PART 141-NATIONAL PRIMARY DRINKING WATER REGULATIONS

1. The authority citation for part 141 is revised to read as follows:

Authority: 42 U.S.C. 300f, 300g-1, 300g-2, 300g-3, 300g-4, 300g-5, 300g-6, 300j-4, 300j-9, and 300j-11.

2. Subpart O is added to read as follows:

Subpart O-Consumer Confidence Reports

Sec.

Subpart O-Consumer Confidence Reports

§141.151 Purpose and applicability of this subpart.

(a) This subpart establishes the minimum requirements for the content of annual reports that community water systems must deliver to their customers. These reports must contain information on the quality of the water delivered by the systems and characterize the risks (if any) from exposure to contaminants detected in the drinking water in an accurate and understandable manner.

(b) Notwithstanding the provisions of §141.3, this subpart applies only to community water systems.

(c) For the purpose of this subpart, customers are defined as billing units or service connections to which water is delivered by a community water system.

(d) For the purpose of this subpart, detected means:
at or above the levels prescribed by §141.23(a)(4) for inorganic contaminants, at or above the levels prescribed by §141.24(f)(7) for the contaminants listed in §141.61(a), at or above the level prescribed by §141.24(h)(18) for the contaminants listed in §141.61(c), and at or above the levels prescribed by §141.25(c) for radioactive contaminants.

(e) A State that has primary enforcement responsibility may adopt by rule, after notice and comment, alternative requirements for the form and content of the reports. The alternative requirements must provide the same type and amount of information as required by §§141.153 and 141.154, and must be designed to achieve an equivalent level of public information and education as would be achieved under this subpart.

(f) For purpose of §§141.153 and 141.154 of this subpart, the term "primacy agency" refers to the State or tribal government entity that has jurisdiction over, and primary enforcement responsibility for, public water systems, even if that government does not have interim or final primary enforcement responsibility for this rule. Where the State or tribe does not have primary enforcement responsibility for public water systems, the term "primacy agency" refers to the appropriate EPA regional office.

§141.152 Effective dates.

(a) The regulations in this subpart shall take effect on [insert date 30 days after date of publication in the FEDERAL REGISTER].

(b) Each existing community water system must deliver its first report by [insert date 14 months after publication in the FEDERAL REGISTER], its second report by July 1, 2000, and subsequent reports by July 1 annually thereafter. The first report must contain data collected during, or prior to, calendar year 1998 as prescribed in §141.153(d)(3). Each report thereafter must contain data collected during, or prior to, the previous calendar year.

(c) A new community water system must deliver its first report by July 1 of the year after its first full calendar year in operation and annually thereafter.

(d) A community water system that sells water to another community water system must deliver the applicable information required in §141.153 to the buyer system: (i) no later than [insert date eight months after publication in the FEDERAL REGISTER], by April 1, 2000, and by April 1 annually thereafter or (ii) on a date mutually agreed upon by the seller and the purchaser, and specifically included in a contract between the parties.

§141.153 Content of the reports.

(a) Each community water system must provide to its customers an annual report that contains the information specified in this section and §141.154.

(b) *Information on the source of the water delivered.*

(1) Each report must identify the source(s) of the water delivered by the community water system by providing information on:

(i) The type of the water: e.g., surface water, ground water; and
(ii) The commonly used name (if any) and location of the body (or bodies) of water.
(2) If a source water assessment has been completed, the report must notify consumers of the availability of this information and the means to obtain it. In addition, systems are encouraged to highlight in the report significant sources of contamination in the source water area if they have readily available information. Where a system has received a source water assessment from the primacy agency, the report must include a brief summary of the system's susceptibility to potential sources of contamination, using language provided by the primacy agency or written by the operator.
(c) *Definitions*.
(1) Each report must include the following definitions:
(i) *Maximum Contaminant Level Goal or MCLG*: The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.
(ii) *Maximum Contaminant Level or MCL*: The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.
(2) A report for a community water system operating under a variance or an exemption issued under § 1415 or 1416 of SDWA must include the following definition: *Variances and Exemptions*: State or EPA permission not to meet an MCL or a treatment technique under certain conditions.
(3) A report which contains data on a contaminant for which EPA has set a treatment technique or an action level must include one or both of the following definitions as applicable:
(i) *Treatment Technique*: A required process intended to reduce the level of a contaminant in drinking water.
(ii) *Action Level*: The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.
(d) *Information on Detected Contaminants*.
(1) This sub-section specifies the requirements for information to be included in each report for contaminants subject to mandatory monitoring (except *Cryptosporidium*). It applies to:
(i) Contaminants subject to an MCL, action level, or treatment technique (regulated contaminants);
(ii)Contaminants for which monitoring is required by §141.40 (unregulated contaminants); and
(iii) Disinfection by-products or microbial contaminants for which monitoring is required by §§141.142 and 141.143, except as provided under paragraph (e)(1) of this section, and which are detected in the finished water.
(2) The data relating to these contaminants must be displayed in one table or in several adjacent tables. Any additional monitoring results which a community water system chooses to include in its report must be displayed separately.
(3) The data must be derived from data collected to comply with EPA and State monitoring and analytical requirements during calendar year 1998 for the first report and subsequent calendar years thereafter except that:
(i) Where a system is allowed to monitor for regulated contaminants less often than once a year, the table(s) must include the date and results of the most recent sampling and the report must include a brief statement indicating that the data presented in the report are from the most recent testing done in accordance with the regulations. No data older than 5 years need be included.
(ii) Results of monitoring in compliance with §§141.142 and 141.143 need only be included for 5 years from the date of last sample or until any of the detected contaminants becomes regulated and subject to routine monitoring requirements, whichever comes first.
(4) For detected regulated contaminants (listed in Appendix A to this subpart), the table(s) must contain:
(i) The MCL for that contaminant expressed as a number equal to or greater than 1.0 (as provided in Appendix A to this subpart);
(ii) The MCLG for that contaminant expressed in the same units as the MCL;
(iii) If there is no MCL for a detected contaminant, the table must indicate that there is a treatment technique, or specify the action level, applicable to that contaminant, and the report must include the definitions for treatment technique and/or action level, as appropriate, specified in paragraph(c)(3) of this section;
(iv) For contaminants subject to an MCL, except turbidity and total coliforms, the highest contaminant level used to determine compliance with an NPDWR and the range of detected levels, as follows:
(A) When compliance with the MCL is determined annually or less frequently: the highest detected level at any sampling point and the range of detected levels expressed in the same units as the MCL.
(B) When compliance with the MCL is determined by calculating a running annual average of all samples taken at a sampling point: the highest average of any of the sampling points and the range of all sampling points expressed in the same units as the MCL.

