R309-225. Monitoring and Water Quality: Consumer Confidence Reports.

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R309-225. Monitoring and Water Quality: Consumer Confidence Reports.

R309-225-1. Purpose.

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

R309-225-2. Authority.

This rule is promulgated by the Drinking Water Board as authorized by Title 19, Environmental Quality Code, Chapter 4, Safe Drinking Water Act, Subsection 104 of the Utah Code and in accordance with 63G-3 of the same, known as the Administrative Rulemaking Act.

R309-225-3. Definitions.

Definitions for certain terms used in this rule are given in R309-110 but may be further clarified herein.

(1) For the purpose of R309-225, customers are defined as billing units or service connections to which water is delivered by a community water system.

(2) For the purpose of R309-225, detected means: at or above the levels prescribed by R444-14-4(2).

R309-225-4. General Requirements.

(1) This rule applies only to community water systems.

(2) Effective dates.

(a) Each existing community water system must deliver its first report by October 19, 1999, its second report by July 1, 2000, and subsequent reports by July 1 annually thereafter. The first report must contain data collected during, or prior to, calendar year 1998 as prescribed in R309-225-5(4)(c). Each report thereafter must contain data collected during, or prior to, the previous calendar year.

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

(c) A community water system that sells water to another community water system must deliver the applicable information required in R309-225-5 to the buyer system:

(i) no later than April 19, 1999, by April 1, 2000, and by April 1 annually thereafter or

(ii) on a date mutually agreed upon by the seller and the purchaser, and specifically included in a contract between the parties.

(3) Utah Division of Drinking Water adopts 40 CFR, Part 141, Subpart O, Appendix A as published on July 1, 2018.

R309-225-5. Content of the Reports.

(1) Each community water system must provide to its customers an annual report that contains the information specified in this section and R309-225-6.

(2) Information on the source of the water delivered.

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

(i) The type of the water: e.g., surface water, ground water; and

(ii) The commonly used name (if any) and location of the body (or bodies) of water.

(b) If a source water assessment has been completed, the report must notify consumers of the availability of this information and the means to obtain it. In addition, systems are encouraged to highlight in the report significant sources of contamination in the source water area if they have readily available information. Where a system has received a source water assessment from the Director, the report must include a brief summary of the system's susceptibility to potential sources of contamination, using language provided by the Director or written by the operator.

(3) Definitions.

(a) Each report must include the following definitions:

(i) Maximum Contaminant Level Goal or MCLG: The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

(ii) Maximum Contaminant Level or MCL: The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

(b) A report for a community water system operating under a variance or an exemption issued under R309-100-10 or R309-100-11 must include the following definition: Variances and Exemptions: Director or EPA permission not to meet an MCL or a treatment technique under certain conditions.

(c) A report which contains data on a contaminant that EPA regulates using any of the following terms must include the applicable definitions:

(i) Treatment Technique: A required process intended to reduce the level of a contaminant in drinking water.

(ii) Action Level: The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

(iii) Maximum residual disinfectant level goal or MRDLG: The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

(iv) Maximum residual disinfectant level or MRDL: The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

(d) After April 1, 2016, a report that contains information regarding a Level 1 or Level 2 Assessment required under R309-211 must include the applicable definitions:

(i) Level 1 Assessment: A Level 1 assessment is a study of the water system to identify potential problems and determine (if possible) why total coliform bacteria have been found in our water system.

(ii) Level 2 Assessment: A Level 2 assessment is a very detailed study of the water system to identify potential problems and determine (if possible) why an E. coli MCL violation has occurred and/or why total coliform bacteria have been found in our water system on multiple occasions.

(4) Information on Detected Contaminants.

(a) This sub-section specifies the requirements for information to be included in each report for contaminants subject to mandatory monitoring (except Cryptosporidium). It applies to:

(i) Contaminants subject to an MCL, action level, maximum residual disinfectant level, or treatment technique (regulated contaminants);

(ii) Contaminants for which monitoring is required by 40 CFR section 141.40 (unregulated contaminants); and

(iii) Disinfection by-products or microbial contaminants for which monitoring is required by R309-210, R309-215 and R309-211, except as provided under paragraph (e)(1) of this section, and which are detected in the finished water.

(b) The data relating to these contaminants must be displayed in one table or in several adjacent tables. Any additional monitoring results which a community water system chooses to include in its report must be displayed separately.

