



Complying With the Revised Drinking Water Standard for Arsenic: Small Entity Compliance Guide

One of the Simple Tools for Effective Performance (STEP) Guide Series



Office of Ground Water and Drinking Water

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NOTICE: This guide was prepared pursuant to section 212 of the Small Business Regulatory Enforcement Fairness Act of 1996 (SBREFA), Pub. L. 104-121. It is intended to aid you in complying with the Arsenic and Clarifications to Compliance and New Source Contaminants Monitoring Rule (“Arsenic Rule”) issued on January 22, 2001, under the Safe Drinking Water Act (SDWA). The SDWA provisions, the Arsenic Rule, and other EPA regulations described in this guide contain legally binding requirements. This document does not substitute for those provisions or regulations, nor is it a regulation itself. It does not impose legally-binding requirements on EPA, States, or the regulated community, and may not apply to a particular situation based on the circumstances. EPA and State decision-makers retain the discretion to adopt approaches on a case-by-case basis that differ from this guidance where appropriate. Any decisions regarding a particular community water system or non-transient non-community water system will be made based on the applicable statutes and regulations. Therefore, interested parties are free to raise questions and objections about the appropriateness of the application of this guide to a particular situation, and EPA will consider whether or not the recommendations or interpretations in this guide are appropriate in that situation based on the law and regulations. EPA may change this guidance in the future. To determine whether EPA has revised this guide and/or to obtain copies, contact the Safe Drinking Water Hotline at 1-800-426-4791.

Please note that the term “State” is used in this guide to refer to your Primacy Agency. The Primacy Agency for most systems is your State Drinking Water Agency. However, as of August 2002, the Primacy Agency for systems located in the Navajo Nation is your tribal office, and the Primacy Agency for systems located on other Tribal lands, in Wyoming, or in the District of Columbia is your EPA Regional Office.

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Additional copies of this guide and extra worksheets are available from the Safe Drinking Water Hotline at 1-800-426-4791. Please reference document number EPA 816-R-02-008B for extra worksheets. You can also download the guide from EPA's Safe Drinking Water Web site at www.epa.gov/safewater/smallsys/ssinfo.htm.

Acronyms

AA	Activated Alumina	POTW	Publicly Owned Treatment Works
ASTM	American Society for Testing and Materials	POE	Point of Entry
BAT	Best Available Technology	POU	Point of Use
CFR	Code of Federal Regulations	ppb	Parts per billion
CCR	Consumer Confidence Report	PWS	Public Water System
CDBG	Community Development Block Grant	RCAC	Rural Community Assistance Corporation
CWA	Clean Water Act	RCRA	Resource Conservation and Recovery Act
CWS	Community Water System	RUS	Rural Utilities Service
DWSRF	Drinking Water State Revolving Fund	SBREFA	Small Business Regulatory Enforcement Fairness Act of 1996
EPA	United States Environmental Protection Agency	SDWA	Safe Drinking Water Act
EPTDS	Entry Point to the Distribution System	SM	Standard Methods for the Examination of Water and Wastewater
GWUDI	Ground Water Under the Direct Influence of Surface Water	SSCT	Small System Compliance Technology
MCL	Maximum Contaminant Level	STEP	Simple Tools for Effective Performance
M&R	Monitoring and Reporting	TC	Toxicity Characteristic
mg/L	Milligrams per liter	TCLP	Toxicity Characteristic Leaching Procedure
µg/L	Micrograms per liter	TDS	Total Dissolved Solids
NPDES	National Pollution Discharge Elimination System	TSS	Total Suspended Solids
NTNCWS	Non-Transient Non-Community Water System		

STEP #1 – Is this Guide for Me?

This guide is designed for owners and operators of community water systems (CWSs) and non-transient non-community water systems (NTNCWSs) serving 10,000 or fewer persons. CWSs include all systems (regardless of ownership) serving at least 25 year-round residents or 15 year-round service connections. NTNCWSs include all systems (regardless of ownership) that are not CWSs and that regularly serve at least 25 of the same people for more than 6 months a year. Systems that will typically find this guide useful include:

- Small towns
- Rural water districts
- Tribal systems
- Mobile home parks
- Home owners associations
- Small private systems
- Factories, religious institutions, and schools that have their own water supplies



STEP #2 – What Will I Learn?



As a drinking water system owner or operator, your most important job is protecting the health of your customers. This guide will help you by providing information about:

- Reducing the risk of cancer and other diseases by limiting the amount of arsenic in your drinking water.
- How the Arsenic Rule affects your system.
- Strategies to reduce arsenic in your drinking water.
- Sources of funding for your arsenic compliance strategy.
- How to prepare for the Arsenic Rule compliance dates.
- Your monitoring and reporting responsibilities under the Arsenic Rule, including worksheets to help you track your progress.
- What to report to your State and customers.
- The Compliance Assurance Process.

Appendix A lists additional information sources that you may find useful. Appendix B provides information about how to contact your State. Appendix C lists contacts for Tribes, and Appendix D identifies other STEP guides that EPA has developed to assist small systems.

Note: Readers should contact their States to determine State-specific requirements, which may be different from, but must be at least as stringent as, federal requirements.

STEP #3 – What Is the Arsenic Rule?

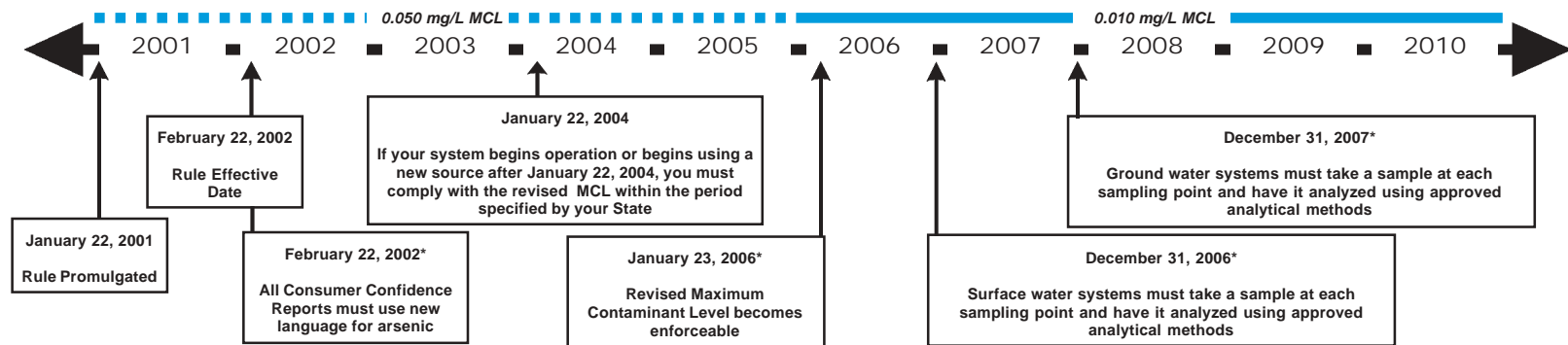
Published on January 22, 2001, the Arsenic Rule (66 Federal Register 6976):

- Makes the arsenic maximum contaminant level (MCL) more stringent by lowering the level from 0.05 mg/L (50 µg/L or 50 ppb) to 0.01 mg/L (10 µg/L or 10 ppb) (40 CFR 141.62(b)(16)).
- Includes a special rule requirement that arsenic sampling be reported to the nearest 0.001 mg/L to demonstrate that EPA clearly intended 0.010 mg/L to be used for determining compliance (40 CFR 141.23(i)(4)).
- Continues to require systems to sample at every entry point to the distribution system (EPTDS, referred hereafter in this guide simply as “sampling point”).

Arsenic occurs naturally in rocks, soil, water, air, plants, and animals. Levels are generally higher in the western States due to geologic conditions. Arsenic can be spread through the environment by natural processes, such as erosion and forest fires, and human activities, such as mining and agriculture.

Because of their contact with naturally occurring underground rock formations, ground waters tend to have higher levels of arsenic than surface waters. Many of these ground waters are sources of drinking water for CWSs and NTNCWSs.

Please see **Appendix A** for a list of references that provide more information about arsenic.



The timeline above shows important dates of the Arsenic Rule. Dates with an asterisk are enforceable compliance endpoints.

