Document: Proposed Rule, **Register Page Number:** 24 IR 3706
Source: August 1, 2001, Indiana Register, Volume 24, Number 11
Disclaimer: This document was created from the files used to produce the official (printed) Indiana Register. However, this document is unofficial.

TITLE 327 WATER POLLUTION CONTROL BOARD

Proposed Rule
LSA Document #00-266

DIGEST

Amends 327 IAC 8-2 and 327 IAC 8-2.1 concerning public notification requirements for public water supply systems. Repeals 327 IAC 8-2-15, 327 IAC 8-2-16, 327 IAC 8-2-17, and 327 IAC 8-2-18. Effective 30 days after filing with the secretary of state.

HISTORY

First Notice of Comment Period: #00-266 (WPCB) December 1, 2000, Indiana Register (24 IR 803).

Second Notice of Comment Period and Notice of First Hearing: #00-266 (WPCB) February 1, 2001, Indiana Register (24 IR 1478).

Continuation of Second Comment Period and Notice of Rescheduled First Hearing: #00-266 (WPCB) March 1, 2001, Indiana Register (24 IR 1977).

Change in Notice of Public Hearing: #00-266(WPCB) June 1, 2001, Indiana Register (24 IR 2723).

Date of First Hearing: June 13, 2001.

PUBLIC COMMENTS UNDER IC 13-14-9-4.5

IC 13-14-9-4.5 states that a board may not adopt a rule under IC 13-14-9 that is substantively different from the draft rule published under IC 13-14-9-4, until the board has conducted a third comment period that is at least twenty-one (21) days long. This proposed rule is not substantively different from the draft rule published on February 1, 2001, at 24 IR 1478; therefore, the Indiana Department of Environmental Management (IDEM) is not requesting additional comment on this proposed rule.

SUMMARY/RESPONSE TO COMMENTS FROM THE SECOND COMMENT PERIOD

IDEM requested public comment from February 1, 2001, through March 31, 2001 on IDEM's draft rule language. No comments were received during the second comment period.

SUMMARY/RESPONSE TO COMMENTS RECEIVED AT THE FIRST PUBLIC HEARING

On June 13, 2001, the water pollution control board (board) conducted the first public hearing/board meeting on the amendments to 327 IAC 8-2 and the amendments and additions to 327 IAC 8-2.1. No comments were made at the first hearing.

327 IAC 8-2-1	**327 IAC 8-2-18**
327 IAC 8-2-2	**327 IAC 8-2-20**
327 IAC 8-2-4	**327 IAC 8-2.1-3**
327 IAC 8-2-4.1	**327 IAC 8-2.1-6**
327 IAC 8-2-5.1	**327 IAC 8-2.1-7**
327 IAC 8-2-5.3	**327 IAC 8-2.1-8**
327 IAC 8-2-5.5	**327 IAC 8-2.1-9**
327 IAC 8-2-7	**327 IAC 8-2.1-10**
327 IAC 8-2-8.4	**327 IAC 8-2.1-11**
327 IAC 8-2-10.2	**327 IAC 8-2.1-12**
327 IAC 8-2-13	**327 IAC 8-2.1-13**
327 IAC 8-2-14	**327 IAC 8-2.1-14**
327 IAC 8-2-15	**327 IAC 8-2.1-15**
327 IAC 8-2-16	**327 IAC 8-2.1-16**
327 IAC 8-2-17	**327 IAC 8-2.1-17**

SECTION 1. 327 IAC 8-2-1 IS AMENDED TO READ AS FOLLOWS:

327 IAC 8-2-1 Definitions

Authority: IC 13-13-5; IC 13-14-8-7; IC 13-14-9; IC 13-18-3; IC 13-18-16
Affected: IC 13-11-2; IC 13-18

Sec. 1. In addition to the definitions contained in IC 13-11-2 and 327 IAC 1, the following definitions apply throughout this rule:

(1) "Act" means the Safe Drinking Water Act (42 U.S.C. 300f et seq.).

(2) "Action level" means the concentration of lead or copper in water specified in section 36(c) of this rule which determines, in some cases, the treatment requirements contained in sections 36 through 47 of this rule, that a water system is required to complete.

(3) "Adjustment program" means the addition of fluoride to drinking water by a public water system for the prevention of dental cavities.

(4) "Administrator" means the administrator of the U.S. EPA.

(5) "Best available technology (BAT)" means best technology, treatment techniques, or other means which the commissioner finds are available, after examination for efficacy under field conditions, and not solely under laboratory conditions, and after taking cost into consideration. For the purpose of setting maximum contaminant levels for synthetic organic chemicals, any BAT must be at least as effective as granular activated carbon.

(6) "Coagulation" means a process using coagulant chemicals and mixing by which colloidal and suspended materials are destabilized and agglomerated into flocs.

(7) "Commissioner" means the commissioner of the Indiana department of environmental management or the designated agent of the commissioner.

(8) "Community water system" means a public water system which serves at least fifteen (15) service connections used by year-round residents or regularly serves at least twenty-five (25) year-round residents.

(9) "Compliance cycle" means the nine (9) year calendar year cycle during which public water systems must monitor. Each compliance cycle consists of three (3) three-year compliance periods. The first calendar year cycle begins January 1, 1993, and ends December 31, 2001; the second begins January 1, 2002, and ends December 31, 2010; the third begins January 1, 2011, and ends December 31, 2019.

(10) "Compliance period" means a three (3) year calendar year period within a compliance cycle. Each compliance cycle has three (3) three-year compliance periods. Within the first compliance cycle, the first compliance period runs from January 1, 1993, to December 31, 1995; the second from January 1, 1996, to December 31, 1998; the third from January 1, 1999, to December 31, 2001. **Within the second compliance cycle, the first compliance period runs from January 1, 2002, to December 31, 2004; the second from January 1, 2005, to December 31, 2007; and the third from January 1, 2008, to December 31, 2010. Within the third compliance cycle, the first compliance period runs from January 1, 2011, to December 31, 2013; the second from January 1, 2014, to December 31, 2016; and the third from January 1, 2017, to December 31, 2019.**

(11) "Confluent growth" means a continuous bacterial growth covering the entire filtration area of a membrane filter, or a portion thereof, in which bacterial colonies are not discrete.

(12) "Contaminant" means any micro-organisms, chemicals, waste, physical substance, radiological substance, or any wastewater introduced or found in the drinking water.

(13) "Conventional filtration treatment" means a series of processes including coagulation, flocculation, sedimentation, and filtration resulting in substantial particulate removal.

(14) "Corrosion inhibitor" means a substance capable of reducing the corrosivity of water toward metal plumbing materials, especially lead and copper, by forming a protective film on the interior surface of those materials.

(15) "CT" or "CTcalc" is the product of residual disinfectant concentration (C) in milligrams per liter determined before or at the first customer and the corresponding disinfectant contact time (T) in minutes, such as C × T. If a public water system applies disinfectants at more than one (1) point prior to the first customer, it must determine the CT of each disinfectant sequence before or at the first customer to determine the total percent inactivation or total inactivation ratio. In determining the total inactivation ratio, the public water system must determine the residual disinfectant concentration of each disinfection sequence and corresponding contact time before any subsequent disinfection application point. $CT_{99.9}$ is the CT value required for ninety-nine and nine-tenths percent (99.9%) (3-log) inactivation of Giardia lamblia cysts. $CT_{99.9}$ for a variety of disinfectants and conditions appears in Tables 1.1-1.6, 2.1, and 3.1 of paragraph 141.74(b)(3)[1].

$$\frac{CTcalc}{CT_{99.9}}$$

is the inactivation ratio. The sum of the inactivation ratios or total inactivation ratio shown as:

$$j \quad \frac{(CTcalc)}{(CT_{99.9})}$$

is calculated by adding together the inactivation ratio for each disinfection sequence. A total inactivation ratio equal to or greater than one (1.0) is assumed to provide a 3-log inactivation of Giardia lamblia cysts.

(16) "Diatomaceous earth filtration" means a process resulting in substantial particulate removal in which:

(A) a precoat cake of diatomaceous earth filter media is deposited on a support membrane (septum); and

(B) while the water is filtered by passing through the cake on the septum, additional filter media known as body feed is continuously added to the feed water to maintain the permeability of the filter cake.

(17) "Direct filtration" means a series of processes, including coagulation and filtration but excluding sedimentation resulting in substantial particulate removal.

(18) "Disinfectant" means any oxidant, including, but not limited to, chlorine, chlorine dioxide, chloramines, and ozone added to water in any part of the treatment or distribution process that is intended to kill or inactivate pathogenic micro-organisms.

(19) "Disinfectant contact time" (T in CT calculations) means the time in minutes that it takes for water to move from the point of disinfectant application or the previous point of disinfectant residual measurement to a point before or at the point where residual disinfectant concentration (C) is measured. Where only one (1) C is measured, T is the time in minutes that it takes for water to move from the point of disinfectant application to a point before or at where C is measured. Where more than one (1) C is measured, T is:

(A) for the first measurement of C, the time in minutes that it takes for water to move from the first or only point of disinfectant application to a point before or at the point where the first C is measured; and

(B) for subsequent measurements of C, the time in minutes that it takes for water to move from the previous C measurement point to the C measurement point for which the particular T is being calculated.

Disinfectant contact time in pipelines must be calculated based on plug flow by dividing the internal volume of the pipe by the maximum hourly flow rate through that pipe. Disinfectant contact time within mixing basins and storage reservoirs must be determined by tracer studies or an equivalent demonstration.

(20) "Disinfection" means a process which inactivates pathogenic organisms in water by chemical oxidants or equivalent agents.

(21) "Domestic or other nondistribution system plumbing problem" means a coliform contamination problem in a public water system with more than one (1) service connection that is limited to the specific service connection from which the coliform-positive sample was taken.

(22) "Dose equivalent" means the product of the absorbed dose from ionizing radiation and such factors as account for differences in biological effectiveness due to the type of radiation and its distribution in the body as specified by the International Commission on Radiological Units and Measurements (ICRUM).

(23) "Drinking water violation" means violations of the maximum contaminant level (MCL), treatment technique (TT), monitoring requirements, and testing procedures in this rule. 327 IAC 8-2.1-16 identifies the tier assignment for each specific violation or situation requiring a public notice.

~~(23)~~ **(24)** "Effective corrosion inhibitor residual" means a concentration sufficient to form a passivating film on the interior walls of a pipe for the purpose of sections 36 through 47 of this rule only.

~~(24)~~ **(25)** "Filtration" means a process for removing particulate matter from water by passage through porous media.

~~(25)~~ **(26)** "First draw sample" means a one (1) liter sample of tap water collected in accordance with section 37 of this rule, that has been standing in the plumbing pipes at least six (6) hours and is collected without flushing the tap.

~~(26)~~ **(27)** "Flocculation" means a process to enhance agglomeration or collection of smaller floc particles into larger, more easily settleable particles through gentle stirring by hydraulic or mechanical means.

~~(27)~~ **(28)** "Gross alpha particle activity" means the total radioactivity due to alpha particle emission as inferred from measurements on a dry sample.

~~(28)~~ **(29)** "Gross beta particle activity" means the total radioactivity due to beta particle emission as inferred from measurements on a dry sample.

~~(29)~~ **(30)** "Ground water under the direct influence of surface water" means any water beneath the surface of the ground with:

(A) significant occurrence of insects or other macro-organisms, algae, or large-diameter pathogens such as Giardia lamblia; or

(B) significant and relatively rapid shifts in water characteristics such as turbidity, temperature, conductivity, or pH which closely correlate to climatological or surface water conditions.

Direct influence must be determined for individual sources in accordance with criteria established by the commissioner. The commissioner's determination of direct influence may be based on site-specific measurements of water quality and/or documentation of well construction characteristics and geology with field evaluation.

~~(30)~~ **(31)** "Halogen" means one (1) of the chemical elements chlorine, bromine, or iodine.

~~(31)~~ **(32)** "Initial compliance period" means January 1993 to December 1995, for the contaminants listed in sections 4 (other than arsenic, barium, cadmium, fluoride, lead, mercury, selenium, and silver), 5, and 5.4(a) (other than benzene, vinyl chloride, carbon tetrachloride, 1,2-dichloroethane, trichloroethylene, 1,1-dichloroethylene, 1,1,1-trichloroethane, and para-dichlorobenzene) of this rule.

~~(32)~~ **(33)** "Large water system" means a water system that serves more than fifty thousand (50,000) people for the purpose of sections 36 through 47 of this rule only.

~~(33)~~ **(34)** "Lead service line" means a service line made of lead which connects the water main to the building inlet and any lead pigtail, gooseneck, or other fitting which is connected to such lead line.

~~(34)~~ **(35)** "Legionella" means a genus of bacteria, some species of which have caused a type of pneumonia called Legionnaires Disease.

~~(35)~~ **(36)** "Manmade beta particle and photon emitters" means all radionuclides emitting beta particle and/or photons listed in "Maximum Permissible Body Burdens and Maximum Permissible Concentration of Radionuclides in Air or Water for Occupational Exposure", NBS Handbook 69, as amended August 1973, U.S. Department of Commerce, except the daughter products of thorium-232, uranium-235, and uranium-238.

~~(36)~~ **(37)** "Maximum contaminant level (MCL)" means the maximum permissible level of a contaminant in water which is delivered to the free flowing outlet of the ultimate user of a public water system, except in the case of turbidity where the maximum permissible level is measured at the point of entry to the distribution system. Contaminants added to the water under circumstances controlled by the user, except those resulting from corrosion of piping and plumbing caused by water quality, are excluded from this definition.

~~(37)~~ **(38)** "Maximum contaminant level goal (MCLG)" means the maximum level of a contaminant in drinking water at which no known or anticipated adverse effect on the health of persons would occur and which includes an adequate margin of safety. Maximum contaminant level goals are nonenforceable health goals.

~~(38)~~ **(39)** "Maximum total trihalomethane potential (MTP)" means the maximum concentration of total trihalomethanes produced in a given water containing a disinfectant residual after seven (7) days at a temperature of twenty-five (25) degrees Celsius or above.

~~(39)~~ **(40)** "Medium size water system" means a water system that serves greater than three thousand three hundred (3,300) and less than or equal to fifty thousand (50,000) persons for the purpose of sections 36 through 47 of this rule only.

~~(40)~~ **(41)** "Near the first service connection" means at one (1) of the twenty percent (20%) of all service connections in the entire system that are nearest the water supply treatment facility, as measured by water transport time within the distribution system.

~~(41)~~ **(42)** "Noncommunity water system" means a public water system which has at least fifteen (15) service connections used by nonresidents or which regularly serves twenty-five (25) or more nonresident individuals daily for at least sixty (60) days per year.

~~(42)~~ **(43)** "Nontransient noncommunity water system (NTNCWS)" means a public water system that is not a community water system which regularly serves the same twenty-five (25) or more persons at least six (6) months per year.

~~(43)~~ **(44)** "Optimal corrosion control treatment" means the corrosion control treatment that minimizes the lead and copper concentrations at users' taps while ensuring that the treatment does not cause the water system to violate any national primary drinking water regulations for the purpose of sections 36 through 47 of this rule only.

~~(44)~~ **(45)** "Performance evaluation sample" means a reference sample provided to a laboratory for the purpose of demonstrating that the laboratory can successfully analyze the sample within limits of performance specified by the administrator. The true value of the concentration of the reference material is unknown to the laboratory at the time

of the analysis.
~~(45)~~ **(46)** "Picocuri (pCi)" means the quantity of radioactive material producing two and twenty-two hundredths (2.22) nuclear transformations per minute.
~~(46)~~ **(47)** "Point of disinfectant application" is the point where the disinfectant is applied and water downstream of that point is not subject to recontamination by surface water run-off.
~~(47)~~ **(48)** "Point-of-entry treatment device (POE)" is a treatment device applied to the drinking water entering a house or building for the purpose of reducing contaminants in drinking water distributed throughout the house or building.
~~(48)~~ **(49)** "Point-of-use treatment device (POU)" is a treatment device to a single tap used for the purpose of reducing contaminants in drinking water at that one (1) tap.
(50) "Primacy agency" is the department of environmental management where the department exercise primary enforcement responsibility as granted by EPA.
~~(49)~~ **(51)** "Public water system" means a public water supply for the provision to the public of water for human consumption through pipes or other constructed conveyances, if such system has at least fifteen (15) service connections or regularly serves at least twenty-five (25) individuals daily at least sixty (60) days out of the year. "Public water system" includes any collection, treatment, storage, and distribution facilities under control of the operator of such system, and used primarily in connection with such system and any collection or pretreatment storage facilities not under such control that are used primarily in connection with such system. A public water system is either a community water system or a noncommunity water system, as defined in subdivisions (8) and ~~(41).~~ **(42).**
~~(50)~~ **(52)** "Rem" means the unit of dose equivalent from ionizing radiation to the total body or any internal organ or organ system. A millirem (mrem) is one-thousandth (1/1,000) of a rem.
~~(51)~~ **(53)** "Repeat compliance period" means any subsequent compliance period after the initial compliance period.
~~(52)~~ **(54)** "Residual disinfectant concentration"(C in CT calculations) means the concentration of disinfectant measured in milligrams per liter in a representative sample of water.
~~(53)~~ **(55)** "Sanitary survey" means an on-site inspection of the water source, facilities, equipment, construction, and operation and maintenance of a public water system for the purpose of evaluating the adequacy of such source, facilities, equipment, construction, and operation and maintenance for producing and distributing safe drinking water.
~~(54)~~ **(56)** "Sedimentation" means a process for removal of solids before filtration by gravity or separation.
~~(55)~~ **(57)** "Service line sample" means a one (1) liter sample of water collected in accordance with section 37(b)(3) of this rule that has been standing at least six (6) hours in a service line.
~~(56)~~ **(58)** "Single family structure" means a building constructed as a single family residence that is currently being used as either a residence or a place of business for the purpose of sections 36 through 47 of this rule only.
~~(57)~~ **(59)** "Slow sand filtration" means a process involving passage of raw water through a bed of sand at low velocity (generally less than four-tenths (0.4) meter per hour or forty-five (45) to one hundred fifty (150) gallons per day per square foot) resulting in substantial particulate removal by physical and biological mechanisms.
~~(58)~~ **(60)** "Small water system" means a water system that serves three thousand three hundred (3,300) persons or fewer for the purpose of sections 36 through 47 of this rule only.
~~(59)~~ **(61)** "Standard sample" means the aliquot of finished drinking water that is examined for the presence of coliform bacteria.
~~(60)~~ **(62)** "Supplier of water" means any person who owns and/or operates a public water system.
~~(61)~~ **(63)** "Surface water" means all water occurring on the surface of the ground, including water in a stream, natural and artificial lakes, ponds, swales, marshes, and diffused surface water.
~~(62)~~ **(64)** "System with a single service connection" means a public water system which supplies drinking water to consumers via a single service line.
~~(63)~~ **(65)** "Too numerous to count" means that the total number of bacterial colonies exceeds two hundred (200) on a forty-seven (47) millimeter diameter membrane filter used for coliform detection.
~~(64)~~ **(66)** "Total trihalomethanes (TTHM)" means the sum of the concentration in milligrams per liter of the trihalomethane compounds:
(A) trichloromethane (chloroform);
(B) dibromochloromethane;
(C) bromodichloromethane; and
(D) tribromomethane (bromoform);
rounded to two (2) significant figures.
~~(65)~~ **(67)** "Transient noncommunity water system (TWS)" means a noncommunity water system that does not regularly serve at least twenty-five (25) of the same persons over six (6) months per year.

~~(66)~~ **(68)** "Trihalomethane (THM)" means one (1) of the family of organic compounds, named as derivatives of methane, wherein three (3) of the four (4) hydrogen atoms in methane are each substituted by a halogen atom in the molecular structure.

~~(67)~~ **(69)** "U.S. EPA" or "EPA" means the United States Environmental Protection Agency.

~~(68)~~ **(70)** "Virus" means a virus of fecal origin which is infectious to humans by waterborne transmission.

~~(69)~~ **(71)** "Waterborne disease outbreak" means the significant occurrence of acute infectious illness epidemiologically associated with the ingestion of water from a public water system which is deficient in treatment as determined by the commissioner.

[1]Federal Register, Part II, 40 CFR 141, June 29, 1989, Volume 54, Number 124, pages 27532 through 27534.

(Water Pollution Control Board; 327 IAC 8-2-1; filed Sep 24, 1987, 3:00 p.m.: 11 IR 705; filed Dec 28, 1990, 5:10 p.m.: 14 IR 1003; errata filed Jan 9, 1991, 2:30 p.m.: 14 IR 1070; errata filed Aug 6, 1991, 3:45 p.m.: 14 IR 2258; filed Apr 12, 1993, 11:00 a.m.: 16 IR 2151; filed Aug 24, 1994, 8:15 a.m.: 18 IR 19; errata filed Oct 11, 1994, 2:45 p.m.: 18 IR 531; filed Oct 24, 1997, 4:30 p.m.: 21 IR 932; filed Mar 6, 2000, 7:56 a.m.: 23 IR 1623)

SECTION 2. 327 IAC 8-2-2 IS AMENDED TO READ AS FOLLOWS:

327 IAC 8-2-2 Applicability of rule; modification of monitoring requirements

Authority: IC 13-13-5; IC 13-14-8-7; IC 13-14-9; IC 13-18-3; IC 13-18-16
Affected: IC 13-18

Sec. 2. (a) Each public water system shall comply with all of the provisions of this rule **and 327 IAC 8-2.1** unless the public water system meets all of the following conditions:

(1) Consists only of distribution and storage facilities and does not have collection and treatment facilities.

(2) Obtains all of its water from, but is not owned or operated by, a public water system to which this article applies.

(3) Does not sell water to any person.

(4) Is not a carrier which conveys passengers in interstate commerce.

(b) When a public water system supplies water to one (1) or more public water systems, the commissioner may modify the monitoring requirements imposed by this rule to the extent that the interconnection of the systems justifies treating them as a single system for monitoring purposes. Any modified monitoring shall be conducted pursuant to a schedule specified by the commissioner and concurred in by the administrator. The commissioner shall provide a copy of the determination to the administrator. *(Water Pollution Control Board; 327 IAC 8-2-2; filed Sep 24, 1987, 3:00 p.m.: 11 IR 706; filed Dec 28, 1990, 5:10 p.m.: 14 IR 1006; errata filed Aug 6, 1991, 3:45 p.m.: 14 IR 2258)*

SECTION 3. 327 IAC 8-2-4 IS AMENDED TO READ AS FOLLOWS:

327 IAC 8-2-4 Inorganic chemicals; maximum contaminant levels

Authority: IC 13-13-5; IC 13-14-8-7; IC 13-14-9; IC 13-18-3; IC 13-18-16
Affected: IC 13-18

Sec. 4. (a) The following MCLs for inorganic chemicals apply to all community water systems, nontransient noncommunity water systems, and transient noncommunity systems except as provided in subsection (b):

Contaminant	Level in Milligrams Per Liter
Nitrate	10 (as nitrogen)
Nitrite	1 (as nitrogen)
Nitrate and nitrite	10 (as nitrogen)

(b) The commissioner may allow nitrate levels up to, but not to exceed, twenty (20) milligrams per liter in a noncommunity water system if the supplier of water meets all of the following conditions:

(1) Such water will not be available to children under six (6) months of age.

(2) There will be continuous posting of the fact that nitrate levels exceed ten (10) milligrams per liter and the potential health effects of exposure.

