STATE PUBLIC WATER SYSTEMS REPORT

A specific source for obtaining a copy of this report has not been provided. General information on its availability may be obtained from: Division of Environmental and Health Services, Louisiana Department of Health and Hospitals, Office of Public Health, P.O. Box 60630, New Orleans, LA 70160, phone (504) 568-5100.

State of Maine 1996 Annual State Public Water Systems Report

VIOLATIONS FOR 1996

Violations Category	MCL		Treatment Technique		Significant Monitoring	
	Violations	Systems in Violation	Violations	Systems in Violation	Violations	Systems in Violation
Chemical Contaminant Group ¹	<u>0</u>	<u>0</u>			<u>354</u>	<u>44</u>
Total Coliform Rule	<u>272</u>	267*			<u>620</u>	601**
Surface Water Treatment Rule			NR (<u>13</u>)	NR (<u>13</u>)	NR (<u>0</u>)	NR (<u>0</u>)
Lead and Copper Rule			NR (<u>0</u>)	0	NR (<u>0</u>)	77***

¹The Chemical Contaminant Group includes MCL violations and significant monitoring violations for organic, inorganic, total trihalomethane (TTHM), nitrate and nitrite, and radionuclide contaminants.

*Sum of acute (30) and non-acute (237) MCL.

**Sum of routine (589) and major repeat (12) monitoring.

***Sum of initial lead and copper tap monitoring/reporting (19) and follow-up or routine lead and copper tap monitoring and reporting (58).

NR - The subtotal was not reported, as it was not available from the State data system for calendar year 1996.

Data from SDWIS/FED have been included and underlined where the State data were not available.

Shaded areas of this chart are not applicable.

1996 TOTALS

Total Number of Regulated Systems	1,898
Total Number of Systems in Violation	1,227*
Total Number of Violations	1,259

*Sum of State systems in violation potentially contains double counting.

1996 VARIANCES AND EXEMPTIONS

No information on variances or exemptions during the 1996 calendar year for Maine PWSs was available in the State data system. SDWIS/FED did not report any variance or exemption violations.

DISCUSSION

Maine's report provides data on systems with violations, but not the number of violations. General PWS inventory data is provided in Maine's report.

This page provides a summary of the data reported by the State of Maine. EPA has not interpreted the information provided and is not commenting on whether the State of Maine has fully reported all violations.

WHERE TO OBTAIN 1996 ANNUAL STATE PUBLIC WATER SYSTEMS REPORT

Maine's State Report is available by accessing the State's Web site at <http://www.state.me.us/dhs/eng/water/water.htm> or by contacting the State at Drinking Water Program, 10 State House Station, Augusta, ME 04333, phone (207) 287-2070.

State of Maryland 1996 Annual State Public Water Systems Report

VIOLATIONS FOR 1996

Violations Category	MCL		Treatment Technique		Significant Monitoring	
	Violations	Systems in Violation	Violations	Systems in Violation	Violations	Systems in Violation
Chemical Contaminant Group	19	12			50	39
Total Coliform Rule	371	346			127	82
Surface Water Treatment Rule			96	16	0	0
Lead and Copper Rule			22	1	70	293*

The Chemical Contaminant Group includes MCL violations and significant monitoring violations for organic, inorganic, total trihalomethane (TTHM), nitrate and nitrite, and radionuclide contaminants.

*Includes 223 systems with significant noncompliance determination dates due in 1996.

Shaded areas of this chart are not applicable.

1996 TOTALS

Total Number of Regulated Systems	<u>3,123</u>
Total Number of Systems in Violation	795*
Total Number of Violations	755

*Sum of State systems in violation potentially contains double counting.

Data from SDWIS/FED have been included and underlined where the State data were not available.

1996 VARIANCES AND EXEMPTIONS

No variances or exemptions were granted to any PWSs in Maryland during the calendar year 1996.

DISCUSSION

General PWS inventory data and violation resolution data are provided in Maryland's report. All of the 51 bacteriological health level violations occurring in 1996 were reconciled by the end of 1996. 3 out of the 16 Surface Water Treatment Rule health level violations occurring in 1996 were reconciled by the end of 1996. 81,150 people benefitted from this. 3 of the 14 nitrate health level violations were reconciled by the end of 1996. 3 of the 4 volatile organic

chemical health level violations were reconciled by the end of 1996 and 98 of the 270 lead and copper violations were reconciled.

This page provides a summary of the data reported by the State of Maryland. EPA has not interpreted the information provided and is not commenting on whether the State of Maryland has fully reported all violations.

WHERE TO OBTAIN 1996 ANNUAL STATE PUBLIC WATER SYSTEMS REPORT

Maryland's State Report is available by contacting Nancy Reilman at Maryland Department of the Environment, Public Drinking Water Program, 2500 Broening Highway, Baltimore, MD 21224, phone (410) 631-3729.

State of Massachusetts 1996 Annual State Public Water Systems Report

VIOLATIONS FOR 1996

Violations Category	MCL		Treatment Technique		Significant Monitoring	
	Violations	Systems in Violation	Violations	Systems in Violation	Violations	Systems in Violation
Chemical Contaminant Group ¹	5	4			2,669	323
Total Coliform Rule	140	104			434	257
Surface Water Treatment Rule			60	60	1	1
Lead and Copper Rule			1	1	37	35

¹The Chemical Contaminant Group includes MCL violations and significant monitoring violations for organic, inorganic, total trihalomethane (TTHM), nitrate and nitrite, and radionuclide contaminants.

Shaded areas of this chart are not applicable.

1996 TOTALS

Total Number of Regulated Systems	1,629
Total Number of Systems in Violation	622
Total Number of Violations	3,347

1996 VARIANCES AND EXEMPTIONS

There were no variances or exemptions granted to any Massachusetts PWSs during the 1996 calendar year.

DISCUSSION

A summary table of State data for drinking water violations during 1996 was provided and is summarized above.

This page provides a summary of the data reported by the State of Massachusetts. EPA

has not interpreted the information provided and is not commenting on whether the State of Massachusetts has fully reported all violations.

WHERE TO OBTAIN 1996 ANNUAL STATE PUBLIC WATER SYSTEMS REPORT

A specific source for obtaining a copy of this report has not been provided. Additional information about the Massachusetts Drinking Water Program is available by accessing the State's Web site (<http://www.magnet.state.ma.us/dep/brp/>).

State of Michigan 1996 Annual State Public Water Systems Report

VIOLATIONS FOR 1996

Violations Category	MCL		Treatment Technique		Significant Monitoring	
	Violations	Systems in Violation	Violations	Systems in Violation	Violations	Systems in Violation
Chemical Contaminant Group ¹	24	24			1,331	1,329
Total Coliform Rule	596	521			6,643	4,369
Surface Water Treatment Rule			14	9	0	0
Lead and Copper Rule			0	0	161	161

¹The Chemical Contaminant Group includes MCL violations and significant monitoring violations for organic, inorganic, total trihalomethane (TTHM), nitrate and nitrite, and radionuclide contaminants.

Shaded areas of this chart are not applicable.

1996 TOTALS

Total Number of Regulated Systems	11,536
Total Number of Systems in Violation	6,413*
Total Number of Violations	8,769

*Sum of State systems in violation potentially contains double counting.

1996 VARIANCES AND EXEMPTIONS

Michigan had no PWSs under a variance or exemption during the 1996 calendar year.

DISCUSSION

Violations data are presented in three separate tables: community, non-community, and a combined community non-community table. General PWS inventory information is provided. Approximately 95% of the total violations recorded in Michigan in 1996 are from non-community water systems.

This page provides a summary of the data reported by the State of Michigan. EPA has not interpreted the information provided and is not commenting on whether the State of Michigan has fully reported all violations.

WHERE TO OBTAIN 1996 ANNUAL STATE PUBLIC WATER SYSTEMS REPORT

Michigan's State Report is available by accessing the State's Web site at <http://www.deq.state.mi.us/dwr> or by contacting the State at Michigan Department of Environmental Quality, Drinking Water & Radiological Protection Division, Lansing, MI 48909-8130.

State of Minnesota 1996 Annual State Public Water Systems Report

VIOLATIONS FOR 1996

Violations Category	MCL		Treatment Technique		Significant Monitoring	
	Violations	Systems in Violation	Violations	Systems in Violation	Violations	Systems in Violation
Chemical Contaminant Group ¹	26	26			8	7
Total Coliform Rule	217	217			74	64
Surface Water Treatment Rule			137	28	0	0
Lead and Copper Rule			0	0	9	64

¹The Chemical Contaminant Group includes MCL violations and significant monitoring violations for organic, inorganic, total trihalomethane (TTHM), nitrate and nitrite, and radionuclide contaminants.

Shaded areas of this chart are not applicable.

1996 TOTALS

Total Number of Regulated Systems	<u>8,222</u>
Total Number of Systems in Violation	406
Total Number of Violations	471

Data from SDWIS/FED have been included and underlined where the State data were not available.

1996 VARIANCES AND EXEMPTIONS

There were no variances or exemptions granted to any Minnesota PWSs during the 1996 calendar year.

