1996
SAFE DRINKING WATER ACT VIOLATIONS

SUMMARY REPORT

NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
WATER SUPPLY ELEMENT
BUREAU OF SAFE DRINKING WATER

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Introduction

This annual report is prepared to fulfill one of the new statutory requirements of the 1996 amendments to the Safe Drinking Water Act requiring States to prepare a report on violations of the national primary drinking water regulations by public water systems in the State by January 1, 1998. This first full report covers the period January 1, 1996 through December 31, 1996; a second report will be prepared by July 1, 1998 covering the period January 1, 1997 through December 31, 1997. This full report will be made available to the public and allows all citizens in the State of New Jersey to have greater access to drinking water quality information for the State in a nationally standardized format. The information in this report is for violations of (I) maximum contaminant levels, (II) treatment requirements, (III) variances and exemptions, and (IV) monitoring requirements determined to be significant by the Administrator (of EPA) after consultation with the States. Each state is required to publish and distribute a summary report that indicates where this full report is available for review. The statutory language is presented in Appendix A.

In New Jersey, copies of this full report for the period January 1, 1996 through December 31, 1996 will be sent to the state library for distribution through its system, and to the county and local health officers.

The Drinking Water Program: An Overview

The 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 sets national limits on contaminant levels in drinking water to ensure that drinking water is safe for human consumption. These limits are known as Maximum Contaminant Levels (MCLs). For some regulations, EPA establishes treatment techniques in lieu of an MCL to control unacceptable levels of contaminants in water. The Agency also regulates how often public water systems (PWSs) monitor their water for contaminants and report the monitoring results to the States or EPA. Generally, the larger the population served by a water system, the more frequent the monitoring and reporting (M/R) requirements. In addition, EPA requires PWSs to monitor for unregulated contaminants to provide data for future regulatory development. Finally, EPA requires PWSs to notify the public when they have violated these regulations. The 1996 Amendments to the SDWA require public notification to include a clear and understandable explanation of the nature of the violation, its potential adverse health effects, steps that the PWS is undertaking to correct the violation and the possibility of alternative water supplies during the violation.

The SDWA allows States and Territories to seek EPA approval to administer their own PWSS Programs. The authority to run a PWSS Program is called primacy. To receive primacy, States must meet certain requirements laid out in the SDWA and the regulations, including the adoption of drinking water regulations that are at least as stringent as the Federal regulations and a demonstration that they can enforce the program requirements. Of the 57 States and

Territories, all but Wyoming and the District of Columbia have primacy. The EPA Regional Offices administer the PWSS Programs within these two jurisdictions.

The Bureau of Safe Drinking Water of the New Jersey Department of Environmental Protection (NJDEP) has principal responsibility for the programs and activities under the Federal Safe Drinking Water Act and the New Jersey Safe Drinking Water Act to assure safe drinking water for both the citizens of New Jersey and visitors.

Annual State PWS Reports

Primacy States submit data to the Safe Drinking Water Information System (SDWIS/FED) on a quarterly basis. Data include PWS inventory statistics, the incidence of Maximum Contaminant Level, Major Monitoring, and Treatment Technique violations, and the enforcement actions taken against violators. The annual compliance summary report that States are required to submit to EPA will provide a total annual representation of the numbers of violations for each of the four categories listed in section 1414(c)(3) of the Safe Drinking Water Act reauthorization. These four categories are: MCLs, treatment techniques, variances and exemptions, and significant monitoring violations. States are also required to make available a full report of all violations indicating the names of the systems with violations. The EPA Regional Offices report the information for Wyoming, the District of Columbia, and all Indian Lands. Regional offices also report Federal enforcement actions taken. EPA stores this data in an automated database called the Safe Drinking Water Information System (SDWIS). These reports are based largely on data retrieved from the federal version of the Safe Drinking Water Information System (SDWIS/FED).