(C) When compliance with the MCL is determined on a system-wide basis by calculating a running annual average of all samples at all sampling points: the average and range of detection expressed in the same units as the MCL.
Note to paragraph (iv): When rounding of results to determine compliance with the MCL is allowed by the regulations, rounding should be done prior to multiplying the results by the factor listed in Appendix A of this subpart.
(v) For turbidity.
(A) When it is reported pursuant to §141.13: the highest average monthly value.
(B) When it is reported pursuant to the requirements of §141.71: the highest monthly value. The report should include an explanation of the reasons for measuring turbidity.
(C) When it is reported pursuant to §141.73: the highest single measurement and the lowest monthly percentage of samples meeting the turbidity limits specified in §141.73 for the filtration technology being used. The report should include an explanation of the reasons for measuring turbidity.
(vi) For lead and copper: the 90^{th} percentile value of the most recent round of sampling and the number of sampling sites exceeding the action level.
(vii) For total coliform:
(A) The highest monthly number of positive samples for systems collecting fewer than 40 samples per month; or
(B) The highest monthly percentage of positive samples for systems collecting at least 40 samples per month.
(viii) For fecal coliform: the total number of positive samples.
(ix) The likely source(s) of detected contaminants to the best of the operator's knowledge. Specific information regarding contaminants may be available in sanitary surveys and source water assessments, and should be used when available to the operator. If the operator lacks specific information on the likely source, the report must include one or more of the typical sources for that contaminant listed in Appendix B to this subpart which are most applicable to the system.
(5) If a community water system distributes water to its customers from multiple hydraulically independent distribution systems that are fed by different raw water sources, the table should contain a separate column for each service area and the report should identify each separate distribution system. Alternatively, systems could produce separate reports tailored to include data for each service area.
(6) The table(s) must clearly identify any data indicating violations of MCLs or treatment techniques and the report must contain a clear and readily understandable explanation of the violation including: the length of the violation, the potential adverse health effects, and actions taken by the system to address the violation. To describe the potential health effects, the system must use the relevant language of Appendix C to this subpart.
(7) For detected unregulated contaminants for which monitoring is required (except *Cryptosporidium*), the table(s) must contain the average and range at which the contaminant was detected. The report may include a brief explanation of the reasons for monitoring for unregulated contaminants.
(e) *Information on Cryptosporidium, radon, and other contaminants.*
(1) If the system has performed any monitoring for *Cryptosporidium*, including monitoring performed to satisfy the requirements of §141.143, which indicates that *Cryptosporidium* may be present in the source water or the finished water, the report must include:
(i) A summary of the results of the monitoring; and
(ii) An explanation of the significance of the results.
(2) If the system has performed any monitoring for radon which indicates that radon may be present in the finished water, the report must include:
(i) The results of the monitoring; and
(ii) An explanation of the significance of the results.
(3) If the system has performed additional monitoring which indicates the presence of other contaminants in the finished water, EPA strongly encourages systems to report any results which may indicate a health concern. To determine if results may indicate a health concern, EPA recommends that systems find out if EPA has proposed an NPDWR or issued a health advisory for that contaminant by calling the Safe Drinking Water Hotline (800-426-4791). EPA considers detects above a proposed MCL or health advisory level to indicate possible health concerns. For such contaminants, EPA recommends that the report include:
(i) The results of the monitoring; and
(ii) An explanation of the significance of the results noting the existence of a health advisory or a proposed regulation.
(f) *Compliance with NPDWR.* In addition to the requirements of §141.153(d)(7), the report must note any violation that occurred during the year covered by the report of a requirement listed below, and include a clear and readily

understandable explanation of the violation, any potential adverse health effects, and the steps the system has taken to correct the violation.
(1) Monitoring and reporting of compliance data;
(2) Filtration and disinfection prescribed by Subpart H of this part. For systems which have failed to install adequate filtration or disinfection equipment or processes, or have had a failure of such equipment or processes which constitutes a violation, the report must include the following language as part of the explanation of potential adverse health effects: Inadequately treated water may contain disease-causing organisms. These organisms include bacteria, viruses, and parasites which can cause symptoms such as nausea, cramps, diarrhea, and associated headaches.
(3) Lead and copper control requirements prescribed by Subpart I of this part. For systems which fail to take one or more actions prescribed by §§141.80(d), 141.81, 141.82, 141.83 or 141.84, the report must include the applicable language of Appendix C to this subpart for lead, copper, or both.
(4) Treatment techniques for Acrylamide and Epichlorohydrin prescribed by Subpart K of this part. For systems which violate the requirements of Subpart K of this part, the report must include the relevant language from Appendix C to this subpart.
(5) Recordkeeping of compliance data.
(6) Special monitoring requirements prescribed by §§141.40 and 141.41; and
(7) Violation of the terms of a variance, an exemption, or an administrative or judicial order.
(g) *Variances and Exemptions*. If a system is operating under the terms of a variance or an exemption issued under §1415 or 1416 of SDWA, the report must contain:
(1) An explanation of the reasons for the variance or exemption;
(2) The date on which the variance or exemption was issued;
(3) A brief status report on the steps the system is taking to install treatment, find alternative sources of water, or otherwise comply with the terms and schedules of the variance or exemption; and
(4) A notice of any opportunity for public input in the review, or renewal, of the variance or exemption.
(h) *Additional information*. (1) The report must contain a brief explanation regarding contaminants which may reasonably be expected to be found in drinking water including bottled water. This explanation may include the language of paragraphs (h)(1)(i) through (iii) or systems may use their own comparable language. The report also must include the language of paragraph (h)(1)(iv) of this section.
(i) The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally-occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity.
(ii) Contaminants that may be present in source water include:
(A) *Microbial contaminants,* such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
(B) *Inorganic contaminants,* such as salts and metals, which can be naturally-occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.
(C) *Pesticides and herbicides,* which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses.
(D) *Organic chemical contaminants,* including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, and septic systems.
(E) *Radioactive contaminants,* which can be naturally-occurring or be the result of oil and gas production and mining activities.
(iii) In order to ensure that tap water is safe to drink, EPA prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. FDA regulations establish limits for contaminants in bottled water which must provide the same protection for public health.
(iv) Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline (800-426-4791).
(2) The report must include the telephone number of the owner, operator, or designee of the community water system as a source of additional information concerning the report.
(3) In communities with a large proportion of non-English speaking residents, as determined by the Primacy Agency, the report must contain information in the appropriate language(s) regarding the importance of the report or