Ensuring Safe Drinking Water

All drinking water systems want to provide water that is as safe as possible. One aspect of providing safe drinking water is limiting the amount of arsenic in it. Long-term exposure to arsenic in drinking water has been linked to several forms of cancer, especially bladder and lung cancer, and to other health problems, such as diabetes and heart disease.

Limiting the amount of arsenic in your drinking water system may require you to make some adjustments, such as:

- Changing the source of your water (see page 13 for more information).
- Partnering with other water systems (see page 14 for more information).
- Upgrading or installing a treatment technology (see page 15 for more information).

STEP #4 – Does My System Have an Arsenic Problem?

Planning

The compliance date for the revised MCL is January 23, 2006 (40 CFR 141.6(j)). However, the first Arsenic Rule deadline is July 1, 2002, when you may have to include a special statement in your Consumer Confidence Report (CCR). See page 12 for CCR information. In addition, you should immediately begin to make sure you can meet the revised MCL by the compliance date. If your system's arsenic level exceeds the revised MCL, you may need several years to develop a new source, form partnerships with other systems, or install treatment.

Testing

To assess whether you have an arsenic problem, ask yourself:

1. What is the arsenic concentration at each sampling point?
 - Look at previous monitoring results.
 - Take additional samples if necessary.
 - Be aware that a single result may not provide you with enough information.
2. What is the risk that the arsenic level could exceed the revised MCL?
 - Arsenic levels can vary from sample to sample, so give yourself a margin of safety by considering low levels such as 0.008 mg/L as a possible indication of an arsenic problem.

New Systems and New Sources!

If your system begins operation or begins using a new source after January 22, 2004, you must comply with the 0.010 mg/L arsenic MCL within a period specified by your State. The compliance deadlines in this guide may not apply to you because you may need to be in compliance before the January 23, 2006 compliance date. Check with your State for more information.

Sampling at Each Entry Point to the Distribution System

EPA requires sampling at each sampling point to ensure that enough samples are drawn to be representative of each source and of the water being served to each customer.

Arsenic Rule Planning Worksheet

The following Arsenic Rule Planning Worksheet will help you organize your existing arsenic monitoring results and record the results of any monitoring done before January 23, 2006. The worksheet will help you plan for the revised arsenic MCL and determine if you have an arsenic problem. Several copies of the worksheet are provided. The first copy is followed by instructions on how to complete it. The second copy is an example. The third is a blank worksheet that you can photocopy and use.

Using the Arsenic Rule Planning Worksheet

This section presents instructions for completing the Arsenic Rule Planning Worksheet. Each step presented here corresponds to a numbered section of the sample worksheet. Note that the Rule does not prevent States from allowing systems to grandfather results that are greater than 0.010 mg/L, but systems that grandfather results that are greater than 0.010 mg/L will be out of compliance with the revised MCL on January 23, 2006. Therefore, it is extremely unlikely that States or systems would want to grandfather these data.

Step #1

Enter dates.

- Record the dates of any arsenic samples taken before January 23, 2006.

Step #2

Enter sampling point(s).

- Enter the location(s) sampled on each date. If more than 3 locations were sampled, use multiple rows for each date.

Step #3

Record arsenic test results.

- Record the result from the lab reports for each sample.

Step #4

Record whether results are less than 0.010 mg/L.

- Next to each arsenic test result, enter “Yes” if the result is ≤ 0.010 mg/L. Enter “No” if the result is > 0.010 mg/L.
- Review the levels of arsenic in your finished water. If the level of arsenic in your water at any sampling point is usually above 0.010 mg/L or just below 0.010 mg/L, you may have a problem meeting the revised MCL. You should consider developing a new source, forming partnerships with other

systems, or installing treatment to lower the amount of arsenic in your water.

Step #5

Record analytical methods.

- Based on the lab reports, record whether the samples were analyzed using an approved analytical method. Enter “Yes” if the result was analyzed using EPA 200.8, EPA 200.9, SM 3113B, SM 3114B, ASTM D-2972-93C, or ASTM D-2972-93B. Enter “No” if the result was analyzed using EPA 200.7 or SM 3120B (See page 24).

Step #6

Record whether all sampling points were sampled.

- Enter “Yes” if samples were taken at all sampling points. Enter “No” if samples were not taken. Even if you are using more than one row for each date because more than 3 locations were sampled, you only need to answer this question once.

Arsenic Rule Planning Worksheet - EXAMPLE

Date Sample Collected	EPTDS/Sampling Point	Result	Was the Result ≤ 0.010 mg/L?	Was an Approved Analytical Method Used? ^a	Was Every EPTDS Sampled? ^b
4/30/1989	Entry Point 1: Pumphouse for Well 1	0.002 mg/L	Yes	Yes	Yes
	Entry Point 2: Sample tap off of Well 2	0.003 mg/L	Yes	Yes	
4/30/1992	Entry Point 1: Pumphouse for Well 1	0.004 mg/L	Yes	No	Yes
	Entry Point 2: Sample tap off of Well 2	0.001 mg/L	Yes	No	
4/30/1995	Entry Point 1: Pumphouse for Well 1	0.002 mg/L	Yes	Yes	No
4/30/1998	Entry Point 1: Pumphouse for Well 1	0.003 mg/L	Yes	Yes	Yes
	Entry Point 2: Sample tap off of Well 2	0.004 mg/L	Yes	Yes	
4/30/2001	Entry Point 1: Pumphouse for Well 1	0.001 mg/L	Yes	Yes	Yes
	Entry Point 2: Sample tap off of Well 2	0.001 mg/L	Yes	Yes	
4/30/2004	Entry Point 1: Pumphouse for Well 1	0.003 mg/L	Yes	Yes	Yes
	Entry Point 2: Sample tap off of Well 2	0.001 mg/L	Yes	Yes	

^aCertain analytical methods are no longer approved. See the laboratory testing section on page 25 for more information.

^bSystems must have results from each entry point to the distribution system (EPTDS) (40 CFR 141.23(a)).

Explanation of Example Arsenic Rule Planning Worksheet

This system is a ground water CWS with two entry points to its distribution system. The system takes routine arsenic samples at each of its sampling points once every 3 years. On the example worksheet, the system has recorded its monitoring data from 1989 through 2004. The system had its samples analyzed at a laboratory using EPA Method 200.8 except for 1992, when it sent them to a different laboratory, which used SM 3120B (see page 24 for approved methods). The system is currently in compliance with the 0.050 mg/L arsenic MCL and, with all results below 0.005 mg/L, it has enough of a safety margin to assume it will meet the revised 0.010 mg/L MCL.

In 1989, 1998, 2001, and 2004, the system has arsenic results ≤ 0.010 mg/L at each sampling point and the results were analyzed using approved analytical methods.

In 1995, the system did not sample at Entry Point 2, so the system does not have arsenic results from each sampling point.

The system plans on taking its next compliance samples on April 30, 2007. If the system takes a sample at each sampling point, the results are consistent with the previous results (i.e., between 0.001 mg/L and 0.004 mg/L), and the lab analyzes the samples using an approved method, the system will be in compliance with the new Rule.

Consumer Confidence Report

CWSs must prepare annual CCRs (40 CFR 141.151). These reports tell your customers where their drinking water comes from, what is in it, and how they can help protect it.

Although the revised arsenic MCL is only enforceable after January 23, 2006, the Arsenic Rule requires you to provide the following information in your current CCRs.

If your arsenic sampling results are greater than 0.010 mg/L (10 µg/L, or 10 ppb)*

You must include the following Health Effects Statement in your CCR: “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.” (40 CFR 141.153(d)(6) and 141.154(f))

If your arsenic sampling results are equal to or less than 0.010 mg/L (10 µg/L, or 10 ppb), but greater than 0.005 mg/L (5 µg/L, or 5 ppb)

You must include an Educational Statement in you CCR, such as: “While your drinking water meets EPA’s standards 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.” (40 CFR 141.154(b))

If your arsenic sampling results are equal to or less than 0.005 mg/L (5 µg/L, or 5 ppb)

No special language is required.

Note: Failure to provide this information is a violation of SDWA requirements.

*EPA invoked its authority under SDWA 1414(c)(4)(B)(vi) to require systems to include this health effects language. You can put this health information into context by explaining to your customers that you are complying with existing standards.

STEP #5 – If a Problem Exists, What Are My Options?