Public Water System

A Public Water System (PWS) is defined as a system that provides water via piping or other constructed conveyances for human consumption to at least 15 service connections or serves an average of at least 25 people for at least 60 days each year. There are three types of PWSs. PWSs can be community (such as towns), nontransient noncommunity (such as schools or factories), or transient noncommunity systems (such as rest stops or parks). For this report when the acronym "PWS" is used, it means systems of all types unless specified in greater detail.

At the end of 1996, New Jersey listed 4,740 public water systems in its inventory. These included 612 community, 1,038 nontransient noncommunity and 3,090 transient noncommunity water systems. The numbers of systems constantly changes due to mergers, opening and closing of businesses, hookups with community water systems or a change in use that results in fewer than 25 people being served.

Maximum Contaminant Level

Under the Safe Drinking Water Act (SDWA), the EPA sets national limits on contaminant levels in drinking water to ensure that the water is safe for human consumption. These limits are

known as Maximum Contaminant Levels (MCLs). The regulated contaminants and their respective federal MCLs are listed in Table 1.

New Jersey drinking water standards are equal to or more stringent than federal standards. There are five additional volatile organic compounds regulated as primary contaminants by New Jersey that are not federally regulated. These contaminants are listed in Table 2. As well, there are 12 regulated volatile organic compounds listed in Table 3 with New Jersey MCLs that are more stringent than the federal MCLs. The remaining nine regulated volatile organic compounds share the same MCL, federal or state.

Treatment Techniques

For some regulations, the EPA establishes treatment techniques (TTs) in lieu 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

Variances and exemptions to specific requirements under the Safe Drinking Water Act Amendments of 1996 may be granted under certain circumstances. If, due to the characteristics of the raw water sources reasonably available, a PWS cannot meet the MCL, a primacy State can grant the PWS a variance from the applicable primary drinking water regulation on the condition that the system install the best available technology, treatment techniques, or other means which the Administrator finds are available (taking costs into account). The state must find that the variance will not result in an unreasonable risk to health, and shall prescribe, at the time the variance is granted, a schedule (including increments of progress) in accordance with which the PWS must come into compliance with the MCL. Small systems (serving 3,300 or fewer persons; or 10,000 or fewer persons with the Administrator's approval) may be granted variances if they cannot afford (as determined by application of the Administrator's affordability criteria) to comply with certain MCLs (non-microbial, promulgated after January 1, 1986) by means of treatment, alternative source of water, or restructuring or consolidation. Small systems must, within 3 years, install and operate EPA approved small system variance technology. The variance must ensure adequate protection of human health, and the variance shall be reviewed not less than every 5 years to determine whether the system remains eligible for the variance. A primacy State may by exemption relieve a PWS of its obligation to comply with an MCL, treatment technique, or both if the system's noncompliance results from compelling factors (which may include economic factors, the system was in operation on the effective date of the MCL or treatment technique requirement) or if not in operation by that date, only if no reasonable alternative source of drinking water is available to such new systems, management or restructuring changes cannot reasonably be made that will result in compliance with the SDWA or improvement of water quality, and the exemption will not result in an unreasonable risk to public health. The State will require the PWS to comply with the MCL or treatment technique as expeditiously as practicable, but not later than 3 years after the otherwise applicable compliance date.

The Bureau of Safe Drinking Water has never issued any variances or exemptions.

Monitoring

A PWS is required to monitor and verify that the levels of contaminants present in the water do not exceed the MCL. If a PWS fails to have its water tested as required, then a monitoring violation occurs. A monitoring violation also includes failure to report test results correctly to the primacy agent.

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 no samples were taken or no results are reported during a compliance period. A major Surface Water Treatment Rule M/R violation occurs when fewer than 10% of the required samples are taken or no results are reported during a reporting interval. A minor violation occurs when some but not all of the required numbers of samples are taken.

New Jersey's public water systems were required to monitor drinking water quality according to federal regulations (40 CFR Part 141) and New Jersey regulations (N.J.A.C. 7:10-1 et seq.).

Test results are reported by public water systems to the Bureau of Safe Drinking Water for compliance determination with reporting requirements and the drinking water standards. Maximum contaminant levels, or MCLs, are drinking water standards developed by either the EPA or NJDEP that are protective of health from ingested drinking water. Major categories of contaminants monitored in public community drinking water supplies are microbiological, inorganic chemicals including lead and copper, volatile organic chemicals, pesticides, radionuclides, turbidity and total trihalomethanes (disinfection by-products).