(3) Local and state public health authorities shall be notified annually of nitrate levels that exceed ten (10) milligrams per liter.

(4) No adverse health effects shall result.

(5) The commissioner may require additional notice to the public as provided by ~~section 15 of this rule.~~ **327 IAC 8-2.1-14.**

(c) The following MCL for fluoride applies to all community water systems:

Contaminant	Level in Milligrams Per Liter
Fluoride	4.0

(d) The following MCLs for inorganic chemicals apply to all community water systems and nontransient noncommunity water systems:

Contaminant	Level in Milligrams Per Liter Except Asbestos
Antimony	0.006
Arsenic	0.05
Asbestos	7 (MFL)[1]
Barium	2
Beryllium	0.004
Cadmium	0.005
Chromium	0.1
Cyanide (free)	0.2
Mercury	0.002
Selenium	0.05
Thallium	0.002

[1]MFL = million fibers per liter greater than ten (10) micrometers.

(e) For the inorganic chemicals listed in this section and nickel, the monitoring frequency is specified in section 4.1 of this rule and analytical methods are specified in section 4.2 of this rule.

(f) The commissioner hereby identifies the following as the best available technology, treatment technique, or other means available for achieving compliance with the MCLs for inorganic contaminants identified in subsections (a), (c), and (d), except fluoride:

BAT for Inorganic Chemicals Listed in This Section

Chemical Name	BATs
Antimony	2,7
Asbestos	2,3,8
Barium	5,6,7,9
Beryllium	1,2,5,6,7
Cadmium	2,5,6,7
Chromium	2,5,6[2],7
Cyanide	5,7,10
Mercury	2[1],4,6[1],7[1]
Nitrate	5,7,9
Nitrite	5,7
Selenium	1,2[3],6,7,9
Thallium	1,5

[1]BAT only if influent mercury concentrations less than ten (10) micrograms per liter.
[2]BAT for Chromium III only.
[3]BAT for Selenium IV only.
Key to BATs in Table
1 = Activated alumina
2 = Coagulation/filtration

3 = Direct and diatomite filtration
4 = Granular activated carbon
5 = Ion exchange
6 = Lime softening
7 = Reverse osmosis
8 = Corrosion control
9 = Electrodialysis
10 = Chlorine
11 = Ultraviolet
(Water Pollution Control Board; 327 IAC 8-2-4; filed Sep 24, 1987, 3:00 p.m.: 11 IR 706; filed Dec 28, 1990, 5:10 p.m.: 14 IR 1006; filed Aug 24, 1994, 8:15 a.m.: 18 IR 22; filed Aug 25, 1997, 8:00 a.m.: 21 IR 34)

SECTION 4. 327 IAC 8-2-4.1, PROPOSED TO BE AMENDED AT 23 IR 2550, SECTION 1, IS AMENDED TO READ AS FOLLOWS:

327 IAC 8-2-4.1 Collection of samples for inorganic chemical testing
Authority: IC 13-13-5; IC 13-14-8-7; IC 13-14-9; IC 13-18-3; IC 13-18-16
Affected: IC 13-18

Sec. 4.1. (a) Community water systems shall conduct monitoring to determine compliance with the MCLs specified in section 4(a), 4(c), and 4(d) of this rule in accordance with this section. Nontransient noncommunity water systems shall conduct monitoring to determine compliance with the MCLs specified in section 4(a) and 4(d) of this rule in accordance with this section. Transient noncommunity water systems shall conduct monitoring to determine compliance with the MCLs specified in section 4(a) of this rule in accordance with this section.

(b) When a contaminant listed in section 4 of this rule exceeds the MCL, the supplier of water shall report to the commissioner under section 13 of this rule and shall give notice to the public under ~~section 15 of this rule.~~ **327 IAC 8-2.1-7 through 327 IAC 8-2.1-16.** Monitoring after public notification shall be at a frequency designated by the commissioner and shall continue until the MCL has not been exceeded in two (2) successive samples or until a monitoring schedule as a condition to ~~a variance, exemption, or~~ **an** enforcement action shall become effective.

(c) Monitoring shall be conducted as follows:
(1) Ground water systems shall take a minimum of one (1) sample at every entry point to the distribution system which is representative of each well after treatment (hereafter called a sampling point) beginning in the compliance period starting January 1, 1993. The system shall take each sample at the same sampling point unless conditions make another sampling point more representative of each source or treatment plant.
(2) Surface water systems, including systems with a combination of surface and ground sources, shall take a minimum of one (1) sample at every entry point to the distribution system after any application of treatment or in the distribution system at a point which is representative of each source after treatment (hereafter called a sampling point) beginning in the compliance period beginning January 1, 1993. The system shall take each sample at the same sampling point unless conditions make another sampling point more representative of each source or treatment plant.
(3) If a system draws water from more than one (1) source and the sources are combined before distribution, the system must sample at an entry point to the distribution system during periods of normal operating conditions, for example, when water is representative of all sources being used.
(4) The commissioner may reduce the total number of samples which must be analyzed by allowing the use of compositing. Composite samples from a maximum of five (5) samples are allowed, provided that the detection limit of the method used for analysis is less than one-fifth ($^1/_5$) of the MCL. Compositing of samples must be completed in the laboratory as follows:
(A) When a composite sample is analyzed, if the concentration in the composite sample is greater than or equal to one-fifth ($^1/_5$) of the MCL of any inorganic chemical, then a follow-up sample must be analyzed within fourteen (14) days at each sampling point included in the composite. These samples must be analyzed for the contaminants which exceeded one-fifth ($^1/_5$) of the MCL in the composite sample. Detection limits for each analytical method and MCLs for each inorganic contaminant are the following:

Contaminant	MCL (mg/l)	Methodology	Detection Limit (mg/l)
Antimony	0.006	Atomic absorption; furnace	0.003
		Atomic absorption; platform	0.0008[5]
		ICP-mass spectrometry	0.0004
		Hydride-atomic absorption	0.001
Asbestos	7 MFL[1]	Transmission electron microscopy	0.01 MFL
Barium	2	Atomic absorption; furnace	0.002
		Atomic absorption; direct aspiration	0.1
		Inductively coupled plasma	0.002 (0.001)
Beryllium	0.004	Atomic absorption; furnace	0.0002
		Atomic absorption; platform	0.00002[5]
		Inductively coupled plasma[2]	0.0003
		ICP-mass spectrometry	0.0003
Cadmium	0.005	Atomic absorption; furnace	0.0001
		Inductively coupled plasma	0.001
Chromium	0.1	Atomic absorption; furnace	0.001
		Inductively coupled plasma	0.007 (0.001)
Cyanide	0.2	Distillation, spectrophotometric[3]	0.02
		Distillation, automated spectrophotometric[3]	0.005
		Distillation, selective electrode[3]	0.05
		Distillation, amenable, spectrophotometric[4]	0.02
Fluoride	4.0	Colorimetric SPADNS; with distillation	0.1
		Potentiometric ion selective electrode	0.1
		Automated alizarin fluoride blue; with distillation (complexone)	0.05
		Automated ion selective electrode	0.1
Mercury	0.002	Manual cold vapor technique	0.0002
		Automated cold vapor technique	0.0002
Nitrate	10 (as N)	Manual cadmium reduction	0.01
		Automated hydrazine reduction	0.01
		Automated cadmium reduction	0.05
		Ion selective electrode	1
		Ion chromatography	0.01
Nitrite	1 (as N)	Spectrophotometric	0.01
		Automated cadmium reduction	0.05
		Manual cadmium reduction	0.01
		Ion chromatography	0.004
Selenium	0.05	Atomic absorption; furnace	0.002

		Atomic absorption; gaseous hydride	0.002
Thallium	0.002	Atomic absorption; furnace	0.001
		Atomic absorption; platform	0.0007[5]
		ICP-mass spectrometry	0.0003

[1]MFL = million fibers per liter greater than ten (10) micrometers.

[2]Using a 2x preconcentration step as noted in Method 200.7. Lower method detection limits may be achieved when using a 4x preconcentration.

[3]Screening method for total cyanides.

[4]Measures "free" cyanides.

[5]Lower method detection limits are reported using stabilized temperature graphite furnace atomic absorption.

(B) If the population served by the system is greater than three thousand three hundred (3,300) persons, then compositing may only be permitted by the commissioner at sampling points within a single system. In systems serving less than or equal to three thousand three hundred (3,300) persons, the commissioner may permit compositing among different systems provided the five (5) sample limit is maintained.

(C) If duplicates of the original sample taken from each sampling point used in the composite sample are available, the system may use these instead of resampling. The duplicate must be analyzed and the results reported to the commissioner within fourteen (14) days after completing analysis of the composite sample, provided the holding time of the sample is not exceeded.

(5) The frequency of monitoring for:

(A) asbestos shall be in accordance with subsection (d);

(B) antimony, barium, beryllium, cadmium, chromium, cyanide, fluoride, nickel, mercury, selenium, and thallium shall be in accordance with subsection (e);

(C) nitrate shall be in accordance with subsection (f);

(D) nitrite shall be in accordance with subsection (g); and

(E) arsenic shall be in accordance with subsection (l).

(d) The frequency of monitoring conducted to determine compliance with the MCL for asbestos specified in section 4(d) of this rule shall be conducted as follows:

(1) Each community and nontransient noncommunity water system is required to monitor for asbestos during the first three (3) year compliance period of each nine (9) year compliance cycle beginning in the compliance period starting January 1, 1993.

(2) If the system believes it is not vulnerable to either asbestos contamination in its source water or due to corrosion of asbestos-cement pipe, or both, it may apply to the commissioner for a waiver of the monitoring requirement in subdivision (1). If the commissioner grants the waiver, the system is not required to monitor.

(3) The commissioner may grant a waiver based upon a consideration of the following factors:

(A) Potential asbestos contamination of the water source.

(B) The use of asbestos-cement pipe for finished water distribution and the corrosive nature of the water.

(4) A waiver remains in effect for the initial monitoring of the first three (3) year compliance period. Systems not receiving a waiver must monitor in accordance with the provisions of subdivision (1).

(5) A system vulnerable to asbestos contamination due solely to corrosion of asbestos-cement pipe shall take one (1) sample at a tap served by asbestos-cement pipe and under conditions where asbestos contamination is most likely to occur.

(6) A system vulnerable to asbestos contamination due solely to source water shall monitor in accordance with the provision of subsection (c).

(7) A system vulnerable to asbestos contamination due both to its source water supply and corrosion of asbestos-cement pipe shall take one (1) sample at a tap served by asbestos-cement pipe and under conditions where asbestos contamination is most likely to occur.

(8) A system which exceeds the MCLs as determined in section 4 of this rule shall monitor quarterly beginning in the next quarter after the violation occurred.

(9) The commissioner may decrease the quarterly monitoring requirement to the frequency specified in subdivision (1) provided the commissioner has determined that the system is reliably and consistently below the MCL. In no case

can the commissioner make this determination unless a ground water system takes a minimum of two (2) quarterly samples and a surface (or combined surface/ground) water system takes a minimum of four (4) quarterly samples.

(10) If monitoring data collected after January 1, 1990, are generally consistent with the requirements of this subsection, then the commissioner may allow systems to use that data to satisfy the monitoring requirement for the initial compliance period beginning January 1, 1993.

(e) The frequency of monitoring conducted for nickel and to determine compliance with the MCLs in section 4 of this rule for antimony, barium, beryllium, cadmium, chromium, cyanide, fluoride, mercury, selenium, and thallium shall be as follows:

(1) Ground water systems shall take one (1) sample at each sampling point during each compliance period. Surface water systems (or combined surface/ground) shall take one (1) sample annually at each sampling point.

(2) The system may apply to the commissioner for a waiver from the monitoring frequencies specified in subdivision (1).

(3) A condition of the waiver shall require that a system take a minimum of one (1) sample while the waiver is effective. The term during which the waiver is effective shall not exceed one (1) compliance cycle which is nine (9) years.

(4) The commissioner may grant a waiver provided surface water systems have monitored annually for at least three (3) years and ground water systems have conducted a minimum of three (3) rounds of monitoring. (At least one (1) sample shall have been taken since January 1, 1990.) Both surface and ground water systems shall demonstrate that all previous analytical results were less than the maximum contaminant level. Systems that use a new water source are not eligible for a waiver until three (3) rounds of monitoring from the new source have been completed. The commissioner may grant a public water system a waiver for monitoring of cyanide, provided that the commissioner determines that the system is not vulnerable due to lack of any industrial source of cyanide.

(5) In determining the appropriate reduced monitoring frequency, the commissioner shall consider the following:

(A) Reported concentrations from all previous monitoring.

(B) The degree of variation in reported concentrations.

(C) Other factors which may affect contaminant concentrations such as:

(i) changes in ground water pumping rates;

(ii) changes in the system's configuration;

(iii) changes in the system's operating procedures; or

(iv) changes in stream flows or characteristics.

(6) A decision by the commissioner to grant a waiver shall be made in writing and shall set forth the basis for the determination. The determination may be initiated by the commissioner or upon an application by the public water system. The public water system shall specify the basis for its request. The commissioner shall review and, where appropriate, revise the determination of the appropriate monitoring frequency when the system submits new monitoring data or when other data relevant to the system's appropriate monitoring frequency becomes available.

(7) Systems which exceed the MCLs as calculated in subsection (k) shall monitor quarterly beginning in the next quarter after the violation occurred.

(8) The commissioner may decrease the quarterly monitoring requirement to the frequencies specified in subdivisions (1) and (2) provided it has determined that the system is reliably and consistently below the MCL. In no case can the commissioner make this determination unless a ground water system takes a minimum of two (2) quarterly samples and a surface water system takes a minimum of four (4) quarterly samples.

(f) All public water systems (community, nontransient noncommunity, and transient noncommunity systems) shall monitor to determine compliance with the MCL for nitrate in section 4(a) of this rule under the following monitoring schedules:

(1) Community and nontransient noncommunity water systems served by ground water systems shall monitor annually beginning January 1, 1993; systems served by surface water shall monitor quarterly beginning January 1, 1993.

(2) For community and nontransient noncommunity water systems, the repeat monitoring frequency for ground water systems shall be quarterly for at least one (1) year following any one (1) sample in which the concentration is greater than or equal to fifty percent (50%) of the MCL. The commissioner may allow a ground water system to reduce the sampling frequency to annually after four (4) consecutive quarterly samples are reliably and consistently less than the MCL.

(3) For community and nontransient noncommunity water systems, the commissioner may allow a surface water

system to reduce the sampling frequency to annually if all analytical results from four (4) consecutive quarters are less than fifty percent (50%) of the MCL. A surface water system shall return to quarterly monitoring if any one (1) sample is greater than or equal to fifty percent (50%) of the MCL.

(4) Each transient noncommunity water system shall monitor annually beginning January 1, 1993.

(5) After the initial round of quarterly sampling is completed, each community and nontransient noncommunity system which is monitoring annually shall take subsequent samples during the quarter which previously resulted in the highest analytical result.

(g) All public water systems (community, nontransient noncommunity, and transient noncommunity systems) shall monitor to determine compliance with the MCL for nitrite in section 4(a) of this rule under the following monitoring schedules:

(1) All public water systems shall take one (1) sample at each sampling point in the compliance period beginning January 1, 1993, and ending December 31, 1995.

(2) After the initial sample, systems where an analytical result for nitrite is less than fifty percent (50%) of the MCL shall monitor at the frequency specified by the commissioner.

(3) For community, nontransient noncommunity, and transient noncommunity water systems, the repeat monitoring frequency for any water system shall be quarterly for at least one (1) year following any one (1) sample in which the concentration is greater than or equal to fifty percent (50%) of the MCL. The commissioner may allow a system to reduce the sampling frequency from quarterly to annually after determining the system is reliably and consistently less than the MCL.

(4) Systems which are monitoring annually shall take each subsequent sample during the quarter which previously resulted in the highest analytical result.

(h) Confirmation sampling shall be as follows:

(1) Where the results of sampling for antimony, asbestos, barium, beryllium, cadmium, chromium, cyanide, fluoride, mercury, selenium, or thallium indicate the MCL has been exceeded, the commissioner may require that one (1) additional sample be collected as soon as possible after the initial sample was taken (but not to exceed two (2) weeks) at the same sampling point.

(2) Where nitrate or nitrite sampling results indicate the MCL has been exceeded, the system shall take a confirmation sample within twenty-four (24) hours of the system's receipt of notification of the analytical results of the first sample. Systems unable to comply with the twenty-four (24) hour sampling requirement must immediately notify the consumers served by the public water system in accordance with ~~section 15 of this rule.~~ **327 IAC 8-2.1-7 through 327 IAC 8-2.1-16.** Systems exercising this option must take and analyze a confirmation sample within two (2) weeks of notification of the analytical results of the first sample.

(3) If a commissioner-required confirmation sample is taken for any contaminant, the results of the initial and confirmation sample shall be averaged. The resulting average shall be used to determine the system's compliance in accordance with subsection (k). The commissioner has the discretion to delete results of obvious sampling errors.

(i) The commissioner may require more frequent monitoring than specified in subsections (d) through (g) or may require confirmation samples for positive and negative results.

(j) Systems may apply to the commissioner to conduct more frequent monitoring than the minimum monitoring frequencies specified in this section.

(k) Compliance with section 4 of this rule shall be determined based on the analytical results obtained at each sampling point in the following manner:

(1) For systems which are conducting monitoring at a frequency greater than annual, compliance with the MCLs for antimony, asbestos, barium, beryllium, cadmium, chromium, cyanide, fluoride, mercury, selenium, or thallium is determined by a running annual average at each sampling point. If the average at any sampling point is greater than the MCL, then the system is out of compliance. If any one (1) sample would cause the annual average to be exceeded, then the system is out of compliance immediately. Any sample below the method detection limit shall be calculated at zero (0) for the purpose of determining the annual average.

(2) For systems which are monitoring annually, or less frequently, the system is out of compliance with the MCLs for antimony, asbestos, barium, beryllium, cadmium, chromium, cyanide, fluoride, mercury, selenium, or thallium if

the level of a contaminant at any sampling point is greater than the MCL. If a confirmation sample is required by the commissioner, the determination of compliance will be based on the average of the two (2) samples.
(3) Compliance with the MCLs for nitrate and nitrite is determined based on one (1) sample if the levels of these contaminants are below the MCLs. If the levels of nitrate and/or nitrite exceed the MCLs in the initial sample, a confirmation sample is required in accordance with subsection (h)(2), and compliance shall be determined based upon the average of the initial and confirmation samples.
(4) If a public water system has a distribution system separable from other parts of the distribution system with no interconnections, the commissioner may allow the system to give public notice to only the area served by that portion of the system which is out of compliance.

(l) The frequency of monitoring conducted to determine compliance with the MCL for arsenic shall be as follows:
(1) Analyses for all community water systems utilizing surface water sources shall be sampled annually.
(2) Analyses for all community water systems utilizing only ground water sources shall be repeated at three (3) year intervals.
(3) The commissioner has the authority to determine compliance or initiate enforcement action based on analytical results.
(4) If the result of an analysis conducted as required in this section indicates that the results exceed the MCL as determined in section 4 of this rule, the supplier of water shall report to the state within seven (7) days and initiate three (3) additional analyses at the same sampling point within one (1) month.
(5) When the average of four (4) analyses made pursuant to this section, rounded to the same number of significant figures as the MCL for the arsenic, exceeds the MCL, the supplier of water shall notify the commissioner and give notice to the public under section 16 of this rule. Monitoring after public notification shall be at a frequency set by the commissioner and shall continue until the MCL has not been exceeded in two (2) consecutive samples or until a monitoring schedule as a condition to ~~a variance, exemption, or~~ **an** enforcement action shall become effective.

(m) Each public water system shall monitor at the time designated by the commissioner during each compliance period.

(n) Sample collection for antimony, asbestos, barium, beryllium, cadmium, chromium, cyanide, fluoride, mercury, nickel, nitrate, nitrite, selenium, and thallium under this section shall be conducted using the sample preservation, container, and maximum holding time procedures specified in the following table:

Contaminant	Preservative[3]	Container[1]	Time[2]
Antimony	HNO_3	P or G	6 months
Asbestos	4EC	P or G	48 hours[4]
Barium	HNO_3	P or G	6 months
Beryllium	HNO_3	P or G	6 months
Cadmium	HNO_3	P or G	6 months
Chromium	HNO_3	P or G	6 months
Cyanide	4EC, NaOH	P or G	14 days
Fluoride	none	P or G	1 month
Mercury	HNO_3	P or G	28 days
Nickel	HNO_3	P or G	6 months
Nitrate	4EC	P or G	48 hours[5]
Nitrate-Nitrite[6]	H_2SO_4	P or G	28 days
Nitrite	4EC	P or G	48 hours
Selenium	HNO_3	P or G	6 months
Thallium	HNO_3	P or G	6 months

[1]P = Plastic, hard or soft; G = glass.
[2]In all cases, samples should be analyzed as soon after collection as possible. Follow additional (if any) information on preservation, containers, or holding times that is specified in method.

[3]When indicated, samples must be acidified at the time of collection to pH < 2 with concentrated acid or adjusted with sodium hydroxide to pH > 12. When chilling is indicated the sample must be shipped and stored at four (4) degrees Celsius or less.
[4]Instructions for containers, preservation procedures, and holding times as specified in Method 100.2 must be adhered to for all compliance analyses including those conducted with Method 100.1.
[5]If the sample is chlorinated, the holding time for an unacidified sample kept at four (4) degrees Celsius is extended to fourteen (14) days.
[6]Nitrate-Nitrite refers to a measurement of total nitrate.
(Water Pollution Control Board; 327 IAC 8-2-4.1; filed Dec 28, 1990, 5:10 p.m.: 14 IR 1007; filed Aug 24, 1994, 8:15 a.m.: 18 IR 23; filed Aug 25, 1997, 8:00 a.m.: 21 IR 34; errata filed Dec 10, 1997, 3:45 p.m.: 21 IR 1347)

SECTION 5. 327 IAC 8-2-5.1, PROPOSED TO BE AMENDED AT 23 IR 2557, SECTION 3, IS AMENDED TO READ AS FOLLOWS:

327 IAC 8-2-5.1 Collection of samples for organic chemical testing other than volatile organic compounds and total trihalomethanes

Authority: IC 13-13-5; IC 13-14-8-7; IC 13-14-9; IC 13-18-3; IC 13-18-16
Affected: IC 13-18

Sec. 5.1. To determine compliance with section 5(a) of this rule, collection of samples for organic chemical testing, other than volatile organic compounds and total trihalomethanes, shall be made as follows:

(1) Ground water systems shall take a minimum of one (1) sample at every entry point to the distribution system which is representative of each well after treatment (hereafter called a sampling point). Each sample must be taken at the same sampling point unless conditions make another sampling point more representative of each source or treatment plant.

(2) Surface water systems, including those systems with a combination of surface and ground sources, shall take a minimum of one (1) sample at points in the distribution system that are representative of each source or at each entry point to the distribution system after treatment (hereafter called a sampling point). Each sample must be taken at the same sampling point unless conditions make another sampling point more representative of each source or treatment plant.

(3) If the system draws water from more than one (1) source and the sources are combined before distribution, the system must sample at an entry point to the distribution system during periods of normal operating conditions such as when water representative of all sources is being used.

(4) The monitoring frequency is as follows:

(A) Each community and nontransient noncommunity water system shall take four (4) consecutive quarterly samples for each contaminant listed in section 5(a) of this rule during each compliance period beginning with the initial compliance period.