(c) The data must be derived from data collected to comply with EPA and State monitoring and analytical requirements during calendar year 1998 for the first report and subsequent calendar years thereafter except that:

(i) Where a system is allowed to monitor for regulated contaminants less often than once a year, the table(s) must include the date and results of the most recent sampling and the report must include a brief statement indicating that the data presented in the report are from the most recent testing done in accordance with the regulations. No data older than 5 years need be included.

(ii) Results of monitoring in compliance with federal Information Collection Rule, (40 CFR sections 141.142 and 141.143) need only be included for 5 years from the date of last sample or until any of the detected contaminants becomes regulated and subject to routine monitoring requirements, whichever comes first.

(d) For detected regulated contaminants, the table(s) must contain:

(i) The MCL for that contaminant expressed as a number equal to or greater than 1.0;

(ii) The MCLG for that contaminant expressed in the same units as the MCL;

(iii) If there is no MCL for a detected contaminant, the table must indicate that there is a treatment technique, or specify the action level, applicable to that contaminant, and the report must include the definitions for treatment technique and/or action level, as appropriate, specified in paragraph(3)(c) of this section;

(iv) For contaminants subject to an MCL, except turbidity, total coliform, fecal coliform and E. coli, the highest contaminant level used to determine compliance with the quality standards listed in R309-200 and the range of detected levels, as follows:

(A) When compliance with the MCL is determined annually or less frequently: the highest detected level at any sampling point and the range of detected levels expressed in the same units as the MCL.

(B) When compliance with the MCL is determined by calculating a running annual average of all samples taken at a sampling point: the highest average of any of the sampling points and the range of all sampling points expressed in the same units as the MCL. For the MCLs for TTHM and HAA5 in R309-200-5(3)(c)(vi), systems must include the highest locational running annual average for TTHM and HAA5 and the range of individual sample results for all monitoring locations expressed in the same units as the MCL. If more than one location exceeds the TTHM and HAA5 MCL, the system must include the locational running annual averages for all locations that exceed the MCL.

(C) When compliance with the MCL is determined on a system-wide basis by calculating a running annual average of all samples at all monitoring locations: the average and range of detection expressed in the same units as the MCL. The system is required to include individual sample results for the IDSE conducted under R309-210-9 when determining the range of TTHM and HAA5 results to be reported in the annual consumer confidence report for the calendar year that the IDSE samples were taken.

(D) When rounding of results to determine compliance with the MCL is allowed by the rules, rounding should be done prior to converting the number in order to express it as a number equal to or greater than 1.0.

(v) For turbidity.

(A) When it is reported pursuant to R309-205-8 and R309-215-9: the highest average monthly value.

(B) When it is reported pursuant to R309-215-9: the highest single measurement and the lowest monthly percentage of samples meeting the turbidity limits specified in R309-200-5(5)(a) and (b) for the filtration technology being used. The report should include an explanation of the reasons for measuring turbidity.

(vi) For lead and copper: the 90th percentile value of the most recent round of sampling and the number of sampling sites exceeding the action level.

(vii) Before March 31, 2016, For total coliform:

(A) The highest monthly number of positive samples for systems collecting fewer than 40 samples per month; or

(B) The highest monthly percentage of positive samples for systems collecting at least 40 samples per month.

(viii) Before March 31, 2016, For fecal coliform: the total number of positive samples.

(vii) After April 1, 2016, for E. coli analytical results under R309-211: The total number of positive samples.

(viii) The likely source(s) of detected contaminants to the best of the operator's knowledge. Specific information regarding contaminants may be available in sanitary surveys and source water assessments, and should be used when available to the operator. If the operator lacks specific information on the likely source, the report must include one or more of the typical sources for that contaminant listed in R309-225-8 that is most applicable to the system.

(e) If a community water system distributes water to its customers from multiple hydraulically independent distribution systems that are fed by different raw water sources, the table should contain a separate column for each service area and the report should identify each separate distribution system. Alternatively, systems could produce separate reports tailored to include data for each service area.

(f) The table(s) must clearly identify any data indicating violations of MCLs, MRDLs or treatment techniques and the report must contain a clear and readily understandable explanation of the violation including: the length of the violation, the potential adverse health effects, and actions taken by the system to address the violation. To describe the potential health effects, the system must use the relevant language in R309-220-15.

