Guidelines and Policies for Public Water Systems

Appendix M
Consumer Confidence Reporting Guidelines

Updated March 09

Appendix M is required by the Massachusetts Drinking Water regulations 310CMR 22.16A

Please refer to the booklet "Recommended Tips to Provide a More User Friendly CCR" for information on how you can improve the presentation of your CCR information.

Table of Contents

Community Public Water Systems

Introduction/Overview

All community drinking water systems are required to prepare and distribute Drinking Water Consumer Confidence Reports (CCR) by July 1 of each year. CCRs are required by the federal 1996 Safe Drinking Water Act Amendments.

Who Must Prepare Consumer Confidence Reports?
All community water systems that serve at least 25 year-round residents or that have 15 or more service connections must prepare and distribute a CCR. A public water system that sells its water to another community system must provide the buyer with monitoring data and other information that will enable the buyer to produce the CCR.

When Should the Consumer Confidence Report be Distributed?
The data used in preparing the report is based on a calendar year. CCR reports should be delivered to customers by July 1 of each year.

Public water systems that sell to a community system must deliver all the pertinent information to their buyers by April 1 each year. For all new community water systems, the first CCR is due July 1 of the year following the first full year of operation, and annually thereafter.

What Information is Required?

Although the community water supplier will have some flexibility in determining the form and content, the annual report must contain the following information:

- PWS basic information e.g., PWS name, ID#, reporting year, etc. and source(s) of the drinking water along with phone numbers for additional information.
- Information on obtaining a copy of the water system's source water assessment-SWAP
- Language translation requirements if necessary
- Required definitions and variances / exemptions if applicable
- Tables for detected contaminants including MCLs, levels of detect, potential health effects, violations, likely sources of contamination, and corrective measures taken to address the violation.
- Compliance with other drinking water regulations, such as monitoring and reporting for compliance data, record keeping, filtration, disinfection, cross connection control, and lead and copper control
- Detections of unregulated contaminants and potential sources
- Required language and educational information and if necessary, informational statements on *Cryptosporidium*, arsenic, nitrate, and lead

Report Content

Water System and Source Water Information

Each CCR must include:

- The name of the public water system, PWS ID #, report year, etc.
- Name and telephone number of a person at the water system who can provide additional information and answer questions about the report
- Information on public education and/or public meetings to discuss water quality issues
- Description of source(s) (ground water, surface water, or blend), and location(s); for security purposes, you do not need to use a map of your system. A simple location description such as "Collar Street Wells" is sufficient.
- Explanation of any interconnections and back-up sources to note source variation during the year
- Required Educational Information

Source Water Assessment Program (SWAP)

MassDEP has prepared source water assessments for all public water systems as required by the Safe Drinking Water Act amendments**.** Each CCR must include the following:

- Highlight significant sources of contamination in the source water area if information is readily available
- Include a brief summary of the water system's susceptibility to potential sources of contamination, using language provided by MassDEP
- Notify consumers of the availability of the report and the means to obtain it. (SWAP reports can be found at **http://www.mass.gov/dep/water/drinking/swapreps.htm**)

The water system may wish to provide more source protection information to inform and involve customers. Consider adding the information noted below.

- The number and type of sources your system uses (reservoirs, bedrock wells, wells in sand and gravel, purchased water or a combination)

- A simple locus map of water sources and their protection areas (Zone I, II, IWPA, A, B, C)

- Source susceptibility and protection measures, for example:

  "The Anytown Water Department owns 67% of the watershed of Great Pond Reservoir. The remainder of the acreage is largely low-density residential development."
  Or
  "Wells #1 and #2 are located in an area of mixed residential, commercial, and industrial development. The Town of Waterville has adopted a bylaw to prohibit inappropriate future commercial and industrial development in the area; and the Board of Health has an inspection and education program in place for local businesses."

- The public water system's educational efforts with the public, schools, and the business community

- Measures citizens can use to protect their water source for example:
  "One of the biggest threats to the Main Street Well is improperly maintained septic systems. You can help protect your drinking water quality by pumping out your septic system every two years. Never dump hazardous substances down septic or storm drains. Do not use septic system cleaners."

- Volunteer opportunities, for example:
  "Contact Amy Smith to volunteer for water quality monitoring teamwork, education programs, or assisting town committees."

- Local contact name for more information on protection issues

Language Translation Requirements for Systems with Large Populations

If your system serves communities with 10% or greater than 1,000 people (whichever is fewer) of non-English speaking consumers, the report must contain a statement in the appropriate language(s) regarding the importance of the report.

If 25% or more of the population served by the system speaks one particular language, the entire report must be translated into that specific language.

In order to determine which cities have a large population, of non-English speaking persons, MassDEP used the 2000 Census data. This information does not reflect actual ethnic populations in all cities; but does show the actual number of persons who speak a language other than English in a household. This information is currently the best available to determine which ethnic populations will require information in their native language.

(See Attachment J to determine whether or not your water system serves a city or town with language requirements.)

Required Definitions

The following definitions must be included in the CCR for understanding the contamination data.

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

- **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.

The following definitions must be included in the report only if your report contains information on a contaminant that is regulated by an Action Level or Treatment Technique. The definition for 90th Percentile is optional.

- **Action Level:** The concentration of a contaminant that, if exceeded, triggers treatment or other requirements, which a water system must follow.

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

- **90th Percentile**: Out of every 10 homes, 9 were at or below this level.

The following definitions must be included in the report only if the system adds a chemical disinfectant or oxidant and is regulated by the Disinfection Byproducts Rule (310 CMR 22.07E).

- **Maximum Residual Disinfectant Level (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.

- **Maximum Residual Disinfectant Level Goal (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.

The following definition must be included in the CCR only if the water system was under a variance or exemption during the reportable calendar year.

- **Variances and Exemptions:** State or EPA permission not to meet an MCL or a treatment technique under certain conditions.

Detection of Regulated Contaminants

Only detected contaminants are reported in the CCR. A detected contaminant is any contaminant observed at or above its minimum laboratory detection limit or Method Detection Limit (MDL).

The CCR must contain a table showing the highest level of each detected contaminant and the range of levels of that contaminant for the year, if more than one sample was taken. The table must also contain:

- Maximum Contaminant Level (MCL)
- The Maximum Contaminant Level Goal (MCLG)
- Maximum Residual Disinfectant Level (MRDL) and Maximum Residual Disinfectant Level Goal (MRDLG) if using chemical disinfectants or oxidants
- The likely source(s) of contaminant

Use of CCR Units would require that the MCL be expressed as a number greater than 1.0. Report the MCLG and level of the detected contaminant in those same units. For example, atrazine is usually reported in mg/l. The MCL for atrazine is 0.003 mg/l. If the system detected atrazine at 0.0003mg/l, it is assumed that it would be difficult for consumers to understand at a glance that your water is one-tenth of the MCL.

See Attachment C for help in converting MCLs and monitoring data for the CCR.

- The CCR should reflect monitoring performed for the past calendar year. If there is no recent monitoring data for a source, include in the table the latest monitoring information available, but not data older than 5 years. For example, if the system samples for a contaminant once every three years, it would need to report the same detected level in each of the three years until it takes a new sample as well as the date that the sample was taken. Include a statement explaining why the system does not monitor regularly for the contaminants in question; for example:

  "MassDEP has reduced the monitoring requirements for _____ to less often than once per year because the source is not at risk of contamination. The last sample collected was on _____, and was found to be free of this contaminant."

Table Inclusion for Detected Regulated Contaminants

The following must be included for each detected regulated contaminant:

- **Level of Contaminant**
  Must be expressed in the same units as the MCL and MCLG
- **Highest Detected Level, Highest Average, or Average and Range**

a. Highest Detected Level
If compliance is determined annually or less frequently, include the highest detected level at any sampling point and the range of detected levels, if applicable.

b. Highest Average
If compliance is determined by a running annual average of all the samples taken from a sampling point, include the highest average of any of the sampling points (as reported to the state for compliance purposes) and the range of detections.

c. Average or Range
If compliance is determined by a running annual average of all samples at all sampling points, include the average of all samples and the range of detected levels. If an MCL was exceeded in the calendar year, due to a high level in the previous calendar year, please include the previous data

- **Turbidity**
  a. When reported as an MCL for systems that must install filtration but have not, include the highest average monthly value.

  b. When reported as a TT for systems that meet the criteria for avoiding filtration, include the highest monthly value. Explain the reasons for measuring turbidity; for example: "Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of water quality."

  c. When reported as a TT for systems that filter and use turbidity as an indicator of filtration performance, include the highest single measurement and the lowest monthly percentage of samples meeting the turbidity limits specified in 310 CMR 22.20 for the relevant filtration technology. Explain the reasons for measuring turbidity; for example: "Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of the effectiveness of our filtration system."

- **Lead and copper**
  Include the 90^{th} percent value from the most recent sampling and the number of sampling sites exceeding the action level.

- **Total coliform**
  a. Systems that collect fewer than 40 samples per month must include the highest number of positive samples collected in any one month.

  b. Systems that collect 40 or more samples per month must include the highest percentage of positive samples collected in any one month.

- **Fecal coliform and *E. coli***
  Include the number of positive samples.

- **Perchlorate**
  Perchlorate is now a regulated contaminant. All confirmed perchlorate detections need to be included in the CCR.

- **Other Contaminants**
  Any contaminant detected in violation of an MCL, MRDL, treatment technique, or exceeding an action level must be clearly highlighted in the table. Explain the length of the violation/exceedence, likely source, the potential health effects (*see Attachment C*), and actions taken to address the violation or exceedence in a subsequent paragraph.

Unregulated Contaminants

If the system detected unregulated contaminants for which state or federal rules require monitoring, except for *Cryptosporidium*, include the average of the entire year's monitoring results and the range of detections. Include an explanation for the system's monitoring of unregulated contaminants, such as this:

> *"Unregulated contaminants are those for which EPA has not established drinking water standards. The purpose of unregulated contaminant monitoring is to assist EPA in determining their occurrence in drinking water and whether future regulation is warranted".*

If voluntary monitoring indicates the presence of unregulated contaminants in the finished water, MassDEP encourages you to report any results that may indicate a health concern, that is, any detection above a proposed MCL or health advisory level to indicate concern.

EPA recommends that the report include the results of the monitoring and an explanation of the significance of the results. Note any health advisory or proposed MCL.

Cryptosporium
If monitoring indicates the presence of C*ryptosporidium* either in the source water or finished water, the CCR must include the following:

- A summary of the results of the monitoring

- An explanation of the significance of the results. The report must tell customers if they need to be concerned by the information in the CCR.

Example:

> *"Cryptosporidium is a microbial parasite found in surface water throughout the U.S. Although filtration removes Cryptosporidium, the most commonly used filtration methods cannot guarantee 100% removal. Our monitoring indicates the presence of these organisms in our source water and/or finished water. Current test methods do not allow us to determine if the organisms are dead or if they are capable of causing disease. Symptoms of infection include nausea, diarrhea, and abdominal cramps.*
>
> *"Most healthy individuals are able to overcome the disease within a few weeks. However, immuno-compromised people have more difficulty and are at greater risk of developing severe, life-threatening illness. Immuno-compromised individuals are encouraged to*

consult their doctor regarding appropriate precautions to prevent infection. Cryptosporidium must be ingested for it to cause disease, and may be passed through other means than drinking water."

Radon
If monitoring indicates the presence of radon in finished water, include in the report:

- The results of monitoring

- An explanation of the significance of the results. The report must tell customers if they need to be concerned by the information in the CCR.

