State of North Carolina's Violations Table for 2001

(See narrative at the end of this report for further explanation.)

State:	North Carolina
Reporting Intervals:	Calendar Year 2001

Contaminant Name	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							
1,1,1-Tricholorethane	0.2	0	0			240	144
1,1-Dichloroethylene	0.007	2	1			240	144
1,1,2-Trichloroethane	.005	0	0			240	144
1,2,4-Trichlorobenzene	.07	0	0			240	144
1,2-Dibromo-3-chloropropane (DBCP)	0.0002	0	0			290	168
1,2-Dichloroethane	0.005	0	0			240	144
1,2-Dichloropropane	0.005	0	0			240	144
2,3,7,8-TCDD (Dioxin)	$3x10^{-8}$	0	0			0	0
2,4,5-TP	0.05	0	0			290	168
2,4-D	0.07	0	0			290	168
Acrylamide							
Alachlor	0.002	0	0			290	168
Atrazine	0.003	0	0			290	168
Benzen	0.005	1	1			290	168
Benzo[a]pyrene	0.0002	0	0			290	168
Carbofuran	0.04	0	0			290	168
Carbon tetrachloride	0.005	3	1			240	144
Chlordane	0.002	0	0			290	168
Cis-1,2-Dichloroethylene	0.07	0	0			240	144
Dalapon	0.2	0	0			290	168

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		Number of Violations	Number of Systems with Violations	Number of Violations	Number of Systems with Violations	Number of Violations	Number of Systems with Violations
Di(2-ethylhexyl)adipate	0.4	0	0			290	168
Di(2-ethylhexyl)phthalate	0.006	1	1			290	168
Dichlormethane	0.005	0	0			240	144
Dinoseb	0.007	0	0			290	168
Diquat	0.02	State-wide waiver	State-wide waiver			State-wide waiver	State-wide waiver
Endothall	0.1	State-wide waiver	State-wide waiver			State-wide waiver	State-wide waiver
Endrin	0.002	0	0			290	168
Epichlorohydrin							
Ethylbenzene	0.7	0	0			290	168
Ethylene dibromide	0.00005	2	2			290	168
Glyphosate	0.7	State-wide waiver	State-wide waiver			State-wide waiver	State-wide waiver
Heptachlor	0.0004	0	0			290	168
Heptachlor epioxide	0.0002	0	0			290	168
Hexachlorobenzene	0.001	0	0			290	168
Hexachlorocyclopentadiene	0.05	0	0			290	168
Lindane	0.0002	0	0			290	168
Methoxychlor	0.04	0	0			290	168
Monochlorobenzene	0.1	0	0			290	144
o-Dichlorobenzen	0.6	0	0			240	144
para-Dichlorobenzene	0.075	0	0			240	144
Total polychlorinated biphenyls	0.0005	0	0			290	168
Pentachlorophenol	0.001	0	0			290	168

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		Number of Violations	Number of Systems with Violations	Number of Violations	Number of Systems with Violations	Number of Violations	Number of Systems with Violations
Tetrachloroethylene	0.005	2	1			240	144
Trichloroethylene	0.005	2	1			240	144
Styrene	0.1	0	0			240	144
Toluene	1	0	0			240	144
Trans-1,2-Dichloroethylene	0.1	0	0			240	144
Xylenes (total)	10	0	0			240	144
Toxaphene	0.003	1	1			290	168
Oxamyl (Vydate)	0.2	0	0			290	168
Pichloram	0.5	0	0			290	168
Simazine	0.004	0	0			290	168
Vinyl chloride	0.002	0	0			290	144
Total trihalomethanes	0.10	4	4			6	6

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Reporting Intervals:	Calendar Year ____

Contaminant Name	**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							
Antimony	0.006	0	0			152	118
Arsenic	0.05	0	0			152	118
Asbestos	7 million fibers/L# 10 Fm long	0	0			0	0
Barium	2	0	0			152	118
Beryllium	0.004	0	0			152	118
Cadmium	0.005	0	0			152	118
Chrominum	0.1	1	1			152	118
Cyanide (as free cyanide)	0.2	0	0			152	118
Fluoride	4.0	3	3			152	118
Mercury	0.002	1	1			152	118
Nitrate	10 (as Nitrogen)	35	30			41541	1454
Nitrite	1 (as Nitrogen)	0	0			463	455
Selenium	0.05	1	1			152	118
Thallium	0.002	3	3			152	118
Total nitrate and nitrite	10 (as Nitrogen)	0	0			0	0