contain a telephone number or address where such residents may contact the system to obtain a translated copy of the report or assistance in the appropriate language.
(4) The report must include information (e.g., time and place of regularly scheduled board meetings) about opportunities for public participation in decisions that may affect the quality of the water.
(5) The systems may include such additional information as they deem necessary for public education consistent with, and not detracting from, the purpose of the report.

§141.154 Required additional health information.

(a) All reports must prominently display the following language:
Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline (800-426-4791).
(b) A system which detects arsenic at levels above 25 ppb, but below the MCL:
(i) Must include in its report a short informational statement about arsenic, using language such as: EPA is reviewing the drinking water standard for arsenic because of special concerns that it may not be stringent enough. Arsenic is a naturally-occurring mineral known to cause cancer in humans at high concentrations.
(ii) May write its own educational statement, but only in consultation with the Primacy Agency.
(c) A system which detects nitrate at levels above 5 mg/l, but below the MCL:
(i) Must include a short informational statement about the impacts of nitrate on children using language such as: Nitrate in drinking water at levels above 10 ppm is a health risk for infants of less than six months of age. High nitrate levels in drinking water can cause blue baby syndrome. Nitrate levels may rise quickly for short periods of time because of rainfall or agricultural activity. If you are caring for an infant you should ask advice from your health care provider.
(ii) May write its own educational statement, but only in consultation with the Primacy Agency.
(d) Systems which detect lead above the action level in more than 5%, but fewer that 10%, of homes sampled:
(i) Must include a short informational statement about the special impact of lead on children using language such as: Infants and young children are typically more vulnerable to lead in drinking water than the general population. It is possible that lead levels at your home may be higher than at other homes in the community as a result of materials used in your home's plumbing. If you are concerned about elevated lead levels in your home's water, you may wish to have your water tested and flush your tap for 30 seconds to 2 minutes before using tap water. Additional information is available from the Safe Drinking Water Hotline (800-426-4791).
(ii) May write its own educational statement, but only in consultation with the Primacy Agency.

§141.155 Report delivery and recordkeeping.

(a) Except as provided in paragraph (g) of this section, each community water system must mail or otherwise directly deliver one copy of the report to each customer.
(b) The system must make a good faith effort to reach consumers who do not get water bills, using means recommended by the primacy agency. EPA expects that an adequate good faith effort will be tailored to the consumers who are served by the system but are not bill-paying customers, such as renters or workers. A good faith effort to reach consumers would include a mix of methods appropriate to the particular system such as: Posting the reports on the Internet; mailing to postal patrons in metropolitan areas; advertising the availability of the report in the news media; publication in a local newspaper; posting in public places such as cafeterias or lunch rooms of public buildings; delivery of multiple copies for distribution by single-biller customers such as apartment buildings or large private employers; delivery to community organizations.
(c) No later than the date the system is required to distribute the report to its customers, each community water system must mail a copy of the report to the primacy agency, followed within 3 months by a certification that the report has been distributed to customers, and that the information is correct and consistent with the compliance monitoring data previously submitted to the primacy agency.
(d) No later than the date the system is required to distribute the report to its customers, each community water system must deliver the report to any other agency or clearinghouse identified by the primacy agency.
(e) Each community water system must make its reports available to the public upon request.
(f) Each community water system serving 100,000 or more persons must post its current year's report to a publicly-accessible site on the Internet.
(g) The Governor of a State or his designee, or the Tribal Leader where the tribe has met the eligibility requirements contained in §142.72 for the purposes of waiving the mailing requirement, can waive the requirement of paragraph

(a) of this section for community water systems serving fewer than 10,000 persons. In consultation with the tribal government, the Regional Administrator may waive the requirement of §141.155(a) in areas in Indian country where no tribe has been deemed eligible.
(1) Such systems must:
(i) Publish the reports in one or more local newspapers serving the area in which the system is located;
(ii) Inform the customers that the reports will not be mailed, either in the newspapers in which the reports are published or by other means approved by the State; and
(iii)Make the reports available to the public upon request.
(2) Systems serving 500 or fewer persons may forego the requirements of paragraphs (g)(1)(i) and (ii) of this section if they provide notice at least once per year to their customers by mail, door-to-door delivery or by posting in an appropriate location that the report is available upon request.
(h) Any system subject to this subpart must retain copies of its consumer confidence report for no less than 5 years.