DISCUSSION

A summary table of State data for drinking water violations during 1996 was provided and is summarized above.

This page provides a summary of the data reported by the State of Minnesota. EPA has

not interpreted the information provided and is not commenting on whether the State of Minnesota has fully reported all violations.

WHERE TO OBTAIN 1996 ANNUAL STATE PUBLIC WATER SYSTEMS REPORT

Minnesota's State Report is available by contacting the State at Minnesota Department of Health, P.O. Box 64975, St. Paul, MN 55164-0975, Attention: Dennis E. Maki, phone (617) 215-0756 or by contacting Dennis E. Maki via electronic mail (dennis.maki@health.state.mn.us).

State of Mississippi 1996 Annual State Public Water Systems Report

VIOLATIONS FOR 1996

Violations Category	MCL		Treatment Technique		Significant Monitoring	
	Violations	Systems in Violation	Violations	Systems in Violation	Violations	Systems in Violation
Chemical Contaminant Group ¹	0	0			<u>1</u>	<u>1</u>
Total Coliform Rule	66	63			89	83
Surface Water Treatment Rule			<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Lead and Copper Rule			<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>

¹The Chemical Contaminant Group includes MCL violations and significant monitoring violations for organic, inorganic, total trihalomethane (TTHM), nitrate and nitrite, and radionuclide contaminants.

Data from SDWIS/FED have been included and underlined where the State data were not available.

Shaded areas of this chart are not applicable.

1996 TOTALS

Total Number of Regulated Systems	<u>1,550</u>
Total Number of Systems in Violation	147*
Total Number of Violations	156

*Sum of State systems in violation potentially contains double counting.

1996 VARIANCES AND EXEMPTIONS

The Mississippi Division of Water Supply has never granted a variance or exemption to any PWS.

DISCUSSION

General PWS inventory data is provided in Mississippi's report.

This page provides a summary of the data reported by the State of Mississippi. EPA has not interpreted the information provided and is not commenting on whether the State of Mississippi has fully reported all violations.

WHERE TO OBTAIN 1996 ANNUAL STATE PUBLIC WATER SYSTEMS REPORT

Mississippi's State Report is available by accessing the State's Web site at <http://www.msdh.state.ms.us/OHR/watersup/wshome.htm> or by contacting the Mississippi State Department of Health, Water Supply Division, P.O. Box 1700, Jackson, MS 39215-1700.

State of Missouri 1996 Annual State Public Water Systems Report

VIOLATIONS FOR 1996

Violations Category	MCL		Treatment Technique		Significant Monitoring	
	Violations	Systems in Violation	Violations	Systems in Violation	Violations	Systems in Violation
Chemical Contaminant Group ¹	11	<u>2</u>			363	<u>51</u>
Total Coliform Rule	424	<u>331</u>			1,372	<u>707</u>
Surface Water Treatment Rule			1	<u>1</u>	0	0
Lead and Copper Rule			0	<u>0</u>	18	<u>18</u>

¹The Chemical Contaminant Group includes MCL violations and significant monitoring violations for organic, inorganic, total trihalomethane (TTHM), nitrate and nitrite, and radionuclide contaminants.

Data from SDWIS/FED have been included and underlined where the State data were not available.

Shaded areas of this chart are not applicable.

1996 TOTALS

Total Number of Regulated Systems	2,667
Total Number of Systems in Violation	1,207*
Total Number of Violations	2,189

*Sum of systems with monitoring (924) and MCL/TT (283) violations potentially contains double counting.

1996 VARIANCES AND EXEMPTIONS

Exemptions from the atrazine MCL, originally granted for 10 PWSs in 1995 continue to be in effect for nine of those PWSs in 1996. No variances were granted for any Missouri PWSs during the 1996 calendar year. There were no variance or exemption violations in 1996.

DISCUSSION

No data on numbers of Systems in were provided; however the report contains a list of PWSs with violations. General PWS inventory data are provided in Missouri's report.

This page provides a summary of the data reported by the State of Missouri. EPA has not interpreted the information provided and is not commenting on whether the State of Missouri has fully reported all violations.

WHERE TO OBTAIN 1996 ANNUAL STATE PUBLIC WATER SYSTEMS REPORT

To obtain a copy of Missouri's State Report or additional information regarding Missouri's PWSs contact the Missouri Department of Natural Resources, Public Drinking Water Program, P.O. Box 176, Jefferson City, MO 65102, phone (573) 751-5331.

State of Montana 1996 Annual State Public Water Systems Report

VIOLATIONS FOR 1996

Violations Category	MCL		Treatment Technique		Significant Monitoring	
	Violations	Systems in Violation	Violations	Systems in Violation	Violations	Systems in Violation
Chemical Contaminant Group	34	19			682	566*
Total Coliform Rule	51	51			2,096	709
Surface Water Treatment Rule			127	32	214	22
Lead and Copper Rule			114	114	260	238

*The Chemical Contaminant Group includes MCL violations and significant monitoring violations for organic, inorganic, total trihalomethane (TTHM), nitrate and nitrite, and radionuclide contaminants.

*Sum of the Phase 2 and Phase 5 Rules (251) total and the radionuclides (315) subtotal.

Shaded areas of this chart are not applicable.

1996 TOTALS

Total Number of Regulated Systems	<u>1,882</u>
Total Number of Systems in Violation	1,751*
Total Number of Violations	3,578

*Sum of State systems in violation potentially contains double counting.

Data from SDWIS/FED have been included and underlined where the State data were not available.

1996 VARIANCES AND EXEMPTIONS

No violations of variances or exemptions were recorded for Montana PWSs during the 1996 calendar year.

DISCUSSION

Enforcement data and a Discussion of water sources, regulations and enforcement, and general PWS inventory data are provided in Montana's report. The State PWS Section has worked with the State Department of Environmental Quality Enforcement Division when necessary to address more difficult compliance problems through formal enforcement actions.

This page provides a summary of the data reported by the State of Montana. EPA has not interpreted the information provided and is not commenting on whether the State of Montana has fully reported all violations.

WHERE TO OBTAIN 1996 ANNUAL STATE PUBLIC WATER SYSTEMS REPORT

Montana's State Report is available on the Montana Department of Environmental Quality's Web site at <http://www.deq.mt.gov> or by contacting the State at Montana Department of Environmental Quality, Box 200901, Helena, MT 59620-0901.

State of Nebraska 1996 Annual State Public Water Systems Report

VIOLATIONS FOR 1996

Violations Category	MCL		Treatment Technique		Significant Monitoring	
	Violations	Systems in Violation	Violations	Systems in Violation	Violations	Systems in Violation
Chemical Contaminant Group ¹	32	25			0	0
Total Coliform Rule	178	128			140	105
Surface Water Treatment Rule			0	0	0	0
Lead and Copper Rule			0	0	1	1

¹The Chemical Contaminant Group includes MCL violations and significant monitoring violations for organic, inorganic, total trihalomethane (TTHM), nitrate and nitrite, and radionuclide contaminants.

Shaded areas of this chart are not applicable.

1996 TOTALS

Total Number of Regulated Systems	<u>1,403</u>
Total Number of Systems in Violation	259
Total Number of Violations	350

Data from SDWIS/FED have been included and underlined where the State data were not available.

1996 VARIANCES AND EXEMPTIONS

No information was provided on variances or exemptions granted to any Nebraska PWSs during the 1996 calendar year. SDWIS/FED did not report any variance or exemption violations.

DISCUSSION

General PWS inventory information is provided in Nebraska's report. In 1996, the Nebraska Public Water Supply Program issued 21 administrative orders to PWSs in Nebraska. A description of additional compliance assistance activities of the Nebraska Public Water Supply Program is provided. A listing of formal enforcement actions is also included.

This page provides a summary of the data reported by the State of Nebraska. EPA has not interpreted the information provided and is not commenting on whether the State of Nebraska has fully reported all violations.

WHERE TO OBTAIN 1996 ANNUAL STATE PUBLIC WATER SYSTEMS REPORT

Nebraska's State Report is available by accessing the State's Web site (<http://www.hhs.state.ne.us>).

State of Nevada 1996 Annual State Public Water Systems Report

VIOLATIONS FOR 1996

Violations Category	MCL		Treatment Technique		Significant Monitoring	
	Violations	Systems in Violation	Violations	Systems in Violation	Violations	Systems in Violation
Chemical Contaminant Group ¹	10	10			45	45
Total Coliform Rule	22	21			99	87
Surface Water Treatment Rule			19	19	0	0
Lead and Copper Rule			0	0	346	173

¹The Chemical Contaminant Group includes MCL violations and significant monitoring violations for organic, inorganic, total trihalomethane (TTHM), nitrate and nitrite, and radionuclide contaminants.

Shaded areas of this chart are not applicable.

1996 TOTALS

Total Number of Regulated Systems	<u>675</u>
Total Number of Systems in Violation	355*
Total Number of Violations	541

*Sum of State systems in violation potentially contains double counting.

Data from SDWIS/FED have been included and underlined where the State data were not available.

1996 VARIANCES AND EXEMPTIONS

No variances or exemptions were granted or in effect for any Nevada PWSs during calendar year 1996.