Example:

"Radon is a radioactive gas that you cannot see, taste, or smell. It is found throughout the United States. Radon can move up through the ground and into a home through cracks and holes in the foundation. Radon can build up to high levels in all types of homes. Radon can also get into indoor air when released from tap water from showering, washing dishes, and other household activities. Compared to radon entering the home through soil, radon entering the home through tap water will be (in most cases) a small source of radon in indoor air. Radon is a known human carcinogen. Breathing air containing radon can lead to lung cancer. Drinking water containing radon may also cause increased risk of stomach cancer. If you are concerned about radon in your home, test the air in your home. Testing is inexpensive and easy. Fix your home if the level of radon in your air is 4 picocuries of radon per liter of air (pCi/l) or higher. There are simple ways to fix a radon problem that aren't too costly. For additional information, call your State radon program or call EPA's Radon Hotline, 800.SOS.RADON."

Compliance with Other Drinking Water Regulations

If the water system has violated any of the national drinking water regulatory requirements during the reporting period, the CCR must describe the violation(s). This description must include a clear explanation of the violation, any adverse health effects, and steps taken by the system to correct the violation. The following must be included:

- Monitoring and reporting compliance data

- Filtration and disinfection processes

- If the violation was due to a failure to install adequate filtration or disinfection equipment or processes; or there was a failure of that equipment or process, the following language must be included in the CCR:

- "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."

- Lead and copper requirements
  If the violation was a failure to meet corrosion control treatment, source water treatment, or lead service requirements, you must include health effects language for lead and copper. See Attachment C.

- Treatment techniques for Acrylamide and Epichlorohydrin
  If either treatment technique is violated, the appropriate health effects language must be included. See Attachment C.

- Record keeping requirements

- Special monitoring requirements

- Violation of the terms of a variance, an exemption, or an administrative or judicial order

- Capacity
  Report any capacity deficiencies as determined by MassDEP

- Violations
  When an event occurs during the reporting year, which causes a PWS to violate the Surface Water Treatment Rule (SWTR) or any other drinking water standard, that violation must be included in the CCR.

- Any additional information specifically requested by MassDEP

If the system is operating under a variance or exemption at any time during the reporting year the following must be included:

- An explanation of the variance or exemption

- The date it was issued and reason why it was granted

- A status report on what the system is doing to remedy the problem

- A notice to the public for input on the review or renewal of variance or exemption

Required Educational Information

The CCR must contain the following three statements about drinking water. The first statement is to acknowledge that it is normal to find low levels of some contaminants in drinking water. The second statement explains the vulnerability of some populations to contaminants in drinking water. The third is educational statement about lead in the drinking water.

1. *"Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contamination. 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 EPA's Safe Drinking Water Hotline (1-800-426-4791.)"*

2. *"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 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 (1-800-426-4791)."*

3. "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."
Note: A system may write its own educational statement, but only with MassDEP approval.

Sources of Drinking Water and Drinking Water Contaminants
Community Water Systems must include information on sources of drinking water, contaminants that may be present in drinking water and reasons for EPA and FDA regulations. The following language can be used, or you may develop your own comparable language. However, some form of the following language is required in the report:

"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.

Contaminants that may be present in source water include:

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

***Inorganic contaminants,** such as salts and metals, can be naturally-occurring or result from urban storm water runoff, industrial, or domestic wastewater discharges, oil and gas production, mining, and farming.*

Pesticides and herbicides *may come from a variety of sources such as agriculture, urban storm water runoff, and residential uses.*

Organic chemical contaminants *include synthetic and volatile organic chemicals that are by-products of industrial processes and petroleum production, and can also come from gas stations, urban storm water runoff, and septic systems.*

Radioactive contaminants *can be naturally occurring or be the result of oil and gas production, and mining activities.*

In order to ensure that tap water is safe to drink, MassDEP and US EPA prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. FDA and the Massachusetts Department of Public Health regulations establish limits for contaminants in bottled water that must provide the same protection for public health."

Special requirements for nitrate, arsenic, lead, and trihalomethanes

For arsenic, nitrate, lead, and trihalomethanes a special educational statement is required if the water system detected the amounts listed below. The following *(italics)* health statements should be used. Different statements may be used with permission from MassDEP.

- Nitrate above 5 ppm (50% of the MCL), but below the MCL of 10 ppm.
  "*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 for advice from your health care provider."*

- Arsenic above 5 ppb, but at or below 10 ppb.
  "While your drinking water meets the 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."

- Arsenic above 10 ppb.
  A community water system that detects arsenic above 10 ppb is out of compliance with the MCL and must inform the reader of the violation and include the health effects language.
  "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."

- Lead above the Action Level in more than 5%, and up to and including 10%, of the sites sampled.
  "Infants and young children are typically more vulnerable to lead in drinking water than the general population. It is possible that lead levels at your home may be higher than at

other homes in the community as a result of materials used in your home's plumbing. If you are concerned about elevated lead levels in your home's water, you may wish to have your water tested. Flush your tap for 30 seconds to 2 minutes before using tap water to reduce lead content. Additional information is available from the Safe Drinking Water Hotline, 1.800.426.4791."

- Total Trihalomethanes (TTHMs) detected above the MCL of 0.080 mg/l as an annual average (monitored and calculated under the provisions of 310 CMR22.07 must include the following health effects language.
  "*Some people who drink water containing trihalomethanes in excess of the MCL over many years experience problems with their liver, kidneys, or central nervous systems. They may have a greater risk of getting cancer."*

Recommended Additions to CCR

MassDEP recommends this additional information be added to you CCR:

- Information on water fluoridation
- Information on source treatment
- An additional statement on lead for those systems in compliance
- Use of a template: Attachment B lists templates that can be used to assist in the preparing and designing of the CCR. Systems will have to enter their own monitoring data into the formatted report, and any additional MCL, MRDL, and/or health effects information.

Report Delivery

All community water systems must deliver a copy of the CCR to every customer and make a good faith effort to get reports to non-billed consumers. The CCR must be received by July 1st of each year. Also, send two copies to MassDEP (1 copy to the Boston office and 1 copy to your regional office) by the same deadline. Submit a completed certification form to both MassDEP offices with your CCR showing that the report was distributed, and that its information is correct and consistent with the compliance monitoring data submitted to MassDEP during the report year. See Attachment A for the certification form.

The CCR will contain vital information that local boards of health would be interested in reviewing. Therefore, community public water systems are required to deliver a copy of the CCR to the local board of health office and the Massachusetts Department of Public Health by July 1st of each year. Because many customers of public water systems, such as apartment dwellers, may not receive a bill, it is the public water system's responsibility to make a good faith effort to

reach these consumers. Community public water systems are required to do at least three of the following:

- Post report in the lobby of apartment complexes
- Place an ad in a local newspaper stating copies are available from the Community Water System
- Announce on local radio or television stations
- Post CCR in town or city halls
- Place copies of the CCR in the local public library closest to your facility
- Post a notice (in main lobby of apartment complexes) stating that the CCR is posted on a website, and give the Internet address (URL)
- Publish the report in local newspaper(s)
- Deliver the report to community organizations

Systems serving greater than 100,000 persons
A CCR must be posted on the Internet. Use the water system or local town web page to post the report. Be sure to include the web address in the CCR.

Systems serving fewer than 10,000 persons
The Commissioner of MassDEP has approved a mailing waiver allowing systems to mail the CCR to all customers or print the CCR in its entirety in a local newspaper(s).

Systems serving fewer than 500 persons
The CCR does not have to be mailed or published in a newspaper. However, the system must notify customers through mail or post a notice in a local newspaper. State that the CCR is available from the system and include a contact telephone number.

Where to Send Your Report

By July 1 of each year, public water systems are required to send a set of copies i.e., the CCR and certification form (Attachment A) to MassDEP, the local board of health, and the Department of Public Health

- **Send 1 set to MassDEP Boston**
  MassDEP
  Drinking Water Program
  One Winter Street - 5th floor
  Boston, MA 02108
  671-292-5770

- **Send 1 set to your MassDEP regional office**

MassDEP Western Regional Office
State House West, 5th Floor
436 Dwight Street
Springfield, MA 01103
413-784-1100

MassDEP Central Regional Office
Drinking Water Program
627 Main Street
Worcester, MA 01608
508-792-7650

MassDEP Northeast Region
Drinking Water Program
205B Lowell St.
Wilmington, MA 01887
978-694-3200

MassDEP Southeast Region
Drinking Water Program
20 Riverside Drive
Lakeville, MA 02347
508-946-2700

- **Send 1 set to your local board of health**

- **Send 1 set to:**
  Massachusetts Department of Public Health
  Bureau of Environmental Health
  250 Washington Street
  Boston, MA 02108-4619
  212-624-6000

Community Public Water Systems are the main source of distribution for CCRs and are required to keep copies of CCR on file for no less than three years and provide copies upon request.

Visit these websites for templates and more information.

www.mass.gov/dep	MassDEP Website
www.epa.gov/ogwdw	Environmental Protection Agency Website
www.awwa.org	American Water Works Association
www.newwa.org	New England Water Works Association
www.rcap.org	Rural Community Assistance Program

For more information contact the EPA Safe Drinking Water Hotline: 800-426-4791

For a guide to making your CCR more user-friendly visit the MassDEP website and refer to the MassDEP booklet “Recommended Tips to provide a more user friendly CCR”

Non Community Public Water Systems

Non-community public water systems are required to post their Annual Drinking Water Quality Report (commonly referred to as the non-community CCR) when provided by MassDEP. This report must be posted in a conspicuous location specified by the MassDEP. The report must remain posted until MassDEP provides a new annual report.

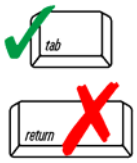
List of Attachments

Massachusetts Department of Environmental Protection
Bureau of Resource Protection – Drinking Water Program

Consumer Confidence Report Certification

A. PWS Information

Important: When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.



1. Facility - the site or works at which the regulated activity occurs:

PWS Name

City /Town

PWS ID#

The community water system named above hereby confirms that its Consumer Confidence Report (CCR) was distributed to each customer and/or appropriate notices of availability have been given in compliance with 310 CMR 22.16A. Further, the system certifies that the information contained in the report is correct and consistent with the compliance monitoring data previously submitted to the Massachusetts Department of Environmental Protection.

Name

Title

Phone #

Date

Signature

B. Consumer Delivery Methods – Based on Population Served

Check all items that apply. (Note: ALL distribution/ delivery/ publication must be completed before July 1 st

For systems selling water to another community water system:

☐ My system delivered the applicable information required at 310 CMR 22.16A(4), to the buying system(s) no later than April 1st of this year, or by the mutually agreed upon date specifically included in a written contract between the parties.

For systems serving less than 500 persons: Date Completed

☐ My system used one or more of the following methods to notify customers that the CCR would not be mailed directly to them and is available to them upon request. (A copy of the notice is attached).
☐ Mail ☐ door-to-door delivery ☐ newspaper ☐ posting notices

Locations of Posted Notices

☐ My system provided a copy of the CCR to each customer by one of the following methods:
☐ Published the report in a local newspaper (a copy of the published report is attached).
☐ Directly mailed or delivered a CCR to consumers.

For Systems serving between 500 and 9,999 persons: Date Completed

☐ My system provided a copy of the CCR to each customer by one of the following methods:
☐ Published the report in a local newspaper (a copy of the published report is attached).
☐ Directly mailed or delivered a CCR to consumers.

☐ My system provided a copy of the CCR to each customer by direct mail or delivery.