Appendix A to Subpart O-Converting MCL Compliance Values for Consumer Confidence Reports

Key

AL=Action Level
MCL=Maximum Contaminant Level
MCLG=Maximum Contaminant Level Goal
MFL=million fibers per liter **mrem/year**=millirems per year (a measure of radiation absorbed by the body)
NTU=Nephelometric Turbidity Units
pCi/l=picocuries per liter (a measure of radioactivity)
ppm=parts per million, or milligrams per liter (mg/l)
ppb=parts per billion, or micrograms per liter (g/l)
ppt=parts per trillion, or nanograms per liter
ppq=parts per quadrillion, or picograms per liter
TT=Treatment Technique

Contaminant	**MCL in compliance units (mg/L)**	multiply by...	MCL in CCR units	MCLG in CCR units
Microbiological Contaminants				
1. Total Coliform Bacteria	-	-	presence of coliform bacteria in 5% of monthly samples	0
1. Fecal coliform and *E. coli*	-	-	a routine sample and a repeat sample are total coliform positive, and one is also fecal coliform or *E. coli* positive	0
1. Turbidity	-	-	TT (NTU)	n/a
Radioactive Contaminants				
1. Beta/photon emitters	4 mrem/yr	-	4 mrem/yr	0
1. Alpha emitters	15 pCi/l	-	15 pCi/l	0
1. Combined radium	5 pCi/l	-	5 pCi/l	0
Inorganic Contaminants				
1. Antimony	.006	1000	6 ppb	6
1. Arsenic	.05	1000	50 ppb	n/a
1. Asbestos	7 MFL	-	7 MFL	7
1. Barium	2	-	2 ppm	2
1. Beryllium	.004	1000	4 ppb	4
1. Cadmium	.005	1000	5 ppb	5
1. Chromium	.1	1000	100 ppb	100
1. Copper	AL=1.3	-	AL=1.3 ppm	1.3
1. Cyanide	.2	1000	200 ppb	200
1. Fluoride	4	-	4 ppm	4

1. Lead	AL=.015	1000	AL=15 ppb	0
1. Mercury (inorganic)	.002	1000	2 ppb	2
1. Nitrate (as Nitrogen)	10	-	10 ppm	10
1. Nitrite (as Nitrogen)	1	-	1 ppm	1
1. Selenium	.05	1000	50 ppb	50
1. Thallium	.002	1000	2 ppb	0.5
Synthetic Organic Contaminants including Pesticides and Herbicides				
1. 2,4-D	.07	1000	70 ppb	70
1. 2,4,5-TP [Silvex]	.05	1000	50 ppb	50
1. Acrylamide	-	-	TT	0
1. Alachlor	.002	1000	2 ppb	0
1. Atrazine	.003	1000	3 ppb	3
1. Benzo(a)pyrene [PAH]	.0002	1,000,000	200 ppt	0
1. Carbofuran	.04	1000	40 ppb	40
1. Chlordane	.002	1000	2 ppb	0
1. Dalapon	.2	1000	200 ppb	200
1. Di(2-ethylhexyl)adipate	.4	1000	400 ppb	400
1. Di(2-ethylhexyl) phthalate	.006	1000	6 ppb	0
1. Dibromochloropropane	.0002	1,000,000	200 ppt	0
1. Dinoseb	.007	1000	7 ppb	7
1. Diquat	.02	1000	20 ppb	20
1. Dioxin [2,3,7,8-TCDD]	.00000003	1,000,000,000	30 ppq	0
1. Endothall	.1	1000	100 ppb	100
1. Endrin	.002	1000	2 ppb	2
1. Epichlorohydrin	-	-	TT	0
1. Ethylene dibromide	.00005	1,000,000	50 ppt	0
1. Glyphosate	.7	1000	700 ppb	700
1. Heptachlor	.0004	1,000,000	400 ppt	0
1. Heptachlor epoxide	.0002	1,000,000	200 ppt	0
1. Hexachlorobenzene	.001	1000	1 ppb	0
1. Hexachlorocyclopentadiene	.05	1000	50 ppb	50
1. Lindane	.0002	1,000,000	200 ppt	200
1. Methoxychlor	.04	1000	40 ppb	40
1. Oxamyl [Vydate]	.2	1000	200 ppb	200
1. PCBs [Polychlorinated	.0005	1,000,000	500 ppt	0

	biphenyls]				
1.	Pentachlorophenol	.001	1000	1 ppb	0
1.	Picloram	.5	1000	500 ppb	500
1.	Simazine	.004	1000	4 ppb	4
1.	Toxaphene	.003	1000	3 ppb	0
Volatile Organic Contaminants					
1.	Benzene	.005	1000	5 ppb	0
1.	Carbon tetrachloride	.005	1000	5 ppb	0
1.	Chlorobenzene	.1	1000	100 ppb	100
1.	o-Dichlorobenzene	.6	1000	600 ppb	600
1.	p-Dichlorobenzene	.075	1000	75 ppb	75
1.	1,2-Dichloroethane	.005	1000	5 ppb	0
1.	1,1-Dichloroethylene	.007	1000	7 ppb	7
1.	cis-1,2-Dichloroethylene	.07	1000	70 ppb	70
1.	trans-1,2-Dichloroethylene	.1	1000	100 ppb	100
1.	Dichloromethane	.005	1000	5 ppb	0
1.	1,2-Dichloropropane	.005	1000	5 ppb	0
1.	Ethylbenzene	.7	1000	700 ppb	700
1.	Styrene	.1	1000	100 ppb	100
1.	Tetrachloroethylene	.005	1000	5 ppb	0
1.	1,2,4-Trichlorobenzene	.07	1000	70 ppb	70
1.	1,1,1-Trichloroethane	.2	1000	200 ppb	200
1.	1,1,2-Trichloroethane	.005	1000	5 ppb	3
1.	Trichloroethylene	.005	1000	5 ppb	0
1.	TTHMs [Total trihalomethanes]	.10	1000	100 ppb	0
1.	Toluene	1	-	1 ppm	1
1.	Vinyl Chloride	.002	1000	2 ppb	0
1.	Xylenes	10	-	10 ppm	10