DISCUSSION

General PWS inventory information is provided. Analysis of violations data is provided by type of violation.

This page provides a summary of the data reported by the State of Nevada. EPA has not

interpreted the information provided and is not commenting on whether the State of Nevada has fully reported all violations.

WHERE TO OBTAIN 1996 ANNUAL STATE PUBLIC WATER SYSTEMS REPORT

Nevada's State Report is available through Larry Rountree at the Nevada State Health Division Office, 1179 Fairview Drive, Carson City, NV 89710. It is also available at county libraries throughout the State.

State of New Hampshire 1996 Annual Public Water Systems Report

VIOLATIONS FOR 1996

Violations Category	MCL		Treatment Technique		Significant Monitoring	
	Violations	Systems in Violation	Violations	Systems in Violation	Violations	Systems in Violation
Chemical Contaminant Group ¹	23	19			1,898	148
Total Coliform Rule	256	206			223	157
Surface Water Treatment Rule			13	10	126	26
Lead and Copper Rule			0	0	13	13

¹The Chemical Contaminant Group includes MCL violations and significant monitoring violations for organic, inorganic, total trihalomethane (TTHM), nitrate and nitrite, and radionuclide contaminants.

Shaded areas of this chart are not applicable.

1996 TOTALS

Total Number of Regulated Systems	<u>2,071</u>
Total Number of Systems in Violation	398
Total Number of Violations	2,552

Data from SDWIS/FED have been included and underlined where the State data were not available.

1996 VARIANCES AND EXEMPTIONS

No information was provided on variances or exemptions granted to any New Hampshire PWSs during the 1996 calendar year. SDWIS/FED did not report any variance or exemption violations.

DISCUSSION

Analysis of violations data is provided by PWS type in New Hampshire's State report. The report was based on data from the New Hampshire WSEB Database.

This page provides a summary of the data reported by the State of New Hampshire. EPA has not interpreted the information provided and is not commenting on whether the State of New Hampshire has fully reported all violations.

WHERE TO OBTAIN 1996 ANNUAL STATE PUBLIC WATER SYSTEMS REPORT

New Hampshire's State Report is available by accessing the State's Web site at <http://www.state.nh.us/> or by contacting Laurie K. Cullerot at Department of Environmental Services, Water Supply Engineering Bureau, 6 Hazen Drive, P.O. Box 95, Concord, NH 03302-0095.

State of New Jersey 1996 Annual State Public Water Systems Report

VIOLATIONS FOR 1996

Violations Category	MCL		Treatment Technique		Significant Monitoring	
	Violations	Systems in Violation	Violations	Systems in Violation	Violations	Systems in Violation
Chemical Contaminant Group	48	<u>35</u>			13,974	<u>1,455</u>
Total Coliform Rule	172	115			2,805	1,384
Surface Water Treatment Rule			15	4	2	2
Lead and Copper Rule			3	3	80	28

The Chemical Contaminant Group includes MCL violations and significant monitoring violations for organic, inorganic, total trihalomethane (TTHM), nitrate and nitrite, and radionuclide contaminants.

Data from SDWIS/FED have been included and underlined where the State data were not available.

Shaded areas of this chart are not applicable.

1996 TOTALS

Total Number of Regulated Systems	4,740
Total Number of Systems in Violation	3,026*
Total Number of Violations	17,099

*Sum of State systems in violation potentially contains double counting.

1996 VARIANCES AND EXEMPTIONS

The New Jersey Bureau of Safe Drinking Water did not issue any variances or exemptions to any PWS during the 1996 calendar year.

DISCUSSION

General PWS inventory information is provided in New Jersey's report. New Jersey regulates five volatile organic compounds in addition to those covered by Federal regulations. New Jersey also set standards (MCLs) that are more stringent than the Federal standards on 12 of the Federally regulated volatile organic compounds. Both the additional regulated contaminants and the more stringent MCLs are listed on page 21 of the 1996 New Jersey report.

This page provides a summary of the data reported by the State of New Jersey. EPA has not interpreted the information provided and is not commenting on whether the State of New Jersey has fully reported all violations.

WHERE TO OBTAIN 1996 ANNUAL STATE PUBLIC WATER SYSTEMS REPORT

Copies of the complete New Jersey Drinking Water Standards chart, and/or a copy of the 1996 New Jersey State Report is available by contacting the State at New Jersey Department of Environmental Protection, Bureau of Safe Drinking Water, P.O. Box 426, Trenton, NJ 08625-0426. The report is also available at all county libraries, college and local libraries, and in the April 1998 issue of Pipeline, a quarterly publication of the NJ AWWA.

State of New Mexico 1996 Annual State Public Water Systems Report

VIOLATIONS FOR 1996

Violations Category	MCL		Treatment Technique		Significant Monitoring	
	Violations	Systems in Violation	Violations	Systems in Violation	Violations	Systems in Violation
Chemical Contaminant Group ¹	1	1			0	0
Total Coliform Rule	77	68			146	105
Surface Water Treatment Rule			13	7	2	2
Lead and Copper Rule			0	0	3	3

¹The Chemical Contaminant Group includes MCL violations and significant monitoring violations for organic, inorganic, total trihalomethane (TTHM), nitrate and nitrite, and radionuclide contaminants.

Shaded areas of this chart are not applicable.

1996 TOTALS

Total Number of Regulated Systems	<u>1,266</u>
Total Number of Systems in Violation	186*
Total Number of Violations	242

*Sum of State systems in violation potentially contains double counting.

Data from SDWIS/FED have been included and underlined where the State data were not available.

1996 VARIANCES AND EXEMPTIONS

No variances or exemptions were issued by New Mexico to any PWSs during the 1996 calendar year.

DISCUSSION

Analysis of violations data is provided by PWS type, PWS size, and population served in New Mexico's State Report. Sources of inaccuracy in the data are also discussed. Possible sources of data inaccuracy are: failure of New Mexico Environmental Department staff to accurately record violations, especially in the chemical rules; lack of standardized methods for the exchanging of data between labs, field offices, water systems, and the central office; lack of

electronic transfer methods to EPA for chemical data.

This page provides a summary of the data reported by the State of New Mexico. EPA has not interpreted the information provided and is not commenting on whether the State of New Mexico has fully reported all violations.

WHERE TO OBTAIN 1996 ANNUAL STATE PUBLIC WATER SYSTEMS REPORT

A specific source for obtaining a copy of this report has not been provided. General information on its availability may be obtained from: Drinking Water Bureau, New Mexico Environment Department, 525 Camino De Los Marquez, Suite 4, Santa Fe, NM 87501, phone (505) 827-7536.

State of New York 1996 Annual Public Water System Report

VIOLATIONS FOR 1996

Violations Category	MCL		Treatment Technique		Significant Monitoring	
	Violations	Systems in Violation	Violations	Systems in Violation	Violations	Systems in Violation
Chemical Contaminant Group ¹	31	11			357	353
Total Coliform Rule	160	137*			1,312	790
Surface Water Treatment Rule			125	94	9	9
Lead and Copper Rule			9	9**	44	43***

¹The Chemical Contaminant Group includes MCL violations and significant monitoring violations for organic, inorganic, total trihalomethane (TTHM), nitrate and nitrite, and radionuclide contaminants.

*Sum of acute (52) and non-acute (85) MCL.

**Sum of treatment installation (5) and public education (4).

***Sum of initial lead and copper tap monitoring/reporting (3) and follow-up or routine lead and copper tap monitoring and reporting (40).

Shaded areas of this chart are not applicable.

1996 TOTALS

Total Number of Regulated Systems	<u>2,129</u>
Total Number of Systems in Violation	1,449*
Total Number of Violations	2,021

*Sum of State systems in violation potentially contains double counting.

Data from SDWIS/FED have been included and underlined where the State data were not available.

1996 VARIANCES AND EXEMPTIONS

Exemptions have been issued to New York PWSs under the Surface Water Treatment Rule. A list of these systems is provided in New York's State Report. There were no variances granted to any New York PWSs during the 1996 calendar year. There is no record of variance or exemption violations in 1996.

DISCUSSION

A summary table of State data for drinking water violations during 1996 was provided and is summarized above.

This page provides a summary of the data reported by the State of New York. EPA has not interpreted the information provided and is not commenting on whether the State of New York has fully reported all violations.

WHERE TO OBTAIN 1996 ANNUAL STATE PUBLIC WATER SYSTEMS REPORT

New York's State Report is available by accessing the State's Web site at <http://www.health.state.ny.us> or by contacting the State at BPWSP - NYSDOH, 1215 Western Ave., Albany, NY 12203.

State of North Carolina 1996 Annual State Public Water Systems Report

VIOLATIONS FOR 1996

Violations Category	MCL		Treatment Technique		Significant Monitoring	
	Violations	Systems in Violation	Violations	Systems in Violation	Violations	Systems in Violation
Chemical Contaminant Group ¹	17	16			20,690	<u>484</u>
Total Coliform Rule	201	184			776	463
Surface Water Treatment Rule			8	8	0	0
Lead and Copper Rule			1	1	60	60

¹The Chemical Contaminant Group includes MCL violations and significant monitoring violations for organic, inorganic, total trihalomethane (TTHM), nitrate and nitrite, and radionuclide contaminants.