(B) Systems serving more than three thousand three hundred (3,300) persons which do not detect a contaminant in the initial compliance period may reduce the sampling frequency to a minimum of two (2) quarterly samples in one (1) year during each repeat compliance period.

(C) Systems serving less than or equal to three thousand three hundred (3,300) persons which do not detect a contaminant in the initial compliance period may reduce the sampling frequency to a minimum of one (1) sample during each repeat compliance period.

(5) Each community and nontransient noncommunity water system may apply to the commissioner for a waiver from the requirement of subdivision (4). A system must reapply for a waiver for each compliance period.

(6) The commissioner may grant a waiver after evaluating the knowledge of previous use, including transport, storage, or disposal of the contaminant within the watershed or zone of influence of the system. If a determination by the commissioner reveals no previous use of the contaminant within the watershed or zone of influence, a waiver may be granted. If previous use of the contaminant is unknown or it has been used previously, then the following factors

shall be used to determine whether a waiver is granted:

(A) Previous analytical results.

(B) The proximity of the system to a potential point or nonpoint source of contamination. (Point sources include spills and leaks of chemicals at or near a water treatment facility or at manufacturing, distribution, or storage facilities, or from hazardous and municipal waste landfills and other waste handling or treatment facilities. Nonpoint sources include the use of pesticides to control insect and weed pests on agricultural areas, forest lands, home and gardens, and other land application uses).

(C) The environmental persistence and transport of the pesticide or polychlorinated biphenyls (PCBs).

(D) How well the water source is protected against contamination due to such factors as:

(i) depth of the well;

(ii) the type of soil; and

(iii) the integrity of the well casing.

(E) Elevated nitrate levels at the water supply source.

(F) Use of PCBs in equipment used in the production, storage, or distribution of water, including, but not limited to, PCBs used in pumps or transformers.

(7) If an organic contaminant listed in section 5(a) of this rule is detected as defined by subdivision (16), in any sample, then the monitoring requirements are as follows:

(A) Each system must monitor quarterly at each sampling point which resulted in a detection.

(B) The commissioner may decrease the quarterly monitoring requirement specified in clause (A) provided it has determined that the system is reliably and consistently below the MCL. In no case shall the commissioner make this determination unless a ground water system takes a minimum of two (2) quarterly samples and a surface water system takes a minimum of four (4) quarterly samples.

(C) After the commissioner determines the system is reliably and consistently below the MCL, the commissioner may allow the system to monitor annually. Systems which monitor annually must monitor during the quarter that previously yielded the highest analytical result.

(D) Systems which have three (3) consecutive annual samples with no detection of contaminant may apply to the commissioner for a waiver as specified in subdivision (6).

(E) If monitoring results in detection of one (1) or more of certain related contaminants (aldicarb, aldicarb sulfoxide, aldicarb sulfone, heptachlor, and heptachlor epoxide), then subsequent monitoring shall include analyses for all related contaminants.

(8) Systems which violate the requirements of section 5(a) of this rule as determined by subdivision (11) must monitor quarterly. After a minimum of four (4) quarterly samples shows the system is in compliance and the commissioner determines the system is reliably and consistently below the MCL, as specified in subdivision (11), the system shall monitor at the frequency specified in subdivision (7)(C).

(9) The commissioner may require a confirmation sample for positive or negative results. If a confirmation sample is required by the commissioner, the result must be averaged with the first sampling result and the average used for the compliance determination as specified in subdivision (11). The commissioner has the discretion to delete results of obvious sampling errors from this calculation.

(10) The commissioner may reduce the total number of samples a system must analyze by allowing the use of compositing. Composite samples from a maximum of five (5) sampling points are allowed, provided that the detection limit of the method used for analysis is less than one-fifth ($^1/_5$) of the MCL. Compositing of samples must be done in the laboratory and analyzed within fourteen (14) days of sample collection.

(A) When a composite sample is analyzed, if the concentration in the composite sample detects one (1) or more contaminants listed in section 5(a) of this rule, then a follow-up sample must be analyzed within fourteen (14) days from each sampling point included in the composite and analyzed for that contaminant.

(B) If duplicates of the original sample taken from each sampling point used in the composite samples are available, the system may use these instead of resampling. The duplicates must be analyzed and the results reported to the commissioner within fourteen (14) days after completion of the composite analysis or before the holding time for the initial sample is exceeded, whichever is sooner.

(C) If the population served by the system is greater than three thousand three hundred (3,300) persons, then compositing may only be permitted by the commissioner at sampling points within a single system. In systems serving less than or equal to three thousand three hundred (3,300) persons, the commissioner may permit compositing among different systems provided the five (5) sample limit is maintained.

(11) Compliance with section 5(a) of this rule shall be determined based on the analytical results obtained at each

sampling point in the following manner:

(A) For systems which are conducting monitoring at a frequency greater than annual, compliance is determined by a running annual average of all samples taken at each sampling point. If the annual average of any sampling point is greater than the MCL, then the system is out of compliance. If the initial sample or a subsequent sample would cause the annual average to be exceeded, then the system is out of compliance immediately. Any samples below the detection limit shall be calculated as zero (0) for purposes of determining the annual average.

(B) If monitoring is conducted annually, or less frequently, the system is out of compliance if the level of a contaminant at any sampling point is greater than the MCL. If a confirmation sample is required by the commissioner, the determination of compliance will be based on the average of two (2) samples.

~~(C) If a public water system has a distribution system separable from other parts of the distribution system with no interconnections, the commissioner may allow the system to give public notice to only that portion of the system which is out of compliance.~~

(12) If monitoring data collected after January 1, 1990, are generally consistent with the requirements of this section and section 5.2 of this rule, then the commissioner may allow systems to use that data to satisfy the monitoring requirement for the initial compliance period.

(13) The commissioner may increase the required monitoring frequency, where necessary, to detect variations within the system such as fluctuations in concentration due to seasonal use and changes in water source.

(14) The commissioner has the authority to determine compliance or initiate enforcement action based upon analytical results and other information compiled by the commissioner's sanctioned representatives or agencies, or both.

(15) Each public water system shall monitor at the time designated by the commissioner within each compliance period.

(16) Method detection levels for contaminants listed in section 5(a) of this rule are as follows:

Contaminant	Detection Limit (mg/l)
Alachlor	0.0002
Atrazine	0.0001
Benzo[a]pyrene	0.00002
Carbofuran	0.0009
Chlordane	0.0002
Dalapon	0.001
1,2-dibromo-3-chloropropane (DBCP)	0.00002
Di(2-ethylhexyl)adipate	0.0006
Di(2-ethylhexyl)phthalate	0.0006
Dinoseb	0.0002
Diquat	0.0004
2,4-D	0.0001
Endothall	0.009
Endrin	0.00001
Ethylene dibromide (EDB)	0.00001
Glyphosate	0.006
Heptachlor	0.00004
Heptachlor epoxide	0.00002
Hexachlorobenzene	0.0001
Hexachlorocyclopentadiene	0.0001
Lindane	0.00002
Methoxychlor	0.0001
Oxamyl	0.002
Picloram	0.0001

Polychlorinated biphenyls (PCBs) (as decachlorobiphenyl)	0.0001
Pentachlorophenol	0.00004
Simazine	0.00007
Toxaphene	0.001
2,3,7,8-TCDD (dioxin)	0.000000005
2,4,5-TP (silvex)	0.0002

(Water Pollution Control Board; 327 IAC 8-2-5.1; filed Dec 28, 1990, 5:10 p.m.: 14 IR 1010; filed Aug 24, 1994, 8:15 a.m.: 18 IR 33; errata filed Oct 11, 1994, 2:45 p.m.: 18 IR 531; filed Aug 25, 1997, 8:00 a.m.: 21 IR 44; filed Apr 21, 1999, 3:22 p.m.: 22 IR 2862; errata filed Apr 28, 1999, 6:36 p.m.: 22 IR 2883)

SECTION 6. 327 IAC 8-2-5.3, PROPOSED TO BE AMENDED AT 23 IR 2562, SECTION 5, IS AMENDED TO READ AS FOLLOWS:

327 IAC 8-2-5.3 Collection of samples for total trihalomethanes testing; community water systems
Authority: IC 13-13-5; IC 13-14-8-7; IC 13-14-9; IC 13-18-3; IC 13-18-16
Affected: IC 13-11-2; IC 13-14-8; IC 13-18-1; IC 13-18-2

Sec. 5.3. (a) To determine compliance with section 5 of this rule, each community water system which serves ten thousand (10,000) or more individuals and which adds a disinfectant (oxidant) to the water in any part of the drinking water treatment process shall collect and analyze samples for total trihalomethanes (TTHM) in accordance with this section. The minimum number of samples required to be taken by the system shall be based on the number of treatment plants used by the system, except that multiple wells drawing raw water from a single aquifer may, with the commissioner's approval, be considered one (1) treatment plant for determining the minimum number of samples. All samples taken within an established frequency shall be collected within a twenty-four (24) hour period.

(b) The requirements of subsection (a) apply as follows:
(1) Community water systems which utilize surface water sources in whole or in part, and community water systems which utilize only ground water sources and which have not been determined by the commissioner to qualify for the monitoring requirements of subsection (c) shall analyze for TTHM at quarterly intervals on at least four (4) water samples for each treatment plant used by the system. At least twenty-five percent (25%) of the samples shall be taken at locations within the distribution system reflecting the maximum residence time of the water in the system. The remaining seventy-five percent (75%) shall be taken at representative locations in the distribution system, taking into account number of persons served, different sources of water, and different treatment methods employed. The results of all analyses per quarter shall be arithmetically averaged and reported to the commissioner within thirty (30) days of the system's receipt of such results. All samples collected shall be used in the computation of the average, unless the analytical results are invalidated for technical reasons. Sampling and analyses shall be conducted in accordance with the methods listed in subsection (e).
(2) Upon the written request of a community water system, the monitoring frequency required by subdivision (1) may be reduced by the commissioner to a minimum of one (1) sample analyzed for TTHM per quarter taken at a point in the distribution system reflecting the maximum residence time of the water in the system. Upon a written determination by the commissioner that the data from at least one (1) year of monitoring in accordance with subdivision (1) and local conditions demonstrate that TTHM concentrations will be consistently below the MCL.
(3) If, at any time during which the reduced monitoring frequency prescribed under this section applies, the results from any analysis exceed ten-hundredths (0.10) milligram per liter of TTHM and such results are confirmed by at least one (1) check sample taken promptly after such results are received, or if the system makes any significant change to its source of water or treatment program, the system shall immediately begin monitoring in accordance with the requirements of subdivision (1) which monitoring shall continue for at least one (1) year before the frequency may be reduced again. At the discretion of the commissioner, a system's monitoring frequency shall be increased above the minimum in those cases where it is necessary to detect variations of TTHM levels within the distribution system.

(c) Monitoring frequency required by this section may only be reduced as follows:
(1) Upon written request to the commissioner, a community water system utilizing only ground water sources may seek to have the monitoring frequency required by subsection (a) reduced to a minimum of one (1) sample for

maximum TTHM potential per year for each treatment plant used by the system taken at a point in the distribution system reflecting maximum residence time of the water in the system. The system shall submit, to the commissioner, the results of at least one (1) sample analyzed for maximum TTHM potential using the procedure specified in subsection (g). A sample must be analyzed from each treatment plant used by the system and be taken at a point in the distribution system reflecting the maximum residence time of the water in the system. The system's monitoring frequency may only be reduced upon a written determination by the commissioner that, based upon the data submitted by the system, the system has a maximum TTHM potential of less than ten-hundredths (0.10) milligram per liter and that, based upon an assessment of the local condition of the system, the system is not likely to approach or exceed the MCL for total TTHMs. The results of all analyses shall be reported to the commissioner within thirty (30) days of the system's receipt of such results. All samples collected shall be used for determining whether the system must comply with the monitoring requirements of subsection (a) unless the analytical results are invalidated for technical reasons. Sampling and analyses shall be conducted in accordance with the methods listed in subsection (e).

(2) If, at any time during which the reduced monitoring frequency prescribed under subdivision (1) applies, the results from any analysis taken by the system for maximum TTHM potential are equal to or greater than ten-hundredths (0.10) milligram per liter, and such results are confirmed by at least one (1) check sample taken promptly after such results are received, the system shall immediately begin monitoring in accordance with the requirements of subsection (b) and such monitoring shall continue for at least one (1) year before the frequency may be reduced again. In the event of any significant change to the system's source of water or treatment program, the system shall immediately analyze an additional sample for maximum TTHM potential taken at a point in the distribution system reflecting maximum residence time of the water in the system for the purpose of determining whether the system must comply with monitoring requirements of subsection (b). At the discretion of the commissioner, monitoring frequencies may and should be increased above the minimum in those cases where this is necessary to detect variation of TTHM levels within the distribution system.

(d) Compliance with section 5 of this rule for TTHM shall be determined based on a running annual average of quarterly samples collected by the system as prescribed in subsection (b)(1) or (b)(2). If the average of samples covering any four (4) consecutive quarterly periods exceeds the MCL, the supplier of water shall report to the commissioner under section 13 of this rule and notify the public under ~~section 15 of this rule.~~ **327 IAC 8-2.1-7 through 327 IAC 8-2.1-16.** Monitoring after public notification shall be at a frequency designated by the commissioner and shall continue until a monitoring schedule as a condition to ~~a variance, exemption, or~~ **an** enforcement action shall become effective.

(e) Samples for TTHM shall be dechlorinated upon collection to prevent further production of trihalomethanes according to the procedures described in the methods, except acidification is not required if only TTHMs or THMs are to be determined. Samples for maximum TTHM potential should not be dechlorinated and should be held for seven (7) days at twenty-five (25) degrees Celsius or above prior to analysis. Analyses made under this section shall be conducted by one (1) of the following U.S. EPA approved methods:

(1) Method 502.2, **Rev 2.1*.**

(2) Method 524.2*.

(3) Method 551.1*.

~~(4) Method 551*. This method is available for compliance monitoring only until June 1, 2001.~~

~~(5) Method 502.2, Rev 2.0. This method is available for compliance monitoring only until June 1, 2001.~~

(f) Before a community water system makes any significant modifications to its existing treatment process for the purpose of achieving compliance with the MCL established in section 5(a) of this rule, such system must submit and obtain the commissioner's approval of a detailed plan setting forth its proposed modification and those safeguards that it will implement to ensure that the bacteriological quality of the drinking water served by such system will not be adversely affected by such modification. Each system shall comply with the provisions set forth in the approved plan. At a minimum, a plan approved by the commissioner shall require the system modifying its disinfection practice to do the following:

(1) Evaluate the water system for sanitary defects and evaluate the source water for biological quality.

(2) Evaluate its existing treatment practices and consider improvements that will minimize disinfectant demand and optimize finished water quality throughout the distribution system.

(3) Provide baseline water quality survey data of the distribution system. Such data should include the results from monitoring for coliform and fecal coliform bacterial, fecal streptococci, standard plate counts at thirty-five **(35)**

degrees ~~(35)~~ Celsius and twenty (20) degrees Celsius, phosphate, ammonia nitrogen, and total organic carbon. Virus studies should be required where source waters are heavily contaminated with sewage effluent.

(4) Conduct additional monitoring to assure continued maintenance of optimal biological quality in finished water, for example, when chloramines are introduced as disinfectants or when prechlorination is being discontinued. Additional monitoring may also be required by the commissioner for chlorate, chlorite, and chlorine dioxide when chlorine dioxide is used. Standard plate count analysis may also be required by the commissioner as appropriate before and after any modifications.

(5) Consider inclusion in the plan provisions to maintain an active disinfectant residual throughout the distribution system at all times during and after modification.

(g) The water sample for determination of maximum trihalomethane potential is taken from a point in the distribution system that reflects maximum residence time. Procedures for sample collection and handling are given in the methods. No reducing agent is added to quench the chemical reaction producing THMs at the time of sample collection. The intent is to permit the levels of THM precursors to be depleted and the concentration of THMs to be maximized for the supply to be tested. Four (4) experimental parameters affecting maximum THM production are pH, temperature, reaction time, and the presence of a disinfectant residual. These parameters are dealt with as follows:

(1) Measure the disinfectant residual at the selected sampling point. Proceed only if a measurable disinfectant residual is present.

(2) Collect triplicate forty (40) milliliter water samples at the pH prevailing at the time of sampling and prepare a method blank according to the methods.

(3) Seal and store these samples together for seven (7) days at twenty-five (25) degrees Celsius or above.

(4) After this time period, open one (1) of the sample containers and check for disinfectant residual. Absence of a disinfectant residual invalidates the sample for further analysis. Once a disinfectant residual has been demonstrated, open another of the sealed samples and determine total THM concentration using a method specified in subsection (e).

*The methods referenced in this section may be obtained as follows:

(1) Method 502.2, Rev 2.1 may be found in "Methods for the Determination of Organic Compounds in Drinking Water–Supplement III", EPA/600/R-95-131, August 1995, available from NTIS, PB95-261616, U.S. Department of Commerce, 5285 Port Royal Road, Springfield, Virginia 22161, (800) 553-6847.

(2) Method 551.1 may be found in "Methods for the Determination of Organic Compounds in Drinking Water)Supplement–III", EPA/600/R-95-131, August 1995, available from NTIS, PB95-261616, U.S. Department of Commerce, 5285 Port Royal Road, Springfield, Virginia 22161, (800) 553-6847.

(3) Method 524.2 may be found in "Methods for the Determination of Organic Compounds in Drinking Water)Supplement II", EPA-600/R-92-129, August 1992, available from NTIS, PB92-207703, U.S. Department of Commerce, 5285 Port Royal Road, Springfield, Virginia 22161, (800) 553-6847.

~~(4) Method 551 may be found in "Methods for the Determination of Organic Compounds in Drinking Water)Supplement I", EPA-600-4-90-020, July 1990, available from NTIS, PB91-146027, U.S. Department of Commerce, 5285 Port Royal Road, Springfield, Virginia 22161, (800) 553-6847.~~

~~(5) Method 502.2, Rev 2.0 may be found in "Methods for the Determination of Organic Compounds in Drinking Water", EPA-600/4-88-039, December 1988, revised July 1991, available from NTIS, PB91-231480, U.S. Department of Commerce, 5285 Port Royal Road, Springfield, Virginia 22161, (800) 553-6847.~~

These methods are available for copying at the Indiana Department of Environmental Management, Office of Water ~~Management,~~ **Quality,** 100 North Senate Avenue, Room 1255, Indianapolis, Indiana ~~46204.~~ **46206.** *(Water Pollution Control Board; 327 IAC 8-2-5.3; filed Dec 28, 1990, 5:10 p.m.: 14 IR 1011; filed Aug 24, 1994, 8:15 a.m.: 18 IR 37; errata filed Oct 11, 1994, 2:45 p.m.: 18 IR 531; filed Aug 25, 1997, 8:00 a.m.: 21 IR 49; errata filed Dec 10, 1997, 3:45 p.m.: 21 IR 1348)*

SECTION 7. 327 IAC 8-2-5.5, PROPOSED TO BE AMENDED AT 23 IR 2565, SECTION 6, IS AMENDED TO READ AS FOLLOWS:

327 IAC 8-2-5.5 Collection of samples for volatile organic compound testing other than total trihalomethanes; community and nontransient noncommunity water systems

Authority: IC 13-13-5; IC 13-14-8-7; IC 13-14-9; IC 13-18-3; IC 13-18-16

Affected: IC 13-18

Sec. 5.5. (a) Community water systems and nontransient noncommunity water systems shall collect samples for volatile organic compound testing in order to determine compliance with section 5.4 of this rule, beginning with the initial compliance period, as follows:

(1) Ground water systems shall take a minimum of one (1) sample at every entry point to the distribution system which is representative of each well after treatment (hereafter called a sampling point). Each sample must be taken at the same sampling point, unless conditions make another sampling point more representative of each source or treatment plant, or within the distribution system.

(2) Surface water systems (or combined surface/ground) shall take a minimum of one (1) sample at points in the distribution system that are representative of each source or at each entry point to the distribution system after treatment (hereafter called a sampling point). Each sample must be taken at the same sampling point, unless conditions make another sampling point more representative of each source or treatment plant, or within the distribution system.

(3) If the system draws water from more than one (1) source and sources are combined before distribution, the system must sample at an entry point to the distribution system during periods of normal operating conditions such as when water representative of all sources is being used.

(4) Each community and nontransient noncommunity water system shall take four (4) consecutive quarterly samples for each contaminant listed in section 5.4 of this rule, except vinyl chloride, during each compliance period, beginning in the initial compliance period.

(5) If the initial monitoring for contaminants listed in section 5.4 of this rule, as allowed by subsection (b), has been completed by December 31, 1992, and the system did not detect any contaminant listed in section 5.4 of this rule, then each ground and surface water system shall take one (1) sample annually beginning with the initial compliance period.

(6) After a minimum of three (3) years of annual sampling, the commissioner may allow ground water systems with no previous detection of any contaminant listed in section 5.4 of this rule to take one (1) sample during each compliance period.

(7) Each community and nontransient noncommunity ground water system which does not detect a contaminant listed in section 5.4 of this rule may apply to the commissioner for a waiver from the requirements of subdivisions (5) and (6) after completing the initial monitoring. As used in this section, "detection" means greater than or equal to five ten-thousandths (0.0005) milligram per liter. A waiver shall be effective for no more than six (6) years (two (2) compliance periods). The commissioner may also issue waivers to small systems for the initial round of monitoring for 1,2,4-trichlorobenzene.

(8) The commissioner may grant a waiver after evaluating the following factors:

(A) Knowledge of previous use (including transport, storage, or disposal) of the contaminant within the watershed or zone of influence of the system. If a determination by the commissioner reveals no previous use of the contaminant within the watershed or zone of influence, a waiver may be granted.

(B) If previous use of the contaminant is unknown or if the contaminant has been used previously, then the following factors shall be used to determine whether a waiver is granted:

(i) Previous analytical results.

(ii) The proximity of the system to a potential point or nonpoint source of contamination. Point sources include spills and leaks of chemicals at or near a water treatment facility or at manufacturing, distribution, or storage facilities, or from hazardous and municipal waste landfills and other waste handling or treatment facilities.

(iii) The environmental persistence and transport of the contaminants.

(iv) The number of persons served by the public water system, and the proximity of a smaller system to a larger system.

(v) How well the water source is protected against contamination, such as whether it is a surface or ground water system. Ground water systems must consider factors such as the depth of the well, the type of soil, and wellhead protection. Surface water systems must consider watershed protection.

(9) As a condition of the waiver, a ground water system must take one (1) sample at each sampling point during the time the waiver is effective, for example, one (1) sample during two (2) compliance periods or six (6) years, and update its vulnerability assessment considering the factors listed in subdivision (8). Based on this vulnerability assessment, the commissioner must reconfirm that the system is nonvulnerable. If the commissioner does not make this reconfirmation within three (3) years of the initial determination, then the waiver is invalidated and the system is required to sample annually as specified in subdivision (5).

(10) Each community and nontransient noncommunity surface water system which does not detect a contaminant

listed in section 5.4 of this rule may apply to the commissioner for a waiver from the requirements of subdivision (5) after completing the initial monitoring. Composite samples from a maximum of five (5) sampling points are allowed provided that the detection limit of the method used for analysis is less than one-fifth ($^1/_5$) of the MCL. Systems meeting this criterion must be determined by the commissioner to be nonvulnerable based on a vulnerability assessment during each compliance period. Each system receiving a waiver shall sample at the frequency specified by the commissioner (if any).