Appendix B to Subpart O--Regulated Contaminants

Key

AL=Action Level

MCL=Maximum Contaminant Level

MCLG=Maximum Contaminant Level Goal

MFL=million fibers per liter **mrem/year**=millirems per year (a measure of radiation absorbed by the body)

NTU=Nephelometric Turbidity Units
pCi/l=picocuries per liter (a measure of radioactivity)
ppm=parts per million, or milligrams per liter (mg/l)
ppb=parts per billion, or micrograms per liter (g/l)
ppt=parts per trillion, or nanograms per liter
ppq=parts per quadrillion, or picograms per liter
TT=Treatment Technique

Contaminant (units)	MCLG	MCL	Major Sources in Drinking Water
Microbiological Contaminants			
1. Total Coliform Bacteria	0	presence of coliform bacteria in 5% of monthly samples,	Naturally present in the environment
1. Fecal coliform and *E. coli*	0	a routine sample and a repeat sample are total coliform positive, and one is also fecal coliform or *E. coli* positive	Human and animal fecal waste
1. Turbidity	n/a	TT	Soil runoff
Radioactive Contaminants			
1. Beta/photon emitters (mrem/yr)	0	4	Decay of natural and man-made deposits
1. Alpha emitters (pCi/l)	0	15	Erosion of natural deposits
1. Combined radium (pCi/l)	0	5	Erosion of natural deposits
Inorganic Contaminants			
1. Antimony (ppb)	6	6	Discharge from petroleum refineries; fire retardants; ceramics; electronics; solder
1. Arsenic (ppb)	n/a	50	Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes
1. Asbestos (MFL)	7	7	Decay of asbestos cement water mains; Erosion of natural deposits
1. Barium (ppm)	2	2	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
1. Beryllium (ppb)	4	4	Discharge from metal refineries and coal-burning factories; Discharge from electrical, aerospace, and defense industries
1. Cadmium (ppb)	5	5	Corrosion of galvanized pipes; Erosion of natural deposits; Discharge from metal refineries; runoff from waste batteries and paints
1. Chromium (ppb)	100	100	Discharge from steel and pulp mills; Erosion of natural deposits
1. Copper (ppm)	1.3	AL=1.3	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives
1. Cyanide (ppb)	200	200	Discharge from steel/metal factories; Discharge from plastic and fertilizer factories
1. Fluoride (ppm)	4	4	Erosion of natural deposits; Water additive which

			promotes strong teeth; Discharge from fertilizer and aluminum factories
1. Lead (ppb)	0	AL=15	Corrosion of household plumbing systems; Erosion of natural deposits
1. Mercury [inorganic] (ppb)	2	2	Erosion of natural deposits; Discharge from refineries and factories; Runoff from landfills; Runoff from cropland
1. Nitrate [as Nitrogen] (ppm)	10	10	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
1. Nitrite [as Nitrogen] (ppm)	1	1	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
1. Selenium (ppb)	50	50	Discharge from petroleum and metal refineries; Erosion of natural deposits; Discharge from mines
1. Thallium (ppb)	0.5	2	Leaching from ore-processing sites; Discharge from electronics, glass, and drug factories
Synthetic Organic Contaminants including Pesticides and Herbicides			
1. 2,4-D (ppb)	70	70	Runoff from herbicide used on row crops
1. 2,4,5-TP [Silvex](ppb)	50	50	Residue of banned herbicide
1. Acrylamide	0	TT	Added to water during sewage/wastewater treatment
1. Alachlor (ppb)	0	2	Runoff from herbicide used on row crops
1. Atrazine (ppb)	3	3	Runoff from herbicide used on row crops
1. Benzo(a)pyrene [PAH] (nanograms/l)	0	200	Leaching from linings of water storage tanks and distribution lines
1. Carbofuran (ppb)	40	40	Leaching of soil fumigant used on rice and alfalfa
1. Chlordane (ppb)	0	2	Residue of banned termiticide
1. Dalapon (ppb)	200	200	Runoff from herbicide used on rights of way
1. Di(2-ethylhexyl) adipate (ppb)	400	400	Discharge from chemical factories
1. Di(2-ethylhexyl) phthalate (ppb)	0	6	Discharge from rubber and chemical factories
1. Dibromochloropropane (ppt)	0	200	Runoff/leaching from soil fumigant used on soybeans, cotton, pineapples, and orchards
1. Dinoseb (ppb)	7	7	Runoff from herbicide used on soybeans and vegetables
1. Diquat (ppb)	20	20	Runoff from herbicide use
1. Dioxin [2,3,7,8-TCDD] (ppq)	0	30	Emissions from waste incineration and other combustion; Discharge from chemical factories
1. Endothall (ppb)	100	100	Runoff from herbicide use
1. Endrin (ppb)	2	2	Residue of banned insecticide
1. Epichlorohydrin	0	TT	Discharge from industrial chemical factories; An impurity of some water treatment chemicals
1. Ethylene dibromide (ppt)	0	50	Discharge from petroleum refineries
1. Glyphosate (ppb)	700	700	Runoff from herbicide use
1. Heptachlor (ppt)	0	400	Residue of banned termiticide
1. Heptachlor epoxide (ppt)	0	200	Breakdown of heptachlor

