Drinking Water Branch

ADEM

2000 Annual Report

Public Water System Violations

Introduction

The Safe Drinking Water Act (SDWA) Amendments of 1996 include a provision requiring states to provide an annual report on public water system violations of national drinking water regulations to EPA, and to make a copy of the report available to the public. The 2000 report includes violation data covering January – December 2000.

Limits on Contaminant Levels in Drinking Water

EPA established the Public Water System Supervision (PWSS) Program under the authority of the 1974 Safe Drinking Water Act (SDWA). Under the SDWA and the 1986 Amendments, EPA set national limits on contaminant levels to ensure safe drinking water. These limits are defined as Maximum Contaminant Levels or MCLs. Instead of an MCL for some contaminants, treatment techniques are established to control these levels in drinking water.

A public water system is required to monitor and verify that contaminant levels in the water do not exceed the MCLs. If a system fails to have the water tested as required, a monitoring violation occurs. A monitoring violation also includes failing to report test results correctly or using a laboratory to perform the water analysis that is not certified. Water systems must monitor for contaminants and report results on a timetable established by EPA and ADEM. Generally, the larger the population served by a water system, the more frequent the monitoring requirements. ADEM requires water systems to notify customers by newspaper, public posting or direct mail when MCLs are exceeded or monitoring is not conducted properly. The 1996 Amendments require public notification to include a clear and understandable explanation of the nature of the violation, potential adverse health effects, steps taken by the water system to correct the violation, and possible availability of alternative water sources for use during the violation. In addition, EPA and ADEM require water systems to monitor for unregulated contaminants to provide data as a basis for future regulatory development.

All water systems are required to monitor for various contaminants. Community and non-transient non-community water systems are required to monitor at various frequencies for volatile organic chemicals, synthetic organic chemicals, and bacteriological, inorganic, and radiological contaminants. More than 80 contaminants are regulated. These samples must be analyzed at laboratories that are certified by ADEM. The frequency of

monitoring for chemical contaminants is dependent on the type of contaminant and the level at which it has been detected. Bacteriological monitoring is required monthly with the number of samples dependent on the population served. Chemical monitoring can be very expensive costing as much as $6,000 dollars per year for each sampling point. Transient non-community water systems are required to monitor monthly for bacteriological contaminants and annually for nitrates.

ADEM must submit violation data to EPA on a quarterly basis. This data includes PWS inventory information, enforcement actions taken against violators, exceedance of maximum contaminant levels, monitoring, and treatment technique violations. The annual compliance report that states are required to submit to EPA will provide the total number of violations for four categories. The four categories are MCL violations, treatment technique violations, variances and exemptions, and significant monitoring violations.

Inspections of Public Water Systems

In addition to evaluating water quality through monitoring, the Drinking Water Branch (DWB) conducts annual inspections of all public water systems in the State. During these inspections, water supply, storage, and distribution deficiencies or inadequacies are identified and discussed with water system personnel. Additional items discussed are wellhead protection; development and implementation of Emergency Water Conservation Plans; operator certification; bacteriological, chemical, and lead/copper monitoring; cross connection control; Bacteriological Sampling Plan modifications and updates; anticipated expansions; source water protection and other related subjects.

Another goal of the DWB is to make violation follow-up visits to at least 25% of the systems having an MCL violation during the year. These visits are conducted to determine the cause of the violation and to ensure steps have been taken to prevent future violations. These visits are made within 60 days following the end of the month in which the violation occurred.

Following the inspections, letters are mailed to responsible persons with the water authorities (Water Board Chairpersons, Mayors, Managers, etc.) detailing inspection findings and informing them of any corrective action required. Copies of these inspection letters are also provided to the County Health Departments notifying their Environmentalists of activities related to public water systems. When major water treatment problems or major process needs are identified, subsequent visits to the system are made to determine if appropriate follow-up action has been taken by the water system. Several water system site visits are also made annually to address complaints or to provide other technical assistance requested by the water system through correspondence or by telephone.

Definitions:

Major Surface Water Treatment Rule M/R violation: When fewer than 10% of the required water samples are taken or results are not reported during the reporting interval, a major Surface Water Treatment Rule M/R violation occurs.

Maximum Contaminant Level (MCL): Under the Safe Drinking Water Act, the states and EPA set contaminant levels in drinking water to ensure that the water is safe for human consumption. These limits are called maximum contaminant levels or MCLs.

Minor violation: When some but not all of the required numbers of samples are reported to the agency, a minor monitoring violation occurs.