(11) If a contaminant listed in section 5.4 of this rule, except vinyl chloride, is detected at a level exceeding five ten-thousandths (0.0005) milligram per liter in any sample, then the monitoring requirements will be as follows:

(A) The system must monitor quarterly at each sampling point which resulted in a detection.

(B) The commissioner may decrease the quarterly monitoring requirement specified in clause (A) provided it has determined that the system is reliably and consistently below the MCL. In no case shall the commissioner make this determination unless a ground water system takes a minimum of two (2) quarterly samples and a surface water system takes a minimum of four (4) quarterly samples.

(C) If the commissioner determines that the system is reliably and consistently below the MCL, the commissioner may allow the system to monitor annually. Systems which monitor annually must monitor during the quarter or quarters which previously yielded the highest analytical result.

(D) Systems which have three (3) consecutive annual samples with no detection of a contaminant may apply to the commissioner for a waiver as specified in subdivision (7).

(E) Ground systems which have detected one (1) or more two-carbon organic compounds:

(i) trichloroethylene;

(ii) tetrachloroethylene;

(iii) 1,2-dichloroethane;

(iv) 1,1,1-trichloroethane;

(v) cis-1,2-dichloroethylene;

(vi) trans-1,2-dichloroethylene; or

(vii) 1,1-dichloroethylene;

shall monitor quarterly for vinyl chloride. A vinyl chloride sample shall be taken at each sampling point at which one (1) or more of the two-carbon organic compounds was detected. If the results of the first analysis do not detect vinyl chloride, the commissioner may reduce the quarterly monitoring frequency of vinyl chloride monitoring to one (1) sample during each compliance period. Surface water systems are required to monitor for vinyl chloride as specified by the commissioner.

(12) Systems which violate the requirements of section 5.4 of this rule, as determined by subdivision (15), must monitor quarterly. After a minimum of four (4) consecutive quarterly samples which show the system is in compliance as specified in subdivision (15) if the commissioner determines that the system is reliably and consistently below the MCL, the system may monitor at the frequency and times specified in subdivision (11)(C).

(13) The commissioner may require a confirmation sample for positive or negative results. If a confirmation sample is required by the commissioner, the result must be averaged with the first sampling result and the average is used for the compliance determination as specified by subdivision (15). The commissioner has the discretion to delete results of obvious sampling errors from this calculation.

(14) The commissioner may reduce the total number of samples a system must analyze by allowing the use of compositing. Composite samples from a maximum of five (5) sampling points are allowed, provided that the detection limit of the method used for analysis is less than one-fifth ($^1/_5$) of the MCL. Compositing of samples must be done in the laboratory and analyzed within fourteen (14) days of sample collection **as follows:**

(A) If the concentration in the composite sample is greater than or equal to five ten-thousandths (0.0005) milligram per liter for any contaminant listed in section 5.4 of this rule, then a follow-up sample must be analyzed within fourteen (14) days from each sampling point included in the composite, and be analyzed for that contaminant.

(B) If duplicates of the original sample taken from each sampling point used in the composite sample are available, the system may use the duplicates instead of resampling. The duplicates must be analyzed and the results reported to the commissioner within fourteen (14) days after completing analysis of the composite sample, provided the holding time of the sample is not exceeded.

(C) Compositing may only be permitted by the commissioner at sampling points within a single system if the population served by the system is greater than three thousand three hundred (3,300) persons. In systems serving less than or equal to three thousand three hundred (3,300) persons, the commissioner may permit compositing among different systems provided the five (5) sample limit is maintained.

(D) Compositing of samples prior to gas chromatography (GC) analysis shall be as follows:

(i) Add five (5) milliliters or equal larger amounts of each sample (up to five (5) samples are allowed) to a twenty-five (25) milliliter glass syringe. Special precautions must be made to maintain zero (0) headspace in the syringe.

(ii) The samples must be cooled at four (4) degrees Celsius during this step to minimize volatilization losses.

(iii) Mix well and draw out a five (5) milliliter aliquot for analysis.

(iv) Follow sample introduction, purging, and desorption steps described in the method.

(v) If less than five (5) samples are used for compositing, a proportionately smaller syringe may be used.

(E) Compositing of samples prior to gas chromatography/mass spectrometry (GS/MS) analysis shall be as follows:

(i) Inject five (5) milliliters or larger amounts of each aqueous solution (up to five (5) samples are allowed) into a twenty-five (25) milliliter purging device using the sample introduction technique described in the method.

(ii) The total volume of the sample in the purging device must be twenty-five (25) milliliters.

(iii) Purge and desorb as described in the method.

(15) Compliance with section 5.4 of this rule shall be determined based on the analytical results obtained at each sampling point using the following criteria:

(A) For systems which are conducting monitoring at a frequency greater than annually, compliance is determined by a running annual average of all samples taken at each sampling point. If the annual average of any sampling point is greater than the MCL, then the system is out of compliance. If the initial sample or a subsequent sample would cause the annual average to be exceeded, then the system is out of compliance immediately.

(B) If monitoring is conducted annually, or less frequently, the system is out of compliance if the level of a contaminant at any sampling point is greater than the MCL. If a confirmation sample is required by the commissioner, the determination of compliance will be based on the average of two (2) samples.

(C) If a public water system has a distribution system separable from other parts of the distribution system with no interconnections, the commissioner may allow the system to give public notice to only that area served by that portion of the system which is out of compliance.

(b) The commissioner may allow the use of monitoring data collected after January 1, 1988, for purposes of initial monitoring compliance. If the data are generally consistent with the other requirements of this section, the commissioner may use these data (a single sample rather than four (4) quarterly samples) to satisfy the initial monitoring requirement of subsection (a)(4). Systems which use grandfathered samples and do not detect any contaminant listed in section 5.4 of this rule, except vinyl chloride, shall begin monitoring annually in accordance with subsection (a)(5), beginning with the initial compliance period.

(c) The commissioner may increase required monitoring where necessary to detect variations within the system.

(d) To receive certification to conduct analyses for the contaminants in section 5.4 of this rule, excluding vinyl chloride, each certified laboratory must meet the following requirements:

(1) Successfully analyze performance evaluation (PE) samples provided by EPA, the commissioner, or by a third party with the approval of EPA or the commissioner, at least once a year by each method for which the laboratory desires certification.

(2) Achieve the quantitative acceptance limits under subdivisions (3) and (4) for at least eighty percent (80%) of the regulated organic chemicals in section 5.4 of this rule, excluding vinyl chloride.

(3) Achieve quantitative results on the analyses performed under subdivision (1) ~~of this subsection~~ that are within plus or minus twenty percent (±20%) of the actual amount of the substances in the PE sample when the actual amount is greater than or equal to ten-thousandths milligrams per liter ($ 0.010 mg/l).

(4) Achieve quantitative results on the analyses performed under subdivision (1) that are within plus or minus forty percent (±40%) of the actual amount of the substances in the PE sample when the actual amount is less than ten-thousandths milligrams per liter (< 0.010 mg/l).

(5) Achieve a method detection limit of five ten-thousandths milligram per liter (0.0005 mg/l), according to the procedures in 40 CFR 136, Appendix B*.

(e) To receive certification to conduct analyses for vinyl chloride, the laboratory must meet the following requirements:

(1) Successfully analyze PE samples provided by EPA, the commissioner, or by a third party with the approval of EPA or the commissioner, at least once a year by each method for which the laboratory desires certification.

(2) Achieve quantitative results on the analyses performed under subdivision (1) ~~of this subsection~~ that are within plus or minus forty percent (±40%) of the actual amount of vinyl chloride in the PE sample.
(3) Achieve a method detection limit of five ten-thousandths milligram per liter (0.0005 mg/l), according to the procedures in 40 CFR 136, Appendix B*.
(4) Obtain certification for the contaminants listed in section 5.4 of this rule.

(f) Each public water system shall monitor at the time designated by the commissioner within each compliance period.

(g) The commissioner may increase required monitoring where necessary to detect variations within the system.

(h) The commissioner has the authority to determine compliance or initiate enforcement based upon analytical results or other information.

40 CFR 136, Appendix B is incorporated by reference. **Copies of this regulation may be obtained from the Superintendent of Documents, Government Printing Office, Washington, D.C. 20402, or from the Indiana Department of Environmental Management, Office of Water Quality, Indiana Government Center-North, 100 North Senate Avenue, Room 1255, Indianapolis, Indiana 46206.** *(Water Pollution Control Board; 327 IAC 8-2-5.5; filed Dec 28, 1990, 5:10 p.m.: 14 IR 1014; errata filed Jan 9, 1991, 2:30 p.m.: 14 IR 1070; errata filed Aug 6, 1991, 3:45 p.m.: 14 IR 2258; filed Aug 24, 1994, 8:15 a.m.: 18 IR 39; errata filed Oct 11, 1994, 2:45 p.m.: 18 IR 531; filed Oct 24, 1997, 4:30 p.m.: 21 IR 936)*

SECTION 8. 327 IAC 8-2-7 IS AMENDED TO READ AS FOLLOWS:

327 IAC 8-2-7 Microbiological contaminants; maximum contaminant levels for all public water systems
Authority: IC 13-13-5; IC 13-14-8-7; IC 13-14-9; IC 13-18-3; IC 13-18-16
Affected: IC 13-11-2; IC 13-14-8; 13-18-1; IC 13-18-2

Sec. 7. (a) The microbiological MCL applies to all public water systems and is based on the presence or absence of total coliforms in a sample, rather than coliform density. For a system:
(1) which collects at least forty (40) samples per month, if no more than five percent (5%) of the samples collected during a month are total coliform-positive, the system is in compliance with the MCL for total coliforms; or
(2) which collects fewer than forty (40) samples per month, if no more than one (1) sample collected during a month is total coliform-positive, the system is in compliance with the MCL for total coliforms.

(b) Any fecal coliform-positive repeat sample or E. coli-positive repeat sample, or any total coliform-positive repeat sample following a fecal coliform-positive or E. coli-positive routine sample, constitutes a violation of the MCL for total coliforms. For purposes of the public notification requirements in ~~section 15 of this rule,~~ **327 IAC 8-2.1-7 through 327 IAC 8-2.1-16,** this is a violation that may pose an acute risk to health.

(c) A public water system must determine compliance with the MCL for total coliforms in subsections (a) and (b) for each month in which it is required to monitor for total coliforms.

(d) The following are BAT for achieving compliance with the MCL for total coliforms in subsections (a) and (b):
(1) Protection of wells from coliform contamination by appropriate placement and construction.
(2) Maintenance of a disinfectant residual throughout the distribution system.
(3) Proper maintenance of the distribution system, including appropriate pipe replacement and repair procedures, main flushing programs, proper operation and maintenance of storage tanks and reservoirs, and continual maintenance of positive water pressure in all parts of the distribution system.
(4) Filtration and/or disinfection of surface water, as described in sections 8.5 and 8.6 of this rule, or disinfection of ground water using strong oxidants such as chlorine, chlorine dioxide, or ozone.
(5) For systems using ground water compliance with the requirements of an EPA approved wellhead protection program developed and implemented under Section 1428 of the Safe Drinking Water Act.
(Water Pollution Control Board; 327 IAC 8-2-7; filed Sep 24, 1987, 3:00 p.m.: 11 IR 707; filed Dec 28, 1990, 5:10 p.m.: 14 IR 1018; filed Apr 12, 1993, 11:00 a.m.: 16 IR 2154)

SECTION 9. 327 IAC 8-2-8.4, PROPOSED TO BE AMENDED AT 23 IR 2572, SECTION 10, IS AMENDED TO READ AS FOLLOWS:

327 IAC 8-2-8.4 Analytical methods for microbiological contaminants

Authority: IC 13-13-5; IC 13-14-8-7; IC 13-14-9; IC 13-18-3; IC 13-18-16
Affected: IC 13-11-2; IC 13-14-8; IC 13-18-1; IC 13-18-2

Sec. 8.4. (a) A public water system shall analyze for microbiological contaminants as follows:

(1) The standard sample volume required for total coliform analysis, regardless of analytical method used, is one hundred (100) milliliters.

(2) Public water systems need only determine the presence or absence of total coliforms, and a determination of total coliform density is not required.

(3) Public water systems must conduct total coliform analyses in accordance with one (1) of the following analytical methods:

(A) Total coliform fermentation technique[1, 2, 3~~4~~] as set forth in Method 9221A* and Method 9221B*.

(B) Total coliform membrane filter technique[~~5~~4]as set forth in Method 9222A*, Method 9222B*, and Method 9222C*.

(C) Presence-absence (P-A) coliform test[~~2,5~~4,6] as set forth in Method 9221D*.

(D) ONPG-MUG test[6] as set forth in Method 9223*.

(E) Colisure test*[~~8~~7].

(F) E*Colite® test*.

(G) m-ColiBlue24® test*.

(4) Public water systems must conduct fecal coliform analysis in accordance with the procedure in this subdivision. When the MTF technique or presence-absence (P-A) coliform test is used to test for total coliforms, shake the lactose-positive presumptive tube or P-A bottle vigorously and transfer the growth with a sterile three (3) millimeter loop or sterile applicator stick into brilliant green lactose bile broth and EC medium to determine the presence of total and fecal coliforms, respectively. For EPA-approved analytical methods which use a membrane filter, transfer the total coliform-positive culture by one (1) of the following methods:

(A) Remove the membrane containing the total coliform colonies from the substrate with a sterile forceps and carefully curl and insert the membrane into a tube of EC medium. (The laboratory may first remove a small portion of selected colonies for verification.)

(B) Alternately, the laboratory may swab the entire membrane filter surface with a sterile cotton swab and transfer the inoculum to EC medium (do not leave the cotton swab in the EC medium), or inoculate individual total coliform-positive colonies into EC medium.

Gently shake the inoculated EC tubes to ensure adequate mixing and incubate in a water bath at forty-four and one-half (44.5) degrees Celsius, plus or minus two-tenths (0.2) degrees Celsius, for twenty-four (24) hours, plus or minus two (2) hours. Gas production of any amount in the inner fermentation tube of the EC medium indicates a positive fecal coliform test. The preparation of EC medium is described in Method 9221E, paragraph 1(a)*. Public water systems need only determine the presence or absence of fecal coliforms; a determination of fecal coliform density is not required.

(5) Public water systems must conduct analysis of Escherichia coli in accordance with one (1) of the following analytical methods:

(A) EC medium supplemented with fifty (50) micrograms per milliliter of 4-methylumbelliferyl-beta-D-glucuronide (MUG) (final concentration). EC medium is described in Method 9221E, paragraph 1(a)*. MUG may be added to EC medium before autoclaving. EC medium supplemented with fifty (50) micrograms per milliliter of MUG is commercially available. At least ten (10) milliliters of EC medium supplemented with MUG must be used. The inner inverted fermentation tube may be omitted. The procedure for transferring a total coliform-positive culture to EC medium supplemented with MUG shall be as specified in subdivision (4) for transferring a total coliform-positive culture to EC medium. Observe fluorescence with an ultraviolet light three hundred sixty-six (366) nanometers (preferably with a six (6) watt lamp) in the dark after incubating tube at forty-four and one-half (44.5) degrees Celsius, plus or minus two-tenths (0.2) degrees Celsius for twenty-four (24) hours, plus or minus two (2) hours.

(B) Nutrient agar supplemented with one hundred (100) micrograms per milliliter of MUG (final concentration). Nutrient agar is described in Method 9221E*. This test is used to determine if a total coliform-positive sample, as

determined by the membrane filter technique or any other method in which a membrane filter is used contains E. coli. Transfer the membrane filter containing a total coliform colony(ies) to nutrient agar supplemented with one hundred (100) micrograms per milliliter (final concentration) of MUG. After incubating the agar plate at thirty-five (35) degrees Celsius for four (4) hours, observe the colony(ies) under ultraviolet light three hundred sixty-six (366) nanometers (preferably with a six (6) watt lamp) in the dark for fluorescence. If fluorescence is visible, E. coli are present.

(C) Minimal Medium ONPG-MUG (MMO-MUG) Test as described in the article "National Field Evaluation of a Defined Substrate Methods for the Simultaneous Detection of Total Coliforms and Escherichia coli from Drinking Water: Comparison with Presence-Absence Techniques*". If the MMO-MUG test is total coliform-positive after a twenty-four (24) hour incubation, test the medium for fluorescence with a three hundred sixty-six (366) nanometer ultraviolet light (preferably with a six (6) watt lamp) in the dark. If fluorescence is observed, the sample is E. coli-positive. If fluorescence is questionable (cannot be definitively read) after twenty-four (24) hours incubation, incubate the culture for an additional four (4) hours, but not to exceed twenty-eight (28) hours total, and again test the medium for fluorescence. The MMO-MUG test with hepes buffer in lieu of phosphate buffer is the only approved formulation for the detection of E. coli.

(D) The Colisure test*.

(E) The Membrane Filter Method with MI agar*.

(F) E*Colite® test*.

(G) m-ColiBlue24® test*.

(6) As an option to subdivision (5)(C), a system with a total coliform-positive, MUG-negative, MMO-MUG test may further analyze the culture for the presence of E. coli by transferring a one-tenth (0.1) milliliter, twenty-eight (28) hour MMO-MUG culture to EC medium plus MUG with a pipet. The formulation and incubation conditions of EC medium plus MUG and observation of the results are described in subdivision (5)(A).

(b) Response to a violation shall be as follows:

(1) A public water system which has exceeded the MCL for total coliforms in section 7 of this rule must report the violation to the commissioner no later than the end of the next business day after it learns of the violation and notify the public in accordance with ~~section 15 of this rule.~~ **327 IAC 8-2.1-7 through 327 IAC 8-2.1-16.**

(2) A public water system which has failed to comply with a coliform monitoring requirement, including the sanitary survey requirement, must report the monitoring violation to the commissioner within ten (10) days after the system discovers the violation, and notify the public in accordance with ~~section 15 of this rule.~~ **327 IAC 8-2.1-7 through 327 IAC 8-2.1-16.**

~~[1]~~**(c)** The time from sample collection to initiation of analysis cannot exceed thirty (30) hours. Systems are encouraged but not required to hold samples below ten (10) degrees Celsius during transit.

(d) The agency strongly recommends that laboratories evaluate the false-positive and negative rates for the method or methods they use for monitoring total coliforms. The agency also encourages laboratories to establish false-positive and negative rates within their own laboratory and sample matrix (drinking water or source water or both) with the intent that if the method they choose has an unacceptable false-positive or negative rate, another method can be used. The agency suggests that laboratories perform these studies on a minimum of five percent (5%) of all total coliform-positive samples, except for those methods where verification or confirmation or both is already required (for example, the M-Endo and LES Endo Membrane Filter Tests, Standard Total Coliform Fermentation Technique, and Presence-Absence Coliform Test). Methods for establishing false-positive and negative-rates may be based on lactose fermentation, the rapid test for β-galactosidase and cytochrome oxidase, multi-test identification systems, or equivalent confirmation tests. False-positive and false-negative information is often available in published studies, from the manufacturer, or both.

~~[2]~~[1]Lactose broth, as commercially available, may be used in lieu of lauryl tryptose broth, if the system conducts at least twenty-five (25) parallel tests between this medium and lauryl tryptose broth using the water normally tested, and this comparison demonstrates that the false-positive rate and false-negative rate for total coliform, using lactose broth, is less than ten percent (10%).

~~[3]~~[2]If inverted tubes are used to detect gas production, the media should cover these tubes at least one-half (½) to two-thirds (⅔) after the sample is added.

[~~4~~3]No requirement exists to run the completed phase on ten percent (10%) of all total coliform-positive confirmed tubes.
[~~5~~4]MI agar may also be used*.
[~~6~~5]Six-times formulation strength may be used if the medium is filter-sterilized rather than autoclaved.
[~~7~~6]The OPNG-MUG test is also known as the Autoanalysis Colilert System.
[~~8~~7]The Colisure Test may be read after an incubation time of twenty-four (24) hours.
[~~9~~]~~The agency strongly recommends that laboratories evaluate the false-positive and negative rates for the method or methods they use for monitoring total coliforms. The agency also encourages laboratories to establish false-positive and negative rates within their own laboratory and sample matrix (drinking water or source water or both) with the intent that if the method they choose has an unacceptable false-positive or negative rate, another method can be used. The agency suggests that laboratories perform these studies on a minimum of five percent (5%) of all total coliform-positive samples, except for those methods where verification or confirmation or both is already required (e.g., the M-Endo and LES Endo Membrane Filter Tests, Standard Total Coliform Fermentation Technique, and Presence-Absence Coliform Test). Methods for establishing false-positive and negative-rates may be based on lactose fermentation, the rapid test for β-galactosidase and cytochrome oxidase, multi-test identification systems, or equivalent confirmation tests. False-positive and false-negative information is often available in published studies, from the manufacturer, or both.~~

*The methods referenced in this section may be obtained as follows:
(1) Methods 9221A, 9221B, 9222A, 9222B, 9222C, 9221D, 9223, and 9221E may be found in "Standard Methods for the Examination of Water and Wastewater", 1992, American Public Health Association, et al., 18th edition, or "Standard Methods for the Examination of Water and Wastewater", 1995, American Public Health Association, et al., 19th edition, available from the American Public Health Association, et al., 1015 Fifteenth Street N.W., Washington, D.C. 20005.
(2) A description of the Colisure test may be obtained from IDEXX Laboratories, Inc., One IDEXX Drive, Westbrook, Maine 04092.
(3) The minimal medium ONPG-MUG test may be found in "National Field Evaluation of a Defined Substrate Method for the Simultaneous Detection of Total Coliforms and Escherichia coli from Drinking Water: Comparison with Presence-Absence Techniques", (Edberg, et al.), Applied and Environmental Microbiology, Volume 55, pages 1003)1008, April 1989.
(4) Preparation and use of MI agar is set forth in the article, "New medium for the simultaneous detection of total coliform and Escherichia coli in water" by Brenner, K.P., et al., 1993, Applied Environmental Microbiology, 59:3534-3544. Also available from the Office of Water Resource Center (RC-4100), 401 M. Street S.W., Washington, D.C. 20460, EPA/600/J-99/225.
(5) A description of the E*Colite® test, "Presence/Absence for Total Coliforms and E. coli in Water", December 21, 1997, is available from Charm Sciences, Inc., 36 Franklin Street, Malden, Massachusetts 02148-4120.
(6) A description of the m-ColiBlue24® test, August 17, 1999, is available from the Hach Company, 100 Dayton Avenue, Ames, Iowa 50010.