Massachusetts Department of Environmental Protection
Bureau of Resource Protection – Drinking Water Program
Consumer Confidence Report Certification

B. Consumer Delivery Methods – Based on Population Served (cont.)

For Systems serving 10,000 or more persons: _____ Date Completed

☐ My system provided a copy of the CCR to each customer by direct mail.

☐ My system provided a copy of the CCR to each customer by the following direct delivery methods (other than mail):

_____
Locations of Posted Notices

☐ In addition to one of the delivery methods checked above, my system serves greater than 100,000 persons and as required has posted the CCR on a publicly accessible Internet site:

_____
Web Address

C. Good Faith Delivery Methods – A minimum of three of the following were conducted:

☐ Posted CCR on a publicly accessible Internet site at the following address:

☐ Mailed the CCR to all postal patrons within the service area. (List of zip codes used is attached).

☐ Advertised availability of the CCR in the following news media (a copy of the announcement is attached):
☐ radio ☐ newspaper ☐ television / cable

☐ Published CCR in local newspaper (a copy of the published CCR is attached).

☐ Posted the CCR in public places, including post office, town hall and public library (a list of locations is (attached).

☐ Delivered multiple copies to single bill addresses serving several persons: i.e. apartments, businesses, and large private employers.

☐ Delivered to community organizations (list of organizations is attached).

☐ Post report or notice of availability in the lobby of apartment complexes.

☐ _____
Other

D. Mandatory Agency Delivery Requirements – For All Systems:

☐ Delivered 1-copy of CCR and 1-copy of Certification Form to the local Board of Health. _____ Date Completed

☐ Delivered 1-copy of CCR and 1-copy of Certification Form to MA Dept. of Public Health. _____ Date Completed

☐ Delivered 1-copy of CCR and 1-copy of Certification Form to MA DEP Boston Office. _____ Date Completed

☐ Delivered 1-copy of CCR, 1-copy of Certification Form and 1-copy of ALL the attachments check-marked above to the appropriate MassDEP regional office. _____ Date Completed

Att. B - List of Consumer Confidence Report Help Aids

MassDEP encourages systems to use a template whenever possible in order to simplify reports. There are a number of templates available to assist you in preparing your CCR. The following is a list of Internet sites to visit or organizations that can help your water system prepare the report.

1. MassDEP, Drinking Water Program, developed a template to assist water systems complete their CCR. This template has clear instructions and may be downloaded by the user. This template is free of charge and can be found on our website at:
http://www.mass.gov/dep/water/drinking/consumer.htm.
You may also contact the regional offices for support:
NERO - Bill Zahoruiko 978-694-3232
CERO – Liz Kotowski 508-767-2779
WERO – Rick Larson 413-755-2207
SERO – Isabel Collins 508-946-2726

2. The Massachusetts Rural Water Association (MassRWA) developed this template by sections to allow you to customize your report. You can use the headings they have created, or type in your own. It is easy to use and has all the information laid out so you can copy and paste those sections that apply to your system. This template is available to members only at no charge and can be ordered by contacting MassRWA at 866-451-8099.

3. EPA's template is available on their web page at
http://www.epa.gov/safewater/ccr/tools.html. EPA has developed CCRWriter (v2) software and CCRiWriter website to help water suppliers create their consumer confidence reports. However be aware EPA's template uses federal rules and may not be as strict as state regulations require.

4. The Massachusetts Coalition of Small Systems Assistance is a partnership of New England Water Works Association, Mass Water Works Association, Massachusetts Rural Water Association, and RCAP Solutions, which will help you with your CCR. Contact them at
http://www.masmallwatersystem.org/ .

Att. C - Regulated Contaminants

Key

AL=Action Level
MCL=Maximum Contaminant Level
MCLG=Maximum Contaminant Level Goal
MFL=Million Fibers per Liter
MRDL=Maximum Residual Disinfectant Level
MRDLG=Maximum Residual Disinfectant Level Goal
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 (ug/l)
ppt=parts per trillion, or nanograms per liter
ppq=parts per quadrillion, or picograms per liter
TT=Treatment Technique

Contaminant (units)	Traditional MCL in mg/L	To convert for CCR, multiply by	MCL in CCR units	MCLG	Major Sources in Drinking Water	Health Effects Language
Microbiological Contaminants						
1. *Cryptosporidium*	TT	-	TT	0	Discharged especially where water is contaminated with sewage or animal wastes	Some people who drink water containing *Cryptosporidium* could experience severe gastrointestinal effects.
2. *Giardia lamblia*	TT	-	TT	0	Discharged especially where water is contaminated with sewage or animal wastes	Some people who drink water containing *Giardia lamblia* could experience severe gastrointestinal effects.
3. Heterotrophic plate count	TT	-	TT	n/a	Heterotrophic plate count is an indicator method that measures a range of naturally-occurring bacteria in the environment	Heterotrophic plate count is not associated with health effects but is a method that measures the bacterial quality of the water as an indicator of the adequacy of water treatment.
4. *Legionella*	TT	-	TT	0	Natural sources; multiplies in heating and air-conditioning systems.	Some people who use drinking water containing *Legionella* could experience Legionnaire's Disease, a type of pneumonia.
5. Total Coliform Bacteria	MCL: presence of coliform bacteria in >5% of monthly samples			0	Naturally present in the environment	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.

Contaminant (units)	Traditional MCL in mg/L	To convert for CCR, multiply by	MCL in CCR units	MCLG	Major Sources in Drinking Water	Health Effects Language
6. Fecal coliform and *E. coli*	MCL: a routine sample and a repeat sample are total coliform positive, and one is also fecal coliform or *E. coli* positive			0	Human and animal fecal waste	Fecal coliforms and *E. coli* are bacteria whose presence indicates that the water may be contaminated with human or animal wastes. Microbes in these wastes can cause short-term effects, such as diarrhea, cramps, nausea, headaches, or other symptoms. They may pose a special health risk for infants, young children, and people with severely-compromised immune systems.
7. Total organic carbon	TT	-	TT	n/a	Naturally Present in the environment	Total organic carbon (TOC) has no health effects. However, total organic carbon provides a medium for the formation of disinfection by products. These byproducts include trihalomethanes (THMs) and haloacetic acids (HAAs). Drinking water containing these byproducts in excess of the MCL may lead to adverse health effects, liver or kidney problems, or nervous system effects, and may lead to an increase risk of getting cancer.
8. Turbidity	TT	-	TT	n/a	Soil runoff	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.
9. Viruses (enteric)	TT	-	TT	0	Discharged especially where water is contaminated with sewage or animal wastes	Some people who drink water containing viruses could experience severe gastrointestinal effects.
Radioactive Contaminants						
10. Beta/photon emitters (mrem/yr)	4 mrem/yr	-	4	0	Decay of natural and man-made deposits	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.

Contaminant (units)	Traditional MCL in mg/L	To convert for CCR, multiply by	MCL in CCR units	MCLG	Major Sources in Drinking Water	Health Effects Language
11. Alpha emitters (pCi/l)	15 pCi/l	-	15	0	Erosion of natural deposits	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.
12. Combined radium (pCi/l)	5 pCi/l	-	5	0	Erosion of natural deposits	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
13. Uranium (ppm)	0.030	1000	30	0	Erosion of natural deposits	Some people who drink water containing uranium in excess of the MCL over many years may have an increased risk of getting cancer and kidney toxicity
Inorganic Contaminants						
14. Antimony (ppb)	.006	1000	6	6	Discharge from fire retardants; ceramics; electronics; solder	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.
15. Arsenic (ppb)[1]	.01	1000	10	n/a	Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes	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.
16. Asbestos (MFL)	7 MFL	-	7	7	Decay of asbestos cement water mains; Erosion of natural deposits	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.
17. Barium (ppm)	2	-	2	2	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits	Some people who drink water containing barium in excess of the MCL over many years could experience an increase in their blood pressure.

[1] These arsenic values are effective January 23, 2006. Until then, the MCL is 0.05 mg/l and there is no MCLG.

Contaminant (units)	Traditional MCL in mg/L	To convert for CCR, multiply by	MCL in CCR units	MCLG	Major Sources in Drinking Water	Health Effects Language
18. Beryllium (ppb)	.004	1000	4	4	Discharge from electrical, aerospace, and defense industries; erosion of natural deposits	Some people who drink water containing beryllium well in excess of the MCL over many years could develop intestinal lesions.
19. Bromate (ppb)	.010	1000	10	0	By-product of drinking water disinfection	Some people who drink water containing bromate in excess of the MCL over many years have an increased risk of getting cancer.
20. Cadmium (ppb)	.005	1000	5	5	Corrosion of galvanized pipes; Erosion of natural deposits; Discharge from metal refineries; Runoff from waste batteries and paints	Some people who drink water containing cadmium in excess of the MCL over many years could experience kidney damage.
21. Chloramines (ppm)	MRDL= 4		MRDL= 4	MRDLG= 4	Water additive used to control microbes	Some people who use water containing chloramines well in excess of the MRDL could experience irritating effects to their eyes and nose. Some people who drink water containing chloramines well in excess of the MRDL could experience stomach discomfort or anemia.
22. Chlorine (ppm)	MRDL= 4	-	MRDL= 4	MRDLG= 4	Water additive used to control microbes	Some people who use water containing chlorine well in excess of the MRDL could experience irritating effects to their eyes and nose. Some people who drink water containing chlorine well in excess of the MRDL could experience stomach discomfort.
23. Chlorine dioxide (ppb)	MRDL= .8	1000	800	MRDLG= 800	Water additive used to control microbes	Some infants and young children who drink water containing chlorine dioxide in excess of the MRDL could experience nervous system effects. Similar effects may occur in fetuses of pregnant women who drink water containing chlorine dioxide in excess of the MRDL. Some people may experience anemia.
24. Chlorite (ppm)	1	-	1	0.8	By-product of drinking water disinfection	Some infants and young children who drink water containing chlorite in excess of the MCL could experience nervous system effects. Similar effects may occur in fetuses of pregnant women who drink water containing chlorite in excess of the MCL. Some people may experience anemia.

Contaminant (units)	Traditional MCL in mg/L	To convert for CCR, multiply by	MCL in CCR units	MCLG	Major Sources in Drinking Water	Health Effects Language
25. Copper (ppm)	AL=1.3	-	AL=1.3	1.3	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives	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.
26. Chromium (ppb)	.1	1000	100	100	Discharge from pulp mills; Erosion of natural deposits	Some people who use water containing chromium well in excess of the MCL over many years could experience allergic dermatitis.
27. Cyanide (ppb)	.2	1000	200	200	Discharge from metal factories; Discharge from plastic and fertilizer factories	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.
28. Fluoride (ppm)	4	-	4	4	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories	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.
29. Lead (ppb)	AL=.015	1000	AL=15	0	Corrosion of household plumbing systems; Erosion of natural deposits	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.
30. Mercury [inorganic] (ppb)	.002	1000	2	2	Erosion of natural deposits; Discharge from refineries and factories; Runoff from landfills; Runoff from cropland	Some people who drink water containing inorganic mercury well in excess of the MCL over many years could experience kidney damage.
31. Nitrate (ppm)	10	-	10	10	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits	Infants below the age of six months who drink water containing nitrate in excess of the MCL could become seriously ill and, if untreated, may die. Symptoms include shortness of breath and blue baby syndrome.