1. Hexachlorobenzene (ppb)	0	1	Discharge from metal refineries and agricultural chemical factories
1. Hexachlorocyclopentadiene (ppb)	50	50	Discharge from chemical factories
1. Lindane (ppt)	200	200	Runoff/leaching from insecticide used on cattle, lumber, gardens
1. Methoxychlor (ppb)	40	40	Runoff/leaching from insecticide used on fruits, vegetables, alfalfa, livestock
1. Oxamyl [Vydate](ppb)	200	200	Runoff/leaching from insecticide used on apples, potatoes and tomatoes
1. PCBs [Polychlorinated biphenyls] (ppt)	0	500	Runoff from landfills; Discharge of waste chemicals
1. Pentachlorophenol (ppb)	0	1	Discharge from wood preserving factories
1. Picloram (ppb)	500	500	Herbicide runoff
1. Simazine (ppb)	4	4	Herbicide runoff
1. Toxaphene (ppb)	0	3	Runoff/leaching from insecticide used on cotton and cattle
Volatile Organic Contaminants			
1. Benzene (ppb)	0	5	Discharge from factories; Leaching from gas storage tanks and landfills
1. Carbon tetrachloride (ppb)	0	5	Discharge from chemical plants and other industrial activities
1. Chlorobenzene (ppb)	100	100	Discharge from chemical and agricultural chemical factories
1. o-Dichlorobenzene (ppb)	600	600	Discharge from industrial chemical factories
1. p-Dichlorobenzene (ppb)	75	75	Discharge from industrial chemical factories
1. 1,2-Dichloroethane (ppb)	0	5	Discharge from industrial chemical factories
1. 1,1-Dichloroethylene (ppb)	7	7	Discharge from industrial chemical factories
1. cis-1,2-Dichloroethylene (ppb)	70	70	Discharge from industrial chemical factories
1. trans-1,2-Dichloroethylene (ppb)	100	100	Discharge from industrial chemical factories
1. Dichloromethane (ppb)	0	5	Discharge from pharmaceutical and chemical factories
1. 1,2-Dichloropropane (ppb)	0	5	Discharge from industrial chemical factories
1. Ethylbenzene	700	700	Discharge from petroleum refineries

(ppb)			
1. Styrene (ppb)	100	100	Discharge from rubber and plastic factories; Leaching from landfills
1. Tetrachloroethylene (ppb)	0	5	Leaching from PVC pipes; Discharge from factories and dry cleaners
1. 1,2,4-Trichlorobenzene (ppb)	70	70	Discharge from textile-finishing factories
1. 1,1,1-Trichloroethane (ppb)	200	200	Discharge from metal degreasing sites and other factories
1. 1,1,2-Trichloroethane (ppb)	3	5	Discharge from industrial chemical factories
1. Trichloroethylene (ppb)	0	5	Discharge from metal degreasing sites and other factories
1. TTHMs [Total trihalomethanes] (ppb)	0	100	By-product of drinking water chlorination
1. Toluene (ppm)	1	1	Discharge from petroleum factories
1. Vinyl Chloride (ppb)	0	2	Leaching from PVC piping; Discharge from plastics factories
1. Xylenes (ppm)	10	10	Discharge from petroleum factories; Discharge from chemical factories

Appendix C to Subpart O--Health Effects Language

Microbiological Contaminants:

(1) Total Coliform. Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially-harmful, bacteria may be present. Coliforms were found in more samples than allowed and this was a warning of potential problems.

(2) Fecal coliform/E.Coli. Fecal coliforms and E. coli are bacteria whose presence indicates that the water may be contaminated with human or animal wastes. Microbes in these wastes can cause short-term effects, such as diarrhea, cramps, nausea, headaches, or other symptoms. They may pose a special health risk for infants, young children, and people with severely compromised immune systems.

(3) Turbidity. Turbidity has no health effects. However, turbidity can interfere with disinfection and provide a medium for microbial growth. Turbidity may indicate the presence of disease-causing organisms. These organisms include bacteria, viruses, and parasites that can cause symptoms such as nausea, cramps, diarrhea, and associated headaches.

Radioactive Contaminants:

(4) Beta/photon emitters. Certain minerals are radioactive and may emit forms of radiation known as photons and beta radiation. Some people who drink water containing beta and photon emitters in excess of the MCL over many years may have an increased risk of getting cancer.

(5) Alpha emitters. Certain minerals are radioactive and may emit a form of radiation known as alpha radiation. Some people who drink water containing alpha emitters in excess of the MCL over many years may have an increased risk of getting cancer.

(6) Combined Radium 226/228. Some people who drink water containing radium 226 or 228 in excess of the MCL over many years may have an increased risk of getting cancer.

Inorganic Contaminants:

(7) Antimony. Some people who drink water containing antimony well in excess of the MCL over many years could experience increases in blood cholesterol and decreases in blood sugar.

(8) Arsenic. Some people who drink water containing arsenic in excess of the MCL over many years could experience skin damage or problems with their circulatory system, and may have an increased risk of getting cancer.