Data from SDWIS/FED have been included and underlined where the State data were not available.

Shaded areas of this chart are not applicable.

1996 TOTALS

Total Number of Regulated Systems	8,244
Total Number of Systems in Violation	1,216*
Total Number of Violations	21,753

*Sum of State systems in violation potentially contains double counting.

1996 VARIANCES AND EXEMPTIONS

No information was provided on variances or exemptions granted to any North Carolina PWSs during the 1996 calendar year. SDWIS/FED did not report any variance or exemption violations.

DISCUSSION

State data was reported in addition to SDWIS/FED data in North Carolina's State report. General PWS inventory information is also provided.

This page provides a summary of the data reported by the State of North Carolina. EPA

has not interpreted the information provided and is not commenting on whether the State of North Carolina has fully reported all violations.

WHERE TO OBTAIN 1996 ANNUAL STATE PUBLIC WATER SYSTEMS REPORT

A specific source for obtaining a copy of this report has not been provided. General information on its availability may be obtained from: Public Water Supply Section, Department of Environment and Natural Resources, P.O. Box 29536, Raleigh, NC 27626-0536, phone (919) 733-2321.

State of North Dakota 1996 Annual State Public Water Systems Report

VIOLATIONS FOR 1996

Violations Category	MCL		Treatment Technique		Significant Monitoring	
	Violations	Systems in Violation	Violations	Systems in Violation	Violations	Systems in Violation
Chemical Contaminant Group ¹	10	10			1	1
Total Coliform Rule	60	47			138	102
Surface Water Treatment Rule			6	3	2	2
Lead and Copper Rule			0	0	6	6

¹The Chemical Contaminant Group includes MCL violations and significant monitoring violations for organic, inorganic, total trihalomethane (TTHM), nitrate and nitrite, and radionuclide contaminants.

Shaded areas of this chart are not applicable.

1996 TOTALS

Total Number of Regulated Systems	604
Total Number of Systems in Violation	171*
Total Number of Violations	223

*Sum of State systems in violation potentially contains double counting.

1996 VARIANCES AND EXEMPTIONS

North Dakota had no PWSs operating under a variance or exemption during the 1996 calendar year.

DISCUSSION

General PWS inventory information is provided in North Dakota's report. Data on the percentage of systems with no violations by PWS type is also provided. 97% of the community water systems and 100% of non-transient non-community water systems had no organic MCL violations. 100% of the community water systems and non-transient non-community water systems had no organic, inorganic, or radionuclide monitoring violations and no radionuclide MCL violations. 99.6% of transient non-community water systems had no inorganic monitoring violations and 98.8% had no inorganic MCL violations. 98.1% of the community water systems had no inorganic MCL violations. 92.1% of the community water systems, 94.1% of the non-transient non-community water

systems, and 95.2% of the transient non-community water systems had no MCL violations of the Total Coliform Rule. 82.1% of community water systems, 88.2% of non-transient non-community water systems, and 84.1% of transient non-community water systems had no monitoring violations for the Total Coliform Rule. 95% of the community water systems and 80% of the non-transient non-community water systems had no treatment technique violations for the Surface Water Treatment Rule. 95% community water systems and 90% non-transient non-community water systems had no Surface Water Treatment Rule monitoring violations. 98.7% of the community water systems had no monitoring violations for the Lead and Copper Rule. Annually, approximately 400 of the 604 total PWSs are issued Certificates of Compliance for maintaining full compliance.

This page provides a summary of the data reported by the State of North Dakota. EPA has not interpreted the information provided and is not commenting on whether the State of North Dakota has fully reported all violations.

WHERE TO OBTAIN 1996 ANNUAL STATE PUBLIC WATER SYSTEMS REPORT

North Dakota's State Report is available by contacting the State at North Dakota Department of Health, Division of Municipal Facilities, P.O. Box 5520, 1200 Missouri Avenue, Bismark, ND 58506-5520, Attention: Jeni Walsh or Attention: Larry Thelen, phone (701) 328-5231 and phone (701) 328-5211, fax (701) 328-5200.

Northern Mariana Islands 1996 Annual Public Water Systems Report

VIOLATIONS FOR 1996

Violations Category	MCL		Treatment Technique		Significant Monitoring	
	Violations	Systems in Violation	Violations	Systems in Violation	Violations	Systems in Violation
Chemical Contaminant Group ¹	<u>0</u>	<u>0</u>			<u>0</u>	<u>0</u>
Total Coliform Rule	<u>0</u>	<u>0</u>			<u>0</u>	<u>0</u>
Surface Water Treatment Rule			<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Lead and Copper Rule			<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>

¹The Chemical Contaminant Group includes MCL violations and significant monitoring violations for organic, inorganic, total trihalomethane (TTHM), nitrate and nitrite, and radionuclide contaminants.

Data from SDWIS/FED have been included and underlined where data from the Northern Mariana Islands were not available.

Shaded areas of this chart are not applicable.

1996 TOTALS

Total Number of Regulated Systems	<u>3</u>
Total Number of Systems in Violation	<u>0</u>
Total Number of Violations	<u>0</u>

1996 VARIANCES AND EXEMPTIONS

SDWIS/FED did not report any variance or exemption violations.

DISCUSSION

The Northern Mariana Islands report was not received, therefore SDWIS/FED data were used.

WHERE TO OBTAIN 1996 ANNUAL PUBLIC WATER SYSTEMS REPORT

A specific source for obtaining a copy of this report has not been provided. General information may be obtained from: Division of Environmental Quality, Commonwealth of the Northern Mariana Islands, Post Office Box 1304, Saipan, MP 96950, phone (670) 234-6114.

State of Ohio 1996 Annual State Public Water Systems Report

VIOLATIONS FOR 1996

Violations Category	MCL		Treatment Technique		Significant Monitoring	
	Violations	Systems in Violation	Violations	Systems in Violation	Violations	Systems in Violation
Chemical Contaminant Group ¹	14	8			11,314	1,833
Total Coliform Rule	1,758	868			3,277	2,023
Surface Water Treatment Rule			280	49	26	7
Lead and Copper Rule			1	1	224	224

¹The Chemical Contaminant Group includes MCL violations and significant monitoring violations for organic, inorganic, total trihalomethane (TTHM), nitrate and nitrite, and radionuclide contaminants.

Shaded areas of this chart are not applicable.

1996 TOTALS

Total Number of Regulated Systems	6,193
Total Number of Systems in Violation	3,084
Total Number of Violations	16,894

1996 VARIANCES AND EXEMPTIONS

There were no variances or exemptions granted to any Ohio PWSs during the 1996 calendar year.

DISCUSSION

General PWS inventory information and compliance assistance information is provided in Ohio's report. Ohio's Compliance Assistance includes: providing a sampling and monitoring schedule for each PWS; offering technical assistance during facility inspections (sanitary surveys) and all office hours; distributing a divisional newsletter to all PWSs; providing operator and laboratory personnel training sessions; distributing reminder postcards and/or contacting the PWSs towards the end of the monitoring periods to ensure collection of the

required samples; and providing notice of violation letters for failure to meet the requirements of any of the specific regulations.

This page provides a summary of the data reported by the State of Ohio. EPA has not interpreted the information provided and is not commenting on whether the State of Ohio has fully reported all violations.

WHERE TO OBTAIN 1996 ANNUAL STATE PUBLIC WATER SYSTEMS REPORT

Ohio's State Report is available by accessing the State's Web site at <http://www.epa.state.oh.us/ddagw/annualreports.html> or contacting the State at PWS Annual Compliance Report, Ohio EPA - DDAGW, P.O. Box 1049, Columbus, OH 43216-0149.

State of Oklahoma 1996 Annual State Public Water Systems Report

VIOLATIONS FOR 1996

Violations Category	MCL		Treatment Technique		Significant Monitoring	
	Violations	Systems in Violation	Violations	Systems in Violation	Violations	Systems in Violation
Chemical Contaminant Group ¹	156	58*			0	0
Total Coliform Rule	156	127			316	191
Surface Water Treatment Rule			153	52	3	3
Lead and Copper Rule			0	0	NR	760**

¹The Chemical Contaminant Group includes MCL violations and significant monitoring violations for organic, inorganic, total trihalomethane (TTHM), nitrate and nitrite, and radionuclide contaminants.

*Sum of the organics (7), inorganics (51), and radionuclides (0) subtotals.

**There were 760 systems with significant noncompliance determinations due in 1996.

NR = not reported

Shaded areas of this chart are not applicable.

1996 TOTALS

Total Number of Regulated Systems	<u>1,672</u>
Total Number of Systems in Violation	1,191*
Total Number of Violations	784

*Sum of State systems in violation potentially contains double counting.

Data from SDWIS/FED have been included and underlined where the State data were not available.

1996 VARIANCES AND EXEMPTIONS

The Oklahoma Department of Environmental Quality does not have any PWSs which have been granted variances or exemptions.