If arsenic levels in your existing water source are too high, you may need to make some adjustments, such as:

- Changing the source of your water.
- Partnering with other water systems.
- Upgrading or installing a new treatment technology.

These are possible options that your system may wish to investigate in further detail. Please contact your State to learn more specific details about options available to you, or how to obtain additional information.

Source Water Changes

If arsenic levels in your existing water source exceed the MCL, you may want to consider blending water from a source with low arsenic levels with your current source. The level of arsenic in the blended water may be low enough to comply with the Arsenic Rule.

An alternative is abandoning your source and developing a new one. Developing a new water source is expensive, but may be the most cost-effective way to lower arsenic levels in the long run. Remember that a new water source may have lower levels of arsenic but higher levels of other contaminants. In addition, switching to a surface water source will make your system subject to regulations that may require additional filtration and disinfection.



NOTE:

Surface water systems include those systems using ground water under the direct influence of surface water (GWUDI).

Partnerships With Other Water Systems

Small water systems face many of the same technical problems larger systems face, but they lack their financial resources. Working with other water systems may allow you to lower costs, simplify management, and provide your customers with safe drinking water. By reducing costs and the administrative burden of compliance, forming partnerships may enable water systems to comply more easily with the revised MCL than if they “go it alone.”

There are several ways to form partnerships, including:

- **Cooperative management.** Small systems isolated from other systems cannot physically interconnect, but they can share management, operators, and technical staff. They may also form bulk-purchasing agreements. Sharing staff may enable systems to use operators and engineers who have the expertise to adjust the treatment trains to ensure compliance. In addition, the money saved by sharing staff and buying supplies in bulk may help systems be able to afford other necessary compliance measures like new treatment technologies.
- **Joining with one or more communities to form a consolidated system.** Two or more systems can physically interconnect to form a larger system.
- **Purchasing water from another established water system.** If your water source or treatment facility is inadequate, you may want to purchase water from a neighboring system that has a history of providing safe water.



Water Treatment

Treating your water to reduce arsenic will be necessary if more cost-effective alternatives are not available. EPA has identified best available technologies (BATs) and small system compliance technologies (SSCTs) for removing arsenic from drinking water (40 CFR 141.62(c)&(d)).

Technologies Likely to Be Used by Small Systems	Other Technologies
<ul style="list-style-type: none">■ Activated alumina (BAT, SSCT)	<ul style="list-style-type: none">■ Anion exchange (BAT, SSCT)
<ul style="list-style-type: none">■ Activated alumina and reverse osmosis point-of-use (POU) devices (SSCT)	<ul style="list-style-type: none">■ Coagulation-assisted microfiltration (SSCT)
<ul style="list-style-type: none">■ Modified lime softening (BAT, SSCT)	<ul style="list-style-type: none">■ Modified coagulation/filtration (BAT, SSCT)
	<ul style="list-style-type: none">■ Oxidation/filtration (including greensand filtration) (BAT, SSCT)
	<ul style="list-style-type: none">■ Reverse osmosis (BAT)

BATs are technologies that have proven effective for large systems, and SSCTs are technologies that are effective and affordable for small systems. Systems are not required to use any specific technology. Systems can use technologies not listed as BATs or SSCTs if they are effective. Installing a BAT makes a system eligible for a general variance if, due to source water conditions, the system cannot achieve compliance. A general variance, if approved by the State, would allow the system to supply water with an arsenic level above the MCL for a certain period of time.

EPA anticipates that most small systems will use activated alumina (or another type of adsorptive media), reverse osmosis POU devices, or modified lime softening. For more information on these technologies, see pages 16 and 17. Most technologies may require pre-treatment (e.g., chlorination) to effectively remove arsenic from drinking water. The need for pre-treatment depends on source water quality.

For more information on the approved technologies, see the Arsenic Rule (www.epa.gov/safewater/ars/arsenic_finalrule.html) and the Implementation Guidance (www.epa.gov/safewater/ars/implement.html) (available September 2002). You may also wish to consider promising technologies such as granular ferric hydroxide and modified activated alumina, which are not yet approved by EPA as BATs or SSCTs. EPA has

developed the *Arsenic Treatment Technology Design Manual for Small Systems* (EPA 816-R-02-011), which examines these new technologies, as well as the BATs and SSCTs. This manual is available from EPA by calling the Safe Drinking Water Hotline at 1-800-426-4791 or by going on line at www.epa.gov/safewater/smallsys/ssinfo.htm.

Activated Alumina

Activated alumina (AA), an adsorptive medium, uses very small grains, which are packed into a large container. Water is then continuously passed through one or more containers. When AA is exhausted it is simply disposed of and replaced with fresh AA. AA can treat water containing up to 0.160 mg/L of arsenic.¹



Activated alumina treatment plant

Reverse Osmosis

Reverse osmosis uses high pressure to force water through a membrane with microscopic holes, that prevents arsenic and other large contaminants from passing through. Some water is also not able to pass through the membrane and is wasted. Reverse osmosis can treat water containing up to 0.160 mg/L of arsenic.¹



Centralized reverse osmosis treatment equipment

Modified Lime Softening

The addition of lime to water causes calcium and magnesium to form solid particles, which can then be removed by clarification and filtration. Arsenic can join these particles and be removed along with them. Lime softening is very expensive and water systems are unlikely to install this technology only for arsenic removal. However, for water systems that use lime softening to reduce hardness, the process can be modified to increase arsenic removal. Modified lime softening can treat water containing up to 0.080 mg/L of arsenic.¹



Lime softening treatment plant

¹The maximum recommended arsenic levels are calculated from removal rates that are typical for large systems and assume a safety factor of 20 percent. Small systems, which have additional constraints, may not be able to remove high concentrations (more than 0.160 mg/L) of arsenic from water with the technology.

Point-of-Use Units

Under the Arsenic Rule, systems have another approach available for achieving compliance. This approach involves system-installed and maintained POU devices on a single tap in each customer's household.



Point-of-use reverse osmosis treatment unit

If you choose this approach, your system will have to arrange for regular inspection and maintenance of the devices. You, not the homeowner, are responsible for maintaining the POU device. Either system staff or service providers under contract with the system must

regularly inspect and service each device. You will need to establish and maintain an especially good working relationship with your customers if you choose POU devices. Your employees or contractors will need to enter customers' homes on a regular basis.

Customers may be willing to accept this inconvenience because POU devices may be much less expensive than central treatment.

Currently, EPA considers only activated alumina and reverse osmosis POU devices to be POU SSCTs for arsenic removal.

EPA is developing guidance on how to implement a POU compliance strategy. You should consult with your State to determine whether a POU compliance strategy can work for you.

Central Treatment and Point-of-Use Units Compared

Central Treatment	Point-of-Use Units
All water treated	Treats water at the individual taps where the unit is installed
Less expensive for large communities	Can be less expensive for small communities
Capital costs very high, but equipment lasts a long time	Capital costs low, but media and membranes may require frequent replacement
Little customer involvement	Much customer involvement and support necessary
Does not require access to individual homes	Requires access to individual homes
Some technologies require a highly trained operator	Does not require a highly trained operator; maintenance can be contracted out
Waste disposal may be expensive	Waste disposal typically not a problem

Arsenic Waste Disposal

What Do I Need to Consider When Deciding on a Waste Disposal Option?

All arsenic treatment technologies, other than zero-treatment options such as alternate source use and blending, produce waste in the form of liquid residuals (e.g., brine, concentrates, filter rinse, and backwash), solid residuals (e.g., spent media, membranes, and dewatered sludge), or both. These residuals contain concentrated arsenic and other contaminants that must be disposed of properly.

Certain raw water characteristics can affect a system’s waste disposal options and should be considered when selecting an arsenic treatment technology. Raw water characteristics that may affect disposal alternatives include:

- Excessively high or low pH.
- High concentrations of competing ions (including fluoride, sodium, sulfate, and chloride).
- High total suspended solids (TSS).
- High total dissolved solids (TDS).
- High concentrations of heavy metals (including arsenic, lead, chromium, and aluminum).
- High concentrations of radionuclides.

The type of waste generated depends on the arsenic treatment technology selected. The following table shows the liquid and solid

waste residuals that will be produced by likely small system treatment technologies.