(g) For detected unregulated contaminants for which monitoring is required (except Cryptosporidium), the table(s) must contain the average and range at which

the contaminant was detected. The report may include a brief explanation of the reasons for monitoring for unregulated contaminants.

(5) Information on Cryptosporidium, radon, and other contaminants.

(a) If the system has performed any monitoring for Cryptosporidium, including monitoring performed to satisfy the requirements of the federal Information Collection Rule (40 CFR section 141.143), which indicates that Cryptosporidium may be present in the source water or the finished water, the report must include:

(i) A summary of the results of the monitoring; and

(ii) An explanation of the significance of the results.

(b) If the system has performed any monitoring for radon which indicates that radon may be present in the finished water, the report must include:

(i) The results of the monitoring; and

(ii) An explanation of the significance of the results.

(c) If the system has performed additional monitoring which indicates the presence of other contaminants in the finished water, EPA strongly encourages systems to report any results which may indicate a health concern. To determine if results may indicate a health concern, EPA recommends that systems find out if EPA has proposed a regulation or issued a health advisory for that contaminant by calling the Safe Drinking Water Hotline (800-426-4791). EPA considers detects above a proposed MCL or health advisory level to indicate possible health concerns. For such contaminants, EPA recommends that the report include:

(i) The results of the monitoring; and

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

(6) Compliance with UPDWR.

In addition to the requirements of R309-225-5(4)(f), the report must note any violation that occurred during the year covered by the report of a requirement listed below, and include a clear and readily understandable explanation of the violation, any potential adverse health effects, and the steps the system has taken to correct the violation.

(a) Monitoring and reporting of compliance data;

(b) Filtration and disinfection prescribed by R309-505 of this part. For systems which have failed to install adequate filtration or disinfection equipment or processes, or have had a failure of such equipment or processes which constitutes a violation, the report must include the following language as part of the explanation of potential adverse health effects: Inadequately treated water may contain disease-causing organisms. These organisms include bacteria, viruses, and parasites which can cause symptoms such as nausea, cramps, diarrhea, and associated headaches.

(c) Lead and copper control requirements prescribed by R309-210-6. For systems which fail to take one or more actions prescribed by R309-210-6(1)(c), R309-210-6(2), or R309-210-6(4), the report must include the applicable language in R309-220-14 for lead, copper, or both.

(d) Treatment techniques for Acrylamide and Epichlorohydrin prescribed by R309-215-8. For systems which violate the requirements of R309-215-8, the report must include the relevant language from R309-220-14.

(e) Recordkeeping of compliance data.

(f) Special monitoring requirements prescribed by 40 CFR section 141.40 (unregulated contaminants); and

(g) Violation of the terms of a variance, an exemption, or an administrative or judicial order.

(7) Variances and Exemptions.

If a system is operating under the terms of a variance or an exemption issued under R309-100-10 or R309-100-11, the report must contain:

(a) An explanation of the reasons for the variance or exemption;

(b) The date on which the variance or exemption was issued;

(c) A brief status report on the steps the system is taking to install treatment, find alternative sources of water, or otherwise comply with the terms and schedules of the variance or exemption; and

(d) A notice of any opportunity for public input in the review, or renewal, of the variance or exemption.

(8) Additional information.

(a) The report must contain a brief explanation regarding contaminants which may reasonably be expected to be found in drinking water including bottled water. This

explanation may include the language of paragraphs (8)(a)(i) through (iii) or systems may use their own comparable language. The report also must include the language of paragraph (8)(a)(iv) of this section.

(i) The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally-occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity.

(ii) Contaminants that may be present in source water include:

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

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

(C) Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses.

(D) Organic chemical contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, and septic systems.

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

(iii) In order to ensure that tap water is safe to drink, EPA prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. FDA regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

(iv) Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline (800-426-4791).

(b) The report must include the telephone number of the owner, operator, or designee of the community water system as a source of additional information concerning the report.

(c) In communities with a large proportion of non-English speaking residents, as determined by the Director, the report must contain information in the appropriate language(s) regarding the importance of the report or contain a telephone number or address where such residents may contact the system to obtain a translated copy of the report or assistance in the appropriate language.

(d) The report must include information (e.g., time and place of regularly scheduled board meetings) about opportunities for public participation in decisions that may affect the quality of the water.