These methods are available for copying at the Indiana Department of Environmental Management, Office of Water Quality, 100 North Senate Avenue, Room 1255, Indianapolis, Indiana 46206. *(Water Pollution Control Board; 327 IAC 8-2-8.4; filed Dec 28, 1990, 5:10 p.m.: 14 IR 1023; errata filed Jan 9, 1991, 2:30 p.m.: 14 IR 1070; filed Apr 12, 1993, 11:00 a.m.: 16 IR 2158; filed Aug 25, 1997, 8:00 a.m.: 21 IR 51; errata filed Dec 10, 1997, 3:45 p.m.: 21 IR 1348)*

SECTION 10. 327 IAC 8-2-10.2 IS AMENDED TO READ AS FOLLOWS:

327 IAC 8-2-10.2 Monitoring frequency for radioactivity; community water systems
Authority: IC 13-13-5; IC 13-14-8-7; IC 13-14-9; IC 13-18-3; IC 13-18-16
Affected: IC 13-18

Sec. 10.2. (a) Monitoring requirements for gross alpha particle activity, radium-226, and radium-228 in community water systems are as follows:
(1) Compliance with section 9 of this rule shall be based on the analysis of an annual composite of four (4) consecutive quarterly samples or the average of the analyses of four (4) samples obtained at quarterly intervals as follows:
(A) A gross alpha particle activity measurement may be substituted for the required radium-226 and radium-228 analysis, provided that the measured gross alpha particle activity does not exceed five (5) picocuri per liter at a

confidence level of ninety-five percent (95%) (one and sixty-five hundredths (1.65) σ where σ is the standard deviation of the net counting rate of this sample). In localities where radium-228 may be present in drinking water, it is recommended that the commissioner require radium-226 and/or radium-228 analyses when the gross alpha particle activity exceeds two (2) picocuri per liter.

(B) When the gross alpha particle activity exceeds five (5) picocuri per liter, the same or an equivalent sample shall be analyzed for radium-226. If the concentration of radium-226 exceeds three (3) picocuri per liter, the same or an equivalent sample shall be analyzed for radium-228.

(2) Suppliers of water shall monitor at least once every four (4) years following the procedure required by subdivision (1). At the discretion of the commissioner, when an annual record taken in conformance with subdivision (1) has established that the average annual concentration is less than one-half (½) the MCL established by section 9 of this rule, analysis of a single sample may be substituted for the quarterly sampling procedure required by subdivision (1) as follows:

(A) More frequent monitoring shall be conducted when ordered by the commissioner in the vicinity of mining or other operations which may contribute alpha particle radioactivity to either surface or ground water sources of drinking water.

(B) A supplier of water shall monitor in conformance with subdivision (1) within one (1) year of the introduction of a new water source for a community water system. More frequent monitoring shall be conducted when ordered by the commissioner in the event of possible contamination, or when changes in the distribution system or treatment processing occur which may increase the concentration of radioactivity in finished water.

(C) A community water system using two (2) or more sources having different concentrations of radioactivity shall monitor source water, in addition to water from a free-flowing tap, when ordered by the commissioner.

(D) Monitoring for compliance with section 9 of this rule after the initial period need not include radium-228 except when required by the commissioner, provided that the average annual concentration of radium-228 has been assayed at least once using the quarterly sampling procedure required by subdivision (1).

(E) Suppliers of water shall conduct monitoring of any community water system in which the radium-226 concentration exceeds three (3) picocuri per liter, when ordered by the commissioner.

(3) If the average annual MCL for gross alpha particle activity or total radium as set forth in section 9 of this rule is exceeded, the supplier for a community water system shall report to the commissioner pursuant to section 13 of this rule and notify the public pursuant to ~~section 15 of this rule.~~ **327 IAC 8-2.1-7 through 327 IAC 8-2.1-16.** Monitoring at quarterly intervals shall be continued until the annual average concentration no longer exceeds the MCL or until a monitoring schedule as a condition to ~~a variance or~~ **an** enforcement action shall become effective.

(b) Monitoring requirements for manmade radioactivity in community water systems are as follows:

(1) Systems using surface water sources and serving more than one hundred thousand (100,000) persons and such other community water systems as are designated by the commissioner shall be monitored for compliance with section 10 of this rule by analysis of a composite of four (4) consecutive quarterly samples or analysis of four (4) quarterly samples. Compliance with section 10 of this rule may be assumed without further analysis if the average annual concentration of gross beta particle activity is less than fifty (50) picocuri per liter and if the average annual concentrations of tritium and strontium-90 are less than those listed in the table in section 10 of this rule. Provided, that if both radionuclides are present, the sum of their annual dose equivalents to bone marrow shall not exceed four (4) millirem per year as follows:

(A) If the gross beta particle activity exceeds fifty (50) picocuri per liter an analysis of the sample must be performed to identify the major radioactive constituents present and the appropriate organ and total body doses shall be calculated to determine compliance with section 10 of this rule.

(B) Suppliers of water shall conduct additional monitoring, as ordered by the commissioner, to determine the concentration of manmade radioactivity in principal watersheds designated by the commissioner.

(C) At the discretion of the commissioner, suppliers of water utilizing only ground water may be required to monitor for manmade radioactivity.

(2) Suppliers of water shall monitor at least every four (4) years following the procedure given in subdivision (1).

(3) The supplier for any community water system designated by the commissioner as utilizing waters contaminated by effluents from nuclear facilities shall initiate quarterly monitoring for gross beta particle and iodine-131 radioactivity and annual monitoring for strontium-90 and tritium as follows:

(A) Quarterly monitoring for gross beta particle activity shall be based on the analysis of monthly samples or the analysis of a composite of three (3) monthly samples. The former is recommended. If the gross beta particle activity

in a sample exceeds fifteen (15) picocuri per liter, the same or an equivalent sample shall be analyzed for strontium-89 and cesium-134. If the gross beta particle activity exceeds fifty (50) picocuri per liter, an analysis of the sample must be performed to identify the major radioactive constituents present and the appropriate organ and total body doses shall be calculated to determine compliance with section 10 of this rule.

(B) For iodine-131, a composite of five (5) consecutive daily samples shall be analyzed once each quarter. At the direction of the commissioner, more frequent monitoring shall be conducted when iodine-131 is identified in the finished water.

(C) Annual monitoring for strontium-90 and tritium shall be conducted by analysis of a composite of four (4) consecutive quarterly samples or analysis of four (4) quarterly samples. The latter procedure is recommended.

(D) The commissioner may allow the substitution of environmental surveillance data taken in conjunction with a nuclear facility for direct monitoring of manmade radioactivity by the supplier of water where the commissioner determines such data are applicable to a particular community water system.

(4) If the average annual MCL for manmade radioactivity set forth in section 10 of this rule is exceeded, the operator of a community water system shall report to the commissioner pursuant to section 13 of this rule and give notice to the public pursuant to ~~section 15 of this rule.~~ **327 IAC 8-2.1-7 through 327 IAC 8-2.1-16.** Monitoring at monthly intervals shall be continued until the concentration no longer exceeds the MCL or until a monitoring schedule as a condition to ~~a variance or~~ **an** enforcement action shall become effective.

(Water Pollution Control Board; 327 IAC 8-2-10.2; filed Dec 28, 1990, 5:10 p.m.: 14 IR 1029; errata filed Aug 6, 1991, 3:45 p.m.: 14 IR 2258)

SECTION 11. 327 IAC 8-2-13, PROPOSED TO BE AMENDED AT 23 IR 2578, SECTION 13, IS AMENDED TO READ AS FOLLOWS:

327 IAC 8-2-13 Reporting requirements; test results and failure to comply

Authority: IC 13-13-5; IC 13-14-8-7; IC 13-14-9; IC 13-18-3; IC 13-18-16
Affected: IC 13-18

Sec. 13. (a) Except where a shorter period is specified in this rule, the supplier of water or the certified laboratory, provided the supplier of water has granted permission in writing to the laboratory using forms provided by the commissioner, and that permission is on file with the commissioner, shall report to the commissioner the results of any test measurement or analysis required by this rule within:

(1) the first ten (10) days following the month in which the result is received; or

(2) the first ten (10) days following the end of the required monitoring period as stipulated by the commissioner, whichever is shorter.

(b) The supplier of water or the certified laboratory, provided the supplier of water has granted permission in writing to the laboratory using forms provided by the commissioner, and that permission is on file with the commissioner, shall report to the commissioner within forty-eight (48) hours of completion of laboratory analysis the failure to comply with any MCL and any other requirement set forth in this rule by telephone or the methods specified in subsection (e) of this section. If notification is made by telephone, the results must follow using one (1) of the methods specified in subsection (e) within forty-eight (48) hours of the telephone notification.

(c) The supplier of water or the certified laboratory, provided the supplier of water has granted permission in writing to the laboratory using forms provided by the commissioner, and that permission is on file with the commissioner, shall report to the commissioner within (48) hours of completion of laboratory analysis any positive total coliform results by telephone or the methods specified in subsection (e). If notification is made by telephone, the results must follow using one (1) of the methods specified in subsection (e) within forty-eight (48) hours of the telephone notification.

(d) The supplier of water, ~~upon initiation~~ **within ten (10) days** of ~~each~~ **completing the** public notification required by ~~section 15 of this rule,~~ **327 IAC 8-2.1-7 through 327 IAC 8-2.1-16, for the initial public notice and any repeat notices,** shall submit to the commissioner a **certification that it has fully complied with the public notification regulations. The public water system must include with this certification a** representative copy of each type of notice distributed, published, posted, or made available to the persons served by the system or to the media.

(e) The submittal of the information required under this section shall be submitted in one (1) of the following manners:

(1) Mail.

(2) Facsimile.

(3) Electronic mail.

(4) Hand delivery.

(5) Other means ~~approved~~ **determined** by the commissioner **to provide the degree of confidentiality, reliability, convenience, and security appropriate to the information to be submitted.**

(Water Pollution Control Board; 327 IAC 8-2-13; filed Dec 28, 1990, 5:10 p.m.: 14 IR 1030)

SECTION 12. 327 IAC 8-2-14, PROPOSED TO BE AMENDED AT 23 IR 2579, SECTION 14, IS AMENDED TO READ AS FOLLOWS:

327 IAC 8-2-14 Reporting and record keeping requirements; systems that provide filtration

Authority: IC 13-13-5; IC 13-14-8-7; IC 13-14-9; IC 13-18-3; IC 13-18-16
Affected: IC 13-18

Sec. 14. (a) Effective June 29, 1993, a public water system that uses a surface water source or a ground water source under the direct influence of surface water and provides filtration treatment must report monthly to the commissioner the information specified in this section. Systems shall submit information to the commissioner using the methods specified in section 13(e) of this rule.

(b) Turbidity measurements as required by section 8.8(b) of this rule must be reported within ten (10) days after the end of each month the system serves water to the public. Information that must be reported includes the following:

(1) The total number of filtered water turbidity measurements taken during the month.

(2) The number and percentage of filtered water turbidity measurements taken during the month which are less than or equal to the turbidity limits specified in section 8.5(c) of this rule for the filtration technology being used.

(3) The date and value of any turbidity measurements taken during the month which exceed five (5) nephelometric turbidity units (NTU).

(c) Disinfection information specified in section 8.8 of this rule must be reported to the commissioner within ten (10) days after the end of each month the system serves water to the public. Information that must be reported includes the following:

(1) For each day, the lowest measurement of residual disinfectant concentration in milligrams per liter in water entering the distribution system.

(2) The date and duration of each period when the residual disinfectant concentration in water entering the distribution system fell below two-tenths (0.2) milligram per liter and when the commissioner was notified of the occurrence.

(3) The following information on the samples taken in the distribution system in conjunction with total coliform monitoring under section 8.6 of this rule:

(A) Number of instances where the residual disinfectant concentration is measured.

(B) Number of instances where the residual disinfectant concentration is not measured but heterotrophic bacteria plate count (HPC) is measured.

(C) Number of instances where the residual disinfectant concentration is measured but not detected and no HPC is measured.

(D) Number of instances where no residual disinfectant concentration is detected and where HPC is greater than five hundred (500) per milliliter.

(E) Number of instances where the residual disinfectant concentration is not measured and HPC is greater than five hundred (500) per milliliter.

(F) For the current and previous month the system serves water to the public, the value of V in the following formula:

$$V = \frac{c\%d\%e}{a\%b} \times 100$$

Where: a = The value in clause (A).

b = The value in clause (B).

c = The value in clause (C).
d = The value in clause (D).
e = The value in clause (E).

(G) The commissioner may determine, based on site-specific considerations, that a system has no means for having a sample transported and analyzed for HPC by a certified laboratory within the requisite time and temperature conditions specified by section 8.7(3) of this rule and that the system is providing adequate disinfection in the distribution system, the requirements of clauses (A) through (F) do not apply.

(4) A system need not report the data listed in subdivision (1) if all data listed in subdivisions (1) through (3) remain on file at the system and the commissioner determines that the system has submitted all the information required by subdivisions (1) through (3) for at least twelve (12) months.

(d) Each system, upon discovering that a waterborne disease outbreak potentially attributable to that water system has occurred, must report that occurrence to the commissioner as soon as possible, but no later than by the end of the next business day. If at any time the turbidity exceeds five (5) NTU, the system must ~~inform the commissioner~~ **consult with the department of environmental management** as soon as ~~possible,~~ **practical,** but no later than ~~the end of the next business day.~~ **twenty-four (24) hours after the exceedance is known in accordance with the public notification requirements under 327 IAC 8-2.1-9(b)(3).** If at any time the residual falls below two-tenths (0.2) milligram per liter in the water entering the distribution system, the system must notify the commissioner as soon as possible, but no later than the end of the next business day. The system also must notify the commissioner by the end of the next business day whether or not the residual was restored to at least two-tenths (0.2) milligram per liter within four (4) hours. *(Water Pollution Control Board; 327 IAC 8-2-14; filed Dec 28, 1990, 5:10 p.m.: 14 IR 1031; filed Apr 12, 1993, 11:00 a.m.: 16 IR 2163)*

SECTION 13. 327 IAC 8-2-20 IS AMENDED TO READ AS FOLLOWS:

327 IAC 8-2-20 Record maintenance
Authority: IC 13-13-5; IC 13-14-8-7; IC 13-14-9, IC 13-18-3; IC 13-18-16
Affected: IC 13-18

Sec. 20. Any owner or operator of a public water system subject to the provisions of this rule shall retain on its premises or at a convenient location near its premises the following records:

(1) Records of bacteriological analyses made under this rule shall be kept for not less than five (5) years. Records of chemical and radiological analyses made under this rule shall be kept for not less than ten (10) years. Actual laboratory reports may be kept, or data may be transferred to tabular summaries, provided that the following information is included:

(A) The date, place, and time of sampling, and the name of the person who collected the sample.
(B) Identification of the sample as to whether it was a routine distribution system sample, check sample, raw or process water sample, or other special purpose sample.
(C) Date of analysis.
(D) Laboratory and person responsible for performing analysis.
(E) The analytical technique/method used.
(F) The results of the analysis.

(2) Records of action taken by the system to correct violations of this rule shall be kept for not less than three (3) years after the last action taken with respect to the particular violation involved.

(3) Copies of any written reports, summaries, or communications relating to sanitary surveys of the system conducted by the system itself, by a private consultant, or by any local, state, or federal agency, shall be kept for not less than ten (10) years after completion of the sanitary survey involved.

(4) ~~Records concerning a variance granted to the system shall be kept for not less than five (5) years after the expiration of variance.~~ **Copies of public notices issued pursuant to 327 IAC 8-2.1-7 through 327 IAC 8-2.1-16 and certifications made to the primacy agency pursuant to section 13 of this rule must be kept for three (3) years after issuance.**

(Water Pollution Control Board; 327 IAC 8-2-20; filed Dec 28, 1990, 5:10 p.m.: 14 IR 1038)

SECTION 14. 327 IAC 8-2.1-3, PROPOSED TO BE AMENDED AT 23 IR 2586, SECTION 21, IS AMENDED

TO READ AS FOLLOWS:

327 IAC 8-2.1-3 Content of the reports
Authority: IC 13-13-5-1; IC 13-13-5-2; IC 13-18-16-6; IC 13-18-16-7; IC 13-18-16-9
Affected: IC 13-18-16

Sec. 3. (a) A community water system shall provide to its customers an annual report that contains the information specified in this section and section 4 of this rule.

(b) The report must contain information on the source of the water delivered, including the following:
(1) The source or sources of water delivered by the community water system by including information on:
(A) the type of water, such as surface water or ground water; and
(B) 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 the 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 commissioner, the report must include a brief summary of the system's susceptibility to potential sources of contamination, using language provided by the commissioner or written by the operator.

(c) The report must include the following definitions as applicable:
(1) "Maximum contaminant level goal" or "MCLG" means 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.
(2) "Maximum contaminant level" or "MCL" means 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.
(3) A report that contains data on ~~a contaminant~~ **contaminants** for which the department or EPA ~~has set a treatment technique or an action level~~ **regulates using any of the following terms** must include ~~one (1) or both of~~ the following definitions, as applicable:
(A) "Treatment technique" means a required process intended to reduce the level of a contaminant in drinking water.
(B) "Action level" means the concentration of a contaminant that, if exceeded, triggers treatment or other requirements that a water system shall follow.

(d) A report must include the information specified in this subsection for the following contaminants subject to mandatory monitoring, other than Cryptosporidium:
(1) Contaminants subject to an MCL, action level, or treatment technique, hereafter referred to as regulated contaminants.
(2) Disinfection byproducts or microbial contaminants for which monitoring is required by 40 CFR 141.142* and 40 CFR 141.143*, except as provided in subsection (e)(1), and that are detected in the finished water.
(3) The data relating to these contaminants must be displayed in one (1) table or in several adjacent tables. Any additional monitoring results that a community water system chooses to include in its report must be displayed separately.
(4) The data must be derived from data collected to comply with EPA and department monitoring and analytical requirements during calendar year 1998 for the first report and subsequent calendar years thereafter, except the following:
(A) Where a system is allowed to monitor for regulated contaminants less often than once a year, the table or tables 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 five (5) years need be included.
(B) Results of monitoring in compliance with 40 CFR 141.142* and 40 CFR 141.143* need only be included for five (5) years from the date of the last sample or until any of the detected contaminants becomes regulated and subject to routine monitoring requirements, whichever comes first.
(5) For detected regulated contaminants listed in section 6(a) of this rule, the table or tables must contain the following information:

(A) The MCL for that contaminant expressed as a number equal to or greater than one and zero tenths (1.0), as listed in section 6(a) of this rule.
(B) The MCLG for that contaminant expressed in the same units as the MCL.
(C) 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 shall include the definitions for treatment technique or action level, or both, as appropriate, specified in subsection (c)(4).
(D) For contaminants subject to an MCL, except turbidity and total coliforms, the highest contaminant level used to determine compliance with this rule and the range of detected levels as follows:
(i) 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.
(ii) 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.
(iii) 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.
(E) When turbidity is reported pursuant to 327 IAC 8-2-8.8, the highest single measurement and the lowest monthly percentage of samples meeting the turbidity limits specified in 327 IAC 8-2-8.8 for the filtration technology being used. The report must include an explanation of the reasons for measuring turbidity.
(F) For lead and copper, the ninetieth percentile value of the most recent round of sampling and the number of sampling sites exceeding the action level.
(G) For total coliform, the highest monthly:
(i) number of positive samples for systems collecting fewer than forty (40) samples per month; or
(ii) percentage of positive samples for systems collecting at least forty (40) samples per month.
(H) For fecal coliform, the total number of positive samples.
(I) The likely source or sources 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 must be used when available to the operator. If the operator lacks specific information on the likely source, the report must include one (1) or more of the typical sources for that contaminant listed in section 6(b) of this rule that are most applicable to the system.
(6) If a community water system distributes water to its customers from multiple hydraulically independent distribution systems that are fed by different raw water sources:
(A) the table must contain a separate column for each service area and the report must identify each separate distribution system; or
(B) the system may produce separate reports tailored to include data for each service area.
(7) The table 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 shall use the relevant language of section 6(c) of this rule.

(e) Each report must contain the following 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 40 CFR 141.143*, that indicates Cryptosporidium may be present in the source water or the finished water, the report must include:
(A) a summary of the results of the monitoring; and
(B) an explanation of the significance of the results.
(2) If the system has performed any monitoring for radon that indicates radon may be present in the finished water, the report must include:
(A) the results of the monitoring; and
(B) an explanation of the significance of the results.
(3) If the system has performed additional monitoring that indicates the presence of other contaminants in the finished water, the commissioner strongly encourages systems to report any results that may indicate a health concern. To determine if results may indicate a health concern, the commissioner recommends that systems find out if EPA has proposed a National Primary Drinking Water Regulation (NPDWR) or issued a health advisory for that contaminant

by calling the Safe Drinking Water Hotline at (800) 426-4791. The commissioner and EPA consider levels detected above a proposed federal or state MCL or health advisory level to indicate possible health concerns. For such contaminants, the commissioner recommends that the report includes:

(A) the results of the monitoring; and

(B) an explanation of the significance of the results noting the existence of a health advisory or a proposed regulation.

(f) In addition to the requirements of subsection (d)(5), the report must note any violation of a requirement listed in this subsection that occurred during the year covered by the report, 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. Violations of the following requirements must be included:

(1) Monitoring and reporting of compliance data.

(2) Filtration and disinfection prescribed by 327 IAC 8-2-8.5 and 327 IAC 8-2-8.6. For systems that have failed to install adequate filtration or disinfection equipment or processes, or have had a failure of such equipment or processes that constitutes a violation, the report must include the following language as part of the explanation of potential health effects, "inadequately treated water may contain disease-causing organisms. These organisms include bacteria, viruses, and parasites that can cause symptoms such as nausea, cramps, diarrhea, and associated headaches.".

(3) Lead and copper control requirements prescribed by 327 IAC 8-2-36 through 327 IAC 8-2-47. For systems that fail to take one (1) or more actions prescribed by 327 IAC 8-2-36(d) or 327 IAC 8-2-40 through 327 IAC 8-2-43, the report must include the applicable language from section 6(c) of this rule for lead or copper, or both.

(4) Treatment techniques for acrylamide and epichlorohydrin prescribed by ~~327 IAC 8-2-3.5.~~ **327 IAC 8-2-35.** For systems that violate ~~327 IAC 8-2-32,~~ **327 IAC 8-2-35,** the report shall include the relevant language from section 6(c) of this rule.

(5) Record keeping of compliance data.

(6) Special monitoring requirements prescribed by 327 IAC 8-2-21.

(7) Violation of the terms of an administrative or judicial order.

(g) The following additional information must be contained in the report:

(1) A brief explanation regarding contaminants that may reasonably be expected to be found in drinking water, including bottled water. This explanation may include the language in clauses (A) through (C), or systems may use their own comparable language. The report must also include the language of clause (D). The language is as follows:

(A) 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.

(B) Contaminants that may be present in source water include the following:

(i) Microbial contaminants, such as viruses and bacteria, that may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.

(ii) Inorganic contaminants, such as salts and metals, that can be naturally-occurring or result from urban stormwater run-off, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.

(iii) Pesticides and herbicides, that may come from a variety of sources, such as agriculture, urban stormwater run-off, and residential uses.

(iv) Organic chemical contaminants, including synthetic and volatile organic chemicals, that are byproducts of industrial processes and petroleum production, and can also come from gas stations, urban stormwater run-off, and septic systems.

(v) Radioactive contaminants, that can be naturally-occurring or be the result of oil and gas production and mining activities.

(C) In order to ensure that tap water is safe to drink, the department and EPA prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. Federal Drug Administration (FDA) regulations establish limits for contaminants in bottled water that must provide the same protection for public health.

(D) 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 the 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 at (800) 426-4791.

(2) 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, in which twenty percent (20%) or more of the residents speak the same language other than English, the report must contain information in the appropriate language or languages 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 about opportunities for public participation in decisions that may affect the quality of water. This information may include, but is not limited to, the time and place of regularly scheduled board meetings.
(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.