Treatment	Liquid Residuals	Solid Residuals
Activated alumina without regeneration	Backwash & rinse water*	Spent media
Reverse osmosis	Reject concentrate Backwash water Supernatant*	Spent membranes Sludge*
Modified coagulation/filtration Modified lime softening	Filter backwash Supernatant	Sludge Spent media
*Possible generation of this type of residual.		

You should work with your State to determine the best waste disposal option for your system based on your treatment processes, the type of waste generated, and the contaminant levels in the waste streams.

How Do I Know If My Waste Is Hazardous?

Based on existing data, EPA does not believe that the drinking water treatment technologies used by small systems will generate hazardous wastes. However, any system that generates a waste must determine whether the waste is hazardous. The Final Arsenic Rule did not change this Resource Conservation and Recovery Act (RCRA) requirement.

Systems that produce hazardous waste must comply with the more stringent RCRA disposal regulations. Under RCRA, arsenic is a hazardous waste when:

- A liquid waste stream contains more than 5.0 mg/L of arsenic (the current federal toxicity characteristic [TC] for arsenic).
- A solid waste stream fails the toxicity characteristic leaching procedure (TCLP). The TCLP is a laboratory test used to determine the potential of a solid waste to leach in a landfill setting. If the liquid extraction of the TCLP contains more than 5.0 mg/L of arsenic, the waste is hazardous.

During the development of the Final Arsenic Rule, EPA tested many of the waste streams generated by the BATs and found them to contain arsenic levels between 0.050 mg/L (activated alumina and lime softening) and 1.0 mg/L (iron coagulation plant), thus making them non-hazardous.

Since removal technologies frequently remove other contaminants in addition to arsenic, your waste residual may also have concentrated levels of co-occurring contaminants such as lead, barium, or radionuclides. The removal of co-occurring contaminants may create disposal problems even when the arsenic level in your waste residuals is not high enough to trigger a hazardous waste classification. Again, water systems should thoroughly test their wastes prior to making disposal decisions!

Selecting a Technology to Treat Arsenic

When choosing a technology, remember:

1. It is usually easier and cheaper to modify an existing treatment system than to install new treatment.
2. If you choose carefully, you may be able to install one technology to achieve compliance with the Arsenic Rule and other new rules. For more information on EPA's current and proposed regulations see www.epa.gov/safewater/regs.html or call the Safe Drinking Water Hotline at 1-800-426-4791.
3. You may need additional training to learn how to operate and maintain a new treatment process.
4. Most treatment technologies are more effective when the source water is pre-treated.
5. You should consider all options for waste disposal when you are choosing a treatment technology.
6. You should always pilot test a treatment method before installing it. Technologies are highly dependent on system-specific considerations.
7. Your State may be able to help you choose an appropriate treatment technology.

For more information about treatment technologies and how they might work for you, ask your State or refer to:

- The *Arsenic Treatment Technology Design Manual for Small Systems* (EPA 816-R-02-011), available from EPA by calling the Safe Drinking Water Hotline at 1-800-426-4791.
- www.epa.gov/ogwdw000/ars/treat.html

DEMONSTRATIONS

EPA is conducting a demonstration program on the treatment of arsenic in drinking water. The Agency intends to identify and evaluate commercially available technologies, engineering options, or other approaches that cost-effectively help small systems (10,000 or fewer customers) meet the revised arsenic MCL. For more information on this program, see www.epa.gov/ORD/NRMRL/arsenic/.

STEP #6 – How Will I Implement My Selected Option?

Financial Assistance

Developing a new water source, consolidating with another water system, and installing or modifying a treatment technology can be expensive. System improvements can be funded by raising rates, issuing bonds, or by successfully applying for loans or grants. The tables below provide information on some programs that may provide financial assistance to help you comply with the Arsenic Rule.

Major Providers of Financial Assistance to Drinking Water Systems

Name of Program	Description	Contact Information
Drinking Water State Revolving Fund (DWSRF)	The DWSRF makes low-interest and interest-free loans to water systems to finance infrastructure improvements. States can “set aside” funds from their annual EPA grant to provide technical assistance to small systems and to finance small system improvement projects.	www.epa.gov/safewater/dwsrf/contacts.html Safe Drinking Water Hotline at 1-800-426-4791
Rural Utilities Service (RUS) Water and Waste Disposal Loan and Grant Program	This program offers loans and grants to rural areas to develop water and waste-disposal systems and to reduce the user costs of these systems.	www.usda.gov/rus/water/states/usamap.htm (202) 720-9540
State-specific programs	Your State may offer additional funding programs.	See Appendix B
Tribal-specific programs	EPA makes direct grants (not loans) to Tribes through the DWSRF Tribal Set-Aside Program for improvements to water systems that serve Tribes. States and the Indian Health Service may provide additional financial assistance.	See Appendix C

Other Potential Sources of Financing or Financial Assistance to Drinking Water Systems

Name of Program	Description	Contact Information
Community Development Block Grants (CDBG)	This program offers grants to disadvantaged cities, urban counties, and States to develop viable urban communities.	www.hud.gov/offices/cpd/communitydevelopment/programs/stateadmin/stateadmincontact.cfm (202) 708-1112
Public Works and Infrastructure Development Grants	These grants help distressed communities overcome barriers that inhibit the growth of their local economies.	www.doc.gov/eda/HTML/1c_regloffices.htm (202) 482-5081
National Bank for Cooperatives Loan Program (CoBank)	CoBank provides loans to larger, creditworthy rural utilities.	www.cobank.com (800) 542-8072
Rural Community Assistance Corporation (RCAC)	RCAC provides loans to rural utilities in 11 western States to help meet the financing needs of rural communities and disadvantaged populations.	www.rcac.org/programs/serv-financial.html (916) 447-2854

Exemptions for Systems That Need More Time to Comply

Systems should start planning now to meet the revised MCL. Some systems having difficulty meeting the revised MCL may need extra time to comply. States may grant exemptions to **eligible** systems of any size that cannot comply with the revised MCL by January 23, 2006. An exemption provides a system with 3 additional years to comply with the revised MCL, while continuing to protect public health. If a system serves fewer than 3,300 people, the initial exemption may be extended. At the end of the exemption period the system must be in compliance with the 0.010 mg/L MCL (SDWA section 1416(b)(2)).

Systems should request an exemption from their State as soon as they determine that compliance by January 23, 2006 is not feasible. If granted an exemption, the State will establish a compliance schedule that allows the system time to secure financing and implement a compliance strategy. A system may be eligible for an exemption if (40 CFR 142.20(b) and SDWA section 1416(a)):

1. It cannot comply with the MCL due to a “compelling factor” (such as serving a disadvantaged community).
2. It was in operation before January 23, 2006.²
3. It cannot develop an alternative source of water.
4. The exemption will not result in an “unreasonable risk to health.” EPA provided guidance on the arsenic concentration levels that will not pose an unreasonable risk to health for exemptions of various durations. States may establish more rigorous criteria or may opt to not issue any exemptions.
5. It cannot reasonably make management or restructuring changes that would result in compliance or improve the quality of drinking water if compliance is not achieved.

In addition, a system still must be taking all practicable steps to meet the revised MCL, and either must: (1) need capital improvements that cannot be completed before January 23, 2006; (2) need financial assistance to complete capital improvements that will not be available by January 23, 2006 but is reasonably likely to be available during the exemption; or (3) have agreed to become part of a regional PWS (40 CFR 142.20(b) and SDWA section 1416(b)(2)(B)). More information about exemptions can be found at www.epa.gov/safewater/standard/ve-fs.html. Check with your State to see if you are eligible.

²If not operating by January 23, 2006, a system may still be eligible if it has no reasonable alternative source of drinking water available to it and it meets all other eligibility criteria.

STEP #7 – How and When Must I Demonstrate Compliance with the Arsenic Rule?

You may continue to follow your current monitoring schedule. To determine compliance with the new arsenic standard, you must collect a compliance sample for arsenic in accordance with the standard monitoring framework (40 CFR 141.23(c)(1)). If you are:

- A ground water system, you must sample before December 31, 2007.
- A surface water or GWUDI system, you must sample before December 31, 2006.

These samples must be collected in accordance with the new monitoring requirements, so unless your State tells you otherwise, these samples need to be taken from each sampling point and analyzed using approved analytical methods (40 CFR 141.23(a)(4)(i)&(k)(1)).