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		Number of Violations	Number of Systems with Violations	Number of Violations	Number of Systems with Violations	Number of Violations	Number of Systems with Violations
Radionuclides							
Gross alpha	15 pCi/L	16	10			51	46
Radium-226 and readium-228	5 pCi/L	25	13			0	0
Gross beta	4 mrem/yr	0	0			0	0
SUBTOTAL		101	70			2743	2391

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		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							
Acute MCL Violation	Presence	10	6				
Non-acute MCL violation	Presence	360	280				
Major routine and follow-up monitoring						5843	2839
Sanitary survey[2]						0	0
SUBTOTAL		370	286			5843	2839

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Reporting Intervals:	Calendar Year 2001

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		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							
Monitoirng, routine/repeat						0	0
Treatment techniques				3	3		
Unfiltered systems							
Monitoring routine/repeat						0	0
Failure to filter				0	0		
SUBTOTAL				3	2	0	0

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Reporting Intervals:	Calendar Year ____

Contaminant Name	**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							
Initial lead and copper tap M/R						58	48
Follow-up or routine lead and copper tap M/R						75	75
Treatment installation				0	0		
Public Education				9	9		
SUBTOTAL				9	9	133	123

State:	North Carolina
Reporting Intervals:	Calendar Year 2001

Report Name	**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 RTC Violations	Number of Systems with Violations
Consumer Notification (CCR)								
CCR Complete Failure to Report						446	289	446

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.

North Carolina's Annual State PWS Report
For the Calendar Year 2001

Attached is the Violations Table for North Carolina and this table is based largely on data retrieved from the state's version of the SDWIS. The SDWIS/FED was used for comparative purposes only.

At the end of 2001, North Carolina had 2,437 active community systems, 4,772 active transient non-community systems, and 620 active non-transient non-community systems which is a total of 7,829 active public water systems.

For the calendar year of 2001 or for compliance periods which covered any part of 2001, North Carolina had 10,527 violations. These violations were acquired by 4,242 water systems. Of these 4,242 water systems, 274 water systems have become "inactive" since the beginning of 2001.

Of these 4,242 water systems:
43% had 1 violation (110 water systems have become "inactive");
23% had 2 violations (64 water systems have become "inactive");
12% had 3 violations (38 water systems have become "inactive");
6% had 4 violations (15 water systems have become "inactive"); and
16% had 5 or more violations (47 water systems have become "inactive").

Of these 10,527 violations:
507 were MCL violations (5%) with the other 10,020 being monitoring/reporting violations (95%). And the majority of North Carolina's monitoring/reporting violations are produced because of analysis reporting forms are not received on time, or the reporting forms are not filled in correctly by the sample collector, or the "location codes" for the sampling points are not correct so the correct sampling points cannot receive proper credit.

Of the 507 MCL violations:
these are from 360 water systems (19 have become "inactive"). This makes 5% of North Carolina's public water systems having a water quality issue.

North Carolina's field staff performed 2,874 inspections. There were 5,963 other on-sites visits/reasons which were performed as well. These reasons are "sample collection", "technical assistance", "investigations of complaints or violations", "emergency assistance", and/or "engineering determination/advice". Some of these 5,963 "reasons" were performed at the same time as the 'inspection".

North Carolina allows variances and exemptions, but none were issued in 2001.

North Carolina has some State-wide waivers for certain contaminants.

North Carolina requires all 48 unregulated contaminants under the old section 141.40 to be tested along with the regulated contaminants. The number of violations and systems in violation for the unregulated contaminants for 2001 are the same as the regulated contaminants listed in the table.

North Carolina's State Report is available by contacting the EPA's Safe Drinking Water Hotline at 1-800-426-4791 or by calling the North Carolina Public Water Supply Section at 919-715-3243.

Definitions for Violation 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.