(9) Asbestos. Some people who drink water containing asbestos in excess of the MCL over many years may have an increased risk of developing benign intestinal polyps.
(10) Barium. Some people who drink water containing barium in excess of the MCL over many years could experience an increase in their blood pressure.
(11) Beryllium. Some people who drink water containing beryllium well in excess of the MCL over many years could develop intestinal lesions.
(12) Cadmium. Some people who drink water containing cadmium in excess of the MCL over many years could experience kidney damage.
(13) Chromium. Some people who use water containing chromium well in excess of the MCL over many years could experience allergic dermatitis.
(14) Copper. Copper is an essential nutrient, but some people who drink water containing copper in excess of the action level over a relatively short amount of time could experience gastrointestinal distress. Some people who drink water containing copper in excess of the action level over many years could suffer liver or kidney damage. People with Wilson's Disease should consult their personal doctor.
(15) Cyanide. Some people who drink water containing cyanide well in excess of the MCL over many years could experience nerve damage or problems with their thyroid.
(16) Fluoride. Some people who drink water containing fluoride in excess of the MCL over many years could get bone disease, including pain and tenderness of the bones. Children may get mottled teeth.
(17) Lead. Infants and children who drink water containing lead in excess of the action level could experience delays in their physical or mental development. Children could show slight deficits in attention span and learning abilities. Adults who drink this water over many years could develop kidney problems or high blood pressure.
(18) Mercury (inorganic). Some people who drink water containing inorganic mercury well in excess of the MCL over many years could experience kidney damage.
(19) Nitrate. Infants below the age of six months who drink water containing nitrate in excess of the MCL could become seriously ill and, if untreated, may die. Symptoms include shortness of breath and blue-baby syndrome.
(20) Nitrite. Infants below the age of six months who drink water containing nitrite in excess of the MCL could become seriously ill and, if untreated, may die. Symptoms include shortness of breath and blue-baby syndrome.
(21) Selenium. Selenium is an essential nutrient. However, some people who drink water containing selenium in excess of the MCL over many years could experience hair or fingernail losses, numbness in fingers or toes, or problems with their circulation.
(22) Thallium. Some people who drink water containing thallium in excess of the MCL over many years could experience hair loss, changes in their blood, or problems with their kidneys, intestines, or liver.
Synthetic organic contaminants including pesticides and herbicides:
(23) 2,4-D. Some people who drink water containing the weed killer 2,4-D well in excess of the MCL over many years could experience problems with their kidneys, liver, or adrenal glands.
(24) 2,4,5-TP (Silvex). Some people who drink water containing silvex in excess of the MCL over many years could experience liver problems.
(25) Acrylamide. Some people who drink water containing high levels of acrylamide over a long period of time could have problems with their nervous system or blood, and may have an increased risk of getting cancer.
(26) Alachlor. Some people who drink water containing alachlor in excess of the MCL over many years could have problems with their eyes, liver, kidneys, or spleen, or experience anemia, and may have an increased risk of getting cancer.
(27) Atrazine. Some people who drink water containing atrazine well in excess of the MCL over many years could experience problems with their cardiovascular system or reproductive difficulties.
(28) Benzo(a)pyrene [PAH]. Some people who drink water containing benzo(a)pyrene in excess of the MCL over many years may experience reproductive difficulties and may have an increased risk of getting cancer.
(29) Carbofuran. Some people who drink water containing carbofuran in excess of the MCL over many years could experience problems with their blood, or nervous or reproductive systems.
(30) Chlordane. Some people who drink water containing chlordane in excess of the MCL over many years could experience problems with their liver or nervous system, and may have an increased risk of getting cancer.
(31) Dalapon. Some people who drink water containing dalapon well in excess of the MCL over many years could experience minor kidney changes.
(32) Di (2-ethylhexyl) adipate. Some people who drink water containing di (2-ethylhexyl) adipate well in excess of the MCL over many years could experience general toxic effects or reproductive difficulties.

(33) Di (2-ethylhexyl) phthalate. Some people who drink water containing di (2-ethylhexyl) phthalate in excess of the MCL over many years may have problems with their liver, or experience reproductive difficulties, and may have an increased risk of getting cancer.
(34) Dibromochloropropane (DBCP). Some people who drink water containing DBCP in excess of the MCL over many years could experience reproductive difficulties and may have an increased risk of getting cancer.
(35) Dinoseb. Some people who drink water containing dinoseb well in excess of the MCL over many years could experience reproductive difficulties.
(36) Dioxin (2,3,7,8-TCDD). Some people who drink water containing dioxin in excess of the MCL over many years could experience reproductive difficulties and may have an increased risk of getting cancer.
(37) Diquat. Some people who drink water containing diquat in excess of the MCL over many years could get cataracts.
(38) Endothall. Some people who drink water containing endothall in excess of the MCL over many years could experience problems with their stomach or intestines.
(39) Endrin. Some people who drink water containing endrin in excess of the MCL over many years could experience liver problems.
(40) Epichlorohydrin. Some people who drink water containing high levels of epichlorohydrin over a long period of time could experience stomach problems, and may have an increased risk of getting cancer.
(41) Ethylene dibromide. Some people who drink water containing ethylene dibromide in excess of the MCL over many years could experience problems with their liver, stomach, reproductive system, or kidneys, and may have an increased risk of getting cancer.
(42) Glyphosate. Some people who drink water containing glyphosate in excess of the MCL over many years could experience problems with their kidneys or reproductive difficulties.
(43) Heptachlor. Some people who drink water containing heptachlor in excess of the MCL over many years could experience liver damage and may have an increased risk of getting cancer.
(44) Heptachlor epoxide. Some people who drink water containing heptachlor epoxide in excess of the MCL over many years could experience liver damage, and may have an increased risk of getting cancer.
(45) Hexachlorobenzene. Some people who drink water containing hexachlorobenzene in excess of the MCL over many years could experience problems with their liver or kidneys, or adverse reproductive effects, and may have an increased risk of getting cancer.
(46) Hexachlorocyclopentadiene. Some people who drink water containing hexachlorocyclopentadiene well in excess of the MCL over many years could experience problems with their kidneys or stomach.
(47) Lindane. Some people who drink water containing lindane in excess of the MCL over many years could experience problems with their kidneys or liver.
(48) Methoxychlor. Some people who drink water containing methoxychlor in excess of the MCL over many years could experience reproductive difficulties.
(49) Oxamyl [Vydate]. Some people who drink water containing oxamyl in excess of the MCL over many years could experience slight nervous system effects.
(50) PCBs [Polychlorinated biphenyls]. Some people who drink water containing PCBs in excess of the MCL over many years could experience changes in their skin, problems with their thymus gland, immune deficiencies, or reproductive or nervous system difficulties, and may have an increased risk of getting cancer.
(51) Pentachlorophenol. Some people who drink water containing pentachlorophenol in excess of the MCL over many years could experience problems with their liver or kidneys, and may have an increased risk of getting cancer.
(52) Picloram. Some people who drink water containing picloram in excess of the MCL over many years could experience problems with their liver.
(53) Simazine. Some people who drink water containing simazine in excess of the MCL over many years could experience problems with their blood.
(54) Toxaphene. Some people who drink water containing toxaphene in excess of the MCL over many years could have problems with their kidneys, liver, or thyroid, and may have an increased risk of getting cancer.
Volatile Organic Contaminants:
(55) Benzene. Some people who drink water containing benzene in excess of the MCL over many years could experience anemia or a decrease in blood platelets, and may have an increased risk of getting cancer.
(56) Carbon Tetrachloride. Some people who drink water containing carbon tetrachloride in excess of the MCL over many years could experience problems with their liver and may have an increased risk of getting cancer.
(57) Chlorobenzene. Some people who drink water containing chlorobenzene in excess of the MCL over many years could experience problems with their liver or kidneys.