Grandfathering Data

Your State may allow you to “grandfather” previous arsenic results. States can allow only data collected in accordance with the new monitoring requirements to be grandfathered. To be eligible:

- Ground water systems must collect samples between January 1, 2005 and January 23, 2006.
- Surface water and GWUDI systems must collect samples between January 1, 2006 and January 23, 2006.

All samples must be analyzed using approved analytical methods and have arsenic levels below 0.010 mg/L. For example, the system described on the Arsenic Planning Worksheet (see page 9), took samples in 2004 and plans on taking its next compliance samples on April 30, 2007. Because this groundwater system will not have taken a sample for arsenic between January 1, 2005 and January 23, 2006, it will not have data that are eligible for grandfathering.

Compositing samples

Your State may allow you to collect up to five samples and have the lab composite them and analyze them together to reduce costs. However, if more than 0.002 mg/L of arsenic is detected in your composited sample, you will need to take follow-up samples (40 CFR 141.23(a)(4)).

Laboratory Testing

Certain analytical methods previously used by laboratories to measure arsenic concentrations are not sensitive enough to determine if your system is in compliance with the revised arsenic MCL of 0.010 mg/L. The methods that are no longer appropriate for compliance sampling are EPA method 200.7 and SM 3120B. The currently acceptable methods for compliance sampling are:

- EPA 200.8
- EPA 200.9
- SM 3113B
- SM 3114B
- ASTM D-2972-93B
- ASTM D-2972-93C

Contact your State if you are unsure about the method your lab normally uses.



STEP #8 – What Does Compliance Monitoring Involve?

Monitoring Instructions

Routine Monitoring

If your monitoring results are at or below the revised MCL, you still must perform routine monitoring for arsenic at each sampling point (40 CFR 141.23(c)(1)):

- Once every 3 years during each nine year compliance cycle for ground water systems.
- Annually for surface water and GWUDI systems.

Waivers

Your State may issue you a waiver to reduce your monitoring frequency if your system historically has had arsenic levels below the revised MCL. Waivers allow you to take one sample during each 9-year compliance cycle. To be eligible for a waiver, you must have sampling results from three previous compliance periods (see Routine Monitoring, above) that (40 CFR 141.23(c)):

- Were collected at each sampling point.
- All were analyzed using analytical methods approved by the Arsenic Rule.
- All have arsenic levels below 0.010 mg/L.

For example, the system described in the Arsenic Planning Worksheet monitored during the previous three compliance periods (i.e., in 1998, 2001, and 2004). The system also collected samples from each sampling point and analyzed them using approved analytical methods. Since all of the results were below 0.010 mg/L, this system may be eligible for a waiver. Note that, in 1992, the system used analytical method SM 3120B. This method is not approved for compliance with the revised MCL, so the data from 1992 could not be used to satisfy the waiver eligibility requirements. In addition, the system did not sample from each sampling point in 1995. Therefore, these data do not meet the waiver requirements.



Typical inorganic contaminant sampling containers.

Increased Monitoring

Even if you are in compliance with the MCL, your State may require you to monitor more frequently (40 CFR 141.23(g)). Please contact your State for more information.

Compliance Determination

If the arsenic concentration in any of your samples exceeds 0.010 mg/L, your State may direct you to take a confirmation sample within 2 weeks (40 CFR 141.23(f)(1)). If the average of the initial sample and the confirmation sample is over 0.010 mg/L, you must begin quarterly monitoring at that sampling point (40 CFR 141.23(f)(3)&(c)(7)).

Calculate compliance with the MCL based on the running annual average, which is the sum of your results from the previous four quarters divided by the number of samples taken (40 CFR 141.23(i)(2)). You will be in violation when the running annual average exceeds 0.010 mg/L.

- You must divide the sum of the sample results from the previous four quarters by the number of samples taken. For example, if you failed to sample in one quarter, add the results from the other three quarters and divide by 3.
- During your first year of quarterly sampling, you will not yet have four quarters of results. In this case, you can assume the best case scenario when calculating the running annual average. Results for all future quarters (within the first year) can be entered as 0.0 mg/L.

An example illustrating these directions is presented on page 28 of this guide.

Sampling and Reporting Notes

The four quarters are:

- Q1: January - March
- Q2: April - June
- Q3: July - September
- Q4: October - December

When you calculate your running annual average, use 0.0 mg/L for all samples with arsenic levels below what the analytical method can detect.

If your State allows you to take more than the required number of samples, all of your samples will be averaged to determine compliance.

Monitoring and Reporting Violations

You have committed a monitoring and reporting (M&R) violation if:

- You fail to take a sample;
- You do not sample from each sampling point; or,
- You do not report your results to the State on time.

Note: If your lab automatically sends the results to the State, you should check to make sure the lab sent them in on time.

Maximum Contaminant Level Violations

If the running annual average of arsenic at a sampling point is greater than 0.010 mg/L, your system is in violation of the MCL (40 CFR 141.23(i)(1)). If you monitor once a year or less and the result from the initial sample (or the average of the results from the initial and confirmation samples) is greater than 0.010 mg/L but not more than 0.040 mg/L, your system has not yet violated the MCL. Having a result greater than 0.010 mg/L will require you to collect quarterly samples. If your system has an MCL violation, you must continue quarterly sampling until your State determines that your system is reliably and consistently below the MCL.

The example on the next page provides a more detailed explanation of how to calculate compliance. The example is of a small groundwater system that monitors at its one sampling point every 3 years.

Example of Calculating Compliance for a Small Ground Water System

The system takes its routine sample once every 3 years. Because the result is less than 0.010 mg/L and the State does not require a confirmation sample, the system does not need to sample again for 3 years.

The system takes its routine sample. The State requires a confirmation sample because the result is greater than 0.010 mg/L. The State also requires the system to begin quarterly monitoring because the average of the routine and confirmation samples is greater than 0.010 mg/L. **Because the system has less than four quarterly samples, it assumes the best case scenario and uses 0.0 mg/L for all future monitoring results when calculating the running annual average.** At this point, the system is not in violation because the running annual average of the system is less than 0.010 mg/L.

Date	Result	Confirmation Sample*	Average*	Running Annual Average**	Is the System in Violation?
April 2008	0.008 mg/L	N/A	N/A	N/A	NO
April 2011	0.032 mg/L	0.036 mg/L	0.034 mg/L	$\frac{0.034 + 0 + 0 + 0}{4} = 0.009 \text{ mg/L}$	NO
July 2011	0.031 mg/L	0.029 mg/L	0.030 mg/L	$\frac{0.034 + 0.030 + 0 + 0}{4} = 0.016 \text{ mg/L}$	YES
October 2011	0.013 mg/L	0.011 mg/L	0.012 mg/L	$\frac{0.034 + 0.030 + 0.012 + 0}{4} = 0.019 \text{ mg/L}$	YES
January 2012	0.010 mg/L	0.010 mg/L	0.010 mg/L	$\frac{0.034 + 0.030 + 0.012 + 0.010}{4} = 0.022 \text{ mg/L}$	YES
April 2012	FAILED TO SAMPLE	N/A	N/A	$\frac{0.030 + 0.012 + 0.010}{3} = 0.017 \text{ mg/L}$	YES
July 2012	0.008 mg/L	N/A	N/A	$\frac{0.012 + 0.010 + 0.008}{3} = 0.010 \text{ mg/L}$	NO

The running annual average is greater than 0.010 mg/L, so the system is in violation of the MCL.

The system has both an MCL and an M&R violation. Because the system failed to sample, it has committed an M&R violation. The running annual average for this quarter is calculated using only the samples that were taken during the last four quarters. Because only 3 samples were taken, the sum of the three samples is divided by 3. Because the running annual average is greater than 0.010 mg/L, the system is also in violation of the MCL.

This system is no longer in violation of the MCL at this sampling point. The system must continue quarterly monitoring until told otherwise by its State.

*States may require systems to collect confirmation samples. The confirmation samples are averaged with the initial sample when calculating the running annual average.

**Before four quarters have elapsed, the running annual average is calculated assuming the best-case scenario, which is that all future results will be below the detection limit.

Reporting and Notification Requirements

Keeping the State and your customers informed is part of your responsibility as a public water system. The State needs to know if your system poses any health risks so it can help you protect your customers. Informed customers are more likely to understand the need for a new treatment system, infrastructure changes, and rate increases.