Conclusions

A summary of drinking water MCL violations, treatment technique violations and significant monitoring/reporting violations for New Jersey in 1996 is presented in Table 1. Individual water system MCL violation data for community and noncommunity water systems are presented in Appendices B and C, respectively.

In many respects, the number of violations for 1996 is similar to the number of violations for previous years. There is measurable improvement in the number of total coliform and nitrate monitoring and reporting violations (M&R) for noncommunity water systems. Lead and copper monitoring in small systems, a relatively new and complex monitoring requirement that has been phased in since 1993 resulted in significant numbers of both monitoring violations and action level exceedences in 1996. All MCL violations have either returned to compliance or are in some stage

of enforcement. Following is an analysis based on each contaminant group violations.

Microbiological

Total Coliform Rule:

Microbiological quality as measured by the total coliform test continues to yield excellent results for the monitoring performed in 1996. Only 112 (2.4%) of the 4,740 public water systems (PWS) had an MCL violation. Of 21,051 total coliform test result summary reports sent to the Department of Environmental Protection (DEP), which summarize the results of between one and several hundred microbiological samples taken from each public water system either monthly or quarterly, there were only 174 (0.8 %) MCL violations. Therefore, 99.2 % of the time that public water systems sampled, the results were within standards. These data are comparable to microbiological compliance results from 1995.

Monitoring compliance continues to improve, but is still not as good as those states that provide the monitoring services for the water systems. Out of 4,740 PWS, 1,384 (29%) missed sampling at least once during 1996, and 2,805 (11.7%) out of 23,856 total coliform test result summary reports were missed. This shows a decrease in monitoring violations compared to previous years. The improvement comes from both the continued consolidation of small community systems and increased contact with noncommunity systems.

Surface Water Treatment Rule:

Compliance with this rule remains high. The only unfiltered surface water treatment plant in the state accounts for 12 of the 15 violations. The community water system that uses this plant recently signed a consent agreement to built a new treatment plant.

Organic Chemicals

Volatile Organic Chemicals (VOCs) Rule:

Compliance with New Jersey's stringent MCLs for VOCs has leveled off with a very high compliance rate with the MCL's. Only 27 systems (1.6 %) out of 1,650 community and nontransient noncommunity water systems had a violation in 1996. The actual number of monitoring violations looks large because each missed sample gets counted as over 20 separate M&R violations for each of the over 20 analytes measured in the method and some systems have many entry points (treatment plants) that need to be monitored. The number of systems, 177 (10%) out of 1,650 that had monitoring violations is similar to previous years.

Synthetic Organic Chemicals (SOCs) Rule:

This group of chemicals, mostly pesticides, benefit from the extensive studies and the monitoring and waiver program that has been developed. In 1996, there were no MCL or

monitoring violations for SOCs.

Total Trihalomethanes:

There were only two community water systems with MCL violations for total trihalomethanes in 1996. Both systems returned to compliance during 1996. Monitoring compliance for total trihalomethanes remains very high: there were only five M&R violations for the 145 systems that were required to submit quarterly monitoring reports. Systems serving either groundwater or surface water to more than 10,000 residents and smaller water systems serving surface water are required to sample.

Inorganic Chemicals (IOCs)

IOC Rule:

Except for nitrate, MCL violations for inorganic chemicals are infrequent. Nitrate MCL violations have grown as the frequency of monitoring changed from once every three years to annually, and the monitoring of noncommunity water systems has improved. Nitrate MCL violations are much more likely to occur in noncommunity water systems than community water systems. In fact, only one community water system had a nitrate MCL violation in 1996. In general, the counties with the greatest number of nitrate violations are the agricultural counties in the southern part of the state. Although the number of systems with nitrate monitoring violations is high, there is an improvement over 1995. The Bureau of Safe Drinking Water will continue these improvements through additional contact with county and local health agencies and the water systems.