*The Code of Federal Regulations (CFR) citations are incorporated by reference into this rule and are available from the Superintendent of Documents, Government Printing Office, Washington, D.C. 20402 or from the Indiana Department of Environmental Management, Office of Water ~~Management,~~ **Quality,** Indiana Government Center-North, Twelfth Floor, Room 1255, 100 North Senate Avenue, Indianapolis, Indiana 46206. *(Water Pollution Control Board; 327 IAC 8-2.1-3; filed Mar 22, 2000, 3:23 p.m.: 23 IR 1899)*

SECTION 15. 327 IAC 8-2.1-6 IS AMENDED TO READ AS FOLLOWS:

327 IAC 8-2.1-6 Other required information
Authority: IC 13-13-5-1; IC 13-13-5-2; IC 13-18-16-6; IC 13-18-16-7; IC 13-18-16-9
Affected: IC 13-18-16

Sec. 6. (a) In order to convert MCLs to numbers greater than or equal to one and zero-tenths (1.0) for the required table referenced in section 3 of this rule, a community water system shall use the following table:

Table 6-1: Converting MCL Compliance Values for Consumer Confidence Reports

Contaminant	MCL in Compliance Units (mg/l)	multiply by...	MCL in CCR Units	MCLG in CCR Units
Microbiological contaminants				
1. Total coliform bacteria			5% of monthly samples are positive (systems that collect forty (40) or more samples per month); one (1) positive monthly sample (systems that collect fewer than forty (40) samples per month).	0
2. Fecal coliform and E. coli			A routine sample and a repeat sample are total coliform positive, and one (1) is also fecal coliform or E. coli positive.	0
3. Turbidity			TT (NTU)	n/a
Radioactive contaminants				
4. Beta/photon emitters	4 mrem/year		4 mrem/year	0
5. Alpha emitters	15 pCi/l		15 pCi/l	0
6. Combined radium	5 pCi/l		5 pCi/l	0
Inorganic contaminants				
7. Antimony	0.006	1,000	6 ppb	6
8. Arsenic	0.05	1,000	50 ppb	n/a
9. Asbestos	7 MFL		7 MFL	7
10. Barium	2		2 ppm	2
11. Beryllium	0.004	1,000	4 ppb	4
12. Cadmium	0.005	1,000	5 ppb	5
13. Chromium	0.1	1,000	100 ppb	100
14. Copper	AL = 1.3		AL = 1.3 ppm	1.3
15. Cyanide	0.2	1,000	200 ppb	200

16. Fluoride	4		4 ppm	4
17. Lead	AL = 0.015	1,000	AL = 15 ppb	0
18. Mercury (inorganic)	0.002	1,000	2 ppb	2
19. Nitrate (as nitrogen)	10		10 ppm	10
20. Nitrite (as nitrogen)	1		1 ppm	1
21. Selenium	0.05	1,000	50 ppb	50
22. Thallium	0.002	1,000	2 ppb	0.5
Synthetic organic contaminants including pesticides and herbicides				
23. 2,4-D	0.07	1,000	70 ppb	70
24. 2,4,5-TP (silvex)	0.05	1,000	50 ppb	50
25. Acrylamide			TT	0
26. Alachlor	0.002	1,000	2 ppb	0
27. Atrazine	0.003	1,000	3 ppb	3
28. Benzo(a)pyrene (PAH)	0.0002	1,000,000	200 ppt	0
29. Carbofuran	0.04	1,000	40 ppb	40
30. Chlordane	0.002	1,000	2 ppb	0
31. Dalapon	0.2	1,000	200 ppb	200
32. Di(2-ethylhexyl)adipate	**4 .4**	1,000	400 ppb	400
33. Di(2-ethylhexyl)phthalate	0.006	1,000	6 ppb	0
34. Dibromochloropropane	0.0002	1,000,000	200 ppt	0
35. Dinoseb	0.007	1,000	7 ppb	7
36. Diquat	0.02	1,000	20 ppb	20
37. Dioxin (2,3,7,8-TCDD)	0.00000003	1,000,000,000	30 ppq	0
38. Endothall	0.1	1,000	100 ppb	100
39. Endrin	0.002	1,000	2 ppb	2
40. Epichlorohydrin			TT	0
41. Ethylene dibromide	0.00005	1,000,000	50 ppt	0
42. Glyphosate	0.7	1,000	700 ppb	700
43. Heptachlor	0.0004	1,000,000	400 ppt	0
44. Heptachlor epoxide	0.0002	1,000,000	200 ppt	0
45. Hexachlorobenzene	0.001	1,000	1 ppb	0
46. Hexachlorocyclopentadiene	0.05	1,000	50 ppb	50
47. Lindane	0.0002	1,000	200 ppt	200
48. Methoxychlor	0.04	1,000	40 ppb	40
49. Oxamyl (vydate)	0.2	1,000	200 ppb	200
50. PCBs (polychlorinated biphenyls)	0.0005	1,000,000	500 ppt	0
51. Pentachlorophenol	0.001	1,000	1 ppb	0
52. Picloram	0.5	1,000	500 ppb	500
53. Simazine	0.004	1,000	4 ppb	4
54. Toxaphene	0.003	1,000	3 ppb	0
Volatile organic contaminants				
55. Benzene	0.005	1,000	5 ppb	0
56. Carbon tetrachloride	0.005	1,000	5 ppb	0
57. Chlorobenzene	0.1	1,000	100 ppb	100
58. o-Dichlorobenzene	0.6	1,000	600 ppb	600
59. p-Dichlorobenzene	0.075	1,000	75 ppb	75

60. 1,2-Dichloroethane	0.005	1,000	5 ppb	0
61. 1,1-Dichloroethylene	0.007	1,000	7 ppb	7
62. cis-1,2-Dichloroethylene	0.07	1,000	70 ppb	70
63. trans-1,2-Dichloroethylene	0.1	1,000	100 ppb	100
64. Dichloromethane	0.005	1,000	5 ppb	0
65. 1,2-Dichloropropane	0.005	1,000	5 ppb	0
66. Ethylbenzene	0.7	1,000	700 ppb	700
67. Styrene	0.1	1,000	100 ppb	100
68. Tetrachloroethylene	0.005	1,000	5 ppb	0
69. 1,2,4-Trichlorobenzene	0.07	1,000	70 ppb	70
70. 1,1,1-Trichloroethane	0.2	1,000	200 ppb	200
71. 1,1,2-Trichloroethane	0.005	1,000	5 ppb	3
72. Trichloroethylene	0.005	1,000	5 ppb	0
73. TTHMs (total trihalomethanes)	0.1	1,000	100 ppb	n/a
74. Toluene	1		1 ppm	1
75. Vinyl chloride	0.002	1,000	2 ppb	0
76. Xylenes	10		10 ppm	10

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 (Fg/l).
ppt = Parts per trillion, or nanograms per liter (ng/l).
ppq = Parts per quadrillion, or picograms per liter (pg/l).
TT = Treatment technique.

(b) In order to show potential sources of contamination for the table required by section 3 of this rule, a community water system shall use the following table:

Table 6-2: Regulated Contaminants

Contaminant (units)	MCLG	MCL	Major Sources in Drinking Water
Microbiological contaminants			
1. Total coliform bacteria	0	5% of monthly samples are positive (systems that collect forty (40) or more samples per month); one (1) positive monthly sample (systems that collect fewer than forty (40) samples per month).	Naturally present in the environment.
2. Fecal coliform and E. coli	0	A routine sample and a repeat sample are total coliform positive, and one (1) is also fecal coliform or E. coli positive.	Human and animal fecal waste.
3. Turbidity	n/a	TT	Soil run-off.
Radioactive contaminants			
4. Beta/photon emitters (mrem/year)	0	4	Decay of natural and manmade deposits.

5. Alpha emitters (pCi/l)	0	15	Erosion of natural deposits.
6. Combined radium (pCi/l)	0	5	Erosion of natural deposits.
Inorganic contaminants			
7. Antimony (ppb)	6	6	Discharge from petroleum refineries; fire retardants; ceramics; electronics; solder.
8. Arsenic (ppb)	n/a	50	Erosion of natural deposits; run-off from orchards; run-off from glass and electronics production wastes.
9. Asbestos (MFL)	7	7	Decay of asbestos cement water mains; erosion of natural deposits.
10. Barium (ppm)	2	2	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits.
11. Beryllium (ppb)	4	4	Discharge from metal refineries and coal-burning factories; discharge from electrical, aerospace, and defense industries.
12. Cadmium (ppb)	5	5	Corrosion of galvanized pipes; erosion of natural deposits; discharge from metal refineries; run-off from waste batteries and paints.
13. Chromium (ppb)	100	100	Discharge from steel and pulp mills; erosion of natural deposits.
14. Copper (ppm)	1.3	AL = 1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives.
15. Cyanide (ppb)	200	200	Discharge from steel/metal factories; discharge from plastic and fertilizer factories.
16. Fluoride (ppm)	4	4	Erosion of natural deposits; water additive that promotes strong teeth; discharge from fertilizer and aluminum factories.
17. Lead (ppb)	0	AL = 15	Corrosion of household plumbing systems; erosion of natural deposits.
18. Mercury (inorganic) (ppb)	2	2	Erosion of natural deposits; discharge from refineries and factories; run-off from landfills; run-off from cropland.
19. Nitrate (as nitrogen) (ppm)	10	10	Run-off from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits.
20. Nitrite (as nitrogen) (ppm)	1	1	Run-off from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits.
21. Selenium (ppb)	50	50	Discharge from petroleum and metal refineries; erosion of natural deposits; discharge from mines.
22. Thallium (ppb)	0.5	2	Leaching from ore-processing sites; discharge from electronics, glass, and drug factories.

Synthetic organic contaminants, including pesticides and herbicides			
23. 2,4-D (ppb)	70	70	Run-off from herbicide used on row crops.
24. 2,4,5-TP (Silvex) (ppb)	50	50	Residue of banned herbicide.
25. Acrylamide	0	TT	Added to water during sewage/wastewater treatment.
26. Alachlor (ppb)	0	2	Run-off from herbicide used on row crops.
27. Atrazine (ppb)	3	3	Run-off from herbicide used on row crops.
28. Benzo(a)pyrene (PAH) (ppt)	0	200	Leaching from linings of water storage tanks and distribution lines.
29. Carbofuran (ppb)	40	40	Leaching of soil fumigant used on rice and alfalfa.
30. Chlordane (ppb)	0	2	Residue of banned termiticide.
31. Dalapon (ppb)	200	200	Run-off from herbicide used on rights-of-way.
32. Di(2-ethylhexyl)adipate (ppb)	400	400	Discharge from chemical factories.
33. Di(2-ethylhexyl)phthalate (ppb)	0	6	Discharge from rubber and chemical factories.
34. Dibromochloropropane (ppt)	0	200	Run-off/leaching from soil fumigant used on soybeans, cotton, pineapples, and orchards.
35. Dinoseb (ppb)	7	7	Run-off from herbicide used on soybeans and vegetables.
36. Diquat (ppb)	20	20	Run-off from herbicide use.
37. Dioxin (2,3,7,8-TCDD) (ppq)	0	30	Emissions from waste incineration and other combustion; discharge from chemical factories.
38. Endothall (ppb)	100	100	Run-off from herbicide use.
39. Endrin (ppb)	2	2	Residue of banned insecticide.
40. Epichlorohydrin	0	TT	Discharge from industrial chemical factories; an impurity of same water treatment chemicals.
41. Ethylene dibromide (ppt)	0	50	Discharge from petroleum refineries.
42. Glyphosate (ppb)	700	700	Run-off from herbicide use.
43. Heptachlor (ppt)	0	400	Residue of banned termiticide.
44. Heptachlor epoxide (ppt)	0	200	Breakdown of heptachlor.
45. Hexachlorobenzene (ppb)	0	1	Discharge from metal refineries and agricultural chemical factories.
46. Hexachlorocyclopentadiene (ppb)	50	50	Discharge from chemical factories.
47. Lindane (ppt)	200	200	Run-off/leaching from insecticide used on cattle, lumber, gardens.
48. Methoxychlor (ppb)	40	40	Run-off/leaching from insecticide used on fruits, vegetables, alfalfa, livestock.
49. Oxamyl (vydate) (ppb)	200	200	Run-off/leaching from insecticide used on apples, potatoes, and tomatoes.
50. PCBs (polychlorinated biphenyls) (ppt)	0	500	Run-off from landfills; discharge of waste chemicals.

51. Pentachlorophenol (ppb)	0	1	Discharge from wood preserving factories.
52. Picloram (ppb)	500	500	Herbicide run-off.
53. Simazine (ppb)	4	4	Herbicide run-off.
54. Toxaphene (ppb)	0	3	Run-off/leaching from insecticide used on cotton and cattle.
Volatile organic contaminants			
55. Benzene (ppb)	0	5	Discharge from factories; leaching from gas storage tanks and landfills.
56. Carbon tetrachloride (ppb)	0	5	Discharge from chemical plants and other industrial activities.
57. Chlorobenzene (ppb)	100	100	Discharge from chemical and agricultural chemical factories.
58. o-Dichlorobenzene (ppb)	600	600	Discharge from industrial chemical factories.
59. p-Dichlorobenzene (ppb)	75	75	Discharge from industrial chemical factories.
60. 1,2-Dichloroethane (ppb)	0	5	Discharge from industrial chemical factories.
61. 1,1-Dichloroethylene (ppb)	7	7	Discharge from industrial chemical factories.
62. cis-1,2-Dichloroethylene (ppb)	70	70	Discharge from industrial chemical factories.
63. trans-1,2-Dichloroethylene (ppb)	100	100	Discharge from industrial chemical factories.
64. Dichloromethane (ppb)	0	5	Discharge from pharmaceutical and chemical factories.
65. 1,2-Dichloropropane (ppb)	0	5	Discharge from industrial chemical factories.
66. Ethylbenzene (ppb)	700	700	Discharge from petroleum refineries.
67. Styrene (ppb)	100	100	Discharge from rubber and plastic factories; leaching from landfills.
68. Tetrachloroethylene (ppb)	0	5	Discharge from factories and dry cleaners.
69. 1,2,4-Trichlorobenzene (ppb)	70	70	Discharge from textile-finishing factories.
70. 1,1,1-Trichloroethane (ppb)	200	200	Discharge from metal degreasing sites and other factories.
71. 1,1,2-Trichloroethane (ppb)	3	5	Discharge from industrial chemical factories.
72. Trichloroethylene (ppb)	0	5	Discharge from metal degreasing sites and other factories.
73. TTHMs (total trihalomethanes) (ppb)	n/a	100	Byproduct of drinking water chlorination.
74. Toluene (ppm)	1	1	Discharge from petroleum factories.
75. Vinyl chloride (ppb)	0	2	Leaching from PVC piping; discharge from plastics factories.
76. Xylenes (ppm)	10	10	Discharge from petroleum factories; discharge from chemical factories.

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 (Fg/l).
ppt = Parts per trillion, or nanograms per liter (ng/l).
ppq = Parts per quadrillion, or picograms per liter (pg/l).
TT = Treatment technique.

(c) The ~~following~~ language **in section 17 of this rule** shall be used if there is a violation referenced in section 3 of this rule and health effects language is required **unless alternate language is listed in this subsection as follows:**

~~(1) For microbiological contaminants, the following language shall be used:~~

~~(A) 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.~~

~~(B)~~ **(1)** Fecal coliform/E. coli. Fecal coliforms and E. coli are bacteria whose presence indicates that the water may be contaminated with animal or human 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.

~~(C) 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.~~

~~(2) For radioactive contaminants, the following language shall be used:~~

~~(A) 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.~~

~~(B) 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.~~

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

~~(3) For inorganic contaminants, the following language shall be used:~~

~~(A) 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.~~

~~(B) 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.~~

~~(C) 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.~~

~~(D) Barium. Some people who drink water containing barium in excess of the MCL over many years could experience an increase in their blood pressure.~~

~~(E) Beryllium. Some people who drink water containing beryllium well in excess of the MCL over many years could develop intestinal lesions.~~

~~(F) Cadmium. Some people who drink water containing cadmium in excess of the MCL over many years could experience kidney damage.~~

~~(G) Chromium. Some people who use water containing chromium well in excess of the MCL over many years could experience allergic dermatitis.~~

~~(H) 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.~~

~~(I) 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.~~

~~(J)~~ **(2)** 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.

~~(K) 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.~~

~~(L) Mercury (inorganic). Some people who drink water containing inorganic mercury well in excess of the MCL over many years could experience kidney damage.~~

~~(M) Nitrate. Infants below the age of six (6) 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.~~

~~(N) Nitrite. Infants below the age of six (6) 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.~~

~~(O) 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 loss, numbness in fingers or toes, and problems with their circulation.~~

~~(P) 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.~~

~~(4) For synthetic organic contaminants, including pesticides and herbicides, the following language shall be used:~~

~~(A) 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.~~

~~(B) 2,4,5-TP (silvex). Some people who drink water containing silvex in excess of the MCL over many years could experience liver problems.~~

~~(C) Acrylamide. Some people who drink water containing a high level 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.~~

~~(D) 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.~~

~~(E) 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.~~

~~(F) 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.~~

~~(G) 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.~~

~~(H) 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.~~

~~(I) Dalapon. Some people who drink water containing dalapon well in excess of the MCL over many years could experience minor kidney changes.~~

~~(J) 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.~~

~~(K) 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.~~

~~(L) 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.~~

~~(M) Dinoseb. Some people who drink water containing dinoseb well in excess of the MCL over many years could experience reproductive difficulties.~~

~~(N) 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.~~

~~(O) Diquat. Some people who drink water containing diquat in excess of the MCL over many years could get cataracts.~~

~~(P) Endothall. Some people who drink water containing endothall in excess of the MCL over many years could experience problems with their stomach or intestines.~~

~~(Q) Endrin. Some people who drink water containing endrin in excess of the MCL over many years could experience liver problems.~~

~~(R) 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.~~

~~(S) 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.~~

~~(T) 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.~~

~~(U) 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.~~

~~(V) 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.~~

~~(W) Hexachlorobenzene. Some people who drink water containing hexachlorobenzene in excess of the MCL over many years may experience problems with their liver or kidneys, or adverse reproductive effects, and may have an increased risk of getting cancer.~~

~~(X) 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.~~

~~(Y) Lindane. Some people who drink water containing lindane in excess of the MCL over many years could experience problems with their kidneys or liver.~~

~~(Z) Methoxychlor. Some people who drink water containing methoxychlor in excess of the MCL over many years could experience reproductive difficulties.~~

~~(AA) Oxamyl (vydate). Some people who drink water containing oxamyl in excess of the MCL over many years could experience slight nervous system effects.~~

~~(BB) 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.~~

~~(CC) 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.~~

~~(DD) Picloram. Some people who drink water containing picloram in excess of the MCL over many years could experience problems with their liver.~~

~~(EE) Simazine. Some people who drink water containing simazine in excess of the MCL over many years could experience problems with their blood.~~

~~(FF) 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.~~

~~(5) For volatile organic contaminants, the following language shall be used:~~

~~(A) 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.~~

~~(B) 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.~~

~~(C) Chlorobenzene. Some people who drink water containing chlorobenzene in excess of the MCL over many years could experience problems with their liver or kidneys.~~

~~(D) 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.~~

~~(E) 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.~~

~~(F) 1,2-Dichloroethane. Some people who drink water containing 1,2-dichloroethane in excess of the MCL over many years have an increased risk of getting cancer.~~

~~(G) 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.~~

~~(H) 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.~~

~~(I) trans-1,2-Dichloroethylene. 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.~~

~~(J) 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.~~

~~(K) 1,2-Dichloropropane. Some people who drink water containing 1,2-dichloropropane in excess of the MCL over many years may have an increase risk of getting cancer.~~

~~(L) 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.~~
~~(M) 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.~~
~~(N) 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.~~
~~(O) 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.~~
~~(P) 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.~~
~~(Q) 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.~~
~~(R) 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.~~
~~(S) Total trihalomethanes (TTHMs). 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.~~
~~(T) 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.~~
~~(U) 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.~~
~~(V) Xylenes. Some people who drink water containing xylenes in excess of the MCL over many years could experience damage to their nervous system.~~

(Water Pollution Control Board; 327 IAC 8-2.1-6; filed Mar 22, 2000, 3:23 p.m.: 23 IR 1903)

SECTION 16. 327 IAC 8-2.1-7 IS ADDED TO READ AS FOLLOWS:

327 IAC 8-2.1-7 Public notification of drinking water violations
Authority: IC 13-13-5-1; IC 13-13-5-2; IC 13-18-16-6; IC 13-18-16-7; IC 13-18-16-9
Affected: IC 13-18-16

Sec. 7. (a) Each of the following owners or operators of a public water system must give notice for all violations of drinking water regulations and for other situations that are listed in subsection (b):
(1) Community water systems.
(2) Nontransient noncommunity water systems.
(3) Transient noncommunity water systems.

(b) The following are violation categories and other situations that require a public notice:
(1) The following drinking water violations:
(A) Failure to comply with an applicable maximum contaminant level (MCL) or maximum residual disinfectant level (MRDL).
(B) Failure to comply with a prescribed treatment technique (TT).
(C) Failure to perform water quality monitoring, as required by the drinking water regulations.
(D) Failure to comply with testing procedures as prescribed by a drinking water regulation.
(2) The following special public notices:
(A) Occurrence of a waterborne disease outbreak or other waterborne emergency.
(B) Exceedance of the nitrate MCL by noncommunity water systems (NCWS), where granted permission by the commissioner under 327 IAC 8-2-4(b).
(C) Exceedance of the secondary maximum contaminant level (SMCL) for fluoride.
(D) Availability of unregulated contaminant monitoring data.
(E) Other violations and situations determined by the commissioner to require a public notice under this subdivision, not already listed.

(c) Public notice requirements are divided into three tiers, to take into account the seriousness of the violation

or situation and of any potential adverse health effects that may be involved. They are divided as follows:

(1) A Tier 1 public notice is required for drinking water violations and situations with significant potential to have serious adverse effects on human health as a result of short term exposure.

(2) Tier 2 public notice is required for all other drinking water violations and situations with potential to have serious adverse effects on human health.

(3) Tier 3 public notice required for all other drinking water violations and situations not included in Tier 1 and Tier 2.

(d) Public notification requirements are as follows:

(1) Each public water system must provide public notice to persons served by the water system.

(2) Public water systems that sell or otherwise provide drinking water to other public water systems are required to give public notice to the owner or operator of the consecutive system; the consecutive system is responsible for providing public notice to the persons it serves.

(3) If a public water system has a violation in a portion of the distribution system that is physically or hydraulically isolated from other parts of the distribution system, the commissioner may allow the system to limit distribution of the public notice to only persons served by that portion of the system which is out of compliance. Permission from the commissioner for limiting distribution of the notice must be granted in writing.

(4) A copy of the notice must also be sent to the commissioner, within ten (10) days of completion of each public notification. The public water system shall submit to the commissioner a representative copy of each type of notice distributed, published, posted, or made available to the persons served by the system and the media, where appropriate.

(Water Pollution Control Board; 327 IAC 8-2.1-7)

SECTION 17. 327 IAC 8-2.1-8 IS ADDED TO READ AS FOLLOWS:

327 IAC 8-2.1-8 Tier 1 public notice; form, manner, and frequency of notice

Authority: IC 13-13-5-1; IC 13-13-5-2; IC 13-18-16-6; IC 13-18-16-7; IC 13-18-16-9
Affected: IC 13-18-16

Sec. 8. (a) The following violations or situations require a Tier 1 public notice:

(1) Violation of the MCL for total coliforms when fecal coliform or E. coli are present in the water distribution system as specified in 327 IAC 8-2-7(b), or the water system fails to test for fecal coliforms or E. coli when any repeat sample tests positive for coliform as specified in 327 IAC 8-2-8.3.