DISCUSSION

Information on water sources is provided in the State report.

This page provides a summary of the data reported by the State of Oklahoma. EPA has not interpreted the information provided and is not

commenting on whether the State of Oklahoma has fully reported all violations.

WHERE TO OBTAIN 1996 ANNUAL STATE PUBLIC WATER SYSTEMS REPORT

Oklahoma's State Report is available by accessing the State's Web site at <http://www.deq.state.ok.us> or by contacting the State at Oklahoma Department of Environmental Quality office at 1000 NE 10th Street, Oklahoma City, OK.

State of Oregon 1996 Annual State Public Water Systems Report

VIOLATIONS FOR 1996

Violations Category	MCL		Treatment Technique		Significant Monitoring	
	Violations	Systems in Violation	Violations	Systems in Violation	Violations	Systems in Violation
Chemical Contaminant Group ¹	6	6			1,008	1,006
Total Coliform Rule	247	195			2,352	1,176
Surface Water Treatment Rule			291	106	453	101
Lead and Copper Rule			0	0	NR	151

¹The Chemical Contaminant Group includes MCL violations and significant monitoring violations for organic, inorganic, total trihalomethane (TTHM), nitrate and nitrite, and radionuclide contaminants.

Shaded areas of this chart are not applicable.

NR = not reported

1996 TOTALS

Total Number of Regulated Systems	<u>2,630</u>
Total Number of Systems in Violation	2,741*
Total Number of Violations	4,357

*Sum of State systems in violation potentially contains double counting.

Data from SDWIS/FED have been included and underlined where the State data were not available.

1996 VARIANCES AND EXEMPTIONS

Oregon issued no variances or exemptions during 1996, electing instead to pursue corrective actions through enforcement actions.

DISCUSSION

General PWS inventory information is provided in Oregon's report. During 1996, Oregon issued 65 Administrative Orders and 15 Notices of Violation for high priority violations of standards, primarily for coliform and nitrate MCL violations, surface water treatment violations, and repeated failures to sample and report results. The Oregon Health Division received evidence of 365 notifications to water users from water suppliers.

This page provides a summary of the data reported by the State of Oregon. EPA has not interpreted the information provided and is not commenting on whether the State of Oregon has fully reported all violations.

WHERE TO OBTAIN 1996 ANNUAL STATE PUBLIC WATER SYSTEMS REPORT

Oregon's State Report is available by accessing the State's Web site at <http://www.ohd.hr.state.or.us/cehs/dwp> or by contacting Diane Weis at the Oregon Health Division, 800 NE Oregon Street, Portland, OR 97232.

State of Pennsylvania 1996 Annual State Public Water Systems Report

VIOLATIONS FOR 1996

Violations Category	MCL		Treatment Technique		Significant Monitoring	
	Violations	Systems in Violation	Violations	Systems in Violation	Violations	Systems in Violation
Chemical Contaminant Group ¹	125	102			7,527	1,099
Total Coliform Rule	312	225			1,800	1,270
Surface Water Treatment Rule			117	28	264	54
Lead and Copper Rule			5	5	249	216

¹The Chemical Contaminant Group includes MCL violations and significant monitoring violations for organic, inorganic, total trihalomethane (TTHM), nitrate and nitrite, and radionuclide contaminants.

Shaded areas of this chart are not applicable.

1996 TOTALS

Total Number of Regulated Systems	<u>10,249</u>
Total Number of Systems in Violation	2,639
Total Number of Violations	9,841

Data from SDWIS/FED have been included and underlined where the State data were not available.

1996 VARIANCES AND EXEMPTIONS

No variances or exemptions were in effect for any of the Pennsylvania PWSs during the 1996 report period.

DISCUSSION

This report also presented data on the compliance actions taken by the State of Pennsylvania in 1996, which included 6,081 compliance letters, 43 consent and administrative orders, and 251 water advisories. Violation data and system compliance rates are also analyzed by PWS size and type. For the community water systems 77.4% of small systems, 84.9% of medium systems, and 90% of large systems were in compliance for monitoring and reporting. 97% of small community water systems, 97.5% of medium community water systems, and 100% of large community water systems were in compliance for MCLs. Also for community water systems, 99.5% of small systems, 97.2% of medium systems, and 90% of large

systems were in compliance with treatment techniques.

Pennsylvania uses an intricate computerized violation determination procedure which identifies potential violations for investigation and verification. This process assists Pennsylvania in the measurement of drinking water compliance, and is reflected in part by the number of violations and amount of compliance activity data being reported.

This page provides a summary of the data reported by the State of Pennsylvania. EPA has not interpreted the information provided and is not commenting on whether the State of Pennsylvania has fully reported all violations.

WHERE TO OBTAIN 1996 ANNUAL STATE PUBLIC WATER SYSTEMS REPORT

Pennsylvania's State Report is available by accessing the State's Web site at <http://www.dep.state.pa.us> or by contacting the State at (717) 772-4018.

Puerto Rico 1996 Annual Public Water Systems Report

VIOLATIONS FOR 1996

Violations Category	MCL		Treatment Technique		Significant Monitoring	
	Violations	Systems in Violation	Violations	Systems in Violation	Violations	Systems in Violation
Chemical Contaminant Group ¹	12	7*			171	14**
Total Coliform Rule	1,079	390***			1,657	248
Surface Water Treatment Rule			344	193	1,096	135
Lead and Copper Rule			7	7	56	47****

¹The Chemical Contaminant Group includes MCL violations and significant monitoring violations for organic, inorganic, total trihalomethane (TTHM), nitrate and nitrite, and radionuclide contaminants.

*Sum of inorganic (0), nitrate (2), VOC (3), TTHM (2), and SOC (0) subtotals.

**Sum of inorganic (0), nitrate (8), VOC (3), TTHM (0), and SOC (3) subtotals.

***Sum of acute (208) and Non-acute (182) MCL.

****Sum of initial lead and copper tap monitoring and reporting (1) and follow-up or routine lead and copper tap monitoring and reporting (46).

Shaded areas of this chart are not applicable.

1996 TOTALS

Total Number of Regulated Systems	489
Total Number of Systems in Violation	1,041*
Total Number of Violations	4,422

* Sum of systems in violation contains double counting.

1996 Variances and Exemptions

No variances or exemptions were granted to any PWSs in Puerto Rico during the 1996 calendar year.

DISCUSSION

A summary table of Commonwealth data for drinking water violations during 1996 was provided and is summarized above. During the 1996 calendar year, there were no significant violations for inorganic contaminants, except for nitrates. For the systems in noncompliance with the MCL for nitrate a Notice of Violation and Administrative Order was issued. Closure Orders were issued to two systems with viola-

tions of the MCLs for tetrachloroethane and trichloroethane. In all systems that presented violations for the group of contaminants regulated in drinking water, a Boil Water Order, Violation Notification and/or State and Federal Administrative Orders have been issued. In response to these actions, systems have been taken out of operation, systems have been replaced, or have been placed under corrective action plans to reach compliance.

This page provides a summary of the data reported by Puerto Rico. EPA has not interpreted the information provided and is not commenting on whether Puerto Rico has fully reported all violations.

WHERE TO OBTAIN 1996 ANNUAL PUBLIC WATER SYSTEMS REPORT

Puerto Rico's Report is available by contacting Mrs. Olga I. Rivera, Puerto Rico Department of Health, Water Supply Supervision Program, P.O. Box 70184, San Juan, PR 00936.

State of Rhode Island 1996 Annual State Public Water Systems Report

VIOLATIONS FOR 1996

Violations Category	MCL		Treatment Technique		Significant Monitoring	
	Violations	Systems in Violation	Violations	Systems in Violation	Violations	Systems in Violation
Chemical Contaminant Group ¹	3	1			5	5
Total Coliform Rule	40	31			6	6
Surface Water Treatment Rule			2	2	0	0
Lead and Copper Rule			0	0	1	1

¹The Chemical Contaminant Group includes MCL violations and significant monitoring violations for organic, inorganic, total trihalomethane (TTHM), nitrate and nitrite, and radionuclide contaminants.

Shaded areas of this chart are not applicable.

1996 TOTALS

Total Number of Regulated Systems	<u>451</u>
Total Number of Systems in Violation	46
Total Number of Violations	57

Data from SDWIS/FED have been included and underlined where the State data were not available.

1996 VARIANCES AND EXEMPTIONS

There were no variances or exemptions granted to any Rhode Island PWSs during the 1996 calendar year.

DISCUSSION

General PWS inventory information is provided in Rhode Island's report. A trend analysis is illustrated in Rhode Island's State report based on its drinking water performance indicator. The performance indicator is the sum of population served and days in compliance with MCLs and treatment technique divided by the sum of population served and the total days in operation. The indicator values were given from 1991 to 1996, with 1996 being the largest value of 0.993.

This page provides a summary of the data reported by the State of Rhode Island. EPA has not interpreted the information provided and is not commenting on whether the State of Rhode Island has fully reported all violations.