Asbestos monitoring was not required in 1996. Results in the prior compliance monitoring period (1993-1995) were excellent with no MCL violations and few monitoring and reporting violations.

Lead and Copper Rule:

The lead and copper rule is unique in that both monitoring and compliance are phased in by system size over a multi year period. All large systems have completed their initial monitoring and treatment optimization studies. Only three of the large systems have not yet completed installation of the recommended corrosion control treatment. All medium sized systems have completed initial monitoring and most of the systems above the action levels have provided treatment or returned to compliance after additional monitoring. There is a decrease in the number of small systems that have not completed initial monitoring. There is a sizeable number of nontransient noncommunity systems that exceeded the action level for either lead, copper, or both that are required to install corrosion control treatment in 1998.

Radiological Rule:

During 1996, there were no radiological MCL violations because this was not a monitoring year for New Jersey. Generally, New Jersey has high compliance with the MCLs and the M&R requirements. There are at least two small community water systems that have had difficulty meeting the radionuclide MCL in past monitoring cycles. The Bureau of Safe Drinking Water anticipates that more systems will exceed the gross alpha MCL in the future because of the new rapid analysis method being performed in New Jersey to detect a previously undetected radiolonuclide (Ra 224) with a short half-life.

In summary, the Bureau of Safe Drinking Water continues to make progress in addressing MCL, treatment technique and monitoring violations. However, there are several areas that still need improvement, with M&R for small water systems requiring the greatest improvement. The Bureau of Safe Drinking Water is formulating capacity development strategies to assist public water systems with a history of significant non-compliance to achieve compliance.

Table 1
Violations Table
(with SDWIS Codes)

State:	New Jersey
Reporting Interval:	January 1, 1996 - December 31, 1996

SDWIS Codes		MCL (mg/ℓ)[1]	MCLs		Treatment Techniques		Significant Monitoring/Reporting	
			Number of Violations	Number of Systems With Violations	Number of Violations	Number of Systems With Violations	Number of Violations	Number of Systems With Violations
	Organic Contaminants							
2981	1,1,1-Trichloroethane	0.2*	1	1			607**	177**
2977	1,1-Dichloroethylene	0.007*	15	5			607**	177**
2985	1,1,2-Trichloroethane	.005*	0	0			606**	176**
2378	1,2,4-Trichlorobenzene	.07*	0	0			606**	176**
2931	1,2-Dibromo-3-chloropropane (DBCP)	0.0002	0	0			0	0
2980	1,2-Dichloroethane	0.005*	3	2			606**	177**
2983	1,2-Dichloropropane	0.005	0	0			606**	176**
2063	2,3,7,8-TCDD (Dioxin)	$3x10^{-8}$	Statewide waiver	Statewide waiver			Statewide waiver	Statewide waiver
2110	2,4,5-TP	0.05	Statewide waiver	Statewide waiver			Statewide waiver	Statewide waiver
2105	2,4-D	0.07	0	0			0	0

State:	New Jersey
Reporting Interval:	January 1, 1996 - December 31, 1996

SDWIS Codes		MCL (mg/ℓ)[1]	MCLs		Treatment Techniques		Significant Monitoring/Reporting	
			Number of Violations	Number of Systems With Violations	Number of Violations	Number of Systems With Violations	Number of Violations	Number of Systems With Violations
2265	Acrylamide				0	0		
2051	Alachlor	0.002	0	0			0	0
2050	Atrazine	0.003	0	0			0	0
2990	Benzene	0.005*	2	1			606**	177**
2306	Benzo[a]pyrene	0.0002	Statewide waiver	Statewide waiver			Statewide waiver	Statewide waiver
2046	Carbofuran	0.04	0	0			0	0
2982	Carbon tetrachloride	0.005*	5	2			606**	177**
2959	Chlordane	0.002*	Statewide waiver	Statewide waiver			Statewide waiver	Statewide waiver
2380	cis-1,2-Dichloroethylene	0.07	0	0			606**	176**
2031	Dalapon	0.2	Statewide waiver	Statewide waiver			Statewide waiver	Statewide waiver
2035	Di(2-ethylhexyl)adipate	0.4	-	-			-	-
2039	Di(2-ethylhexyl)phthalate	0.006	-	-			-	-
2964	Dichloromethane	0.005*	2	2			606**	176**
2041	Dinoseb	0.007	0	0			0	0