(2) Violation of the MCL for nitrate, nitrite, or total nitrate and nitrite, as defined in 327 IAC 8-2-4, or when the water system fails to take a confirmation sample within twenty-four (24) hours of the system's receipt of the first sample showing an exceedance of the nitrate or nitrite MCL, as specified in 327 IAC 8-2-4.1(h)(2).

(3) Exceedance of the nitrate MCL by noncommunity water systems, where permitted to exceed the MCL by the commissioner under 327 IAC 8-2-4.

(4) Violation of the 327 IAC 8-2-8.5(c) treatment technique requirement resulting from a single exceedance of the maximum allowable turbidity limit as identified in section 16 of this rule, where the commissioner determines after consultation that a Tier 1 notice is required or where consultation does not take place within twenty-four (24) hours after the system learns of the violation.

(5) Occurrence of a waterborne disease outbreak, as defined in 327 IAC 8-2-1, or other waterborne emergency. This includes failure or significant interruption in key water treatment processes, a natural disaster that disrupts the water supply or distribution system, or a chemical spill or unexpected loading of possible pathogens into the source water that significantly increases the potential for drinking water contamination.

(6) Other violations or situations with significant potential to have serious adverse effects on human health as a result of short term exposure, as determined by the commissioner either in its regulations or on a case-by-case basis.

(b) Tier 1 public notice needs to be provided as follows:

(1) Provide a public notice as soon as practical but no later than twenty-four (24) hours after the system learns of the violation.

(2) Initiate consultation with the commissioner as soon as practical, but no later than twenty-four (24) hours after the public water system learns of the violation or situation, to determine additional public notice requirements.
(3) Comply with any additional public notification requirements that are established as a result of the consultation with the commissioner, including any repeat notices or direction on the duration of the posted notices. To reach all persons served, such requirements may include:
(A) timing;
(B) form;
(C) manner;
(D) frequency; and
(E) content of repeat notices and other actions designed.
(4) Public water systems must provide the notice within twenty-four (24) hours in a form and manner reasonably calculated to reach all persons served. The form and manner used by the public water system are to fit the specific situation, but must be designed to reach residential, transient, and nontransient users of the water system. In order to reach all persons served, water systems are to use, at a minimum, one (1) or more of the following forms of delivery:
(A) Appropriate broadcast media such as:
(i) radio; or
(ii) television.
(B) Posting of the notice in conspicuous locations throughout the area served by the water system.
(C) Hand delivery of the notice to persons served by the water system.
(D) Another delivery method approved in writing by the commissioner.
(Water Pollution Control Board; 327 IAC 8-2.1-8)

SECTION 18. 327 IAC 8-2.1-9 IS ADDED TO READ AS FOLLOWS:

327 IAC 8-2.1-9 Tier 2 notice; form, manner, and frequency of notice
Authority: IC 13-13-5-1; IC 13-13-5-2; IC 13-18-16-6; IC 13-18-16-7; IC 13-18-16-9
Affected: IC 13-18-16

Sec. 9. (a) The following violations or situations require a Tier 2 public notice:
(1) All violations of the MCL, MRDL, and treatment technique requirements, except where a Tier 1 notice is required under section 8(a) of this rule or where the commissioner determines a Tier 1 notice is required.
(2) Violations of the monitoring and testing procedure requirements, where the commissioner determines that a Tier 2 rather than a Tier 3 public notice is required, taking into account potential health impacts and persistence of the violation.
(b) Tier 2 public notice needs to be provided as follows:
(1) Public water systems must provide the public notice as soon as practical, but no later than thirty (30) days after the system learns of the violation. If the public notice is posted, the notice must remain in place for as long as the violation or situation persists, but in no case for less than seven (7) days, even if the violation or situation is resolved. The commissioner may, in appropriate circumstances, allow additional time for the initial notice of up to three (3) months from the date the system learns of the violation. It is not appropriate for the commissioner to grant an extension to the thirty (30) day deadline for any unresolved violation or to allow across-the-board extensions by rule or policy for other violations or situations requiring a Tier 2 public notice. Extensions granted by the commissioner must be in writing.
(2) The public water system must repeat the notice every three (3) months as long as the violation or situation persists, unless the commissioner determines that appropriate circumstances warrant a different repeat notice frequency. In no circumstance may the repeat notice be given less frequently than once per year. It is not appropriate for the commissioner to allow less frequent repeat notice for an MCL violation under the 327 IAC 8-2-7, 327 IAC 8-2-8, 327 IAC 8-2-8.1, and 327 IAC 8-2-8.3 or a treatment technique violation under 327 IAC 8-2-8.5, 327 IAC 8-2-8.6, and 327 IAC 8-2-8.8. The commissioner determinations allowing repeat notices to be given less frequently than once every three (3) months must be in writing.
(3) If there is a violation of the treatment technique requirement in 327 IAC 8-2-8.5(c) that results from a single exceedance of the maximum allowable turbidity limit, then public water systems must consult with the

commissioner as soon as practical but no later than twenty-four (24) hours after the public water system learns of the violation, to determine whether a Tier 1 public notice under section 8(a) of this rule is required to protect public health. When consultation does not take place within the twenty-four (24) hour period, the water system must distribute a Tier 1 notice of the violation within the next twenty-four (24) hours (for example, no later than forty-eight (48) hours after the system learns of the violation), following the requirements under section 8(b) and 8(c) of this rule.

(c) Public water systems must provide the initial public notice and any repeat notices in a form and manner that is reasonably calculated to reach persons served in the required time period. The form and manner of the public notice may vary based on the specific situation and type of water system, but it must at a minimum meet the following requirements:

(1) Unless directed otherwise by the commissioner in writing, community water systems must provide notice by the following methods:

(A) Mail or other direct delivery to each customer receiving a bill and to other service connections to which water is delivered by the public water system.

(B) Any other method reasonably calculated to reach other persons regularly served by the system, if they would not normally be reached by the notice required in clause (A). Such persons may include those who do not pay water bills or do not have service connection addresses, including any of the following:

(i) House renters.

(ii) Apartment dwellers.

(iii) University students.

(iv) Nursing home patients.

(v) Prison inmates.

(C) Other methods may include any of the following:

(i) Publication in a local newspaper.

(ii) Delivery of multiple copies for distribution by customers that provide their drinking water to others, such as:

(AA) apartment building owners; or

(BB) large private employers.

(iii) Posting in public places served by the system or on the Internet.

(iv) Delivery to community organizations.

(2) Unless directed otherwise by the commissioner in writing, noncommunity water systems must provide notice by the following methods:

(A) Posting the notice in conspicuous locations throughout the distribution system frequented by persons served by the system.

(B) By mail or direct delivery to each customer and service connection if known.

(C) Any other method reasonably calculated to reach other persons served by the system if they would not normally be reached by the notice required in clauses (A) and (B). Such persons may include those served who may not see a posted notice because the posted notice is not in a location they routinely pass by. Other methods may include:

(i) publication in a local newspaper or newsletter distributed to customers;

(ii) use of e-mail to notify employees or students; or

(iii) delivery of multiple copies in central locations, such as community centers.

(Water Pollution Control Board; 327 IAC 8-2.1-9)

SECTION 19. 327 IAC 8-2.1-10 IS ADDED TO READ AS FOLLOWS:

327 IAC 8-2.1-10 Tier 3 public notice; form, manner, and frequency of notice

Authority: IC 13-13-5-1; IC 13-13-5-2; IC 13-18-16-6; IC 13-18-16-7; IC 13-18-16-9
Affected: IC 13-18-16

Sec. 10. (a) The following violations or situations require a Tier 3 public notice:

(1) Monitoring violations under 327 IAC 8-2, except where a Tier 1 notice is required under section 8 of this rule or where the commissioner determines that a Tier 2 notice is required.

(2) Failure to comply with a testing procedure established in 327 IAC 8-2, except where a Tier 1 notice is required under section 8(a) of this rule or where the commissioner determines that a Tier 2 notice is required.
(3) Exceedance of the fluoride secondary maximum contaminant level (SMCL) as required under section 13 of this rule.

(b) Tier 3 public notice needs to be provided as follows:
(1) Public water systems must provide the public notice not later than one (1) year after the public water system learns of the violation or situation. Following the initial notice, the public water system must repeat the notice annually for as long as the violation or other situation persists. If the public notice is posted, the notice must remain in place for as long as the violation or other situation persists, but in no case less than seven (7) days even if the violation or situation is resolved.
(2) Instead of individual Tier 3 public notices, a public water system may use an annual report detailing all violations and situations that occurred during the previous twelve (12) months, as long as the timing requirements of subdivision (1) are met.

(c) Public water systems must provide the initial notice and any repeat notices in a form and manner that is reasonably calculated to reach persons served in the required time period. The form and manner of the public notice may vary based on the specific situation and type of water system, but it must, at a minimum, meet the following requirements:
(1) Unless directed otherwise by the commissioner in writing, community water systems must provide notice by the following methods:
(A) Mail or other direct delivery to each customer receiving a bill and to other service connections to which water is delivered by the public water system.
(B) Any other method reasonably calculated to reach other persons regularly served by the system, if they would not normally be reached by the notice required in clause (A). These persons may include those who do not pay water bills or do not have service connection addresses, such as any of the following:
(i) House renters.
(ii) Apartment dwellers.
(iii) University students.
(iv) Nursing home patients.
(v) Prison inmates.
(C) Other methods may include any of the following:
(i) Publication in a local newspaper.
(ii) Delivery of multiple copies for distribution by customers that provide their drinking water to others, such as:
(AA) apartment building owners; or
(BB) large private employers.
(iii) Posting in public places or on the Internet.
(iv) Delivery to community organizations.
(2) Unless directed otherwise by the commissioner in writing, noncommunity water systems must provide notice by the following methods:
(A) Posting the notice in conspicuous locations throughout the distribution system frequented by persons served by the system, or by mail or direct delivery to each customer and service connection if known.
(B) Any other method reasonably calculated to reach other persons served by the system, if they would not normally be reached by the notice required in item (i). Such persons may include those who may not see a posted notice because the notice is not in a location they routinely pass by. Other methods may include:
(i) publication in a local newspaper or newsletter distributed to customers;
(ii) use of e-mail to notify employees or students; or
(iii) delivery of multiple copies in central locations such community centers.

(d) For community water systems, the Consumer Confidence Report (CCR) required under sections 1 through 6 of this rule may be used as a vehicle for the initial Tier 3 public notice and all required repeat notices as long as:
(1) the CCR is provided to persons served no later than twelve (12) months after the system learns of the

violation or situation as required in this section;
(2) the Tier 3 notice contained in the CCR follows the content requirements under section 11 of this rule; and
(3) the CCR is distributed following the delivery requirements under subsection (c).
(Water Pollution Control Board; 327 IAC 8-2.1-10)

SECTION 20. 327 IAC 8-2.1-11 IS ADDED TO READ AS FOLLOWS:

327 IAC 8-2.1-11 Contents of the public notice
Authority: IC 13-13-5-1; IC 13-13-5-2; IC 13-18-16-6; IC 13-18-16-7; IC 13-18-16-9
Affected: IC 13-18-16

Sec. 11. (a) When a public water system violates a drinking water regulation or has a situation requiring public notification, each public notice must include the following elements:
(1) A description of the violation or situation, including the contaminant or contaminants of concern and the contaminant level or levels as applicable.
(2) When the violation or situation occurred.
(3) Any potential adverse health effects from the violation or situation, including the standard language under subsection (c)(1) or (c)(2), whichever is applicable.
(4) The population at risk, including subpopulations particularly vulnerable if exposed to the contaminant in their drinking water.
(5) Whether alternative water supplies should be used.
(6) What actions consumers should take, including when they should seek medical help, if known.
(7) What the system is doing to correct the violation or situation.
(8) When the water system expects to return to compliance or resolve the situation.
(9) The name, business address, and phone number of the water system owner, operator, or designee of the public water system as a source of additional information concerning the notice.
(10) A statement to encourage the notice recipient to distribute the public notice to other persons served, using the standard language under subsection (c)(3), where applicable.

(b) The following requirements need to be included when a public notice is presented:
(1) Each public notice must do the following:
(A) Must be displayed in a conspicuous way when printed or posted.
(B) Must not contain overly technical language or very small print.
(C) Must not be formatted in a way that defeats the purpose of the notice.
(D) Must not contain language that nullifies the purpose of the notice.
(2) In communities with a large proportion of non-English speaking residents, in which twenty percent (20%) or more of the residents speak the same language other than English, the notice must contain information in the appropriate language or languages regarding the importance of the notice or contain a telephone number or address where such residents may contact the system to obtain a translated copy of the notice or assistance in the appropriate language or languages.

(c) Public water systems are required to include the following standard language in their public notice:
(1) Standard health effects language for MCL or MRDL violations and treatment technique violations. Public water systems must include in each public notice the health effects language specified in section 17 of this rule corresponding to each MCL, MRDL, and treatment technique violation listed in section 16 of this rule.
(2) Public water systems must include standard language in their notice about monitoring and testing procedure violations, including language necessary to fill in the blanks, for all monitoring and testing procedure violations listed in section 16 of this rule. The standard language must state, "We are required to monitor your drinking water for specific contaminants on a regular basis. Results of regular monitoring are an indicator of whether or not your drinking water meets health standards. During [compliance period], we "did not monitor or test" or "did not complete all monitoring or testing" for [contaminant(s)], and therefore cannot be sure of the quality of your drinking water during that time.".
(3) Public water systems must include standard language in their notice to encourage the distribution of the public notice to all persons served. Where applicable, the standard language must state, "Please share this

information with all the other people who drink this water, especially those who may not have received this notice directly (for example, people in apartments, nursing homes, schools, and businesses). You can do this by posting this notice in a public place or distributing copies by hand or mail.".
(Water Pollution Control Board; 327 IAC 8-2.1-11)

SECTION 21. 327 IAC 8-2.1-12 IS ADDED TO READ AS FOLLOWS:

327 IAC 8-2.1-12 Notice to new billing units or new customers
Authority: IC 13-13-5-1; IC 13-13-5-2; IC 13-18-16-6; IC 13-18-16-7; IC 13-18-16-9
Affected: IC 13-18-16

Sec. 12. (a) Community water systems must give a copy of the most recent public notice for any continuing violation or other ongoing situations requiring a public notice to all new billing units or new customers prior to or at the time service begins.

(b) Noncommunity water systems must continuously post the public notice in conspicuous locations in order to inform new consumers of any continuing violation or other situation requiring a public notice for as long as the violation or other situation persists. *(Water Pollution Control Board; 327 IAC 8-2.1-12)*

SECTION 22. 327 IAC 8-2.1-13 IS ADDED TO READ AS FOLLOWS:

327 IAC 8-2.1-13 Special notice for exceedance of the SMCL for fluoride
Authority: IC 13-13-5-1; IC 13-13-5-2; IC 13-18-16-6; IC 13-18-16-7; IC 13-18-16-9
Affected: IC 13-18-16

Sec. 13. (a) A community water system that exceeds the fluoride secondary maximum contaminant level (SMCL) of two (2) milligrams per liter as specified in 40 CFR § 143.3*, determined by the last single sample taken in accordance with 327 IAC 8-2-4.1, but does not exceed the maximum contaminant level (MCL) of four (4) milligrams per liter for fluoride as specified in 327 IAC 8-2-4, must provide the public notice in subsection (c) to persons served. Public notice must be provided as soon as practical, but no later than twelve (12) months from the day the water system learns of the exceedance. A copy of the notice must also be sent to all new billing units and new customers at the time service begins and to the state public health officer. The public water system must repeat the notice at least annually for as long as the SMCL is exceeded. If the public notice is posted, the notice must remain in place for as long as the SMCL is exceeded, but in no case less than seven (7) days even if the exceedance is eliminated. On a case-by-case basis, the commissioner may require an initial notice sooner than twelve (12) months and repeat notices more frequently than annually.

(b) The form and manner of the public notice, including repeat notices, must follow the requirements for a Tier 3 public notice in sections 10(c), 10(d)(1), and 10(d)(3) of this rule.

(c) The notice must contain the standard language, including the language necessary to fill in the blanks, that states, "This is an alert about your drinking water and a cosmetic dental problem that might affect children under nine (9) years of age. At low levels, fluoride can help prevent cavities, but children drinking water containing more than two (2) milligrams per liter (mg/l) of fluoride may develop cosmetic discoloration of their permanent teeth (dental fluorosis). The drinking water provided by your community water system [name] has a fluoride concentration of [insert value] mg/l. Dental fluorosis, in its moderate or severe forms, may result in a brown staining and/or pitting of the permanent teeth. This problem occurs only in developing teeth, before they erupt from the gums. Children under nine (9) should be provided with alternative sources of drinking water or water that has been treated to remove the fluoride to avoid the possibility of staining and pitting of their permanent teeth. You may also want to contact your dentist about proper use by young children of fluoride-containing products. Older children and adults may safely drink the water. Drinking water containing more than four (4) mg/L of fluoride (the U.S. Environmental Protection Agency's and Indiana Department of Environmental Management's drinking water standard) can increase your risk of developing bone disease. Your drinking water does not contain more than four (4) mg/l of fluoride, but we're required to notify you when we discover that the fluoride levels in your drinking water exceed two (2) mg/l because of this cosmetic dental

problem. For more information, please call [name of water system contact] of [name of community water system] at [phone number]. Some home water treatment units are also available to remove fluoride from drinking water. To learn more about available home water treatment units, you may call NSF International at 1-877-8-NSF-HELP.".

***40 CFR 143.3 is incorporated by reference and is available for copying at the Indiana Department of Environmental Management, Office of Water Quality, 100 North Senate Avenue, Room 1255, Indianapolis, Indiana 46206.** *(Water Pollution Control Board; 327 IAC 8-2.1-13)*

SECTION 23. 327 IAC 8-2.1-14 IS ADDED TO READ AS FOLLOWS:

327 IAC 8-2.1-14 Special notice for nitrate exceedances above MCL by noncommunity water systems; granted permission by the commissioner under 327 IAC 8-2-4(b)

Authority: IC 13-13-5-1; IC 13-13-5-2; IC 13-18-16-6; IC 13-18-16-7; IC 13-18-16-9
Affected: IC 13-18-16

Sec. 14. (a) The owner or operator of a noncommunity water system granted permission by the commissioner under 327 IAC 8-2-4(b) to exceed the nitrate MCL must provide notice to persons served according to the requirements for a Tier 1 notice under 327 IAC 8-2-8.1.

(b) Noncommunity water systems granted permission by the commissioner to exceed the nitrate MCL under 327 IAC 8-2-4(b) must provide continuous posting of:
(1) the fact that nitrate levels exceed ten (10) milligrams per liter; and
(2) the potential health effects of exposure;
in accordance with the requirements for Tier 1 notice delivery under section 8 of this rule and the content requirements under section 11 of this rule. *(Water Pollution Control Board; 327 IAC 8-2.1-14)*

SECTION 24. 327 IAC 8-2.1-15 IS ADDED TO READ AS FOLLOWS:

327 IAC 8-2.1-15 Notice by the commissioner on behalf of the public water system

Authority: IC 13-13-5-1; IC 13-13-5-2; IC 13-18-16-6; IC 13-18-16-7; IC 13-18-16-9
Affected: IC 13-18-16

Sec. 15. (a) The commissioner may give the notice required by sections 7 through 14 of this rule, this section, and sections 16 and 17 of this rule on behalf of the owner and operator of the public water system if the commissioner complies with this section.

(b) The owner or operator of the public water system remains responsible for ensuring that this section is met. *(Water Pollution Control Board; 327 IAC 8-2.1-15)*

SECTION 25. 327 IAC 8-2.1-16 IS ADDED TO READ AS FOLLOWS:

327 IAC 8-2.1-16 Drinking water violations; other situations requiring public notice

Authority: IC 13-13-5-1; IC 13-13-5-2; IC 13-18-16-6; IC 13-18-16-7; IC 13-18-16-9
Affected: IC 13-18-16

Sec. 16. Drinking water violations and other situations that require public notice according to this rule are contained in the following table:

Table 16. Drinking Water Violations and Other Situations Requiring Public Notice				
Contaminant	MCL/MRDL/TT/AL Violations		Monitoring and Testing Procedure Violations	
	Tier of Public Notice Required	Citation	Tier of Public Notice Required	Citation
I. Violations of Drinking Water Regulations:				

A. Microbiological Contaminants				
1. Total coliform	**2**	**327 IAC 8-2-7(a)**	**3**	**327 IAC 8-2-8 327 IAC 8-2-8.1 327 IAC 8-2-8(f) 327 IAC 8-2-8.2 327 IAC 8-2-8.3**
2. Fecal coliform/E. coli	**1**	**327 IAC 8-2-7(b)**	**1, 3**	**327 IAC 8-2-8.3**
3. Turbidity TT (resulting from a single exceedance of maximum allowable turbidity levels)	**2,1**	**327 IAC 8-2-8.5(a)**	**3**	**327 IAC 8-2-8.8(b)**
4. Surface Water Treatment Rule violations, other than violations resulting from single exceedance of maximum allowable turbidity level (TT)	**2**	**327 IAC 8-2-8.5 327 IAC 8-2-8.6**	**3**	**327 IAC 8-2-8.8**
B. Inorganic Chemicals (IOCs)				
1. Antimony	**2**	**327 IAC 8-2-4-(d)**	**3**	**327 IAC 8-2-4.1(c) 327 IAC 8-2-4.1(e)**
2. Arsenic	**2**	**327 IAC 8-2-4(d) 327 IAC 8-2-4.1(l)(5)**	**3**	**327 IAC 8-2-4.1(c) 327 IAC 8-2-4.1(l)(3) 327 IAC 8-2-4.1(l)(4)**
3. Asbestos (fibers >10 µm)	**2**	**327 IAC 8-2-4(d)**	**3**	**327 IAC 8-2-4.1(c) 327 IAC 8-2-4.1(d)**
4. Barium	**2**	**327 IAC 8-2-4(d)**	**3**	**327 IAC 8-2-4.1(c) 327 IAC 8-2-4.1(e)**
5. Beryllium	**2**	**327 IAC 8-2-4(d)**	**3**	**327 IAC 8-2-4.1(c) 327 IAC 8-2-4.1(e)**
6. Cadmium	**2**	**327 IAC 8-2-4(d)**	**3**	**327 IAC 8-2-4.1(c) 327 IAC 8-2-4.1(e)**
7. Chromium (total)	**2**	**327 IAC 8-2-4(d)**	**3**	**327 IAC 8-2-4.1(c) 327 IAC 8-2-4.1(e)**
8. Cyanide	**2**	**327 IAC 8-2-4(d)**	**3**	**327 IAC 8-2-4.1(c) 327 IAC 8-2-4.1(e)**
				327 IAC 8-2-4.1(c) 327 IAC 8-2-4.1(e)
10. Mercury (inorganic)	**2**	**327 IAC 8-2-4(d)**	**3**	**327 IAC 8-2-4.1(c) 327 IAC 8-2-4.1(e)**
11. Nitrate	**1**	**327 IAC 8-2-4(b)**	**1, 3**	**327 IAC 8-2-4.1(c) 327 IAC 8-2-4.1(f) 327 IAC 8-2-4.1(h)(2)**
12. Nitrite	**1**	**327 IAC 8-2-4(b)**	**1, 3**	**327 IAC 8-2-4.1(c) 327 IAC 8-2-4.1(g) 327 IAC 8-2-4.1(h)(2)**
13. Total Nitrate and Nitrite	**1**	**327 IAC 8-2-4(b)**	**3**	**327 IAC 8-2-4.1(c)**
14. Selenium	**2**	**327 IAC 8-2-4(d)**	**3**	**327 IAC 8-2-4.1(c) 327 IAC 8-2-4.1(e)**
15. Thallium	**2**	**327 IAC 8-2-4(d)**	**3**	**327 IAC 8-2-4.1(c) 327 IAC 8-2-4.1(e)**
C. Lead and Copper Rule				