(e) 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.

(f) Systems required to comply with R309-215-16.

(i) Any ground water system that receives notice from the Director of a significant deficiency or notice from a laboratory of a fecal indicator-positive ground water source sample that is not invalidated by the Director under R309-215-16(2)(d) must inform its customers of any significant deficiency that is uncorrected at the time of the next report or of any fecal indicator-positive ground water source sample in the next report. The system must continue to inform the public annually until the Director determines that particular significant deficiency is corrected or the fecal contamination in the ground water source is addressed under R309-215-16(3)(a). Each report must include the following elements.

(A) The nature of the particular significant deficiency or the source of the fecal contamination (if the source is known) and the date the significant deficiency was identified by the Director or the dates of the fecal indicator-positive ground water source samples;

(B) If the fecal contamination in the ground water source has been addressed under R309-215-16(3)(a) and the date of such action;

(C) For each significant deficiency or fecal contamination in the ground water source that has not been addressed under R309-215-16(3)(a), the Director-approved plan and schedule for correction, including interim measures, progress to date, and any interim measures completed; and

(D) If the system receives notice of a fecal indicator-positive ground water source sample that is not invalidated by the Director under R309-215-16(2)(d), the potential health effects using the health effects language of Appendix A of subpart O.

(ii) If directed by the Director, a system with significant deficiencies that have been corrected before the next report is issued must inform its customers of the significant deficiency, how the deficiency was corrected, and the date of correction under paragraph (8)(f)(i) of this section.

R309-225-6. Required Additional Health Information.

(1) All reports must prominently display the following language:

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline (800-426-4791).

(2) A system which detects arsenic at levels above 5 micrograms per liter, but below the MCL:

(a) Must include in its report a short informational statement about arsenic, using language such as: While your drinking water meets EPA's standard for arsenic, it does contain low levels of arsenic. EPA's standard balances the current understanding of arsenic's possible health effects against the costs of removing arsenic from drinking water. EPA continues to research the health effects of low levels of arsenic, which is a mineral known to cause cancer in humans at high concentrations and is linked to other health effects such as skin damage and circulatory problems.

(b) May write its own educational statement, but only in consultation with the Director.

(3) A system which detects nitrate at levels above 5 mg/L, but below the MCL:

(a) Must include a short informational statement about the impacts of nitrate on children using language such as: Nitrate in drinking water at levels above 10 ppm is a health risk for infants of less than six months of age. High nitrate levels in drinking water can cause blue baby syndrome. Nitrate levels may rise quickly for short

periods of time because of rainfall or agricultural activity. If you are caring for an infant you should ask advice from your health care provider.

(b) May write its own educational statement, but only in consultation with the Director.

(4) Every report must include the following lead-specific information:

(a) A short informational statement about lead in drinking water and its effects on children. The statement must include the following information:

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. (NAME OF UTILITY) is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at http://www.epa.gov/safewater/lead.

(b) A system may write its own educational statement, but only in consultation with the Director.

(5) Community water systems that detect TTHM above 0.080 mg/L (milligrams per liter), but below the MCL in R309-200-5(3)(c), as an annual average, monitored and calculated under the provisions of R309-210-8, must include health effects language for TTHMs prescribed in R309-220-14.

(6) Beginning in the report due by July 1, 2002 and ending January 22, 2006, a community water system that detects arsenic above 0.01 milligrams per liter and up to and including 0.05 milligrams per liter must include the arsenic health effects language prescribed in R309-220-14.

(7) After April 1, 2016, Systems required to comply with R309-211.

(a) Any system required to comply with the Level 1 assessment requirement or a Level 2 assessment requirement that is not due to an E. coli MCL violation must include in the report the text found in paragraph (7)(a)(i) and paragraphs (7)(a)(ii) and (iii) of this section as appropriate, filling in the blanks accordingly and the text found in paragraphs (7)(a)(iv)(A) and (B) of this section if appropriate.

(i) Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially harmful, waterborne

pathogens may be present or that a potential pathway exists through which contamination may enter the drinking water distribution system. We found coliforms indicating the need to look for potential problems in water treatment or distribution. When this occurs, we are required to conduct assessment(s) to identify problems and to correct any problems that were found during these assessments.