State:	New Jersey
Reporting Interval:	January 1, 1996 - December 31, 1996

SDWIS Codes		MCL (mg/ℓ)[1]	MCLs		Treatment Techniques		Significant Monitoring/Reporting	
			Number of Violations	Number of Systems With Violations	Number of Violations	Number of Systems With Violations	Number of Violations	Number of Systems With Violations
2032	Diquat	0.02	Statewide waiver	Statewide waiver			Statewide waiver	Statewide waiver
2033	Endothall	0.1	Statewide waiver	Statewide waiver			Statewide waiver	Statewide waiver
2005	Endrin	0.002	Statewide waiver	Statewide waiver			Statewide waiver	Statewide waiver
2257	Epichlorohydrin				0	0		
2992	Ethylbenzene	0.7	0	0			607**	176**
2946	Ethylene dibromide	0.00005	0	0			0	0
2034	Glyphosate	0.7	Statewide waiver	Statewide waiver			Statewide waiver	Statewide waiver
2065	Heptachlor	0.0004	Statewide waiver	Statewide waiver			Statewide waiver	Statewide waiver
2067	Heptachlor epoxide	0.0002	Statewide waiver	Statewide waiver			Statewide waiver	Statewide waiver
2274	Hexachlorobenzene	0.001	Statewide waiver	Statewide waiver			Statewide waiver	Statewide waiver
2042	Hexachlorocyclopentadiene	0.05	Statewide waiver	Statewide waiver			Statewide waiver	Statewide waiver
2010	Lindane	0.0002	Statewide waiver	Statewide waiver			Statewide waiver	Statewide waiver

State:	New Jersey
Reporting Interval:	January 1, 1996 - December 31, 1996

SDWIS Codes		MCL (mg/ℓ)[1]	MCLs		Treatment Techniques		Significant Monitoring/Reporting	
			Number of Violations	Number of Systems With Violations	Number of Violations	Number of Systems With Violations	Number of Violations	Number of Systems With Violations
2015	Methoxychlor	0.04	Statewide waiver	Statewide waiver			Statewide waiver	Statewide waiver
2989	Monochlorobenzene	0.1	0	0			0	0
2968	o-Dichlorobenzene	0.6	0	0			606**	176**
2969	para-Dichlorobenzene	0.075	0	0			607**	177**
2383	Total polychlorinated biphenyls	0.0005	Statewide waiver	Statewide waiver			Statewide waiver	Statewide waiver
2326	Pentachlorophenol	0.001	0	0			0	0
2987	Tetrachloroethylene	0.005*	38	15			606**	176**
2984	Trichloroethylene	0.005*	27	11			607**	176**
2996	Styrene	0.1	0	0			607**	176**
2991	Toluene	1	0	0			606**	177**
2979	trans-1,2-Dichloroethylene	0.1	0	0			606**	176**
2955	Xylenes (total)	10*	0	0			605**	176**
2020	Toxaphene	0.003	Statewide waiver	Statewide waiver			Statewide waiver	Statewide waiver
2036	Oxamyl (Vydate)	0.2	0	0			0	0
2040	Picloram	0.5	0	0			0	0

State:	New Jersey
Reporting Interval:	January 1, 1996 - December 31, 1996

SDWIS Codes		MCL (mg/ℓ)[1]	MCLs		Treatment Techniques		Significant Monitoring/Reporting	
			Number of Violations	Number of Systems With Violations	Number of Violations	Number of Systems With Violations	Number of Violations	Number of Systems With Violations
2037	Simazine	0.004	0	0			0	0
2976	Vinyl chloride	0.002	0	0			607**	177**
2867	meta-Dichlorobenzene	0.6	0	0			485	151
2978	1,1-Dichloroethane	0.05	Monitoring to begin in 1997	Monitoring to begin in 1997				
2251	Methyl *tertiary*-butyl ether	0.07	Monitoring to begin in 1997	Monitoring to begin in 1997				
2248	Naphthalene	0.3	Monitoring to begin in 1997	Monitoring to begin in 1997				
2988	1,1,2,2-Tetrachloroethane	0.001	Monitoring to begin in 1997	Monitoring to begin in 1997				
2950	Total trihalomethanes	0.10	3	2			5	5