1. Lead and Copper Rule (TT)	2	327 IAC 8-2-36 327 IAC 8-2-40 327 IAC 8-2-41 327 IAC 8-2-42 327 IAC 8-2-43 327 IAC 8-2-44	3	327 IAC 8-2-37 327 IAC 8-2-38 327 IAC 8-2-39 327 IAC 8-2-45
D. Synthetic Organic Chemicals (SOCs)				
1. 2,4-D	2	327 IAC 8-2-5(a)	3	327 IAC 8-2-5.1
2. 2,4,5-TP (Silvex)	2	327 IAC 8-2-5(a)	3	327 IAC 8-2-5.1
3. Alachlor	2	327 IAC 8-2-5(a)	3	327 IAC 8-2-5.1
4. Atrazine	2	327 IAC 8-2-5(a)	3	327 IAC 8-2-5.1
5. Benzo(a)pyrene (PAHs)	2	327 IAC 8-2-5(a)	3	327 IAC 8-2-5.1
6. Carbofuran	2	327 IAC 8-2-5(a)	3	327 IAC 8-2-5.1
7. Chlordane	2	327 IAC 8-2-5(a)	3	327 IAC 8-2-5.1
8. Dalapon	2	327 IAC 8-2-5(a)	3	327 IAC 8-2-5.1
9. Di (2-ethylhexyl) adipate	2	327 IAC 8-2-5(a)	3	327 IAC 8-2-5.1
10. Di (2-ethylhexyl) phthalate	2	327 IAC 8-2-5(a)	3	327 IAC 8-2-5.1
11. Dibromochloropropane	2	327 IAC 8-2-5(a)	3	327 IAC 8-2-5.1
12. Dinoseb	2	327 IAC 8-2-5(a)	3	327 IAC 8-2-5.1
13. Dioxin (2,3,7,8-TCDD)	2	327 IAC 8-2-5(a)	3	327 IAC 8-2-5.1
14. Diquat	2	327 IAC 8-2-5(a)	3	327 IAC 8-2-5.1
15. Endothall	2	327 IAC 8-2-5(a)	3	327 IAC 8-2-5.1
16. Endrin	2	327 IAC 8-2-5(a)	3	327 IAC 8-2-5.1
17. Ethylene dibromide	2	327 IAC 8-2-5(a)	3	327 IAC 8-2-5.1
18. Glyphosate	2	327 IAC 8-2-5(a)	3	327 IAC 8-2-5.1
19. Heptachlor	2	327 IAC 8-2-5(a)	3	327 IAC 8-2-5.1
20. Heptachlor epoxide	2	327 IAC 8-2-5(a)	3	327 IAC 8-2-5.1
21. Hexachlorobenzene	2	327 IAC 8-2-5(a)	3	327 IAC 8-2-5.1
22. Hexachlorocyclo-pentadiene	2	327 IAC 8-2-5(a)	3	327 IAC 8-2-5.1
23. Lindane	2	327 IAC 8-2-5(a)	3	327 IAC 8-2-5.1
24. Methoxychlor	2	327 IAC 8-2-5(a)	3	327 IAC 8-2-5.1
25. Oxamyl (Vydate)	2	327 IAC 8-2-5(a)	3	327 IAC 8-2-5.1
26. Pentachlorophenol	2	327 IAC 8-2-5(a)	3	327 IAC 8-2-5.1
27. Picloram	2	327 IAC 8-2-5(a)	3	327 IAC 8-2-5.1
28. Polychlorinated biphenyls (PCBs)	2	327 IAC 8-2-5(a)	3	327 IAC 8-2-5.1
29. Simazine	2	327 IAC 8-2-5(a)	3	327 IAC 8-2-5.1
30. Toxaphene	2	327 IAC 8-2-5(a)	3	327 IAC 8-2-5.1
E. Volatile Organic Chemicals (VOCs)				
1. Benzene	2	327 IAC 8-2-5.4(a)	3	327 IAC 8-2-5.5
2. Carbon tetrachloride	2	327 IAC 8-2-5.4(a)	3	327 IAC 8-2-5.5
3. Chlorobenzene (monochlorobenzene)	2	327 IAC 8-2-5.4(a)	3	327 IAC 8-2-5.5
4. o-Dichlorobenzene	2	327 IAC 8-2-5.4(a)	3	327 IAC 8-2-5.5
5. p-Dichlorobenzene	2	327 IAC 8-2-5.4(a)	3	327 IAC 8-2-5.5
6. 1,2-Dichloroethane	2	327 IAC 8-2-5.4(a)	3	327 IAC 8-2-5.5
7. 1,1-Dichloroethylene	2	327 IAC 8-2-5.4(a)	3	327 IAC 8-2-5.5
8. cis-1,2-Dichloroethylene	2	327 IAC 8-2-5.4(a)	3	327 IAC 8-2-5.5
9. trans-1,2-Dichloroethylene	2	327 IAC 8-2-5.4(a)	3	327 IAC 8-2-5.5
10. Dichloromethane	2	327 IAC 8-2-5.4(a)	3	327 IAC 8-2-5.5
11. 1,2-Dichloropropane	2	327 IAC 8-2-5.4(a)	3	327 IAC 8-2-5.5
12. Ethylbenzene	2	327 IAC 8-2-5.4(a)	3	327 IAC 8-2-5.5

13. Styrene	2	327 IAC 8-2-5.4(a)	3	327 IAC 8-2-5.5
14. Tetrachloroethylene	2	327 IAC 8-2-5.4(a)	3	327 IAC 8-2-5.5
15. Toluene	2	327 IAC 8-2-5.4(a)	3	327 IAC 8-2-5.5
16. 1,2,4-Trichlorobenzene	2	327 IAC 8-2-5.4(a)	3	327 IAC 8-2-5.5
17. 1,1,1-Trichloroethane	2	327 IAC 8-2-5.4(a)	3	327 IAC 8-2-5.5
18. 1,1,2-Trichloroethane	2	327 IAC 8-2-5.4(a)	3	327 IAC 8-2-5.5
19. Trichloroethylene	2	327 IAC 8-2-5.4(a)	3	327 IAC 8-2-5.5
20. Vinyl chloride	2	327 IAC 8-2-5.4(a)	3	327 IAC 8-2-5.5
21. Xylenes (total)	2	327 IAC 8-2-5.4(a)	3	327 IAC 8-2-5.5
F. Radioactive Contaminants				
1. Beta/photon emitters	2	327 IAC 8-2-10	3	327 IAC 8-2-10.2 327 IAC 8-2-10.2(b)
2. Alpha emitters	2	327 IAC 8-2-9(2)	3	327 IAC 8-2-10.2 327 IAC 8-2-10.2(a)
3. Combined radium (226 and 228)	2	327 IAC 8-2-9(1)	3	327 IAC 8-2-10.2 327 IAC 8-2-10.2(a)
G. Disinfection Byproducts (DBPs). Where disinfection is used in the treatment of drinking water, disinfectants combine with organic and inorganic matter present in water to form chemicals called disinfection byproducts (DBPs). EPA sets standards for controlling the levels of DBPs in drinking water.				
1. Total trihalomethanes (TTHMs)	2	327 IAC 8-2-5(a) and 327 IAC 8-2-5(c)	3	327 IAC 8-2-5.3
H. Other Treatment Techniques				
1. Acrylamide (TT)	2	327 IAC 8-2-35	N/A	N/A
2. Epichlorohydrin (TT)	2	327 IAC 8-2-35	N/A	N/A
II. Unregulated Contaminant Monitoring:				
A. Nickel	N/A	N/A	3	327 IAC 8-2-4.1(e)
III. Other Situations Requiring Public Notification:				
A. Fluoride secondary maximum contaminant level (SMCL) exceedance	3	40 CFR § 143.3*	N/A	N/A
B. Exceedance of nitrate MCL for noncommunity systems, as allowed by the commissioner	1	327 IAC 8-2-4(b)	N/A	N/A
C. Waterborne disease outbreak	1	327 IAC 8-2-1	N/A	N/A
D. Other waterborne emergency	1	N/A	N/A	N/A
E. Other situations as determined by the commissioner	1, 2, 3	N/A	N/A	N/A
Key:				
MCL - Maximum contaminant level				
TT - Treatment Technique				
Violations of Drinking Water Regulations is used here to included violations of MCL, MRDL, treatment technique, monitoring, and testing procedure requirements.				

(1) Violations and other situations not listed in this table such as reporting violations and failure to prepare Consumer Confidence Report do not require notice, unless otherwise determined by the commissioner. The commissioner may, at their option, also require a more stringent public notice tier such as Tier 1 instead of Tier 2 or Tier 2 instead of Tier 3 for specific violations and situations listed in the above.

(2) Failure to test for fecal coliform or E. coli is a Tier 1 violation if testing is not done after any repeat sample tests positive for coliform. All other total coliform monitoring and testing procedure violations are Tier 3.

(3) Systems with treatment technique violations involving a single exceedance of maximum turbidity limit under the Surface Water Treatment Rule (SWTR) are required to initiate consultation with the commissioner within twenty-four (24) hours after learning of the violation. Based on this consultation, the commissioner may subsequently decide to elevate the violation to Tier 1. If a system is unable to make contact with the commissioner in the twenty-four (24) hour period, the violation is automatically elevated to Tier 1.

(4) Failure to take a confirmation sample within twenty-four (24) hours for nitrate or nitrite after an initial sample exceeds the MCL is a Tier 1 Violation. Other monitoring violations for nitrate are Tier 3.
(5) Other waterborne emergencies require a Tier 1 public notice under section 8(a) of this rule for situations that do not meet the definition of a waterborne disease outbreak given in 327 IAC 8-2-1, but that still have the potential to have serious adverse effects on health as a result of short-term exposure. These could include outbreaks not related to treatment deficiencies, as well as situations that have the potential to cause outbreaks, such as failures or significant interruption in water treatment processes, natural disasters that disrupt the water supply or distribution system, chemical spills, or unexpected loading of possible pathogens into the source water.
(6) The commissioner may place other situations in any tier believed appropriate, based on threat to public health.

***40 CFR 143.3 is incorporated by reference and is available for copying at the Indiana Department of Environmental Management, Office of Water Quality, 100 North Senate Avenue, Room 1255, Indianapolis, Indiana 46206.** *(Water Pollution Control Board; 327 IAC 8-2.1-16)*

SECTION 26. 327 IAC 8-2.1-17 IS ADDED TO READ AS FOLLOWS:

327 IAC 8-2.1-17 Drinking water violations; standard health effects language for public notice
Authority: IC 13-13-5-1; IC 13-13-5-2; IC 13-18-16-6; IC 13-18-16-7; IC 13-18-16-9
Affected: IC 13-18-16

Sec. 17. A public water system must comply with the standard health effects language for public notification contained in the following table:

Table 17. Standard Health Effects Language for Public Notification			
Contaminant	**MCLG mg/L**	**MCL mg/L**	**Standard Health Effects Language for Public Notification**
Drinking Water Regulations:			
A. Microbiological Contaminants			
1a. Total coliform	**Zero**	**See footnote**	**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.**
1b. Fecal coliform/E. coli	**Zero**	**Zero**	**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, some of the elderly, and people with severely compromised immune systems.**
2a. Turbidity (MCL)	**None**	**1 NTU/ 5 NTU**	**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.**
2b. Turbidity (SWTR TT)	**None**	**TT**	**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.**
B. Inorganic Chemicals (IOCs)			
3. Antimony	**0.006**	**0.006**	**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.**

4. Arsenic	**None**	**0.05**	**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.**
5. Asbestos (>10 µm)	**7 MFL**	**7 MFL**	**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.**
6. Barium	**2**	**2**	**Some people who drink water containing barium in excess of the MCL over many years could experience an increase in their blood pressure.**
7. Beryllium	**0.004**	**0.004**	**Some people who drink water containing beryllium well in excess of the MCL over many years could develop intestinal lesions.**
8. Cadmium	**0.005**	**0.005**	**Some people who drink water containing cadmium in excess of the MCL over many years could experience kidney damage.**
9. Chromium (total)	**0.1**	**0.1**	**Some people who use water containing chromium well in excess of the MCL over many years could experience allergic dermatitis.**
10. Cyanide	**0.2**	**0.2**	**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.**
11. Fluoride	**4.0**	**4.0**	**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. Fluoride in drinking water at half the MCL or more may cause mottling of children's teeth, usually in children less than nine years old. Mottling, also known as dental fluorosis, may include brown staining and/or pitting of the teeth, and occurs only in developing teeth before they erupt from the gums.**
12. Mercury (inorganic)	**0.002**	**0.002**	**Some people who drink water containing inorganic mercury well in excess of the MCL over many years could experience kidney damage.**
13. Nitrate	**10**	**10**	**Infants below the age of six (6) 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.**
14. Nitrite	**1**	**1**	**Infants below the age of six (6) 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.**
15. Total Nitrate and Nitrite	**10**	**10**	**Infants below the age of six (6) months who drink water containing nitrate and nitrite in excess of the MCL could become seriously ill and, if untreated, may die. Symptoms include shortness of breath and blue baby syndrome.**
16. Selenium	**0.05**	**0.05**	**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.**
17. Thallium	**0.0005**	**0.002**	**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.**
C. Lead and Copper Rule			
18. Lead	**Zero**	**TT**	**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.**

19. Copper	**1.3**	**TT**	**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.**
D. Synthetic Organic Chemicals (SOCs)			
20. 2,4-D	**0.07**	**0.07**	**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.**
21. 2,4,5-TP (Silvex)	**0.05**	**0.05**	**Some people who drink water containing silvex in excess of the MCL over many years could experience liver problems.**
22. Alachlor	**Zero**	**0.002**	**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.**
23. Atrazine	**0.003**	**0.003**	**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.**
24. Benzo(a)pyrene (PAHs)	**Zero**	**0.0002**	**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.**
25. Carbofuran	**0.04**	**0.04**	**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.**
26. Chlordane	**Zero**	**0.002**	**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.**
27. Dalapon	**0.2**	**0.2**	**Some people who drink water containing dalapon well in excess of the MCL over many years could experience minor kidney changes.**
28. Di (2-ethylhexyl) adipate	**0.4**	**0.4**	**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.**
29. Di (2-ethylhexyl) phthalate	**Zero**	**0.006**	**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.**
30. Dibromochloropropane (DBCP)	**Zero**	**0.0002**	**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.**
31. Dinoseb	**0.007**	**0.007**	**Some people who drink water containing dinoseb well in excess of the MCL over many years could experience reproductive difficulties.**
32. Dioxin (2,3,7,8-TCDD)	**Zero**	**3×10^{-8}**	**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.**
33. Diquat	**0.02**	**0.02**	**Some people who drink water containing diquat in excess of the MCL over many years could get cataracts.**
34. Endothall	**0.1**	**0.1**	**Some people who drink water containing endothall in excess of the MCL over many years could experience problems with their stomach or intestines.**
35. Endrin	**0.002**	**0.002**	**Some people who drink water containing endrin in excess of the MCL over many years could experience liver problems.**

36. Ethylene dibromide	**Zero**	**0.00005**	**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.**
37. Glyphosate	**0.7**	**0.7**	**Some people who drink water containing glyphosate in excess of the MCL over many years could experience problems with their kidneys or reproductive difficulties.**
38. Heptachlor	**Zero**	**0.0004**	**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.**
39. Heptachlor epoxide	**Zero**	**0.0002**	**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.**
40. Hexachlorobenzene	**Zero**	**0.001**	**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.**
41. Hexachlorocyclo-pentadiene	**0.05**	**0.05**	**Some people who drink water containing hexachlorocyclopentadiene well in excess of the MCL over many years could experience problems with their kidneys or stomach.**
42. Lindane	**0.0002**	**0.0002**	**Some people who drink water containing lindane in excess of the MCL over many years could experience problems with their kidneys or liver.**
43. Methoxychlor	**0.04**	**0.04**	**Some people who drink water containing methoxychlor in excess of the MCL over many years could experience reproductive difficulties.**
44. Oxamyl (Vydate)	**0.2**	**0.2**	**Some people who drink water containing oxamyl in excess of the MCL over many years could experience slight nervous system effects.**
45. Pentachlorophenol	**Zero**	**0.001**	**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.**
46. Picloram	**0.5**	**0.5**	**Some people who drink water containing picloram in excess of the MCL over many years could experience problems with their liver.**
47. Polychlorinated biphenyls (PCBs)	**Zero**	**0.0005**	**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.**
48. Simazine	**0.004**	**0.004**	**Some people who drink water containing simazine in excess of the MCL over many years could experience problems with their blood.**
49. Toxaphene	**Zero**	**0.003**	**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.**
E. Volatile Organic Chemicals (VOCs)			
50. Benzene	**Zero**	**0.005**	**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.**
51. Carbon tetrachloride	**Zero**	**0.005**	**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.**
52. Chlorobenzene (monochlorobenzene)	**0.1**	**0.1**	**Some people who drink water containing chlorobenzene in excess of the MCL over many years could experience problems with their liver or kidneys.**

53. o-Dichlorobenzene	**0.6**	**0.6**	**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.**
54. p-Dichlorobenzene	**0.075**	**0.075**	**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.**
55. 1,2-Dichloroethane	**Zero**	**0.005**	**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.**
56. 1,1-Dichloroethylene	**0.007**	**0.007**	**Some people who drink water containing 1,1-dichloroethylene in excess of the MCL over many years could experience problems with their liver.**
57. cis-1,2-Dichloroethylene	**0.07**	**0.07**	**Some people who drink water containing cis-1,2-dichloroethylene in excess of the MCL over many years could experience problems with their liver.**
58. trans-1,2-Dichloroethylene	**0.1**	**0.1**	**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.**
59. Dichloromethane	**Zero**	**0.005**	**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.**
60. 1,2-Dichloropropane	**Zero**	**0.005**	**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.**
61. Ethylbenzene	**0.7**	**0.7**	**Some people who drink water containing ethylbenzene well in excess of the MCL over many years could experience problems with their liver or kidneys.**
62. Styrene	**0.1**	**0.1**	**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.**
63. Tetrachloroethylene	**Zero**	**0.005**	**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.**
64. Toluene	**1**	**1**	**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.**
65. 1,2,4-Trichlorobenzene	**0.07**	**0.07**	**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.**
66. 1,1,1-Trichloroethane	**0.2**	**0.2**	**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.**
67. 1,1,2-Trichloroethane	**0.003**	**0.005**	**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.**
68. Trichloroethylene	**Zero**	**0.005**	**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.**
69. Vinyl chloride	**Zero**	**0.002**	**Some people who drink water containing vinyl chloride in excess of the MCL over many years may have an increased risk of getting cancer.**
70. Xylenes (total)	**10**	**10**	**Some people who drink water containing xylenes in excess of the MCL over many years could experience damage to their nervous system.**

F. Radioactive Contaminants			
71. Beta/photon emitters	**Zero**	**4 mrem/yr**	**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.**
72. Alpha emitters	**Zero**	**15 pCi/L**	**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.**
73. Combined radium (226 and 228)	**Zero**	**5 pCi/L**	**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.**
G. Disinfection Byproducts (DBPs)*:* Where disinfection is used in the treatment of drinking water, disinfectants combine with organic and inorganic matter present in water to form chemicals called disinfection byproducts (DBPs). EPA sets standards for controlling the levels of disinfectants and DBPs in drinking water.			
74. Total trihalomethanes (TTHMs)	**N/A**	**0.10/ 0.080**	**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 system, and may have an increased risk of getting cancer.**
H. Other Treatment Techniques			
75. Acrylamide	**Zero**	**TT**	**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.**
76. Epichlorohydrin	**Zero**	**TT**	**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.**

Key:
MCLG - Maximum contaminant level goal
MCL - Maximum contaminant level
NTU - Nephelometric turbidity unit
TT - Treatment technique
MFL - Millions of fiber per liter
Action Level (Lead) = 0.015 mg/L
Action Level (Copper) = 1.3 mg/L
mrem–millirems per year
ppq–picocuries per liter

(1) For water systems analyzing at least forty (40) samples per month, no more than five percent (5.0%) of the monthly samples may be positive for total coliforms. For systems analyzing fewer than forty (40) samples per month, no more than one (1) sample per month may be positive for total coliforms.

(2) The bacteria detected by heterotrophic plate count (HPC) are not necessarily harmful. HPC is simply an alternative method of determining disinfectant residual levels. The number of such bacteria is an indicator of whether there is enough disinfectant in the distribution system.

(3) SWTR treatment technique violations that involve turbidity exceedances may use the health effects language for turbidity instead.

(4) The bacteria detected by heterotrophic plate count (HPC) are not necessarily harmful. HPC is simply an alternative method of determining disinfectant residual levels. The number of such bacteria is an indicator of whether there is enough disinfectant in the distribution system.

(5) The MCL for total trihalomethanes is the sum of the concentrations of the individual trihalomethanes.

(Water Pollution Control Board; 327 IAC 8-2.1-17)

SECTION 27. THE FOLLOWING ARE REPEALED: 327 IAC 8-2-15; 327 IAC 8-2-16; 327 IAC 8-2-17; 327 IAC 8-2-18.

Notice of Public Hearing

Under IC 4-22-2-24, IC 13-14-8-6, and IC 13-14-9, notice is hereby given that on August 8, 2001 at 1:30 p.m., at the Indiana Government Center-South, 402 West Washington Street, Conference Center Room A, Indianapolis, Indiana the Water Pollution Control Board will hold a public hearing on proposed rules concerning drinking water notification.

The purpose of this hearing is to receive comments from the public prior to final adoption of this rule by the board. All interested persons are invited and will be given reasonable opportunity to express their views concerning the proposed new rule. Oral statements will be heard, but for the accuracy of the record, all comments should be submitted in writing. Procedures to be followed at this hearing may be found in the April 1, 1996, Indiana Register, page 1710 (19 IR 1710).

Additional information regarding this action may be obtained from MaryAnn Stevens, Rules Section, Office of Water Quality, (317) 232-8635 or (800) 451-6027 (in Indiana).

Individuals requiring reasonable accommodations for participation in this event should contact the Indiana Department of Environmental Management, Americans with Disabilities Act coordinator at:

Attn: ADA Coordinator
Indiana Department of Environmental Management
100 North Senate Avenue
P.O. Box 6015
Indianapolis, Indiana 46206-6015

or call (317) 233-1785 (V) or (317) 232-7589 (TDD). Please provide a minimum of 72 hours' notification.

Copies of these rules are now on file at the Indiana Government Center-North, 100 North Senate Avenue, Eleventh Floor and Legislative Services Agency, One North Capitol, Suite 325, Indianapolis, Indiana and are open for public inspection.

Mary Ellen Gray
Planning Branch Chief
Office of Water Quality
Indiana Department of Environmental Management