(ii) During the past year we were required to conduct (INSERT NUMBER OF LEVEL 1 ASSESSMENTS) Level 1 assessment(s). (INSERT NUMBER OF LEVEL 1 ASSESSMENTS) Level 1 assessment(s) were completed. In addition, we were required to take (INSERT NUMBER OF CORRECTIVE ACTIONS) corrective actions and we completed (INSERT NUMBER OF CORRECTIVE ACTIONS) of these actions.

(iii) During the past year (INSERT NUMBER OF LEVEL 2 ASSESSMENTS) Level 2 assessments were required to be completed for our water system. (INSERT NUMBER OF LEVEL 2 ASSESSMENTS) Level 2 assessments were completed. In addition, we were required to take (INSERT NUMBER OF CORRECTIVE ACTIONS) corrective actions and we completed (INSERT NUMBER OF CORRECTIVE ACTIONS) of these actions.

(iv) Any system that has failed to complete all the required assessments or correct all identified sanitary defects, is in violation of the treatment technique requirement and must also include one or both of the following statements, as appropriate:

(A) During the past year we failed to conduct all of the required assessment(s).

(B) During the past year we failed to correct all identified defects that were found during the assessment.

(b) Any system required to conduct a Level 2 assessment due to an E. coli MCL violation must include in the report the text found in paragraphs (7)(b)(i) and (ii) of this section, filling in the blanks accordingly and the text found in paragraphs (7)(b)(iii)(A) and (B) of this section, if appropriate.

(i) E. coli are bacteria whose presence indicates that the water may be contaminated with human or animal wastes. Human pathogens in these wastes can cause short-term effects, such as diarrhea, cramps, nausea, headaches, or other symptoms. They may pose a greater health risk for infants, young children, the elderly, and people with severely compromised immune systems. We found E. coli bacteria, indicating the need to look for potential problems in water treatment or distribution. When this occurs, we

are required to conduct assessment(s) to identify problems and to correct any problems that were found during these assessments.

(ii) We were required to complete a Level 2 assessment because we found E. coli in our water system. In addition, we were required to take (INSERT NUMBER OF CORRECTIVE ACTIONS) corrective actions and we completed (INSERT NUMBER OF CORRECTIVE ACTIONS) of these actions.

(iii) Any system that has failed to complete the required assessment or correct all identified sanitary defects, is in violation of the treatment technique requirement and must also include one or both of the following statements, as appropriate:

(A) We failed to conduct the required assessment.

(B) We failed to correct all sanitary defects that were identified during the assessment that we conducted.

(c) If a system detects E. coli and has violated the E. coli MCL, in addition to completing the table as required in R309-225-5(4)(d), the system must include one or more of the following statements to describe any noncompliance, as applicable:

(i) We had an E. coli-positive repeat sample following a total coliform-positive routine sample.

(ii) We had a total coliform-positive repeat sample following an E. coli-positive routine sample.

(iii) We failed to take all required repeat samples following an E. coli-positive routine sample.

(iv) We failed to test for E. coli when any repeat sample tests positive for total coliform.

(d) If a system detects E. coli and has not violated the E. coli MCL, in addition to completing the table as required in R309-225-5(4)(d), the system may include a statement that explains that although they have detected E. coli, they are not in violation of the E. coli MCL.

R309-225-7. Report Delivery and Recordkeeping.

(1) Except as provided in paragraph (7) of this section, each community water system must mail or otherwise directly deliver one copy of the report to each customer.

(2) The system must make a good faith effort to reach consumers who do not get water bills, using means recommended by the Director. EPA expects that an adequate good faith effort will be tailored to the consumers who are served by the system but are not bill-paying customers, such as renters or workers. A good faith effort to reach consumers would include a mix of methods appropriate to the particular system such as: Posting the reports on the Internet; mailing to postal patrons in metropolitan areas; advertising the availability of the report in the news media; publication in a local newspaper; posting in public places such as cafeterias or lunch rooms of public buildings; delivery of multiple copies for distribution by single-biller customers such as apartment buildings or large private employers; delivery to community organizations.

(3) No later than the date the system is required to distribute the report to its customers, each community water system must mail a copy of the report to the Director, followed within 3 months by a certification that the report has been distributed to customers, and that the information is correct and consistent with the compliance monitoring data previously submitted to the Director.

(4) No later than the date the system is required to distribute the report to its customers, each community water system must deliver the report to any other agency or clearinghouse identified by the Director.