If you have an *M&R violation*, you must (40 CFR 141.31(b) & 141.204):

- Report this violation to the State within 48 hours of when the violation occurs.
- Notify your customers within a year. You may be able to incorporate this information into your CCR instead of a separate notification.

If you have an *MCL violation*, you must (40 CFR 141.31(b) & 141.203):

- Report this violation to the State within 48 hours of receiving the lab results.
- Notify your customers within 30 days.

In both cases, you must send a copy of any public notice to the State.

If you are ***in compliance***, you must report your results and running annual average, if any, to the State within 10 days after the end of the month in which the sample was taken, or within 10 days of the end of the sampling period, whichever is shorter (40 CFR 141.31(a)).

In your annual ***Consumer Confidence Report***, you must include a statement about arsenic if monitoring results exceed 0.005 mg/L (40 CFR 141.153(d)(6) and 141.154(b)&(f)). See page 12 of this guide for more information.

REMEMBER!

You must send your State representative copies of all public notifications sent to your customers. The water system must also certify that it has fully complied with the public notification regulations. **This must be done within 10 days of sending out a public notice (40 CFR 141.31(d)).**

The Compliance Assurance Process

Small systems that must comply with new regulations often want to do the right thing, but lack the knowledge, resources, or skills. Compliance assistance information and technical advice is available to help small systems understand and meet their obligations. Compliance assistance centers are available to help you. EPA also offers compliance incentives to encourage systems to voluntarily discover, disclose, and correct violations. Systems using these incentives may receive reduced, and in some cases waived, penalties. Systems that neither comply nor disclose their compliance problems can face administrative or civil enforcement actions that could result in monetary penalties, compliance orders, or court orders. For more information on compliance assistance incentive programs for small systems, you can contact the Safe Drinking Water Hotline at 1-800-426-4791 or www.assistancecenters.net.

Your compliance with the Arsenic Rule is determined through calculations based on the results of your monitoring, as shown on page 26 of this guide. If you discover that you have violated the Arsenic Rule, you must contact your State to discuss the situation. You must provide public notice to your customers (see page 29), and include information in your CCR (see page 12 of this guide). Although you are ultimately responsible for resolving your compliance problems, your State may work with you to determine the best way to correct the violation and create a long-term compliance solution.

Ultimately, the goal of any drinking water regulation is to protect public health. EPA recognizes that the best way to achieve that goal is by encouraging small systems to work with their States to discover, disclose, and correct violations. Drinking water systems that are out of compliance fail to protect public health and may face enforcement actions.

The monitoring worksheets provided in the next few pages will help you keep track of your monitoring results and help you determine compliance.

Monitoring Worksheets

Two monitoring worksheets are provided here. The first is for routine or reduced sampling; the second is for quarterly sampling. You should check with your State so that you know your exact sampling schedule. Depending on your source water and your previous arsenic results, you may be required to take samples quarterly, annually, once every 3 years, or once every 9 years.

These monitoring worksheets will help you:

- Collect the correct number of samples for each sampling period.
- Report monitoring results to your State on time.
- Collect appropriate confirmation samples.
- Know when your system is in violation of the arsenic MCL.
- Report MCL violations to your State and your customers on time.

Several copies of each worksheet are provided. The first copy is followed by instructions on how to complete it. The second copy is an example. The third is a blank worksheet that you can photocopy and use. Please note that your State may have a monitoring form of its own that must be used to submit sample results. If that is the case, the worksheets provided here **do not** replace the State form.

Arsenic Monitoring Worksheet for Routine and Reduced Monitoring^a

EPTDS/Sampling Point ^b 1	Date Sample Collected 2	Arsenic Result ^c (CIRCLE result if >0.010 mg/L) 3	Date Result Reported to State ^d 4	Date Confirmation Sample Collected (if required) ^c 5	Confirmation Sample Result (if required) ^c	Average of Initial and Confirmation Results (if required) ^c (CIRCLE average if >0.010 mg/L)	Date Confirmation Sample Result Reported to State (if required) ^{c,e} 5
1.						_____ =	
2.						_____ =	
3.						_____ =	
4.						_____ =	

^aUnless told otherwise by their State, surface water and GWUDI systems must take annual samples at each sampling point, and ground water systems must take samples once every 3 years at each sampling point (40 CFR 141.23(c)(1)).

^bYou must take one sample at each EPTDS (40 CFR 141.23(a)). If your State has allowed you to composite samples, the samples will be composited in the laboratory.

^cIf the results at all of the sampling points are equal to or less than 0.010 mg/L, continue sampling at each sampling point in accordance with the State-prescribed schedule. If any result is greater than 0.010 mg/L, you must begin quarterly monitoring at that sampling point in the next quarter (40 CFR 141.23(c)(7)). HOWEVER, your State may require confirmation samples at that sampling point. The confirmation samples must be taken within 2 weeks (40 CFR 141.23(f)(1)). The average of the initial and confirmation samples will be used to calculate compliance (40 CFR 141.23(f)). If the average is greater than 0.010 mg/L, you must begin quarterly monitoring at that sampling point in the next quarter unless directed otherwise by your State (40 CFR 141.23(c)(7)).

^dYour State must receive your results within 10 days after the month in which the sample was taken or within 10 days of the end of the sampling period, whichever is shorter (40 CFR 141.31(a)). You do not need to report the result if your laboratory does so automatically, although you should confirm that the State received the results.

^eYour State will determine when your confirmation samples must be reported to your State.

Using the Arsenic Monitoring Worksheet for Routine and Reduced Monitoring

This section presents instructions for completing the Arsenic Monitoring Worksheet for Routine and Reduced Monitoring. Each step presented here corresponds to a numbered section of the sample worksheet on page 32.

Step #1

Enter sampling point(s).

- Enter which entry points to your distribution system you are sampling, and record any additional details about the exact sampling location. If samples will be composited, make sure that you note which locations the lab is compositing.

Step #2

Record date of routine samples.

- Unless told otherwise by your State, you must sample annually if your system uses surface water or GWUDI and once every 3 years if your system uses ground water.
- Next to each sampling location, record the date when routine sampling occurred.

Step #3

Record routine arsenic test result(s).

- Based on the lab report, record the value for each sample and CIRCLE it if it is greater than than 0.010 mg/L.
- Your State may direct you to take confirmation sample(s) or begin quarterly monitoring at any sampling point with results greater than 0.010 mg/L.

Step #4

Notify the State of your result(s).

- Record the date you notified the State of your results. Your State must receive your results within 10 days after the end of the month in which the sample was taken or within 10 days of the end of the sampling period, whichever is shorter. However, you must report MCL violations (i.e., an initial sample greater than four times the revised arsenic MCL [>0.040 mg/L]) to the State within 48 hours.
- **NOTE: If you use a laboratory that sends the results directly to the State, you do not need to report the results to the State, but you need to confirm that the State received them.**

Step #5

Take confirmation sample(s) (if required).

- If your State requires you to take confirmation samples, they must be taken within 14 days of the initial sample. Record the date when you take the confirmation samples.
- For each sampling location at which you must take confirmation samples, record the results of your confirmation samples.
- Average the initial and confirmation samples. CIRCLE the average if it is higher than 0.010 mg/L. You may be required to take additional confirmation sample(s) or begin quarterly monitoring at this sampling location.
- Record the date you notified the State of your confirmation sample results. Your State will determine when you must report the result to your State. However, you must report MCL violations (i.e., an average of initial and confirmation samples that is greater than four times the revised MCL [>0.040 mg/L]) to the State within 48 hours.
- If you use a laboratory that sends the results directly to the State, you do not need to report the results to the State, but you need to confirm that your State received them.
- If any sample (or, if your State required confirmation samples, the average of your initial and confirmation samples) is greater than 0.010 mg/L, your State will require follow-up actions, which may include quarterly monitoring. Use the monitoring worksheet on page 38 to keep track of your quarterly monitoring. Use a different worksheet for each sampling point at which you need to monitor quarterly.

