ANNUAL COMPLIANCE REPORT
of
SOUTH DAKOTA PUBLIC WATER SYSTEM VIOLATIONS

for the period
January - December 1997

INTRODUCTION

This annual Compliance Report has been developed to meet the requirements of section 1414 of the 1996 Amendments to the Safe Drinking Water Act. The time period covered in this report is January 1, 1997, through December 31, 1997. A copy of this report is being made available to the public.

Protecting Drinking Water in South Dakota

The U.S. Environmental Protection Agency (EPA) established a public drinking water system program under the authority of the 1974 Safe Drinking Water Act. The Safe Drinking Water Act allows states to seek EPA approval to administer their own public drinking water program. The authority to run a public drinking water system program is called primacy, a short term for primary enforcement responsibility. To receive primacy, states must meet certain requirements, including the adoption of drinking water regulations that are at least as stringent as the federal regulations and a demonstration that the state can enforce the program requirements. South Dakota met the requirements and was granted primacy by EPA in 1984.

Under the Safe Drinking Water Act and the 1986 Amendments to the Safe Drinking Water Act, both the state and EPA set limits on contaminant levels in drinking water to ensure that the water is safe for human consumption. These limits are known as drinking water standards. For some regulations, a treatment technique is established in place of a drinking water standard to control unacceptable levels of contaminants in drinking water. The state and EPA also regulate how often public water systems monitor their water for contaminants. Generally, the larger the population served by a drinking water system, the more frequent the monitoring and reporting requirements. In addition to monitoring for regulated contaminants, public water systems are also required to monitor for unregulated contaminants to provide data for future regulatory development. Finally, the state and EPA require public water systems to notify their consumers

Glossary of Terms

Filtered Systems: Water systems that have installed filtration treatment.

Inorganic Chemicals (IOCs): Non-carbon based compounds such as metals, nitrate, and asbestos. These contaminants are naturally occurring in some water, but can get into water through chemical manufacturing, farming, and other man-made pollution sources.

Lead and Copper Rule: This rule established national limits on lead and copper in drinking water. Lead and copper corrosion poses various health risks when ingested at any level and can enter drinking water from household pipes and plumbing fixtures.

Initial lead and copper tap M/R (monitoring/reporting): A violation where a system did not meet initial lead and copper testing requirements, or failed to report the results of those tests to the state.

Follow-up or routine lead and copper tap M/R: A violation where a system did not meet follow-up or routine lead and copper tap testing requirements, or failed to report the results.

Treatment installation: Violations for failing to install optimal corrosion control treatment or source water treatment which would reduce lead and copper levels in water at the tap.

Public Education: A violation where a system did not provide required public education about reducing or avoiding lead intake from water.

Monitoring: EPA and the state specify what tests a water system must collect samples for and the frequency of that sample collection. A water system that does not collect the proper types of samples or does not follow the frequency schedule is in violation.

Organic Contaminants: Carbon-based compounds, such as industrial solvents and pesticides. This category includes both synthetic organic chemicals (SOCs) and volatile organic chemicals (VOCs). The contaminants generally get into water by discharge from factories and runoff from cropland.

Radionuclides: Radioactive particles that can occur naturally in water or result from man-made pollution sources.

Surface Water Treatment Rule: This rule establishes criteria under which water systems supplied by surface water, or ground water under the direct influence of surface water, must filter and disinfect their water. Violations of the Surface Water Treatment Rule are reported for the following four categories:

Monitoring, routine/repeat (for filtered systems): A violation for failing to carry out required tests, or

Total Coliform Rule: This rule establishes regulations for microbiological contaminants in drinking water. These contaminants can cause immediate risks to health. If no samples are collected during the one-month compliance period, a significant monitoring violation occurs.

Acute MCL (maximum contaminant level) violation: A violation where the system found fecal coliform or E. coli, potentially harmful bacteria, in its water, thereby a violation the rule.

Non-acute MCL violation: A violation where the system found total coliform bacteria in samples of its water at a frequency or at a level that violates the rule. For systems collecting fewer than 40 samples per month, more than one positive sample for total coliform is a violation. For systems collecting 40 or more samples per month, if more than 5% of the samples are positive for total coliform there is a violation.

Major routine and follow-up monitoring: A violation where a system did not perform any monitoring.