WHERE TO OBTAIN 1996 ANNUAL STATE PUBLIC WATER SYSTEMS REPORT

Additional information about Rhode Island's drinking water program is available on the State's Web site at <http://www.health.state.ri.us> or by contacting the Rhode Island Department of Health, Office of Drinking Water Quality, 3 Capitol Hill, Room 209, Providence, RI 02908, phone (401) 222-6867.

State of South Carolina 1996 Annual State Public Water Systems Report

VIOLATIONS FOR 1996

Violations Category	MCL		Treatment Technique		Significant Monitoring	
	Violations	Systems in Violation	Violations	Systems in Violation	Violations	Systems in Violation
Chemical Contaminant Group ¹	11	6			0	0
Total Coliform Rule	52	44			247	130
Surface Water Treatment Rule			13	12	0	0
Lead and Copper Rule			23	23	42	28

¹The Chemical Contaminant Group includes MCL violations and significant monitoring violations for organic, inorganic, total trihalomethane (TTHM), nitrate and nitrite, and radionuclide contaminants.

Shaded areas of this chart are not applicable.

1996 TOTALS

Total Number of Regulated Systems	<u>1,526</u>
Total Number of Systems in Violation	230
Total Number of Violations	388

Data from SDWIS/FED have been included and underlined where the State data were not available.

1996 VARIANCES AND EXEMPTIONS

South Carolina did not grant any variances or exemptions to any PWSs during the 1996 calendar year.

DISCUSSION

South Carolina's State Report included general PWS inventory information. The report also included information on how and why the report was created, general inventory information on PWSs in South Carolina, information on the compliance and enforcement process, and statistics and conclusions drawn from the data in the report. During the calendar year 1996, 230 Federally-defined PWSs, or approximately 7% of the total number of systems, had at least one violation. This means that approximately 93% of South Carolina's PWSs were in compliance with all drinking water regulations.

This page provides a summary of the data reported by the State of South Carolina. EPA has not interpreted the information provided and is not commenting on whether the State of South Carolina has fully reported all violations.

WHERE TO OBTAIN 1996 ANNUAL STATE PUBLIC WATER SYSTEMS REPORT

South Carolina's State Report is available by accessing the State's Web site at <http://www.state.sc.us/dhec/eqchome.htm> or <http://www.state.sc.us/dhec/bow1996.exe>, by contacting the State at SCDHEC - Bureau of Water, 2600 Bull Street, Columbia, SC 29201, Attention: Angela G. Mettlen, or by contacting Angela G. Mettlen at (803) 734-5326 or mettleag@columb32.dhec.state.sc.us (electronic mail).

State of South Dakota 1996 Annual State Public Water Systems Report

VIOLATIONS FOR 1996

Violations Category	MCL		Treatment Technique		Significant Monitoring	
	Violations	Systems in Violation	Violations	Systems in Violation	Violations	Systems in Violation
Chemical Contaminant Group ¹	53	<u>18</u>			891	<u>83</u>
Total Coliform Rule	135	95*			392	188
Surface Water Treatment Rule			19	5	0	0
Lead and Copper Rule			0	0	66	160**

¹The Chemical Contaminant Group includes MCL violations and significant monitoring violations for organic, inorganic, total trihalomethane (TTHM), nitrate and nitrite, and radionuclide contaminants.

*Sum of acute (11) and non-acute (84) MCL.

**Sum of initial lead and copper tap monitoring and reporting (94) and follow-up or routine lead and copper tap monitoring and reporting (66). The significant noncompliance determinations were due for 94 systems in 1996.

Data from SDWIS/FED have been included and underlined where the State data were not available.

Shaded areas of this chart are not applicable.

1996 TOTALS

Total Number of Regulated Systems	<u>751</u>
Total Number of Systems in Violation	549*
Total Number of Violations	1,556

*Sum of State systems in violation potentially contains double counting.

1996 VARIANCES AND EXEMPTIONS

No variances or exemptions have been issued to any PWSs in South Dakota.

DISCUSSION

General PWS inventory information is provided.

This page provides a summary of the data reported by the State of South Dakota. EPA has not interpreted the information provided and is not commenting on whether the State of South Dakota has fully reported all violations.

WHERE TO OBTAIN 1996 ANNUAL STATE PUBLIC WATER SYSTEMS REPORT

South Dakota's State Report is available by accessing the State's Web site at <http://www.state.sd.us/state/executive/denr/des/drinking/dwprg.htm> or by contacting the State at DENR, Drinking Water Program, 523 E. Capitol St., Pierre, SD 57501-3181.

State of Tennessee 1996 Annual State Public Water Systems Report

VIOLATIONS FOR 1996

Violations Category	MCL		Treatment Technique		Significant Monitoring	
	Violations	Systems in Violation	Violations	Systems in Violation	Violations	Systems in Violation
Chemical Contaminant Group ¹	1	1			248	75
Total Coliform Rule	43	38			163	118
Surface Water Treatment Rule			261	30	5	4
Lead and Copper Rule			0	0	8	8

¹The Chemical Contaminant Group includes MCL violations and significant monitoring violations for organic, inorganic, total trihalomethane (TTHM), nitrate and nitrite, and radionuclide contaminants.

Shaded areas of this chart are not applicable.

1996 TOTALS

Total Number of Regulated Systems	<u>1,059</u>
Total Number of Systems in Violation	262
Total Number of Violations	731

Data from SDWIS/FED have been included and underlined where the State data were not available.

1996 VARIANCES AND EXEMPTIONS

Tennessee does not grant variances or exemptions to PWSs.

DISCUSSION

Tables showing PWSs with violations along with the dates the violation occurred and the county where the PWS is located are provided in the Tennessee State Report.

This page provides a summary of the data reported by the State of Tennessee. EPA has not interpreted the information provided and is not commenting on whether the State of Tennessee has fully reported all violations.

WHERE TO OBTAIN 1996 ANNUAL STATE PUBLIC WATER SYSTEMS REPORT

Tennessee's State Report is available by contacting the Division Water Supply Central Office at:

Division of Water Supply - Central Office, 401 Church Street, 6th Floor, L&C Tower, Nashville, TN 37423-1549, phone (615) 532-0152; or any of the six field offices: Division of Water Supply, Suite 550-State Office Building, 540 McCallie Avenue, Chattanooga, TN 37402-2013, phone (423) 634-5745; Division of Water Supply, 1221 South Willow, Cookeville, TN 38502, phone (931) 432-4015; Division of Water Supply, 362 Carriage House Drive, Jackson, TN 38305-2222, phone (901) 661-6200; Division of Water Supply, 2305 Silverdale Road, Johnson City, TN 37601-2162, phone (423) 854-5400; Division of Water Supply, Suite 220-State Plaza, 2700 Middlebrook Pike, Knoxville, TN 37219, phone (423) 594-6035; Division of Water Supply, 537 Brick Church Park Drive, Nashville, TN 37243-1550, phone (615) 226-6918. Copies of Tennessee's State Report are also located in each county health department and in most public libraries in Tennessee.

State of Texas 1996 Annual State Public Water Systems Report

VIOLATIONS FOR 1996

Violations Category	MCL		Treatment Technique		Significant Monitoring	
	Violations	Systems in Violation	Violations	Systems in Violation	Violations	Systems in Violation
Chemical Contaminant Group ¹	185	164			N/A	N/A
Total Coliform Rule	269	235			602	401
Surface Water Treatment Rule			49	25	210	31
Lead and Copper Rule			4	4	36	36

¹The Chemical Contaminant Group includes MCL violations and significant monitoring violations for organic, inorganic, total trihalomethane (TTHM), nitrate and nitrite, and radionuclide contaminants.

N/A - Not applicable, since in Texas, most of the chemical monitoring is conducted by the State.

Shaded areas of this chart are not applicable.

1996 TOTALS

Total Number of Regulated Systems	6,658
Total Number of Systems in Violation	896*
Total Number of Violations	1,355

*Sum of State systems in violation potentially contains double counting.

1996 VARIANCES AND EXEMPTIONS

No variances or exemptions have been granted to any Texas PWSs.

DISCUSSION

General PWS inventory information and general compliance information is provided in Texas' report. In Texas, most of the chemical monitoring is conducted by the State. In 1996, 94.2% of all Texas PWSs were in compliance with the Federal and State laws governing drinking water quality.

This page provides a summary of the data reported by the State of Texas. EPA has not interpreted the information provided and is not commenting on whether the State of Texas has fully reported all violations.

WHERE TO OBTAIN 1996 ANNUAL STATE PUBLIC WATER SYSTEMS REPORT

A specific source for obtaining a copy of this report has not been provided. General information on its availability may be obtained from: Water Utilities Division, Texas Natural Resource Conservation Commission, P.O. Box 13087, Austin, TX 78711-3087, phone (512) 239-6020.

State of Utah 1996 Annual State Public Water Systems Report

VIOLATIONS FOR 1996

Violations Category	MCL		Treatment Technique		Significant Monitoring	
	Violations	Systems in Violation	Violations	Systems in Violation	Violations	Systems in Violation
Chemical Contaminant Group ¹	<u>0</u>	<u>0</u>			<u>1,206</u>	<u>113</u>
Total Coliform Rule	<u>97</u>	<u>72</u>			<u>285</u>	<u>213</u>
Surface Water Treatment Rule			<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Lead and Copper Rule			<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>

¹The Chemical Contaminant Group includes MCL violations and significant monitoring violations for organic, inorganic, total trihalomethane (TTHM), nitrate and nitrite, and radionuclide contaminants.