Contaminant (units)	Traditional MCL in mg/L	To convert for CCR, multiply by	MCL in CCR units	MCLG	Major Sources in Drinking Water	Health Effects Language
32. Nitrite (ppm)	1	-	1	1	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits	Infants below the age of six months who drink water containing nitrite in excess of the MCL could become seriously ill and, if untreated, may die. Symptoms include shortness of breath and blue baby syndrome.
33. Perchlorate	0.002	1000	2	N/A	Rocket propellants, fireworks, munitions, flares, blasting agents	Perchlorate interferes with the normal function of the thyroid gland and thus has the potential to affect growth and development, causing brain damage and other adverse effects, particularly in fetuses and infants. Pregnant women, the fetus, infants, children up to the age of 12, and people with a hypothyroid condition are particularly susceptible to perchlorate toxicity.
34. Selenium (ppb)	.05	1000	50	50	Discharge from metal refineries; Erosion of natural deposits; Discharge from mines	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.
35. Thallium (ppb)	.002	1000	2	0.5	Leaching from ore-processing sites; Discharge from electronics, glass, and drug factories	Some people who drink water containing thallium in excess of the MCL over many years could experience hair loss, changes in their blood, or problems with their kidneys, intestines, or liver.
Synthetic Organic Contaminants Including Pesticides and Herbicides						
36. 2,4-D (ppb)	.07	1000	70	70	Runoff from herbicide used on row crops	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.
37. 2,4,5-TP [Silvex](ppb)	.05	1000	50	50	Residue of banned herbicide	Some people who drink water containing silvex in excess of the MCL over many years could experience liver problems.

Contaminant (units)	Traditional MCL in mg/L	To convert for CCR, multiply by	MCL in CCR units	MCLG	Major Sources in Drinking Water	Health Effects Language
38. Acrylamide	TT	-	TT	0	Added to water during sewage/ wastewater treatment	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.
39. Alachlor (ppb)	.002	1000	2	0	Runoff from herbicide used on row crops	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.
40. Atrazine (ppb)	.003	1000	3	3	Runoff from herbicide used on row crops	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.
41. Benzo(a)pyrene [PAH] (ppt)	.0002	1,000,000	200	0	Leaching from linings of water storage tanks and distribution lines	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.
42. Carbofuran (ppb)	.04	1000	40	40	Leaching of soil fumigant used on rice and alfalfa	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.
43. Chlordane (ppb)	.002	1000	2	0	Residue of banned termiticide	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.
44. Dalapon (ppb)	.2	1000	200	200	Runoff from herbicide used on rights of way	Some people who drink water containing dalapon well in excess of the MCL over many years could experience minor kidney changes.
45. Di(2-ethylhexyl) adipate (ppb)	.4	1000	400	400	Discharge from chemical facto-ries	Some people who drink water containing di (2-ethylhexyl) adipate well in excess of the MCL over many years could experience toxic effects such as weight loss, liver enlargement, or possible reproductive difficulties.

Contaminant (units)	Traditional MCL in mg/L	To convert for CCR, multiply by	MCL in CCR units	MCLG	Major Sources in Drinking Water	Health Effects Language
46. Di(2-ethylhexyl) phthalate (ppb)	.006	1000	6	0	Discharge from rubber and chemical factories	Some people who drink water containing di (2-ethylhexyl) phthalate well 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.
47. Dibromochloropropane (ppt)	.0002	1,000,000	200	0	Runoff/leaching from soil fumigant used on soybeans, cotton, and orchards	Some people who drink water containing DBCP in excess of the MCL over many years could experience reproductive problems and may have an increased risk of getting cancer.
48. Dinoseb (ppb)	.007	1000	7	7	Runoff from herbicide used on soybeans and vegetables	Some people who drink water containing dinoseb well in excess of the MCL over many years could experience reproductive difficulties.
49. Diquat (ppb)	.02	1000	20	20	Runoff from herbicide use	Some people who drink water containing diquat in excess of the MCL over many years could get cataracts.
50. Dioxin [2,3,7,8-TCDD] (ppq)	.00000003	1,000,000,000	30	0	Emissions from waste incineration and other combustion; Discharge from chemical factories	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.
51. Endothall (ppb)	.1	1000	100	100	Runoff from herbicide use	Some people who drink water containing endothall in excess of the MCL over many years could experience problems with their stomach or intestines.
52. Endrin (ppb)	.002	1000	2	2	Residue of banned insecticide	Some people who drink water containing endrin in excess of the MCL over many years could experience liver problems.
53. Epichlorohydrin	TT	-	TT	0	Discharge from industrial chemical factories; An impurity of some water treatment chemicals	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.
54. Ethylene dibromide (ppt)	.00002	1,000,000	20	0	Discharge from petroleum refineries	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.

Contaminant (units)	Traditional MCL in mg/L	To convert for CCR, multiply by	MCL in CCR units	MCLG	Major Sources in Drinking Water	Health Effects Language
55. Glyphosate (ppb)	.7	1000	700	700	Runoff from herbicide use	Some people who drink water containing glyphosate in excess of the MCL over many years could experience problems with their kidneys or reproductive difficulties.
56. Heptachlor (ppt)	.0004	1,000,000	400	0	Residue of banned pesticide	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.
57. Heptachlor epoxide (ppt)	.0002	1,000,000	200	0	Breakdown of heptachlor	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.
58. Hexachlorobenzene (ppb)	.001	1000	1	0	Discharge from metal refineries and agricultural chemical factories	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.
59. Hexachlorocyclopentadiene (ppb)	.05	1000	50	50	Discharge from chemical factories	Some people who drink water containing hexachlorocyclopentadiene well in excess of the MCL over many years could experience problems with their kidneys or stomach.
60. Lindane (ppt)	.0002	1,000,000	200	200	Runoff/leaching from insecticide used on cattle, lumber, gardens	Some people who drink water containing lindane in excess of the MCL over many years could experience problems with their kidneys or liver.
61. Methoxychlor (ppb)	.04	1000	40	40	Runoff/leaching from insecticide used on fruits, vegetables, alfalfa, livestock	Some people who drink water containing methoxychlor in excess of the MCL over many years could experience reproductive difficulties.
62. Oxamyl [Vydate] (ppb)	.2	1000	200	200	Runoff/leaching from insecticide used on apples, potatoes and tomatoes	Some people who drink water containing oxamyl in excess of the MCL over many years could experience slight nervous system effects.

Contaminant (units)	Traditional MCL in mg/L	To convert for CCR, multiply by	MCL in CCR units	MCLG	Major Sources in Drinking Water	Health Effects Language
63. PCBs [Polychlorinated biphenyls] (ppt)	.0005	1,000,000	500	0	Runoff from landfills; Discharge of waste chemicals	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.
64. Pentachlorophenol (ppb)	.001	1000	1	0	Discharge from wood preserving factories	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.
65. Picloram (ppb)	.5	1000	500	500	Herbicide runoff	Some people who drink water containing picloram in excess of the MCL over many years could experience problems with their liver.
66. Simazine (ppb)	.004	1000	4	4	Herbicide runoff	Some people who drink water containing simazine in excess of the MCL over many years could experience problems with their blood.
67. Toxaphene (ppb)	.003	1000	3	0	Runoff/leaching from insecticide used on cotton and cattle	Some people who drink water containing toxaphene in excess of the MCL over many years could have problems with their kidneys, liver, or thyroid, and may have an increased risk of getting cancer.
Volatile Organic Contaminants						
68. Benzene (ppb)	.005	1000	5	0	Discharge from factories; Leaching from gas storage tanks and landfills	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.
69. Carbon tetrachloride (ppb)	.005	1000	5	0	Discharge from chemical plants and other industrial activities	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.

Contaminant (units)	Traditional MCL in mg/L	To convert for CCR, multiply by	MCL in CCR units	MCLG	Major Sources in Drinking Water	Health Effects Language
70. Chlorobenzene (ppb)	.1	1000	100	100	Discharge from chemical and agricultural chemical factories	Some people who drink water containing chlorobenzene in excess of the MCL over many years could experience problems with their liver or kidneys.
71. o-Dichlorobenzene (ppb)	.6	1000	600	600	Discharge from industrial chemical factories	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.
72. p-Dichlorobenzene (ppb)	.005	1000	5	5	Discharge from industrial chemical factories	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.
73. 1,2-Dichloroethane (ppb)	.005	1000	5	0	Discharge from industrial chemical factories	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.
74. 1,1-Dichloroethylene (ppb)	.007	1000	7	7	Discharge from industrial chemical factories	Some people who drink water containing 1,1-dichloroethylene in excess of the MCL over many years could experience problems with their liver.
75. cis-1,2-Dichloroethylene (ppb)	.07	1000	70	70	Discharge from industrial chemical factories	Some people who drink water containing cis-1,2-dichloroethylene in excess of the MCL over many years could experience problems with their liver.
76. trans-1,2-Dichloroethylene (ppb)	.1	1000	100	100	Discharge from industrial chemical factories	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.
77. Dichloromethane (ppb)	.005	1000	5	0	Discharge from pharmaceutical and chemical factories	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.
78. 1,2-Dichloropropane (ppb)	.005	1000	5	0	Discharge from industrial chemical factories	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.

Contaminant (units)	Traditional MCL in mg/L	To convert for CCR, multiply by	MCL in CCR units	MCLG	Major Sources in Drinking Water	Health Effects Language
79. Ethylbenzene (ppb)	.7	1000	700	700	Discharge from industrial chemical factories	Some people who drink water containing ethylbenzene well in excess of the MCL over many years could experience problems with their liver or kidneys.
80. Haloacetic Acids (HAA5) (ppb)	.060	1000	60	n/a	By-product of drinking water disinfection	Some people who drink water containing haloacetic acids in excess of the MCL over many years may have an increased risk of getting cancer.
81. Styrene (ppb)	.1	1000	100	100	Discharge from rubber and plastic factories; Leaching from landfills	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.
82. Tetrachloroethylene (ppb)	.005	1000	5	0	Discharge from factories and dry cleaners and asbestos cement lined pipes	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.
83. 1,2,4-Trichlorobenzene (ppb)	.07	1000	70	70	Discharge from textile-finishing factories	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.
84. 1,1,1-Trichloroethane (ppb)	.2	1000	200	200	Discharge from metal degreasing sites and other factories	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.
85. 1,1,2-Trichloroethane (ppb)	.005	1000	5	3	Discharge from industrial chemical factories	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.
86. Trichloroethylene (ppb)	.005	1000	5	0	Discharge from metal degreasing sites and other factories	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.

Contaminant (units)	Traditional MCL in mg/L	To convert for CCR, multiply by	MCL in CCR units	MCLG	Major Sources in Drinking Water	Health Effects Language
87. TTHMs [Total trihalomethanes] (ppb)	0.08	1000	100	n/a	By-product of drinking water disinfection	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.
88. Toluene (ppm)	1	-	1	1	Discharge from petroleum factories	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.
89. Vinyl Chloride (ppb)	.002	1000	2	0	Leaching from PVC piping; Discharge from plastics factories	Some people who drink water containing vinyl chloride in excess of the MCL over many years may have an increased risk of getting cancer.
90. Xylenes (ppm)	10	-	10	10	Discharge from petroleum factories; Discharge from chemical factories	Some people who drink water containing xylenes in excess of the MCL over many years could experience damage to their nervous system.