State:	New Jersey
Reporting Interval:	January 1, 1996 - December 31, 1996

SDWIS Codes		MCL (mg/ℓ)[1]	MCLs		Treatment Techniques		Significant Monitoring/Reporting	
			Number of Violations	Number of Systems With Violations	Number of Violations	Number of Systems With Violations	Number of Violations	Number of Systems With Violations
	Inorganic Contaminants							
1074	Antimony	0.006	0	0			26**	16**
1005	Arsenic	0.05	0	0			8**	8**
1094	Asbestos	7 million fibers/ℓ > 10 µm long	0	0			0	0
1010	Barium	2	4	3			27**	12**
1075	Beryllium	0.004	1	1			20**	11**
1015	Cadmium	0.005	4	4			23**	13**
1020	Chromium	0.1	1	1			7**	7**
1024	Cyanide (as free cyanide)	0.2	0	0			8**	2**
1025	Fluoride	4.0	0	0			3**	3**
1035	Mercury	0.002	5	2			28**	15**
1040	Nitrate	10 (as Nitrogen)	41	28			1594**	1269**
1041	Nitrite	1 (as Nitrogen)	0	0			56**	41**
1045	Selenium	0.05	0	0			11**	8**

State:	New Jersey
Reporting Interval:	January 1, 1996 - December 31, 1996

SDWIS Codes		MCL (mg/ℓ)[1]	MCLs		Treatment Techniques		Significant Monitoring/Reporting	
			Number of Violations	Number of Systems With Violations	Number of Violations	Number of Systems With Violations	Number of Violations	Number of Systems With Violations
1085	Thallium	0.002	1	1			20**	12**
1038	Total nitrate and nitrite	10 (as Nitrogen)	(see SDWIS code 1040)	(see SDWIS code 1040)			(see SDWIS code 1040)	(see SDWIS code 1040)
	Radionuclide MCLs							
4000	Gross alpha	15 pCi/ℓ	0	0			0	0
4010	Radium-226 and radium-228	5 pCi/ℓ	2	2			0	0
4101	Gross beta	4 mrem/yr	0	0			0	0
	Subtotal		136	71***			10,809**	4,037**,***

State:	New Jersey
Reporting Interval:	January 1, 1996 - December 31, 1996

SDWIS Codes		MCL (mg/ℓ)[1]	MCLs		Treatment Techniques		Significant Monitoring/Reporting	
			Number of Violations	Number of Systems With Violations	Number of Violations	Number of Systems With Violations	Number of Violations	Number of Systems With Violations
	Total Coliform Rule							
21	Acute MCL violation	Presence	38	35				
22	Non-acute MCL violation	Presence	134	112				
23,25	Major routine and follow up monitoring						2805**	1384**
28	Sanitary survey[2]						0	0
	Subtotal		172	115***			2805**	1384**,***

State:	New Jersey
Reporting Interval:	January 1, 1996 - December 31, 1996

SDWIS Codes		MCL (mg/ℓ)[1]	MCLs		Treatment Techniques		Significant Monitoring/Reporting	
			Number of Violations	Number of Systems With Violations	Number of Violations	Number of Systems With Violations	Number of Violations	Number of Systems With Violations
	Surface Water Treatment Rule							
	Filtered systems							
36	Monitoring, routine/repeat						2	2
41	Treatment techniques				15**	4**		
	Unfiltered systems							
31	Monitoring, routine/repeat						0	0
42	Failure to filter				1	1		
	Subtotal				16**	4**,***	2	2