Data from SDWIS/FED have been included and underlined where the State data were not available.

Shaded areas of this chart are not applicable.

1996 TOTALS

Total Number of Regulated Systems	963
Total Number of Systems in Violation	<u>338</u>
Total Number of Violations	<u>1,588</u>

1996 VARIANCES AND EXEMPTIONS

No information was provided on variances or exemptions during the 1996 calendar year for Utah PWSs. SDWIS/FED did not report any variance or exemption violations.

DISCUSSION

The data table provided did not provide violations or system data; therefore, SDWIS/FED data were used.

This page provides a summary of the data reported by the State of Utah. EPA has not interpreted the information provided and is not commenting on whether the State of Utah has fully reported all violations.

WHERE TO OBTAIN 1996 ANNUAL STATE PUBLIC WATER SYSTEMS REPORT

Utah's State Report is available by contacting the State at Utah Division of Drinking Water, P.O. Box 144830, Salt Lake City, UT 84114-4830, Attention: Ken Bousfield, phone (801) 536-4207.

State of Vermont 1996 Annual State Public Water Systems Report

VIOLATIONS FOR 1996

Violations Category	MCL		Treatment Technique		Significant Monitoring	
	Violations	Systems in Violation	Violations	Systems in Violation	Violations	Systems in Violation
Chemical Contaminant Group ¹	6	6			126	117
Total Coliform Rule	133	88			237	145
Surface Water Treatment Rule			20	20	0	0
Lead and Copper Rule			3	3	109	109

¹The Chemical Contaminant Group includes MCL violations and significant monitoring violations for organic, inorganic, total trihalomethane (TTHM), nitrate and nitrite, and radionuclide contaminants.

Shaded areas of this chart are not applicable.

1996 TOTALS

Total Number of Regulated Systems	1,270
Total Number of Systems in Violation	488
Total Number of Violations	634

1996 VARIANCES AND EXEMPTIONS

No variances or exemptions have been granted to any Vermont PWSs.

DISCUSSION

General PWS inventory information is provided in Vermont's report.

This page provides a summary of the data reported by the State of Vermont. EPA has not

interpreted the information provided and is not commenting on whether the State of Vermont has fully reported all violations.

WHERE TO OBTAIN 1996 ANNUAL STATE PUBLIC WATER SYSTEMS REPORT

Vermont's State Report is available by contacting the State at Water Supply Division, 103 S. Main St, Waterbury, VT 05671-0403, phone (802) 241-3400.

Virgin Islands 1996 Annual Public Water Systems Report

VIOLATIONS FOR 1996

Violations Category	MCL		Treatment Technique		Significant Monitoring	
	Violations	Systems in Violation	Violations	Systems in Violation	Violations	Systems in Violation
Chemical Contaminant Group ¹	0	0			0	0
Total Coliform Rule	106	88*			110	54*
Surface Water Treatment Rule			0	0	0	0
Lead and Copper Rule			0	0	0	0

¹The Chemical Contaminant Group includes MCL violations and significant monitoring violations for organic, inorganic, total trihalomethane (TTHM), nitrate and nitrite, and radionuclide contaminants.

*There were 12 PWSs which had both MCL violations and monitoring violations in 1996.

Shaded areas of this chart are not applicable.

1996 TOTALS

Total Number of Regulated Systems	<u>305</u>
Total Number of Systems in Violation	130*
Total Number of Violations	216

*Sum of State systems in violation potentially contains double counting.

Data from SDWIS/FED have been included and underlined where data from the Virgin Islands were not available.

1996 VARIANCES AND EXEMPTIONS

No variances or exemptions have been granted to any PWSs in the Virgin Islands.

DISCUSSION

A table of data for drinking water violations during 1996 was provided and is summarized above. Approximately 8.75% of PWSs in violation were for not monitoring for biological contaminants (total coliform) or for failing to properly report their monitoring data. Approximately 14% of the PWSs in the Virgin Islands had at least one month during 1996 in which they had at least two water samples test positive for total coliform.

This page provides a summary of the data reported by the Virgin Islands. EPA has not interpreted the information provided and is not commenting on whether the Virgin Islands has fully reported all violations.

WHERE TO OBTAIN 1996 ANNUAL PUBLIC WATER SYSTEMS REPORT

The Virgin Islands Report can be obtained by contacting Austin Moorehead, Director, Division of Environmental Protection, Virgin Islands Department of Planning and Natural Resources, Building 111, Apartment 114, Watergut Homes, Christiansted, St. Croix, USVI, 00820, phone (340) 775-0565.

State of Virginia 1996 Annual State Public Water Systems Report

VIOLATIONS FOR 1996

Violations Category	MCL		Treatment Technique		Significant Monitoring	
	Violations	Systems in Violation	Violations	Systems in Violation	Violations	Systems in Violation
Chemical Contaminant Group ¹	18	<u>11</u>			23	<u>21</u>
Total Coliform Rule	197	166			519	311
Surface Water Treatment Rule			4	4	0	0
Lead and Copper Rule			0	0	59	220*

¹The Chemical Contaminant Group includes MCL violations and significant monitoring violations for organic, inorganic, total trihalomethane (TTHM), nitrate and nitrite, and radionuclide contaminants.

Data from SDWIS/FED have been included and underlined where the State data were not available.

Shaded areas of this chart are not applicable.

*Includes 161 systems with significant noncompliance determinations due in 1996.

1996 TOTALS

Total Number of Regulated Systems	<u>4,241</u>
Total Number of Systems in Violation	733*
Total Number of Violations	820

*Sum of State systems in violation potentially contains double counting.

1996 VARIANCES AND EXEMPTIONS

No information was provided on any variances or exemptions granted to any Virginia PWSs during the 1996 calendar year. SDWIS/FED did not report any variance or exemption violations.

DISCUSSION

Basic information on Virginia PWSs is provided in the State report. A summary of compliance assistance activity is also provided. There were 8,018 technical assistance contacts made during the 1996 calendar year.

This page provides a summary of the data reported by the State of Virginia. EPA has not interpreted the information provided and is not commenting on whether the State of Virginia has fully reported all violations.

WHERE TO OBTAIN 1996 ANNUAL STATE PUBLIC WATER SYSTEMS REPORT

Virginia's State Report is available by accessing the State's Web site at <http://www.vdh.state.va.us> or by contacting any of the State's following six field offices: Office of Water Programs, Abingdon Field Office – Field 1, 454 East Main Street, Abingdon, VA 24210, phone (540) 676-5650 and fax (540) 676-5659; Office of Water Programs, Lexington Field Office – Field 2, 131 Walker Street, Lexington, VA 24450, phone (540) 463-7136 and fax (540) 463-3892; Office of Water Programs, Southeast Virginia Field Office – Field 3, 5700 Thurston Avenue - Suite 203, Virginia Beach, VA 23455, phone (757) 363-3876 and fax (757) 363-3955; Office of Water Programs, East Central Field Office – Field 4, 300 Turner Road, Richmond, VA 23225, phone (804) 674-2880 and fax (804) 674-2815; Office of Water Programs, Danville Field Office – Field 5, 1347 Piney Forest Road, Danville, VA 24540, phone (804) 836-8416 and fax (804) 836-8424; Office of Water Programs, Culpeper Field Office – Field 6, 400 South Main Street – 2nd Floor, Culpeper, VA 22701-3318, phone (540) 829-7340 and fax (540) 829-7337.

State of Washington 1996 Annual State Public Water Systems Report

VIOLATIONS FOR 1996

Violations Category	MCL		Treatment Technique		Significant Monitoring	
	Violations	Systems in Violation	Violations	Systems in Violation	Violations	Systems in Violation
Chemical Contaminant Group ¹	<u>0</u>	<u>0</u>			<u>0</u>	<u>0</u>
Total Coliform Rule	745	501			1,281	1,281
Surface Water Treatment Rule			<u>239</u>	62	<u>54</u>	13
Lead and Copper Rule			3	3	<u>0</u>	<u>0</u>

¹The Chemical Contaminant Group includes MCL violations and significant monitoring violations for organic, inorganic, total trihalomethane (TTHM), nitrate and nitrite, and radionuclide contaminants.

Data from SDWIS/FED have been included and underlined where the State data were not available.

Shaded areas of this chart are not applicable.

1996 TOTALS

Total Number of Regulated Systems	4,184
Total Number of Systems in Violation	1,254
Total Number of Violations	2,322

1996 VARIANCES AND EXEMPTIONS

No variances or exemptions have been issued to any PWSs in Washington.

DISCUSSION

A table of State data for drinking water violations was provided and is summarized above. The report referenced a 1996 study of the State information management system which found it to be inadequate to respond to the requirements of the 1996 Amendments. Only 50% of Washington's program information management needs were being supported by data systems. A multi year program was initiated in 1997 to redesign the entire data structure.