(5) Each community water system must make its reports available to the public upon request.

(6) Each community water system serving 100,000 or more persons must post its current year's report to a publicly-accessible site on the Internet.

(7) The Governor has waived the requirement of paragraph (a) of this section for community water systems serving fewer than 10,000 persons.

(a) Such systems must:

(i) Publish the reports in one or more local newspapers serving the area in which the system is located;

(ii) Inform the customers that the reports will not be mailed, either in the newspapers in which the reports are published or by other means approved by the Director; and

(iii) Make the reports available to the public upon request.

(b) Systems serving 500 or fewer persons may forego the requirements of paragraphs (7)(a)(i) and (ii) of this section if they provide notice at least once per year to their customers by mail, door-to-door delivery or by posting in an appropriate location that the report is available upon request.

(8) Any system subject to this rule must retain copies of its consumer confidence report for no less than 3 years.

R309-225-8. Major Sources of Contaminants in Drinking Water.

Microbiological Contaminants

(1) Total Coliform Bacteria - Naturally present in the environment.

(2) E. coli - Human and animal fecal waste.

(3) Fecal Indicators (enterococci or coliphage) - Human and animal fecal waste.

(4) Turbidity- Soil runoff.

(5) Total organic carbon - Naturally present in the environment.

Radioactive Contaminants

(6) Alpha emitters (pCi/l) - Erosion of natural deposits.

(7) Beta/photon emitters (mrem/yr) - Decay of natural and man-made deposits.

(8) Combined radium (pCi/l) - Erosion of natural deposits.

(9) Uranium (ug/l) - Erosion of natural deposits.

Inorganic Contaminants

(10) Antimony (ppb) - Discharge from petroleum refineries; fire retardants; ceramics; electronics; solder.

(11) Arsenic (ppb) - Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes.

(12) Asbestos (MFL) - Decay of asbestos cement water mains; Erosion of natural deposits.

(13) Barium (ppm) - Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits.

(14) Beryllium (ppb) - Discharge from metal refineries and coal-burning factories; Discharge from electrical, aerospace, and defense industries.

(15) Cadmium (ppb) - Corrosion of galvanized pipes; Erosion of natural deposits; Discharge from metal refineries; runoff from waste batteries and paints.

(16) Chromium (ppb) - Discharge from steel and pulp mills; Erosion of natural deposits.

(17) Copper (ppm) - Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives.

(18) Cyanide (ppb) - Discharge from steel/metal factories; Discharge from plastic and fertilizer factories.

(19) Fluoride (ppm) - Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories.

(20) Lead (ppb) - Corrosion of household plumbing systems; Erosion of natural deposits.

(21) Mercury (inorganic) (ppb) - Erosion of natural deposits; Discharge from refineries and factories; Runoff from landfills; Runoff from cropland.

(22) Nitrate (as Nitrogen) (ppm) - Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.

(23) Nitrite (as Nitrogen) (ppm) - Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.

(24) Selenium (ppb) - Discharge from petroleum and metal refineries; Erosion of natural deposits; Discharge from mines.

(25) Thallium (ppb) - Leaching from ore-processing sites; Discharge from electronics, glass, and drug factories.

Synthetic Organic Contaminants including Pesticides and Herbicides

(26) 2,4-D (ppb) - Runoff from herbicide used on row crops.

(27) 2,4,5-TP (Silvex)(ppb) - Residue of banned herbicide.

(28) Acrylamide - Added to water during sewage/wastewater treatment.

(29) Alachlor (ppb) - Runoff from herbicide used on row crops.

(30) Atrazine (ppb) - Runoff from herbicide used on row crops.

(31) Benzo(a)pyrene (PAH) (nanograms/l) -Leaching from linings of water storage tanks and distribution lines.

(32) Carbofuran (ppb) - Leaching of soil fumigant used on rice and alfalfa.

(33) Chlordane (ppb) - Residue of banned termiticide.

(34) Dalapon (ppb) - Runoff from herbicide used on rights of way.

(35) Di(2-ethylhexyl) adipate (ppb) - Discharge from chemical factories.

(36) Di(2-ethylhexyl) phthalate (ppb) - Discharge from rubber and chemical factories.

(37) Dibromochloropropane (ppt) - Runoff/leaching from soil fumigant used on soybeans, cotton, pineapples, and orchards.