(58) o-Dichlorobenzene. Some people who drink water containing o-dichlorobenzene well in excess of the MCL over many years could experience problems with their liver, kidneys, or circulatory systems.
(59) p-Dichlorobenzene. Some people who drink water containing p-dichlorobenzene in excess of the MCL over many years could experience anemia, damage to their liver, kidneys, or spleen, or changes in their blood.
(60) 1,2-Dichloroethane. Some people who drink water containing 1,2-dichloroethane in excess of the MCL over many years may have an increased risk of getting cancer.
(61) 1,1-Dichloroethylene. Some people who drink water containing 1,1-dichloroethylene in excess of the MCL over many years could experience problems with their liver.
(62) cis-1,2-Dichloroethylene. Some people who drink water containing cis-1,2-dichloroethylene in excess of the MCL over many years could experience problems with their liver.
(63) trans-1,2-Dicholoroethylene. Some people who drink water containing trans-1,2-dichloroethylene well in excess of the MCL over many years could experience problems with their liver.
(64) Dichloromethane. Some people who drink water containing dichloromethane in excess of the MCL over many years could have liver problems and may have an increased risk of getting cancer.
(65) 1,2-Dichloropropane. Some people who drink water containing 1,2-dichloropropane in excess of the MCL over many years may have an increased risk of getting cancer.
(66) Ethylbenzene. Some people who drink water containing ethylbenzene well in excess of the MCL over many years could experience problems with their liver or kidneys.
(67) Styrene. Some people who drink water containing styrene well in excess of the MCL over many years could have problems with their liver, kidneys, or circulatory system.
(68) Tetrachloroethylene. Some people who drink water containing tetrachloroethylene in excess of the MCL over many years could have problems with their liver, and may have an increased risk of getting cancer.
(69) 1,2,4-Trichlorobenzene. Some people who drink water containing 1,2,4-trichlorobenzene well in excess of the MCL over many years could experience changes in their adrenal glands.
(70) 1,1,1,-Trichloroethane. Some people who drink water containing 1,1,1-trichloroethane in excess of the MCL over many years could experience problems with their liver, nervous system, or circulatory system.
(71) 1,1,2-Trichloroethane. Some people who drink water containing 1,1,2-trichloroethane well in excess of the MCL over many years could have problems with their liver, kidneys, or immune systems.
(72) Trichloroethylene. Some people who drink water containing trichloroethylene in excess of the MCL over many years could experience problems with their liver and may have an increased risk of getting cancer.
(73) TTHMs [Total Trihalomethanes]. Some people who drink water containing trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous systems, and may have an increased risk of getting cancer.
(74) Toluene. Some people who drink water containing toluene well in excess of the MCL over many years could have problems with their nervous system, kidneys, or liver.
(75) Vinyl Chloride. Some people who drink water containing vinyl chloride in excess of the MCL over many years may have an increased risk of getting cancer.
(76) Xylenes. Some people who drink water containing xylenes in excess of the MCL over many years could experience damage to their nervous system.

PART 142 - NATIONAL PRIMARY DRINKING WATER REGULATIONS IMPLEMENTATION

1. The authority citation for Part 142 is revised to read as follows:

AUTHORITY: 42 U.S.C. 300f, 300g-1, 300g-2, 300g-3, 300g-4, 300g-5, 300g-6, 300j-4, 300j-9, and 300j-11.

2. Section 142.10 is amended by adding a new paragraph (b)(6)(vii) as follows:

§142.10 Requirements for a determination of primary enforcement responsibility.

* * * * *

(b)* * *

(6)* * *

(vii) Authority to require community water systems to provide consumer confidence reports as required under 40 CFR part 141, Subpart O.

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3. Section 142.16 is amended by adding paragraph (f) to read as follows:

§142.16 Special primacy requirements.

* * * * *

(f) *Consumer Confidence Report requirements*.

(1) Each State that has primary enforcement responsibility must adopt the requirements of 40 CFR part 141, Subpart O no later than [insert date 2 years after date of publication in the FEDERAL REGISTER]. States must submit revised programs to EPA for approval using the procedures in §142.12(b) through (d).
(2) Each State that has primary enforcement responsibility must make reports submitted to the States in compliance with 40 CFR 141.155(b) available to the public upon request.
(3) Each State that has primary enforcement responsibility must maintain a copy of the reports for a period of one year and the certifications obtained pursuant to 40 CFR 141.155(b) for a period of 5 years.
(4) Each State that has primary enforcement responsibility must report violations of this subpart in accordance with the requirements of section §142.15(a)(1).

4. Section 142.72 is amended by revising the introductory text to read as follows:

§142.72 Requirements for Tribal eligibility.

The Administrator is authorized to treat an Indian tribe as eligible to apply for primary enforcement for the Public Water System Program and the authority to waive the mailing requirements of §141.155(a) if it meets the following criteria:

* * * * *

5. Section 142.78 is amended by revising section (b) to read as follows:

§142.78 Procedure for processing an Indian Tribe's application.

* * * * *

(b) A tribe that meets the requirements of §141.72 is eligible to apply for development grants and primacy enforcement responsibility for a Public Water System Program and associated funding under section 1443(a) of the Act and for primary enforcement responsibility for public water systems under section 1413 of the Act and for the authority to waive the mailing requirement of §144.155(a).