Treatment Techniques: A treatment process that leads to a reduction in the level of a contaminant sufficient to meet drinking water standards. For purposes of this report, treatment techniques are specified for the Surface Water Treatment Rule to reduce or remove contaminants that cannot be feasibly or economically measured in a laboratory and for the Lead and Copper Rule to remove or reduce the corrosivity of the drinking water.

Unfiltered Systems: Water systems that do not need to filter their water before disinfecting it because the source is very clean.

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

The Drinking Water Program: An Overview

Public Water System

A public water system is defined as a water system that provides water via piping or other constructed conveyances for human consumption to at least 15 service connections or serves an average of 25 people for at least 60 days each year. There are three types of public water systems - community (towns, housing developments, rural water systems), nontransient noncommunity (schools, day care centers, factories), or transient noncommunity systems (rest stops, parks, or campgrounds). In South Dakota, 480 systems are classified as Community Water Systems, 30 are classified as Nontransient Noncommunity Water Systems, and 246 are classified as Transient Noncommunity Water Systems for a total of 756.

Drinking Water Standard

Under the Safe Drinking Water Act, the state and EPA set limits on the highest amount of contaminant that is allowed in drinking water to ensure that the water is safe for human consumption. These limits are known as drinking water standards.

Treatment Techniques

For some regulations, treatment techniques are established in place of a drinking water standard to control unacceptable levels of certain contaminants. For example, treatment techniques have been established to control viruses, bacteria, and turbidity (cloudiness) in drinking water.

Monitoring

A public water system is required to monitor and verify that the levels of contaminants present in the drinking water do not exceed the drinking water standard. If a public water system fails to have its drinking water tested as required or fails to report test results to the state, a monitoring violation occurs.

Significant Monitoring Violations

For this report, significant monitoring violations are defined as any major monitoring violation that has occurred during the specified report interval. A major monitoring violation (except for the surface water treatment rule) occurs when samples are not taken, or results are not reported during a compliance period. A major surface water treatment rule monitoring/reporting violation occurs when fewer than 10% of the required samples are taken, or results are not reported during a reporting interval. A minor violation occurs when some, but not all, of the required numbers of samples are taken.

Compliance Report Table

The attached compliance report, Table 2, provides a listing of each contaminant regulated under the Safe Drinking Water Act with the corresponding number of drinking water standards, treatment techniques, and significant monitoring violations. Also listed is the number of systems responsible for the violations for each contaminant.

One of the annual compliance report categories to be reported is the number of violations of variances and exemptions. No data is provided for this category because no variances or exemptions have been issued in South Dakota.

Summary of Table Information

The overall quality of drinking water available to South Dakota public water system consumers is good. As indicated in Table 1, there were no violations of organic chemical standards and only a few violations of other chemical standards. Approximately 90% of the public water systems were in compliance with the drinking water standards for total coliform during 1997.

Information on the table shows there were no organic chemical violations. South Dakota is not an industrial state, so not finding organic chemicals, especially those associated with solvent use, is not surprising. Agriculture is a principal part of the South Dakota economy. Having no pesticide violations indicates the use of properly constructed public drinking water wells, and good chemical and land use management practices by farmers and ranchers that minimizes impacts to sources of drinking water used by public water systems.

The table indicates there were radionuclide violations during 1997. The majority of the systems in violation are at or near the drinking water standard for combined radium. No enforcement action has been taken against any of these systems because EPA is working on new radionuclide rules. The status of compliance will be determined when EPA completes its new rules.

As was found in the 1996 Annual Compliance Report, the most significant issues found in Table 1 for 1997 are monitoring/reporting and drinking water standard violations of the Total Coliform Rule. Many of the total coliform standard violations are due to sampling error, and many of the monitoring violations are due to unfamiliarity with the proper monitoring process on the part of the operator. One example that results in monitoring violations is when systems fail to collect the required five samples in the month following an unsafe sample the previous month. Another example is when systems fail to submit a sufficient number of repeat samples (follow-up check samples) immediately following an unsafe sample.

There was a gain in the overall percentage of systems with no Total Coliform Rule monitoring/reporting violations from 1996 to 1997. This is most likely due to increased technical assistance by the Department of Environment and Natural Resources, focus on this issue during operator training, and