(38) Dinoseb (ppb) - Runoff from herbicide used on soybeans and vegetables.

(39) Diquat (ppb) - Runoff from herbicide use.

(40) Dioxin (2,3,7,8-TCDD) (ppq) - Emissions from waste incineration and other combustion; Discharge from chemical factories.

(41) Endothall (ppb) - Runoff from herbicide use.

(42) Endrin (ppb) - Residue of banned insecticide.

(43) Epichlorohydrin - Discharge from industrial chemical factories; An impurity of some water treatment chemicals.

(44) Ethylene dibromide (ppt) - Discharge from petroleum refineries.

(45) Glyphosate (ppb) - Runoff from herbicide use.

(46) Heptachlor (ppt) - Residue of banned pesticide.

(47) Heptachlor epoxide (ppt) - Breakdown of heptachlor.

(48) Hexachlorobenzene (ppb) - Discharge from metal refineries and agricultural chemical factories.

(49) Hexachlorocyclopentadiene (ppb) - Discharge from chemical factories.

(50) Lindane (ppt) - Runoff/leaching from insecticide used on cattle, lumber, gardens.

(51) Methoxychlor (ppb) - Runoff/leaching from insecticide used on fruits, vegetables, alfalfa, livestock.

(52) Oxamyl (Vydate)(ppb) - Runoff/leaching from insecticide used on apples, potatoes and tomatoes.

(53) PCBs (Polychlorinated biphenyls) (ppt) - Runoff from landfills; Discharge of waste chemicals.

(54) Pentachlorophenol (ppb) - Discharge from wood preserving factories.

(55) Picloram (ppb) - Herbicide runoff.

(56) Simazine (ppb) - Herbicide runoff.

(57) Toxaphene (ppb) - Runoff/leaching from insecticide used on cotton and cattle.

Volatile Organic Contaminants

(58) Benzene (ppb) - Discharge from factories; Leaching from gas storage tanks and landfills.

(59) Bromate (ppb) - By-product of drinking water chlorination.

(60) Carbon tetrachloride (ppb) - Discharge from chemical plants and other industrial activities.

(61) Chloramines (ppm) - Water additive used to control microbes.

(62) Chlorine (ppm) - Water additive used to control microbes.

(63) Chlorite (ppm) - By-product of drinking water chlorination.

(64) Chlorine dioxide (ppb) - Water additive used to control microbes.

(65) Chlorobenzene (ppb) - Discharge from chemical and agricultural chemical factories.

(66) o-Dichlorobenzene (ppb) - Discharge from industrial chemical factories.

(67) p-Dichlorobenzene (ppb) - Discharge from industrial chemical factories.

(68) 1,2-Dichloroethane (ppb) - Discharge from industrial chemical factories.

(69) 1,1-Dichloroethylene (ppb) - Discharge from industrial chemical factories.

(70) cis-1,2-Dichloroethylene (ppb) - Discharge from industrial chemical factories.

(71) trans-1,2-Dichloroethylene (ppb) - Discharge from industrial chemical factories.

(72) Dichloromethane (ppb) - Discharge from pharmaceutical and chemical factories.

(73) 1,2-Dichloropropane (ppb) - Discharge from industrial chemical factories.

(74) Ethylbenzene (ppb) - Discharge from petroleum refineries.

(75) Haloacetic Acids (HAA) (ppb) - By-product of drinking water disinfection.

(76) Styrene (ppb)- Discharge from rubber and plastic factories; Leaching from landfills.

(77) Tetrachloroethylene (ppb) - Discharge from factories and dry cleaners.

(78) 1,2,4-Trichlorobenzene (ppb) - Discharge from textile-finishing factories.

(79) 1,1,1-Trichloroethane (ppb) - Discharge from metal degreasing sites and other factories.

(80) 1,1,2-Trichloroethane (ppb) - Discharge from industrial chemical factories.

(81) Trichloroethylene (ppb) - Discharge from metal degreasing sites and other factories.

(82) TTHMs (Total trihalomethanes)(ppb) - By-product of drinking water chlorination.

(83) Toluene (ppm) - Discharge from petroleum factories.

(84) Vinyl Chloride (ppb) - Leaching from PVC piping; Discharge from plastics factories.

(85) Xylenes (ppm) - Discharge from petroleum factories; Discharge from chemical factories.

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