Public Water System: A system that provides water by piping or other constructed conveyances for human consumption to at least fifteen (15) service connections or regularly serves an average of at least twenty-five (25) individuals at least sixty (60) days out of the year. There are three types of public water systems (PWS). A community water system, such as a town or city, provides water to the same individuals year round. A school or industry is called non-transient non-community water system, and it serves the same individuals for six months out of the year. The rest area or park is called a transient non-community system if it provides water for at least 60 days to at least 25 individuals but not necessarily the same 25 individuals. For this report, public water system (PWS) means all types of systems unless specified as a specific type.

Significant or Major Monitoring violation: For this report, significant monitoring violations are defined as any major monitoring that has occurred during the specified report interval. A major monitoring violation (except the Surface Treatment Rule) occurs when samples were not taken or results are not reported during the compliance period.

Treatment Techniques: For some regulations, the EPA establishes treatment techniques instead of an MCL to control unacceptable levels of certain contaminants. For example, treatment techniques have been established for viruses, bacteria, and turbidity.

Variances and Exemptions: Under the Safe Drinking Water Act Amendments of 1996, variances and exemptions to specific monitoring requirements may be granted under certain circumstances. Alabama does not grant variances or exemptions to water systems.

Violation: A failure to meet any state or federal drinking water regulation results in a violation.

Conclusion

Alabama had 719 active public water systems in 2000. Of the 719 systems, 583 were community systems, 42 were non-transient non-community systems, and 94 were transient non-community systems. Very few systems exceeded the chemical or bacteriological contaminant levels during 2000. The typical system that exceeded a contaminant level is either a small transient non-community system or a small community system. During this period, 95% met drinking water standards and 85% of the

water systems in Alabama were in compliance with all provisions of federal and state drinking water regulations.

There were no chemical contaminant MCL violations. A total of 32 water systems had significant chemical monitoring violations with a total of 435 chemical monitoring violations. This is an increase in the number of chemical monitoring violations from 1999. However, the number of systems with chemical monitoring violations remained about the same as 1999. This increase in the number of violations can be explained by the fact that more systems failed to monitor for a complete set of volatile organic chemicals or synthetic organic chemicals. There was also a decrease in the number of transient non-community nitrate monitoring violations from 1999. A last minute reminder letter sent to systems that had not submitted their results by early December 2000 may have contributed to this decline. Chemical monitoring requirements are for groups of contaminants, but they are reported as individual violations in the chart. This method for reporting violations individually and not as contaminant group explains the large number of chemical monitoring violations. Alabama also had a total of four water systems with significant violations for lead and copper monitoring. The decrease in lead and copper monitoring violations can be attributed to the fact that the majority of the water systems were not required to monitor for lead and copper in 2000. The majority of these water systems have returned to compliance by collecting the required chemical samples and submitting the results to ADEM.

Three Water Systems (Hartselle Utilities, Lad Marina and Campground, and Peach Queen KOA) incurred acute bacteriological MCL violations. Twenty-nine (29) systems incurred non-acute bacteriological MCL violations during 2000. Thirty-two (32) systems had 37 significant monitoring violations. No water systems incurred more than one MCL violation during 2000. This is a significant decrease in the number of violations from 1999. All water systems with bacteriological MCL violations have returned to compliance and the majority of the systems with monitoring violations have returned to compliance by properly collecting bacteriological samples for six consecutive months.

Chisholm Heights Water and Fire Protection Authority, Curtis Water and Fire Protection Authority, Peterman Water and Fire Protection Authority and Rangeline Utilities incurred violations for failing to submit a consumer confidence report prior to the July 1 deadline.

ADEM takes prompt enforcement action against all water systems with MCL and monitoring violations. When a violation occurs, a system is notified by written correspondence of the violation and the follow-up that is required. If a system fails to return to compliance by collecting required samples, issuing public notification or meeting the MCL for the contaminant, additional written correspondence is sent to the system, a site visit may be made or direct contact by telephone is made with the system. If these steps do not return the system to compliance, then either an administrative order is issued against the system or a compliance meeting with the responsible authority of the system is held at ADEM's office.

A complete list of all public water systems with MCL violations, major monitoring violations, and treatment technique violations is attached. A copy of this report can be obtained by written request to ADEM, Drinking Water Branch, P. O. Box 301463, Montgomery, Alabama 36130-1463 or by e-mail at tsd@adem.state.al.us. The report also can be reviewed at the ADEM field offices in Birmingham, Decatur and Mobile.

Appendix A

Appendix B