State:	New Jersey
Reporting Interval:	January 1, 1996 - December 31, 1996

SDWIS Codes		MCL (mg/ℓ)[1]	MCLs		Treatment Techniques		Significant Monitoring/Reporting	
			Number of Violations	Number of Systems With Violations	Number of Violations	Number of Systems With Violations	Number of Violations	Number of Systems With Violations
	Lead and Copper Rule							
51	**Initial lead and copper tap M/R**						80	28
52	**Follow-up or routine lead and copper tap M/R**						0	0
58,62	**Treatment Installation**				3**	3**		
65	**Public education**				0	0		
	Subtotal				3**	3**	80	28

1. Values are in milligrams per liter (mg/ℓ), unless otherwise specified.
2. Number of major monitoring violations for sanitary survey under the Total Coliform Rule.

* See Tables 2 and 3. Some New Jersey drinking water standards are more stringent than the federal drinking water standards. The MCL violations are based on New Jersey drinking water standards.

** The monitoring and reporting violations have not been individually verified.

*** The value for the "Number of Systems with Violations" may be less than the sum of the systems because those systems with multiple violations were counted only once. Also, the actual number of monitoring violations looks large because each missed sample gets counted as over 20 M&R violations for each of the over 20 analytes measured in the method.

Definitions for Violations Table

The following definitions apply to the Summary of Violations table.

Filtered Systems: Water systems that have installed filtration treatment [40 CFR 141, Subpart H].

Inorganic Contaminants: Non-carbon-based compounds such as metals, nitrates, and asbestos. These contaminants are naturally-occurring in some water, but can get into water through farming, chemical manufacturing, and other human activities. EPA has established MCLs for 15 inorganic contaminants [40 CFR 141.62].

Lead and Copper Rule: This rule established national limits on lead and copper in drinking water [40 CFR 141.80-91]. Lead and copper corrosion pose various health risks when ingested at any level, and can enter drinking water from household pipes and plumbing fixtures. States report violations of the Lead and Copper Rule in the following six categories:

Initial lead and copper tap M/R: SDWIS Violation Code 51 indicates that 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: SDWIS Violation Code 52 indicates that a system did not meet follow-up or routine lead and copper tap testing requirements, or failed to report the results.

Treatment installation: SDWIS Violation Codes 58 AND 62 indicate a failure to install optimal corrosion control treatment system (58) or source water treatment system (62) which would reduce lead and copper levels in water at the tap. [One number is to be reported for the sum of violations in these two categories].

Public education: SDWIS Violation Code 65 shows that a system did not provide required public education about reducing or avoiding lead intake from water.

Maximum Contaminant Level (MCL): The highest amount of a contaminant that EPA allows in drinking water. MCLs ensure that drinking water does not pose either a short-term or long-term health risk. MCLs are defined in milligrams per liter (parts per million) unless otherwise specified.

Monitoring: EPA specifies which water testing methods the water systems must use, and sets schedules for the frequency of testing. A water system that does not follow EPA's schedule or methodology is in violation [40 CFR 141].

States must report monitoring violations that are significant as determined by the EPA Administrator and in consultation with the States. For purposes of this report, significant monitoring violations are major violations and they occur when no samples are taken or no results are reported during a

compliance period. A major monitoring violation for the surface water treatment rule occurs when at least 90% of the required samples are not taken or results are not reported during the compliance period.

Organic Contaminants: Carbon-based compounds, such as industrial solvents and pesticides. These contaminants generally get into water through runoff from cropland or discharge from factories. EPA has set legal limits on 54 organic contaminants that are to be reported [40 CFR 141.61].

Radionuclides: Radioactive particles which can occur naturally in water or result from human activity. EPA has set legal limits on four types of radionuclides: radium-226, radium-228, gross alpha, and beta particle/photon radioactivity [40 CFR 141]. Violations for these contaminants are to be reported using the following three categories:

Gross alpha: SDWIS Contaminant Code 4000 for alpha radiation above MCL of 15 picocuries/liter. Gross alpha includes radium-226 but excludes radon and uranium.