Att. D - Unregulated Contaminants
Sources to Drinking Water and Health Effects

Chemical (CASRN)	Source to Drinking Water	Health Effects
Aldrin (309002)	Run-off from insecticide use	Some people who drink water containing aldrin in high concentrations for many years could experience liver damage, kidney effects.
Bromobenzene (108861)	Discharge from use in chemical manufacturing	Some people who drink water containing in high concentrations of bromobenzene for many years could experience central nervous system effects
Bromomethane (74839)	Run-off from use as a fumigant	Some people who drink water containing bromomethane at high concentrations for many years could experience digestive tract effects, and headaches.
Bromodichloromethane (75274)	Trihalomethane ; by-product of drinking water chlorination	Some people who drink water containing bromodichloromethane at high concentrations for many years could experience liver and kidney problems.
Bromoform (75252)	Trihalomethane; by- product of drinking water chlorination	Some people who drink water containing bromoform at high concentrations for many years could experience liver and kidney problems.
Butachlor (23184669)	Run-off from use as a herbicide	Some people who drink water containing butachlor at high concentrations for many years could experience liver effects.
Butylbenzene Isomers (*n;sec;tert*)	Run-off from industrial use	Some people who drink water containing butylbenzene isomers at high concentrations for many years for many years could experience central nervous system effects.
Carbaryl (63252)	Run-off from use as an insecticide	Some people who drink water containing carbaryl at high concentrations for many years for many years could experience kidney and liver effects.
Chloroethane (75003)	Discharge from industrial uses	Some people who drink water containing chloroethane at high concentrations for many years could experience dizziness, nausea, and vomiting.
Chloroform (67663)	A by-product of drinking water chlorination (regulated collectively with total trihalomethanes (TTHMs); in non-chlorinated sources, chloroform may be naturally occurring.	Some people who drink water containing chloroform at high concentrations for many years could experience liver and kidney problems and may have an increased risk of cancer.

Chemical (CASRN)	Source to Drinking Water	Health Effects
Chloromethane (74873)	Discharge from industrial uses	Some people who drink water containing chloromethane at high concentrations for many years could experience dizziness and fatigue.
o-chlorotoluene (95498)	Discharge from industrial use	Some people who drink water containing o-chlorotoluene at high concentrations for many years could experience central nervous system effects.
Dibromochloromethane (124481)	Trihalomethane; by-product of drinking water chlorination	Some people who drink water containing dibromochloromethane at high concentrations for many years could experience liver and kidney problems.
Dicamba (1918009)	Run-off from use as a herbicide	Some people who drink water containing dicamba at high concentrations for many years could experience central nervous system effects.
m-Dichlorobenzene (541731)	Discharge from use in chemical manufacturing	Some people who drink water containing m-dichlorobenzene at high concentrations for many years could experience damage to red blood cells.
Dichlorodifluoromethane (Freon 12) (75718)	Discharge from use as a refrigerant	Some people who drink water containing dichlorodifluoromethane at high concentrations for many years could experience dizziness and headaches.
1,1-Dichloroethane (75343)	Discharge from use as a degreasing agent	Some people who drink water containing 1,1-dichloroethane at high concentrations for many years could experience liver and kidney effects.
2,2-Dichloropropane	Discharge from use in chemical manufacturing	Some people who drink water containing 2,2-dichloropropane at high concentrations for many years could experience central nervous system effects.
1,3-Dichloropropane (142289)	Discharge from use in chemical manufacturing	Some people who drink water containing 1,3-dichloropropane at high concentrations for many years could experience central nervous system effects.
1,1-Dichloropropene	Discharge from use in chemical manufacturing	Some people who drink water containing 1,1-dichloropropene at high concentrations for many years could experience central nervous system effects.
1,3-Dichloropropene (*cis*,*trans*) (542756)	Run-off from use as a nematocide	Some people who drink water containing *cis* and *trans*-1.3-dichloropropene at high concentrations for many years could experience Irritation of the eyes, ears, nose and throat or cancer.
Dieldrin (60571)	Run-off from pesticide application	Some people who drink water containing dieldrin at high concentrations for many years could experience liver damage, convulsions, or cancer.

Chemical (CASRN)	Source to Drinking Water	Health Effects
Hexachlorobutadiene (87683)	Discharge from use as an industrial solvent	Some people who drink water containing hexachlorobutadiene at high concentrations for many years could experience kidney effects and effects on the fetus.
3-hydroxycarbofuran	Breakdown product from the use of the pesticide carboxyfuran	Some people who drink water containing 3-hydroxycarbofuran at high concentrations for many years could experience liver effects.
Isopropylbenzene (98828)	Discharge from chemical manufacturing	Some people who drink water containing isopropylbenzene at high concentrations for many years could experience central nervous system effects.
Isopropyltoluene	Discharge from chemical manufacturing	Some people who drink water containing isopropyltoluene at high concentrations for many years may experience central nervous system effects.
Methomyl (16752775)	Runoff from use as an insecticide	Some people who drink water containing methomyl at high concentrations for many years could experience kidney effects.
Metolachlor (51218452)	Run-off from use as a herbicide	Some people who drink water containing metolochlor at high concentrations for many years could experience cancer.
Metribuzin (21087649)	Run-off from use as a herbicide	Some people who drink water containing metribuzin at high concentrations for many years could experience liver and kidney effects.
Naphthalene (91203)	Discharge from use in mothballs and other domestic products	Some people who drink water containing naphthalene at high concentrations for many years could experience damage to red blood cells, nausea and vomiting.
N-nitrosodiumethylamine (NDMA) 62759	Discharge from industrial use; as a by-product of drinking water treatment; produced from naturally occurring precursor chemicals	Some people who drink water containing NDMA at high concentrations as well as infants born to pregnant women who drink the water may experience an increased risk of cancer. This chemical may also produce liver disease and kidney effects after short-term exposure to high doses or long-term exposure to lower doses.
Propachlor (1918167)	Run-off from use as a herbicide	Some people who drink water containing propachlor at high concentrations for many years could experience liver effects.
n-propylbenzene (103651)	Discharge from chemical manufacturing	Some people who drink water containing n-propylbenzene at high concentrations for many years may experience central nervous system effects.

Chemical (CASRN)	Source to Drinking Water	Health Effects
Sulfate	Natural sources	Some people who drink water containing sulfate at high concentrations for many years could experience diarrhea.
1,1,1,2-Tetrachloroethane (630206)	Discharge from use in chemical manufacturing	Some people who drink water containing 1,1,1,2-tetrachloroethane at high concentrations for many years could experience liver effects.
1,1,2,2-tetrachloroethane (79345)	Discharge from use in dry cleaning	Some people who drink water containing 1,1,2,2-tetrachloroethane at high concentrations for many years could experience nausea, vomiting and liver damage.
1,2,3-trichlorobenzene	Discharge from use in chemical manufacturing	Some people who drink water containing 1,2,3-trichlorobenzene at high concentrations for many years could experience liver effects.
Trichlorofluoromethane (Freon 11) (75694)	Discharge from use as a refrigerant	Some people who drink water containing trichlorofluoromethane at high concentrations for many years could experience central nervous system effects.
1,2,3-trichloropropane (96184)	Discharge from use in paint and varnish removers	Some people who drink water containing 1,2,3-trichloropropane at high concentrations for many years could experience liver damage.
1,2,4-trimethylbenzene (95636)	Discharge from use in dyes and paints	Some people who drink water containing 1,2,4-trimethylbenzene at high concentrations for many years could experience central nervous system effects.
1,3,5-trimethylbenzene (108678)	Discharge from use in chemical manufacturing	Some people who drink water containing 1,3,5-trimethylbenzene at high concentrations for many years could experience central nervous system effects.

Please contact the MassDEP Office of Research and Standards (ORS) at 617-292-5598 for health risk information for these chemicals.

Att. E - Interpreting Monitoring Data

Below are examples of how systems determine the highest compliance value and the range of detected levels of contaminants under the following monitoring scenarios:

1) Compliance with the MCL is determined annually or less frequently.

One sampling site/one sampling date.

March 2008 - 0.0009
REPORT IN TABLE: Highest Detected Level = 0.0009. Report no range

A sample table could look like this:

Contaminant	MCL	MCLG	Result	Sample Date	Violation	Possible Source
Benzene (ppb)	5	0	0.9	3/10/08	no	Discharge from factories; Leaching from gas storage tanks and landfills

Multiple sampling sites/one sampling date.

Barium	Mar 2008
well #1	0.60
well #2	0.46
well #3	Nd
REPORT IN TABLE: Highest Level = 0.60 AND Range = nd - 0.60	

A sample table could look like this:

Contaminant	MCL	MCLG	Highest Detect	Range	Date	Violation	Possible Source
Barium (ppm)	2	2	0.60	ND – 0.06	3/10/08	no	Discharge from drilling wastes; Discharge from meal refineries; Erosion of natural deposits.

2) Compliance with MCL determined by a running annual average of all samples taken from a sampling point.

1 sampling site/multiple sampling dates.

Atrazine	1st quarter 2008	2nd quarter 2008	3rd quarter 2008	4th quarter 2008
well #1	0.8	3.8	2.1	0.9
REPORT IN TABLE: Average = 1.9 AND Range = 0.8 - 3.8				

A sample table could look like this:

Contaminants	MCL	MCLG	Average	Range of detects	Violation	Possible Sources
Atrazine (ppb)	3	3	1.9	0.8 – 3.8	No	Runoff from herbicide used on row crops.

3) Compliance with MCL determined by a running annual average of all samples at all sampling points with TTHM example.

Multiple sampling sites/multiple sampling dates.

TTHMs	2nd quarter 2007	3rd quarter 2007	4th quarter 2007	1st quarter 2008	2nd quarter 2008	3rd quarter 2008	4th quarter 2008
site #1	-	-	-	45	60	125	70
site #2	-	-	-	40	55	115	60
site #3	-	-	-	45	60	105	70
site #4	-	-	-	50	65	135	80
Quarterly Average	55	125	65	45	60	120	70
Running Annual Average	-	-	-	73	74	73	74
REPORT IN TABLE: Highest Annual Average = 74 AND Range = 40 -135							
Note: The averages for the last 3 quarters of 2007 are shown because they are needed to compute the running annual average. The reported range							

would include only detection data from 2008, unless one of the values from the previous year was so extraordinary that consumers would need it to understand the reported annual average.

If any of the above values for the running annual average were above 80 (the revised MCL for TTHMs, effective in 2001) the report would need to include health effects language for TTHMs.

Disinfection By-Products

All systems that add a chemical disinfectant to their water must include the disinfectant levels and by-products (DBP) in their CCR.

- Free, Total, or Combined Chlorine (Chloramines)
  Report the highest annual average and the range of any of the sampling points using the daily reports.

- Total Trihalomethanes/ Haloacetic Acids
  Report the highest quarterly running annual average and the range of detects.

- Bromate
  Report the highest quarterly running annual average and the range of detects.

- Chlorite
  Report the highest monthly three-sample set averages and the range of detects in all three-sample sets collected during the year.

- Chlorine Dioxide
  Report the highest individual sample result taken at the entry point and the range of detects at the entry point only. If your system experienced a chlorine dioxide violation, you must include the following statement:
  "Compliance with the MRDL for chlorine dioxide is based on consecutive daily samples. [System Name] had [the # of violations] MRDL violations in [year]."

Stage 2 Disinfectants and Disinfection Byproducts Rule (Stage 2 DBPR)

The Stage 2 DBPR, promulgated in May 2008, applies to systems that add a primary or residual disinfectant other than ultraviolet light or deliver water that has been treated with a primary or residual disinfectant other than ultraviolet light. Under the Stage 2 DBPR some systems were required to conduct Initial Distribution System Evaluation (IDSE) monitoring for trihalomethanes (THM) and haloacetic acids (HAA5). In addition to the THM and HAA5 results

you currently include in your CCR for the Stage 1 DBPR you must now include the IDSE results. The IDSE monitoring results are not used to determine compliance with MCLs under the Stage 1 DBPR so they should not be included in the running annual average column in the CCR but they must be included in the range (highest /lowest detect) columns. The individual IDSE results are not required to be reported in the CCR. For some systems the IDSE monitoring period straddles two calendar years and as such the IDSE data will be split between two CCRs.