Arsenic Monitoring Worksheet for Routine and Reduced Monitoring^a - EXAMPLE

EPTDS/Sampling Point ^b	Date Sample Collected	Arsenic Result ^c (CIRCLE result if >0.010 mg/L)	Date Result Reported to State ^d	Date Confirmation Sample Collected (if required) ^c	Confirmation Sample Result (if required) ^c	Average of Initial and Confirmation Results (if required) ^c (CIRCLE average if >0.010 mg/L)	Date Confirmation Sample Result Reported to State (if required) ^{c,e}
1. Entry Point 1: Pumphouse for Wellhead 1	7/15/2010	0.004 mg/L	7/31/2010			_____ =	
2. Entry Point 2: Sample tap off of Well 2	7/15/2010	0.002 mg/L	7/31/2010			_____ =	
3. Entry Point 3: Sample tap inside mechanical room	7/15/2010	0.017 mg/L	7/31/2010	8/10/2010	0.015 mg/L	$\frac{0.017+0.015}{2} = 0.016 \text{ mg/L}$	8/25/2010
4.						_____ =	

^aUnless told otherwise by their State, surface water and GWUDI systems must take annual samples at each sampling point, and ground water systems must take samples once every 3 years at each sampling point (40 CFR 141.23(c)(1)).

^bYou must take one sample at each EPTDS (40 CFR 141.23(a)). If your State has allowed you to composite samples, the samples will be composited in the laboratory.

^cIf the results at all of the sampling points are equal to or less than 0.010 mg/L, continue sampling at each sampling point in accordance with the State-prescribed schedule. If any result is greater than 0.010 mg/L, you must begin quarterly monitoring at that sampling point in the next quarter (40 CFR 141.23(c)(7)). HOWEVER, your State may require confirmation samples at that sampling point. The confirmation samples must be taken within 2 weeks (40 CFR 141.23(f)(1)). The average of the initial and confirmation samples will be used to calculate compliance (40 CFR 141.23(f)). If the average is greater than 0.010 mg/L, you must begin quarterly monitoring at that sampling point in the next quarter unless directed otherwise by your State (40 CFR 141.23(c)(7)).

^dYour State must receive your results within 10 days after the month in which the sample was taken or within 10 days of the end of the sampling period, whichever is shorter (40 CFR 141.31(a)). You do not need to report the result if your laboratory does so automatically, although you should confirm that the State received the results.

^eYour State will determine when your confirmation samples must be reported to your State.

Explanation of Example Arsenic Monitoring Worksheet for Routine and Reduced Monitoring

This system is a ground water system with three entry points to its distribution system. The system takes routine arsenic samples at each of its sampling points once every 3 years. The example is for the year 2010.

The laboratory results showed that arsenic was less than 0.010 mg/L at Entry Points 1 and 2. The State did not require confirmation samples for these sampling points, and the system would next monitor at these sampling points by 2013.

The result for Entry Point 3 was greater than 0.010 mg/L. The State required a confirmation sample, which the system took within 14 days. The average of the results of the initial sample and confirmation sample was greater than 0.010 mg/L. However, the running annual average is less than 0.010 mg/L and the system was not in violation of the MCL at this time. (Because only one sample was taken at Entry Point 3 in this year, the running annual average is calculated by assuming the best case scenario, which is that all future results will be below the detection limit. Therefore, the running annual average is equal to 0.016 mg/L divided by 4, or 0.004 mg/L.)

The State did not require additional confirmation samples and directed the system to begin quarterly monitoring at Entry Point 3. The system had to begin taking quarterly samples in the next quarter (October 2010 to December 2010).

The worksheet on page 38 is meant to help you keep track of your quarterly monitoring results. To see how this example system filled out the worksheet for its quarterly monitoring at Entry Point 3, see page 41.

Arsenic Monitoring Worksheet for Routine and Reduced Monitoring^a

EPTDS/Sampling Point ^b	Date Sample Collected	Arsenic Result ^c (CIRCLE result if >0.010 mg/L)	Date Result Reported to State ^d	Date Confirmation Sample Collected (if required) ^c	Confirmation Sample Result (if required) ^c	Average of Initial and Confirmation Results (if required) ^c (CIRCLE average if >0.010 mg/L)	Date Confirmation Sample Result Reported to State (if required) ^{c,e}
1.						_____ =	
2.						_____ =	
3.						_____ =	
4.						_____ =	

^aUnless told otherwise by their State, surface water and GWUDI systems must take annual samples at each sampling point, and ground water systems must take samples once every 3 years at each sampling point (40 CFR 141.23(c)(1)).

^bYou must take one sample at each EPTDS (40 CFR 141.23(a)). If your State has allowed you to composite samples, the samples will be composited in the laboratory.

^cIf the results at all of the sampling points are equal to or less than 0.010 mg/L, continue sampling at each sampling point in accordance with the State-prescribed schedule. If any result is greater than 0.010 mg/L, you must begin quarterly monitoring at that sampling point in the next quarter (40 CFR 141.23(c)(7)). HOWEVER, your State may require confirmation samples at that sampling point. The confirmation samples must be taken within 2 weeks (40 CFR 141.23(f)(1)). The average of the initial and confirmation samples will be used to calculate compliance (40 CFR 141.23(f)). If the average is greater than 0.010 mg/L, you must begin quarterly monitoring at that sampling point in the next quarter unless directed otherwise by your State (40 CFR 141.23(c)(7)).

^dYour State must receive your results within 10 days after the month in which the sample was taken or within 10 days of the end of the sampling period, whichever is shorter (40 CFR 141.31(a)). You do not need to report the result if your laboratory does so automatically, although you should confirm that the State received the results.

^eYour State will determine when your confirmation samples must be reported to your State.

Arsenic Monitoring Worksheet for Quarterly Monitoring

EPTDS/Sampling Point: 1

Quarter 2	Date Sample Collected 3	Arsenic Result 4	Running Annual Average Calculation ^a (CIRCLE if >0.010 mg/L) 5	Date Result Reported to State ^{b,c} 6	Date Violation(s) Reported to Customers ^c (if necessary) 7
			_____ =		MCL: M&R:
			_____ =		MCL: M&R:
			_____ =		MCL: M&R:
			_____ =		MCL: M&R:
			_____ =		MCL: M&R:
			_____ =		MCL: M&R:
			_____ =		MCL: M&R:
			_____ =		MCL: M&R:

^a When calculating the running annual average, add up the quarterly samples taken during the last four quarters and divide by the number of quarterly samples you took (40 CFR 141.23(i)(1)). Insert 0.0 mg/L for all future quarterly samples during the first year of quarterly sampling. Do not insert 0.0 mg/L if you failed to take a sample; instead, divide by the number of samples you took. Assume that all results below the method detection limit have 0.0 mg/L of arsenic (40 CFR 141.23(i)(1)).

^b If you have an MCL violation, your State must receive your results within 48 hours (40 CFR 141.203(a)). If there is no violation, your State must receive your results within 10 days after the month in which the sample was taken or within 10 days of the end of the sampling period, whichever is shorter (40 CFR 141.31(a)). You do not need to report the result if your laboratory does so automatically, although you should confirm that the State received it.

^c If the running annual average at any EPTDS is greater than 0.010 mg/L, then your system has violated the MCL (40 CFR 141.23(i)). You must notify the State within 48 hours and your customers within 30 days (40 CFR 141.31(b) and 40 CFR 141.203), continue quarterly monitoring, and take other corrective action as required by your State.

Using the Arsenic Monitoring Worksheet for Quarterly Monitoring

If **any** sampling result (or the average of the initial and confirmation samples) is greater than 0.010 mg/L, then you must increase your monitoring for arsenic to quarterly at that sampling point. This section presents instructions for completing the Arsenic Monitoring Worksheet for Quarterly Monitoring. Each step presented here corresponds to a numbered section of the sample worksheet on page 38. Use a different worksheet for each sampling point.

Step #1

Enter sampling point.

- Enter the sampling point at which you must sample quarterly, and record any additional details about the exact sampling location.
- If you must sample quarterly at more than one sampling point, use a separate worksheet for each point.

Step #2

Quarterly sampling.

- Enter the quarter in which you took the sample. The four quarters are:
Q1: January to March
Q2: April to June
Q3: July to September
Q4: October to December

Step #3

Record date of sample.

- Next to the quarter, record the date when you collected the sample.

Step #4

Record quarterly arsenic test result.

- Record the sampling result.

Step #5

Calculate the running annual average.

- If you have been taking quarterly samples for a year or more, add up the quarterly samples for the last four quarters and divide by the number of quarterly samples taken during those four quarters. If you fail to take a sample, add up the samples you have taken and divide by the number of samples you took. Do not insert 0.0 mg/L if you fail to sample.