Combined radium-226 and radium-228: SDWIS Contaminant Code 4010 for combined radiation from these two isotopes above MCL of 5 pCi/L.

Gross beta: SDWIS Contaminant Code 4101 for beta particle and photon radioactivity from man-made radionuclides above 4 millirem/year.

Reporting Interval: The reporting interval for violations to be included in the first PWS Annual Compliance Report, which is to be submitted to EPA by January 1, 1998, is from July 1, 1996 through June 30, 1997. This interval will change for future annual reports. See guidance language for these intervals.

SDWIS Code: Specific numeric codes from the Safe Drinking Water Information System (SDWIS) have been assigned to each violation type included in this report. The violations to be reported include exceeding contaminant MCLs, failure to comply with treatment requirements, and failure to meet monitoring and reporting requirements. Four-digit SDWIS Contaminant Codes have also been included in the chart for specific MCL contaminants.

Surface Water Treatment Rule: The Surface Water Treatment Rule establishes criteria under which water systems supplied by surface water sources, or ground water sources under the direct influence of surface water, must filter and disinfect their water [40 CFR 141, Subpart H]. Violations of the "Surface Water Treatment Rule" are to be reported for the following four categories:

Monitoring, routine/repeat (for filtered systems): SDWIS Violation Code 36 indicates a system's failure to carry out required tests, or to report the results of those tests.

Treatment techniques (for filtered systems): SDWIS Violation Code 41 shows a system's failure to properly treat its water.

Monitoring, routine/repeat (for unfiltered systems): SDWIS Violation Code 31 indicates a system's failure to carry out required water tests, or to report the results of those tests.

Failure to filter (for unfiltered systems): SDWIS Violation Code 42 shows a system's failure to properly treat its water. Data for this violation code will be supplied to the States by EPA.

Total Coliform Rule (TCR): The Total Coliform Rule establishes regulations for microbiological contaminants in drinking water. These contaminants can cause short-term health problems. If no samples are collected during the one month compliance period, a significant monitoring violation occurs. States are to report four categories of violations:

Acute MCL violation: SDWIS Violation Code 21 indicates that the system found fecal coliform or E. coli, potentially harmful bacteria, in its water, thereby violating the rule.

Non-acute MCL violation: SDWIS Violation Code 22 indicates that the system found total coliform 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, more than 5% of the samples positive for total coliform is a violation.

Major routine and follow-up monitoring: SDWIS Violation Codes 23 AND 25 show that a system did not perform any monitoring. [One number is to be reported for the sum of violations in these two categories.]

Sanitary Survey: SDWIS Violation Code 28 indicates a major monitoring violation if a system fails to collect 5 routine monthly samples if sanitary survey is not performed.

Treatment Techniques: A water disinfection process that EPA requires instead of an MCL for contaminants that laboratories cannot adequately measure. Failure to meet other operational and system requirements under the Surface Water Treatment and the Lead and Copper Rules have also been included in this category of violation for purposes of this report.

Unfiltered Systems: Water systems that do not need to filter their water before disinfecting it because the source is very clean [40 CFR, Subpart H].

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

Table 2

Volatile Organic Compounds Regulated as Primary Contaminants by NJDEP that are not Federally Regulated

Contaminant	New Jersey MCL (ug/l)
meta-Dichlorobenzene	600
1,1-Dichloroethane	50
Methyl tertiary Butyl Ether	70
Naphthalene	300
1,1,2,2-Tetrachloroethane	1

Table 3

Volatile Organic Compounds Regulated as Primary Contaminants by NJDEP and EPA

Contaminant	New Jersey MCL (ug/l)	EPA MCL (ug/l)
Benzene	1	5
Carbon Tetrachloride	2	5
1,2-Dichloroethane	2	5
1,1-Dichloroethylene	2	7
Methylene Chloride	3	5
Monochlorobenzene	50	100
Tetrachloroethylene	1	5
1,2,4-Trichlorobenzene	9	70
1,1,1-Trichloroethane	30	200
1,1,2-Trichloroethane	3	5
Trichloroethylene	1	5
Xylenes	1,000	10,000