For reporting TTHM and HAA5 one could use this sample table:

Contaminant	MCL	MCLG	Range of Detects	Average Detected Level	Violation	Possible Sources
Total Haloacetic Acids (HAA5) (ppb)	60	n/a				By product of drinking water disinfection
Total Trihalomethane (TTHM) (ppb)	80	n/a				By product of drinking water disinfection

Long Term Enhanced Surface Water Treatment Rule (LT2ESWTR or LT2)

The LT2 Rule, promulgated in May 2008, applies to systems that use surface water sources or groundwater sources that are under the influence of surface water. In addition to the information you currently include in your CCR for the Surface Water Treatment Rule, Interim Enhanced Surface Water Treatment Rule and the Long Term 1 Enhanced Surface Water Treatment Rule you must now include information for the LT2 Rule. Systems serving at least 10,000 people were required to monitor their raw source water for *Cryptosporidium*, E. coli, and turbidity. Systems serving less than 10,000 people may have only been required to monitor for E. coli. Since E. coli (bacteria) and turbidity are already tested and reported in the CCR no additional reporting is needed; however, any *Cryptosporidium* detects found in either the raw or finished water must be reported.

For reporting bacteria/E. coli one could use this sample table:

Contaminant	Highest # Positive in a Month	Date	MCL	MCLG	Violation	Possible Sources
Total Coliform			1	0		Naturally present in the environment.
Fecal Coliform or E. coli			*	0		Human and fecal waste

*Compliance with fecal coliform/E. coli MCL is determined upon additional repeat testing.

For reporting *Cryptosporidium* one could use this sample table:

Contaminant	MCL / MRDL / TT	MCGL	Result (Oocysts/L)	Date	Violation	Possible Sources
Cryptosporidium	TT	0				Discharged especially where water is contaminated with sewage or animal wastes.

For reporting turbidity one could use this sample table:

Turbidity*	MCL	Lowest monthly % of samples below 1 NTU	Highest Detected Value	Violation	Possible Sources
Daily Compliance	5 NTU	--			Soil Runoff
Monthly Compliance	At least 95 % of monthly samples below 1 NTU**		--		

*Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator o f water quality.
**Monthly turbidity compliance is related to the specific treatment technique (TT).

4) Lead and Copper

If a system detects either lead or copper, the CCR must include the 90th percentile value from the most recent sampling and the number of sampling sites exceeding the action level.

	site 1	site 2	site 3	site 4	site 5	site 6	site 7	site 8	site 9	site 10
July 2008	nd	nd	8	12	19	3	nd	nd	4	22
REPORT IN TABLE: 90th percentile = 19 AND Number of Sites above AL (15) = 2										

The 90th percentile is:

(Number of samples) x (0.9) = the sample corresponding to the 90th percentile.

Therefore, if a system collects 10 samples, the 90th percentile would be the 9th highest sample (10 x 0.9). In the example above, the detect value of 19 is the 9th highest value in the 10 sites sampled.

One could use this sample table in reporting their lead and copper detections:

Lead and Copper	Date Collected	90th Percentile	Action Level (AL)	MCLG	# of Sites Sampled	# of Sites Above the AL	Exceeds AL?	Possible Sources
Lead (ppb)			15	0				Corrosion of household plumbing
Copper (ppm)			1.3	1.3				Corrosion of household plumbing

Educational Statement for Lead

All community CCRs are required to contain the following lead educational language whether or not the system had detects:

"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."

Note: A system may write its own educational statement, but only with written MassDEP approval.

Health Effects Language for Lead and Copper

Explanations of action level exceedences or violations must include potential health effects language (see Appendix C for full information):

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 disabilities. Adults who drink this water over many years could develop kidney problems or high blood pressure.

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.

5) Turbidity

When reporting turbidity as a TT/indicator of filtration performance, the highest single measurement and the lowest monthly percentage of samples meeting the requirements specified for the relevant filtration technology must be included in the report. A system may wish to present the data as follows:

Contaminant	MCL	MCLG	Level Found	Range of Detections	Violation	Date of Sample	Typical Source of Contaminant
Turbidity	TT = 5 NTU	n/a	1	-	no	-	Soil runoff
	TT=percentage of samples <0.5 NTU		96%	-			

As part of an explanation for measuring turbidity, systems may wish explain that turbidity is a measure of treatment performance and is regulated as a treatment technique.

6) Beta Particles

The MCL for beta particles is 4 mrem/year. EPA recognizes that labs often report these results in pCi/l, and that there is no simple conversion between the two units. Therefore, it is acceptable for systems to report the detected level for beta particles in pCi/l. So that consumers may have a standard against which to compare the detected level, systems should place 50 in the MCL column and include a footnote explaining that EPA considers 50 pCi/l to be a level of concern for beta particles.

Contaminant	MCL	MCLG	Level Found	Range of Detections	Violation	Date of Sample	Typical Source of Contaminant
Beta particles (pCi/l)	50*	0	10	nd-10			Decay of natural and man-made deposits

*****The MCL for beta particles is 4 mrem/year. EPA considers 50 pCi/l to be the level of concern for beta particles.

Systems that detect beta particles at or above 50 pCi/l must determine the actual radioactive constituents present in the water to calculate the dose exposure level in mrem/yr, and must report both the detected level and the MCL as mrem/yr.

7) Monitoring Waivers

Systems that have monitoring waivers, or for another reason monitor less often than once per year, must include information on contaminants detected in the most recent testing period. The

report must also contain a brief explanation that the data for those contaminants is from the most recent testing done.

If sampling was not performed for a given parameter in the calendar year covered by the report, then data going back a maximum of five years must be used.

As shown in the CCR example, for ease of presentation a column for the date of the last sample can be included in the table with the corresponding explanation outside of the table.

Contaminant	MCL	MCLG	Level Found	Range of Detections	Violation	Date of Sample	Typical Source of Contaminant
Cyanide (ppb)	200	200	10			Feb 2005	Discharge from steel/metal industry; discharge from fertilizer and plastic factories
Selenium (ppb)	50	50	1			Feb 2005	Discharge from petroleum and metal refineries

Most of the data presented in this table is from testing done between January 1 - December 31 2008. We monitor for some contaminants less than once per year, because the concentrations for those contaminants are not expected to vary significantly from year to year. As a result, some of our data though representative is more than a year old. For those contaminants, the date of the last sample is shown in the table.

8) MCL (Maximum Contaminant Level)

The table(s) must contain the MCL for detected contaminants expressed as a number equal to or greater than 1.

For any contaminant detected in violation of an MCL, a TT, or exceeding an action level, the table(s) must contain a clear indication of the violation or exceedence.

Contaminant	MCL	MCLG	Level Found	Range of Detections	Violation	Date of Sample	Typical Source of Contaminant
Barium (ppb)	1	2	1	0.03-1			Discharge from drilling wastes and metal refineries

A system may also wish to highlight the case where there is no federal standard and the state has developed its own standard, using similar techniques.

9) NPDWR Violations

The CCR must include a clear and readily understandable explanation of any National Primary Drinking Water Regulations (NPDWR) violation during the reporting period, as well as any potential adverse health effects and the steps the system has taken to correct the violation.

Potential Health Effects Language

Of the seven NPDWR violations identified in the rule, EPA is prescribing mandatory health effects language for only three violations:

A) Filtration and disinfection

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.

B) Lead and copper control requirements.

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 disabilities. Adults who drink this water over many years could develop kidney problems or high blood pressure.

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.

C) Treatment techniques for acrylamide and epichlorohydrin.

Acrylamide: Some people who drink water containing high levels of acrylamide over a long period of time could have problems with their nervous system or blood, and may have an increased risk of getting cancer.

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.

For the remaining violations, a system may use language from Attachment C or design language that is tailored to that specific violation.

10). Monitoring and Reporting (M&R) Violations

Some contaminants are monitored for daily, others need to be checked far less frequently (every nine years is the longest monitoring cycle). For instance, at a minimum, drinking water systems will monitor continuously for turbidity, monthly for bacteria, and once every four years for radionuclides. An M&R violation means that the system did not perform the required testing, take adequate samples, or report a violation as required. Most of the violations experienced by PWSs are for failure to monitor the drinking water and report the results.

As shown in the CCR example, a column for violations can be placed in the detected contaminants table and further explanation of the violation presented outside of the table. In that explanation the system can indicate that while monitoring and reporting violations do not necessarily indicate a health risk. But, if a system fails to monitor it may not be aware of the potential health risk posed by a contaminant which may be present, but undetected.

If a system has multiple monitoring violations, it may be simpler and shorter to list them in a table followed by a short explanation. The table could include columns for monitoring periods, number of samples required during the period, number of samples actually taken and whether samples were taken during the following monitoring period. However, all monitoring violations are not the same and in some instances, the PWS may believe it is more appropriate to describe each violation in a short paragraph. For example, a coliform violation in which one of 100 samples was missed is less serious than missing one of two required samples.

Multiple monitoring violations listed in a table:

> *"We failed to complete required sampling in a timely manner. Because we did not take the required number of samples, we did not know whether the contaminants were present in your drinking water, and we are unable to tell you whether you health was at risk during that time. The contaminants for which monitoring was not done are listed in the table below, with the period during which samples should have been taken, the number of samples each contaminant required, the number taken, and when required sampling will resume."*

Contaminant	Monitoring Period	Number of Samples Required	Number of Samples Taken	Date Sampling Will Resume
VOCs[1]	1/2005-12/2007	1	0	2/2008
Total Coliform Bacteria	10/1/2006-10/31/2006	100	93	11/2007

[1] VOCs also known as organic compounds, are tested by collecting one sample and testing that sample for all VOCs. VOCs include benzene, carbon tetrachloride, chlorobenzene, 1,2-dichlorobenzene, 1,4-dichlorobenzene, 1,2-dichloroethane, cis-dichloroethylene, trans-dichloroethylene, dichloromethane, 1,2-dichloropropane, ethylbenzene, styrene, tetrachloroethylene, 1,1,1-trichloroethane, trichloroethylene, toluene, 1,2,4-trichlorobenzene, 1,1-dichloroethylene, 1,1,2-trichloroethane, vinyl chloride, and xylene.

Although monitoring may be done by group as opposed to each contaminant, each contaminant should be listed for not monitoring because each is a violation. For the example above, a footnote was added to list all of the VOCs.

Regardless of whether the violation information is presented in tabular or paragraph form or a combination thereof, an explanation of the potential health effects and steps to correct the violation must also be included. If a system failed to take the sample on time, the report should say "health effects unknown." If the system took the samples accurately and on-time, but mailed the results late, the system does not need to discuss health effect.

Att. F - Treatment Techniques Language

Packed Column Aeration (VOC removal)

It is possible to remove many volatile organic compounds from water by aerating it and turning the contaminants into vapor. The [*PWS name*] pumps its water to the top of a large tower, which is filled with specially designed packing material. As the water trickles down the tower, air is pumped in from the bottom. This process breaks the water up into tiny particles and allows the air to strip away the volatile contaminants.

Conventional Filtration (coagulation, flocculation, sedimentation)

Small particles and organisms such as sediment, algae and bacteria can cause water to take on unpleasant odors or tastes, and sometimes make it unhealthy to drink. To remove this material, it is necessary to chemically treat the water and then pass it through a filter.

The process begins with [chemical name(s)] being added to the water at an established rate. This prompts the small particles to coagulate, or stick together and form particles of increasing size. Heavier particles to sink to bottom of large settling basins while the cleaner water flows onto a filter bed. Filters are comprised of several layers of coarse and fine sand and gravel, which trap the small particles that did not settle out previously. Over time, filters start to clog and need to be cleaned using a high-flow backwash process.