This page provides a summary of the data reported by the State of Washington. EPA has not interpreted the information provided and is not commenting on whether the State of Washington has fully reported all violations.

WHERE TO OBTAIN 1996 ANNUAL STATE PUBLIC WATER SYSTEMS REPORT

Washington's State Report is available by accessing the State's Web site at <http://www.doh.wa.gov/ehp/dw/> or by contacting the State at Division of Drinking Water, P.O. Box 47822, Olympia, WA 98504-7822.

State of West Virginia 1996 Annual State Public Water Systems Report

VIOLATIONS FOR 1996

Violations Category	MCL		Treatment Technique		Significant Monitoring	
	Violations	Systems in Violation	Violations	Systems in Violation	Violations	Systems in Violation
Chemical Contaminant Group ¹	0	0			1,969	<u>398</u>
Total Coliform Rule	121	110*			646	452
Surface Water Treatment Rule			38	19	0	0
Lead and Copper Rule			0	0	3	288**

¹The Chemical Contaminant Group includes MCL violations and significant monitoring violations for organic, inorganic, total trihalomethane (TTHM), nitrate and nitrite, and radionuclide contaminants.

*Sum of acute (76) and non-acute (34) MCL.

**Sum of initial lead and copper tap monitoring and reporting (285) and follow-up or routine lead and copper tap monitoring and reporting (3).

Data from SDWIS/FED have been included and underlined where the State data were not available.

Shaded areas of this chart are not applicable.

1996 TOTALS

Total Number of Regulated Systems	<u>1,374</u>
Total Number of Systems in Violation	1,267*
Total Number of Violations	2,777

*Sum of State systems in violation potentially contains double counting.

1996 VARIANCES AND EXEMPTIONS

No information was provided on variances or exemptions granted to any West Virginia PWSs during the 1996 calendar year. SDWIS/FED did not report any variance or exemption violations.

DISCUSSION

A summary table of State data for drinking water violations during 1996 was provided and is summarized above.

This page provides a summary of the data reported by the State of West Virginia. EPA has

not interpreted the information provided and is not commenting on whether the State of West Virginia has fully reported all violations.

WHERE TO OBTAIN 1996 ANNUAL STATE PUBLIC WATER SYSTEMS REPORTS

A specific source for obtaining a copy of this report has not been provided. General information may be obtained from: Environmental Engineering Division, Office of Environmental Health Services, Bureau of Public Health, 815 Quarrier Street, Suite 401, Charleston, WV 25301, phone (304) 558-2981.

State of Wisconsin 1996 Annual State Public Water Systems Report

VIOLATIONS FOR 1996

Violations Category	MCL		Treatment Technique		Significant Monitoring	
	Violations	Systems in Violation	Violations	Systems in Violation	Violations	Systems in Violation
Chemical Contaminant Group ¹	27	27			4,352	1,014
Total Coliform Rule	720	610			1,005	939
Surface Water Treatment Rule			0	0	0	0
Lead and Copper Rule			4	4	169	168

¹The Chemical Contaminant Group includes MCL violations and significant monitoring violations for organic, inorganic, total trihalomethane (TTHM), nitrate and nitrite, and radionuclide contaminants.

Shaded areas of this chart are not applicable.

1996 TOTALS

Total Number of Regulated Systems	11,895*
Total Number of Systems in Violation	2,762
Total Number of Violations	6,277

*1998 data, no historical data was available.

1996 VARIANCES AND EXEMPTIONS

Wisconsin did not grant variances or exemptions in 1996.

DISCUSSION

General PWS inventory information is provided in Wisconsin's report. Approximately 95% of the PWSs in Wisconsin were in compliance with monitoring requirements. The three main reasons for systems' noncompliance were lack of training or understanding the SDWA requirements, operator turnover, and cost of monitoring. Wisconsin's Department of Natural Resources is addressing these issues through development of operator certification and capacity programs. Over 96% of the people served by PWSs in Wisconsin received drinking water

within the SDWA limits. Most MCL violations were associated with potential bacterial contamination which are short-term in nature and resolved quickly.

This page provides a summary of the data reported by the State of Wisconsin. EPA has not interpreted the information provided and is not commenting on whether the State of Wisconsin has fully reported all violations.

WHERE TO OBTAIN 1996 ANNUAL STATE PUBLIC WATER SYSTEMS REPORT

Wisconsin's State Report is available by contacting the State at Wisconsin Department of Natural Resources, P.O. Box 7921, Madison, WI 53707, Attention: Jim Zellmer - DG/2, phone (608) 267-7581, zellmj@dnr.state.wi.us (electronic mail).

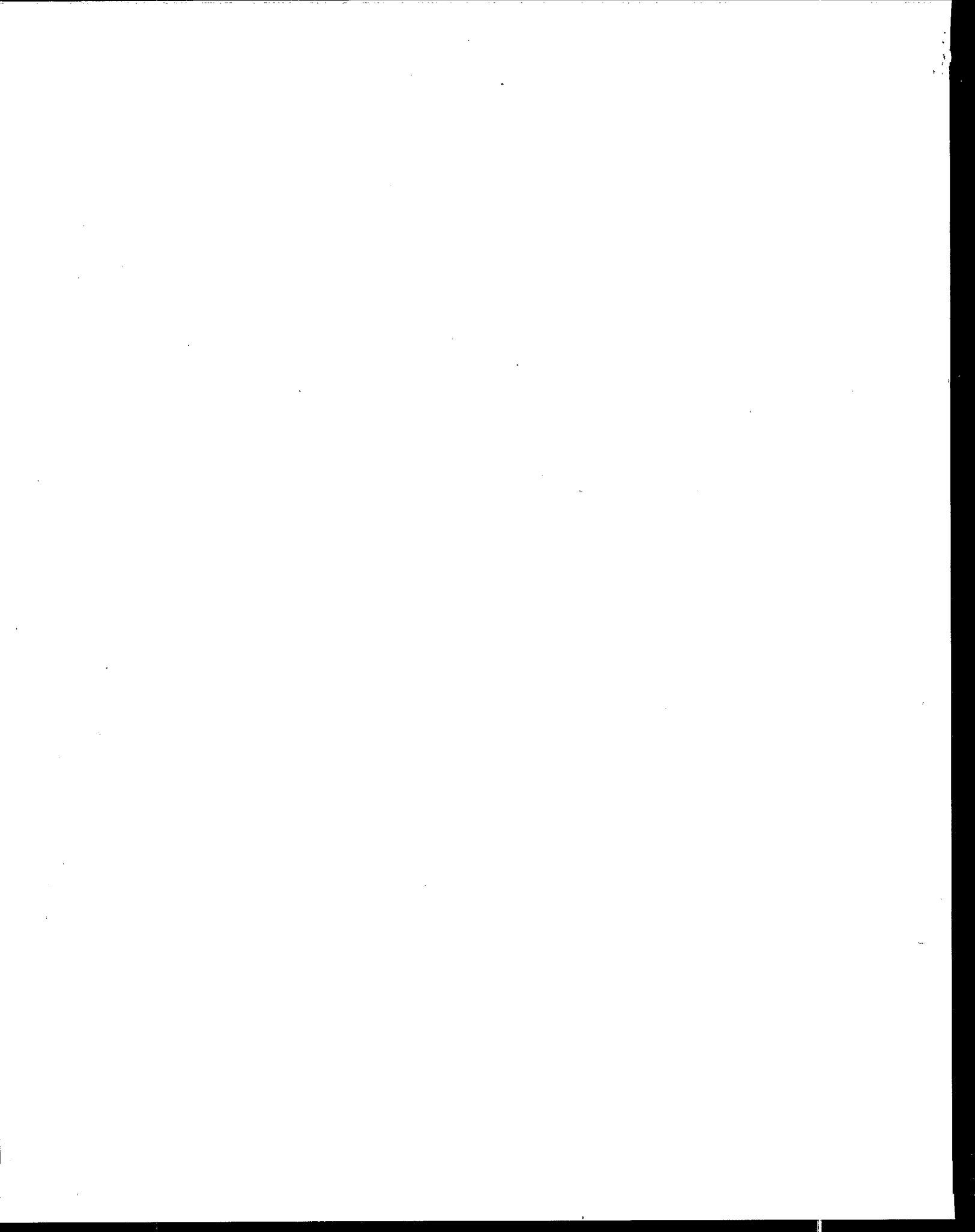
State of Wyoming 1996 Annual State Public Water Systems Report

VIOLATIONS FOR 1996

Violations Category	MCL		Treatment Technique		Significant Monitoring	
	Violations	Systems in Violation	Violations	Systems in Violation	Violations	Systems in Violation
Chemical Contaminant Group ¹	0	0			440	146
Total Coliform Rule	51	51			244	187
Surface Water Treatment Rule			7	4	0	0
Lead and Copper Rule			0	0	55	55

¹The Chemical Contaminant Group includes MCL violations and significant monitoring violations for organic, inorganic, total trihalomethane (TTHM), nitrate and nitrite, and radionuclide contaminants.

Shaded areas of this chart are not applicable.





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