All chemicals used for coagulation are approved for water treatment by one of the following organizations: National Sanitation Foundation (Now known as NSF International), or UL, both accredited by the American National Standards Institute (ANSI). Chemicals also have to meet performance standards established by the American Water Works Association.

Conventional Filtration (with coagulation, flocculation & tube settling)

Small particles and organisms such as sediment, algae and bacteria can cause water to take on unpleasant odors or tastes, and sometimes make it unhealthy to drink. To remove this material, it is necessary to chemically treat the water and then pass it through a filter.

The process begins with [chemical name(s)] being added to the water. This prompts the small particles to coagulate, or stick together and form particles of increasing size. After these particles form, the water enters a large chamber containing a series of tube settlers. These tubes are about 2 inches across, from two to three feet long and are placed at a 60degree angle. Tube settlers provide a small, still environment where heavier particles can settle. The cleaner water then flows onto a filter bed. Filters are comprised of several layers of coarse and fine sand and gravel, which trap the small particles that did not settle out previously. Over time, filters start to clog and need to be cleaned using a high-flow backwash process.

All chemicals used for coagulation are approved for water treatment by one of the following organizations: National Sanitation Foundation (Now known as NSF International), or UL, both

accredited by the American National Standards Institute (ANSI). Chemicals also have to meet performance standards established by the American Water Works Association

Direct Filtration (without flocculation/sedimentation)

Small particles and organisms such as sediment, algae and bacteria can cause water to take on unpleasant odors or tastes, and sometimes make it unhealthy to drink. To remove this material, it is necessary to chemically treat the water and then pass it through a filter.

The process begins with [chemical name(s)] being added to the water at a calculated rate. This prompts the small particles to coagulate, or stick together, and form particles of increasing size. The chemically treated water then flows onto a filter bed. Filters are comprised of several layers of coarse and fine sand and gravel, which trap the small particles that did not settle out previously. Over time, filters start to clog and need to be cleaned using a high-flow backwash process.

All chemicals used for coagulation are approved for water treatment by one of the following organizations: National Sanitation Foundation (Now known as NSF International), or UL, both accredited by the American National Standards Institute (ANSI). Chemicals also have to meet performance standards established by the American Water Works Association

Adsorption Clarification (package plant)

Small particles and organisms such as sediment, algae and bacteria can cause water to take on unpleasant odors or tastes, and sometimes make it unhealthy to drink. To remove this material, it is necessary to chemically treat the water and then pass it through two types of filtering units – an adsorption clarifier and a mixed media filter bed.

The process begins with [chemical name(s)] being added to the water at an established rate. This prompts the small particles to coagulate, or stick together and form particles of increasing size. The chemically treated water then flows into the adsorption clarifier, which is a chamber filled with buoyant adsorption media. As the turbulent water passes through this unit, the large particles adhere to the beads. This effectively removes up to 95 percent of all impurities. The cleaner water then flows onto a filter bed. Filters are comprised of several layers of coarse and fine sand and gravel, which trap the remaining particles. Over time, filters start to clog and need to be cleaned using a high-flow backwash process.

All chemicals used for coagulation are approved for water treatment by one of the following organizations: National Sanitation Foundation (Now known as NSF International), or UL, both accredited by the American National Standards Institute (ANSI). Chemicals also have to meet performance standards established by the American Water Works Association.

Slow Sand Filtration

Small particles and organisms such as sediment, algae and bacteria can cause water to take on unpleasant odors or tastes, and sometimes make it unhealthy to drink. To remove this material, it is necessary to pass it through a sand filter bed that has three to four feet of sand over one foot of graded gravel.

Water is poured onto the top of the filter and passes slowly through the sand. This traps most of the particles. By the time the water reaches the bottom of the filter, better than 90 percent of all impurities have been removed. Over time, the sand filter starts to clog. When this happens, it is necessary to remove the top portion of the filter and replace it with clean sand.

Iron & Manganese Removal (oxidation and filtration)

Iron and manganese are often present in groundwater at levels that can discolor the water, or cause it to take on unpleasant odors or tastes. Even though the water may still be safe to drink, it is preferable that the iron and manganese be removed.

Removal generally requires a two-step process of oxidation and filtration. Oxidation is accomplished by adding [*chlorine, potassium permanganate*] to the water. This causes the iron and manganese to form tiny particles. Once this happens, the water passes through special filters consisting of material that is specifically designed to capture iron and manganese particles. Over time, filters start to clog and need to be cleaned using a high-flow backwash process.

Sequestration (for iron & manganese)

Iron and manganese are often present in groundwater at levels that can discolor the water, or cause it to take on unpleasant odors or tastes. Even though the water may still be safe to drink, treatment is often desirable.

Treatment consists of adding [*polyphosphates, tripolyphosphate, metaphosphate, or silicate*] to water. This results in a chemical reaction, known as sequestration, which prevents the iron and manganese from forming nuisance particles.

All chemicals used for sequestration are approved for water treatment by one of the following organizations: National Sanitation Foundation (Now known as NSF International or UL, both accredited by the American National Standards Institute (ANSI). Chemicals must also meet standards established by the American Water Works Association.

Primary Disinfection with Ozone (with filtration)

All reservoirs and some groundwater sources contain numerous microorganisms, some of which can cause people to become sick. To eliminate disease-carrying organisms, it is necessary to disinfect the water.

Disinfection does not sterilize the water; it removes harmful organisms. Sterilization is too costly and kills all microorganisms, even though most are not harmful. The [*PWS Name*] uses ozone, a

unique form of oxygen that kills harmful organisms, as its primary disinfectant. The ozone generating equipment at the water treatment plant allows reactive gas to be bubbled into water in large contact basins. When combined with proper filtration, disinfection with ozone has been proven effective at ensuring that water is free of harmful organisms and safe to drink.

Primary Disinfection with Chlorine (with filtration)

All reservoirs and some ground water sources contain numerous microorganisms, some of which can cause people to become sick. To eliminate disease-carrying organisms, it is necessary to disinfect the water.

Disinfection does not sterilize the water; it removes harmful organisms. Sterilization is too costly and kills all microorganisms, even though most are not harmful. The [*PWS Name*] uses [*chlorine gas or sodium hypochlorite*] as its primary disinfectant. Chlorine destroys organisms by penetrating cell walls and reacting with enzymes. When combined with proper filtration, disinfection with chlorine has been proven effective at ensuring that water is free of harmful organisms and safe to drink.

Primary Disinfection with Chlorine (without filtration)

All reservoirs and some ground water sources contain numerous microorganisms some of which can cause people to be sick. To eliminate disease carrying organisms it is necessary to disinfect the water.

Disinfection does not sterilize the water, but it does destroy harmful organisms. Sterilization kills all microorganisms, even though most are not harmful, and is too costly to use on a routine basis. The [*PWS Name*] uses [*chlorine gas or sodium hypochlorite*] as its primary disinfectant. Chlorine destroys organisms by penetrating cell walls and reacting with enzymes. Disinfection with chlorine has been proven effective at ensuring that water is free of harmful organisms and safe to drink.

Chloramination

Once water has been filtered or disinfected, steps must be taken to guard against harmful organisms that may be present in the pipes that distribute water to local homes and businesses. For this reason, ammonia is added to the water as it enters the distribution system.

Ammonia reacts with previously added chlorine to create a long-lasting disinfectant known as chloramine. This prevents bacterial growth in distribution pipes. It also minimizes the formation of trihalomethanes, which have been found to cause cancer in laboratory animals and are formed when chlorine reacts with organics that occur naturally in water.

The [*PWS name*] adds ammonia to its water. This, in conjunction with chlorine, has been effective at preventing bacterial regrowth throughout the entire distribution system.

Corrosion Control through pH Adjustment

Many drinking water sources in New England are naturally corrosive (i.e. they have a pH of less than 7.0). So, the water they supply has a tendency to corrode and dissolve the metal piping it flows through. This not only damages pipes but can also add harmful metals, such as lead and copper, to the water. For this reason it is beneficial to add chemicals that make the water neutral or slightly alkaline.

This is done by adding any one, or a combination of several, approved chemicals. The [*PWS Name*] adds [*chemical name(s)*] to its water. This adjusts the water to a non-corrosive pH. Testing throughout the water system has shown that this treatment has been effective at reducing lead and copper concentrations.

All chemicals used for coagulation are approved for water treatment by one or of the following organizations: National Sanitation Foundation (Now known as NSF International), or UL, both accredited by the American National Standards Institute (ANSI). Chemicals also have to meet performance standards established by the American Water Works Association.

Corrosion Control through Inhibitor Addition

Many drinking water sources in New England are naturally corrosive (i.e. they have a pH of less than 7.0). So, the water they supply has a tendency to corrode and dissolve the metal piping it flows through. This not only damages pipes but can also add harmful metals, such as lead and copper, to the water. For this reason it is sometimes beneficial to add chemicals that can form a protective coating on the inside of pipes.

These chemicals are often referred to as corrosion inhibitors and normally contain small concentrations of either phosphates or silicates. The [*PWS Name*] adds [*chemical name*] to its water. Testing throughout the water system has shown that this treatment has been effective at reducing lead and copper concentrations.

All chemicals used for coagulation are approved for water treatment by one of the following organizations: National Sanitation Foundation (Now known as NSF International), or UL, both accredited by the American National Standards Institute (ANSI). Chemicals also have to meet performance standards established by the American Water Works Association.

Corrosion Control through pH Adjustment and Inhibitor Addition

Many drinking water sources in New England are naturally corrosive (i.e. they have a pH of less than 7.0). So, the water they supply has a tendency to corrode and dissolve the metal piping it flows through. This not only damages pipes but can also add harmful metals, such as lead and copper, to the water. For this reason it is beneficial to add chemicals that provide a protective pipe coating and make the water neutral or slightly alkaline.

This is done by adding combinations of water treatment chemicals. The [*PWS Name*] adds [*chemical name(s)*] to its water. [C*hemical name*] is often referred to as an inhibitor and is what

coats the inside of the pipe. It contains a small concentration of [*silicate or phosphate*]. [C*hemical name*] raises the water's pH to a non-corrosive level]. Testing throughout the water system has shown that this treatment has been effective at reducing lead and copper concentrations.

All chemicals used for coagulation are approved for water treatment by one of the following organizations: National Sanitation Foundation (Now known as NSF International), or UL, both accredited by the American National Standards Institute (ANSI). Chemicals also have to meet performance standards established by the American Water Works Association.

Att. G - Sample SWAP Language

A community public water system's CCR must include:

- Where to obtain a copy of the SWAP Report

- Brief summary of your system's susceptibility from the report

MassDEP recommends that public water suppliers provide additional information to alleviate consumer concerns. The following sample language is provided to help you summarize the Source Water Assessment Program (SWAP) Report for your system in your Consumer Confidence Report (CCR). Replace the items in brackets below with your system-specific information, or you may choose your own format for the summary.

Required

- What Is My System's Ranking?
  A susceptibility ranking of [high, moderate or low] was assigned to this system using the information collected during the assessment by MassDEP.

- Where Can I See The SWAP Report?
  The complete SWAP report is available [at the water department, Board of Health, or other location] and online at http://www.mass.gov/dep/water/drinking/swapreps.htm. For more information, call [water system contact and phone number].

Optional

- What Is SWAP?
  The Source Water Assessment and Protection (SWAP) program assesses the susceptibility of public water supplies.

- What Are The Key Issues For Our Water Supply?
  The SWAP Report notes the key issues of [key issues from the Discussion section of the SWAP Report] in the water supply protection area for source(s) [names]. The report commends the water system on [existing source protection measures].

- What Can Be Done To Improve Protection?
  The SWAP report recommends:
  - [key recommendations]
  - [key recommendations].

- [The PWS] plans to address the protection recommendations by:
  - [PWS plans]
  - [PWS plans].

- Residents can help protect sources by:
  - [examples: practicing good septic system maintenance,
  - supporting water supply protection initiatives at the next town meeting
  - taking hazardous household chemicals to hazardous materials collection days,
  - contacting the water department or Board of Health to volunteer for monitoring or education outreach to schools,
  - limiting pesticide and fertilizer use, etc.]

Att. H - Sample Cross Connection Language

Community public water systems should include cross connection information in their CCRs. This is a sample of what you could include.

What is a Cross Connection and What Can I do About it?

A cross connection is a connection between a drinking water pipe and a polluted source. The pollution can come from your own home. For instance, you're going to spray fertilizer on your lawn. You hook up your hose to the sprayer that contains the fertilizer. If the water pressure drops (say because of fire hydrant use in the town) when the hose is connected to the fertilizer, the fertilizer may be sucked back into the drinking water pipes through the hose. Using an attachment on your hose called a backflow-prevention device can prevent this problem.

The _____ Water Department recommends the installation of backflow prevention devices, such as a low cost hose bib vacuum breaker, for all inside and outside hose connections. You can purchase this at a hardware store or plumbing supply store. This is a great way for you to help protect the water in your home as well as the drinking water system in your town. For additional information on cross connections and on the status of your water system's cross connection program, please contact _____.

Att. I - Using Environmentally Friendly Materials

As this CCR is an environmental report developed to inform the public, you may want to consider the use of environmentally preferable materials in printing up the report. This is a statement to the public that you, and they, can take actions to help protect drinking water. You may want to add a statement to the bottom of the report that highlights whichever environmental features you choose. This is just one way to show your community the numerous efforts you undertake to provide them with the highest quality water and to emphasize that personal action can make a difference. We recommend that you consider the following ways to make your report environmentally preferable:

Paper

Paper with a high percentage of recycled fibers is the first and easiest place to start. The most important thing to look for is the level of post-consumer content. In general, at virtually any print shop, you should be able to use 30 percent post-consumer paper for only a small fraction more than regular paper and this is the minimum standard used by the federal government and several states, including Massachusetts. One hundred percent post-consumer recycled paper is also readily available; however, this will cost more. Since paper is usually only about 20% of the total cost of a print job, we recommend you use paper with the highest post-consumer recycled content your budget allows.

As the bleach used to make paper white can cause water pollution, and are known to be some of the more toxic drinking water contaminants, we recommend the use of paper which is “process-chlorine free,” or PCF, which is available at many print shops for a small charge. You may also want to consider using “tree-free” paper, such as paper from kenaf, since this material needs significantly fewer chemicals to process and is a much more sustainable natural resource than the cutting down of trees.

Ink

Using soy based inks are preferable to petroleum based inks, and are generally available in the basic colors at similar prices. Ask your printer for soy ink availability and cost.

Education

Letting the public know that you are using environmentally preferable products is important. Make sure your printer places a recycled logo and the words “printed on recycled paper” if you use recycled content paper. In addition, if you are using PCF paper or soy inks, you can put that on your document as well. There is also no harm in identifying the actual recycled content (e.g. 30% post-consumer content) if you so desire.

Mailing

If possible, consolidate your report into a billing or a newsletter mailing. Not only will this save paper and energy, but also it will be less costly.

Att. J - Language Translation Requirements per City/Town

City	Languages for complete CCR translation						
Chelsea	Spanish						
Fall River	Portuguese						
Holyoke	Spanish						
Lawrence	Spanish						
New Bedford	Portuguese						
City	**Languages for info statement on importance of CCR**						
Acushnet	Portuguese						
Amherst	Spanish	Chinese					
Arlington	Greek	Italian					
Attleboro	Portuguese						
Blackstone	French						
Boston	German	Greek	Indic	Italian	French	Portuguese	Spanish
	Russian	Arabic	Chinese	Japanese	Mon-Khmer	Vietnamese	Polish
Brockton	French	Portuguese	Spanish				
Brookline	Spanish	Russian	Chinese				
Cambridge	Italian	French	Portuguese	Spanish	Chinese	Korean	
Chicopee	French	Spanish	Polish				
Dartmouth	Portuguese						
Dracut	French						
Everett	Italian						
Fairhaven	Portuguese						
Fall River	French						
Fitchburg	French	Spanish					
Framingham	Portuguese	Spanish					
Gardner	French						
Gloucester	Italian						
Haverhill	Greek	Spanish					
Holyoke	French						
Hudson	Portuguese						
Lawrence	Italian	French					
Leominster	French	Spanish					
Lowell	Greek	French	Portuguese	Spanish	Mon-Khmer		
Ludlow	Portuguese						
Lynn	Greek	French	Spanish	Mon-Khmer			
Malden	Italian	Spanish	Chinese				
Medford	Italian						
Methuen	Italian	French	Spanish				
Milford	Portuguese						
New Bedford	French	Spanish					
Newton	Italian	Spanish	Chinese				
Peabody	Greek	Portuguese	Spanish				
Quincy	Italian	Spanish	Chinese				
Randolph	Chinese						

Revere	Italian	Spanish					
Salem	French	Spanish					
Somerset	Portuguese						
Somerville	Italian	French	Portuguese	Spanish			
Southbridge	French	Spanish					
Springfield	Italian	French	Portuguese	Spanish	Polish		
Stoneham	Italian						
Stoughton	Portuguese						
Swansea	Portuguese						
Taunton	Portuguese	Spanish					
Waltham	Italian	French	Spanish				
Watertown	Italian						
Westfield	Spanish						
Westport	Portuguese						
Worcester	Greek	Italian	French	Spanish	Polish	Vietnamese	

Att. K - Sample CCR

2008 Water Quality Report
Smithville Water District
Swift Falls, Massachusetts
PWS ID#5420000

This brochure is a snapshot of the quality of the water that we provided last year. Included are details about where your water comes from, what it contains, and how it compares to Environmental Protection Agency (EPA) and state standards. We are committed to providing you with information because informed customers are our best allies. For more information about your water, call Joe Sampson, Water Superintendent, at 617-867-5309.

Last year, we conducted more than 500 tests for over 80 drinking water contaminants. We only detected 7 contaminants, and found only atrazine at a level higher than the state allows. As we told you in a letter at the time, our water was temporarily unsafe. For more information, see the paragraph on the last page of this report marked "**Violation"**.

Your water comes from three municipal wells sunk about 500 feet into an underground source of water called the Low Plain Aquifer. These wells are located west of town on Main Street, behind the municipal garage. The town owns the land around these wells and restricts **any** activity that could contaminate them.

After the water comes out of the wells, we treat it to remove several contaminants and we also add disinfectant to protect you against microbial contaminants.

Our Water Board meets on the first Tuesday of each month at 7:30 pm in the Town Hall. Please feel free to participate in these meetings.

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).

In order to ensure that tap water is safe to drink, the Massachusetts Department of Environmental Protection (MassDEP) and EPA prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. The US Food and Drug Administration and the MA Department of Public Health regulations establish limits for contaminants in bottled water that must provide the same protection for public health.

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 EPA's Safe Drinking Water Hotline
(800-426-4791)

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.

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.

Contaminants that may be present in source water before we treat it include:

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

Inorganic contaminants, such as salts and metals, which can be naturally occurring or result from urban storm water runoff.

Pesticides and herbicides, which may come from a variety of sources such as agriculture, and residential uses.

Radioactive contaminants, are naturally occurring.

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 storm water runoff, and septic systems.

WATER QUALITY DATA

The following table lists all the drinking water contaminants that we detected during the 2000 calendar year or during the most recent sampling period within the past five years. These were the only contaminants detected in all the monitoring required by the state. The presence of these contaminants in the water does not necessarily indicate that the water poses a health risk. Unless otherwise noted, the data presented in this table is from testing done January 1-December 31, 2000. The state requires us to monitor for certain contaminants less than once per year because the concentrations of these contaminants are not expected to vary significantly from year to year. Some of the data, though representative of the water quality, is more than one year old.

Our system has had our monitoring requirements for synthetic organic compounds (SOCs) reduced by MassDEP to less than once per year because the source is not at risk of contamination. The last SOC sample was collected on 3/16/99 and was found to be free of this contaminant.

Terms & abbreviations used in the table:

• **Maximum Contaminant Level Goal** (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.

• **Maximum Contaminant Level** (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.

• **Action Level** (AL): the concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

• **n/a**: not applicable • **nd**: not detectable at testing limit • **ppb**: parts per billion or micrograms per liter

• **ppm**: parts per million or milligrams per liter • **pCi/l**: picocuries per liter (a measure of radiation)

Inorganic Contaminants	MCL	MCLG	Smithville water	Range of detections	Sample Date	Violation	Typical Source of Contaminant
Fluoride (ppm) -	2 [1]	4	0.98		2/10/08		water additive which promotes strong teeth
Nitrate as nitrogen (ppm)	10	10	6	nd-9	7/19/08		runoff from fertilizer use
Organic Chemical Contaminants							
Atrazine (ppb)	3	3	3.275	.1-10	See below	**YES**	runoff from herbicide used on row crops
Total Trihalomethanes (TTHMs) (ppb)	100	n/a	73	40-135	2/15/08, 5/09/08, 7/19/08, 11/12/08		by-product of drinking water chlorination
Radionuclides							
Beta/photon emitters (pCi/L)	50 [2]	0	10		5/7/05 [3]		erosion of natural deposits

Lead	AL	MCLG	Smithville water 90th percentile level [4]	# of sites found above the AL	Typical Source of Contaminant
Lead (ppb)	15	0	2	1 site above AL out of 20 sites	sampled corrosion of household plumbing systems

Unregulated Contaminants			
Chloromethane (ppb)	not regulated	0.07	May 1995 EPA regulations require us to monitor this contaminant while EPA considers setting a limit on it**.**

[1] EPA's MCL for fluoride is 4 ppm. However, our state has set a lower MCL to better protect human health.
[2] The MCL for beta particles is 4 mrem/year. EPA considers 50 pCi/l to be the level of concern for beta particles.
[3] MassDEP only requires our system to sample for radionuclides every 3 years.
[4] EPA requires that at least 90% of the sampled homes have lead levels under 15 ppb (the action level). The 90th percentile value represents the highest concentration found in 90% of the homes sampled.

About nitrate: 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 for advice from your health care provider.

Is our water system meeting other rules that govern our operations? The state and EPA require us to test our water on a regular basis to ensure its safety. In February and May of this year, we received monitoring violations for nitrite and volatile organic compounds (VOCs). We took the samples at the required time but failed to submit the results of this monitoring to the state in a timely manner. At no time was a health threat present in the water. We are reviewing our procedures to ensure that this paperwork will be submitted in a timely manner in the future.

Violation: About our atrazine violation: During March, April and May, a big surge in the use of atrazine-based herbicides by area farmers caused our water to exceed the MCL for atrazine. We sent a notice warning you of this problem when it occurred. We are working with the state and local farmers to ensure that this never happens again, and we are monitoring atrazine levels monthly. We regret exposing you to any potential risk. You should know that 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. If you want more information about atrazine or the violation, please call us (617-867-5309), Smithville County's health department (617-423-4444), or the state drinking water office (853-323-3333).

Information on Protecting Your Water:

(See Attachment G for sample source protection language on Source Water Assessment Reports)