REMEMBER!

If your routine sample (or the average of your routine sample and any confirmation samples) was greater than 0.010 mg/L and your State required quarterly monitoring, enter information about the routine sample (or the average of the routine sample and any confirmation samples). This counts as your first quarterly sample.

Step #6

- If you have been taking quarterly samples for less than a year, add up the quarterly samples taken so far, insert 0.0 mg/L for the quarters that have not yet occurred, and divide by 4. This presents the best case scenario, which assumes that all future monitoring results will be below the detection limit.
- If your State directed you to take any confirmation samples, use the average of the routine and any confirmation samples when calculating the running annual average.
- If the running annual average is greater than 0.010 mg/L, then your system has violated the revised MCL for arsenic. CIRCLE the running annual average if it is higher than 0.010 mg/L.

Notify the State of your results.

- You must report MCL violations (i.e., a sample that causes the running annual average to become greater than 0.010 mg/L of arsenic) to the State within 48 hours.
- Otherwise, your State must receive your results within 10 days after the month in which the sample was taken or within 10 days of the end of the sampling period, whichever is shorter.

Step #7

- Record the date you notified the State of your result.
- If you use a laboratory that sends the results directly to the State, you do not need to report the results to the State, but you need to confirm that your State received them.

Notify your customers.

- You must notify your customers within 30 days of an MCL violation. Record when you notified your customers.
- You must also notify your customers within one year if you commit any M&R violations, such as failing to take a sample. If you committed an M&R violation, record when you notified your customers.
- Send a copy of any customer notification to the State (along with a certification that all customer reporting rules were met) within 10 days of distributing the notice.

Arsenic Monitoring Worksheet for Quarterly Monitoring - **EXAMPLE**

EPTDS/Sampling Point: 3 Sample tap inside the mechanical room.

Quarter	Date Sample Collected	Arsenic Result	Running Annual Average Calculation ^a (CIRCLE if >0.010 mg/L)	Date Result Reported to State ^{b,c}	Date Violation(s) Reported to Customers ^c (if necessary)
Q3	7/15/2010	0.036	$\frac{0.036 + 0 + 0 + 0}{4} = 0.009 \text{ mg/L}$	8/25/2010	MCL: M&R:
Q4	10/15/2010	0.028	$\frac{0.036 + 0.028 + 0 + 0}{4} = 0.016 \text{ mg/L}$	10/28/2010	MCL: 12/10/2010 M&R:
Q1	1/16/2011	0.026	$\frac{0.036 + 0.028 + 0.026 + 0}{4} = 0.023 \text{ mg/L}$	1/27/2011	MCL: 2/10/2011 M&R:
Q2	4/5/2011	0.016	$\frac{0.036 + 0.028 + 0.026 + 0.016}{4} = 0.027 \text{ mg/L}$	4/26/2011	MCL: 5/10/2011 M&R:
Q3		Failed To Sample	$\frac{0.028 + 0.026 + 0.016}{3} = 0.023 \text{ mg/L}$		MCL: 10/20/2011 M&R: 7/1/2012
Q4	10/1/2011	0.006	$\frac{0.026 + 0.016 + 0.006}{3} = 0.016 \text{ mg/L}$	10/17/2011	MCL: 11/15/2011 M&R:
Q1	1/20/2012	0.008	$\frac{0.016 + 0.006 + 0.008}{3} = 0.010 \text{ mg/L}$	2/2/2012	MCL: M&R:
Q2	4/19/2012	0.006	$\frac{0.006 + 0.008 + 0.006}{3} = 0.007 \text{ mg/L}$	4/27/2012	MCL: M&R:

^aWhen calculating the running annual average, add up the quarterly samples taken during the last four quarters and divide by the number of quarterly samples you took (40 CFR 141.23(i)(1)). Insert 0.0 mg/L for all future quarterly samples during the first year of quarterly sampling. Do not insert 0.0 mg/L if you failed to take a sample; instead, divide by the number of samples you took. Assume that all results below the method detection limit have 0.0 mg/L of arsenic (40 CFR 141.23(i)(1)).

^bIf you have an MCL violation, your State must receive your results within 48 hours (40 CFR 141.203(a)). If there is no violation, your State must receive your results within 10 days after the month in which the sample was taken or within 10 days of the end of the sampling period, whichever is shorter (40 CFR 141.31(a)). You do not need to report the result if your laboratory does so automatically, although you should confirm that the State received it.

^cIf the running annual average at any EPTDS is greater than 0.010 mg/L, then your system has violated the MCL (40 CFR 141.23(i)). You must notify the State within 48 hours and your customers within 30 days (40 CFR 141.31(b) and 40 CFR 141.203), continue quarterly monitoring, and take other corrective action as required by your State.

Explanation of Example Arsenic Monitoring Worksheet for Quarterly Monitoring

This system is a ground water system with three entry points to its distribution system. The example begins in the third quarter of the year 2010.

The average of the routine sample and confirmation sample at Entry Point 3 was greater than 0.010 mg/L, so the State directed the system to begin quarterly monitoring. The average of the routine and confirmation sample counted as the first quarterly sample, so the system recorded it on the Monitoring Worksheet for Quarterly Monitoring. The system continued taking quarterly monitoring samples at this sampling point and recording the results on the worksheet.

Prior to the second quarter of 2011, the system calculated the running annual average by summing all its quarterly monitoring results and dividing by 4. This was equivalent to inserting 0.0 mg/L for all future monitoring results, which presented the best-case scenario: that all future samples would be below the detection limit. In the second quarter of 2011, the system had taken more than a full year of samples, so the running annual average was calculated with only the results from the previous four quarters. In the third quarter of 2011, the system failed to sample. Therefore, the running annual average in the third quarter and following quarters was calculated by adding the three results and dividing by 3, which was the number of samples taken by the system.

In the fourth quarter of 2010, the first quarter of 2011, the second quarter of 2011, the third quarter of 2011, and the fourth quarter of 2011, the running annual average was greater than 0.010 mg/L and the system was therefore in violation of the revised MCL. An arsenic MCL violation requires public notice, and the State directed the system to notify its customers of the violation. The system issued the notice within 30 days. In the third quarter of 2011, the system failed to sample, which is an M&R violation also requiring public notice. The system notified its customers of the M&R violation in its 2012 CCR. The CCR was sent out 9 months after the violation, within the 1-year public notification deadline. The system sent the State a copy of each public notification with a letter certifying that it met the requirements of the Public Notification Rule.

The running annual average for the first quarter of 2012 was equal to 0.010 mg/L, so the system was no longer in violation of the revised MCL. However, the State did not judge the system to be “reliably and consistently” below the MCL on the basis of one sample. The system continued to take quarterly samples.

Arsenic Monitoring Worksheet for Quarterly Monitoring

EPTDS/Sampling Point:

Quarter	Date Sample Collected	Arsenic Result	Running Annual Average Calculation ^a (CIRCLE if >0.010 mg/L)	Date Result Reported to State ^{b,c}	Date Violation(s) Reported to Customers ^c (if necessary)
			_____ =		MCL: M&R:
			_____ =		MCL: M&R:
			_____ =		MCL: M&R:
			_____ =		MCL: M&R:
			_____ =		MCL: M&R:
			_____ =		MCL: M&R:
			_____ =		MCL: M&R:
			_____ =		MCL: M&R:
			_____ =		MCL: M&R:

^aWhen calculating the running annual average, add up the quarterly samples taken during the last four quarters and divide by the number of quarterly samples you took (40 CFR 141.23(i)(1)). Insert 0.0 mg/L for all future quarterly samples during the first year of quarterly sampling. Do not insert 0.0 mg/L if you failed to take a sample; instead, divide by the number of samples you took. Assume that all results below the method detection limit have 0.0 mg/L of arsenic (40 CFR 141.23(i)(1)).

^bIf you have an MCL violation, your State must receive your results within 48 hours (40 CFR 141.203(a)). If there is no violation, your State must receive your results within 10 days after the month in which the sample was taken or within 10 days of the end of the sampling period, whichever is shorter (40 CFR 141.31(a)). You do not need to report the result if your laboratory does so automatically, although you should confirm that the State received it.

^cIf the running annual average at any EPTDS is greater than 0.010 mg/L, then your system has violated the MCL (40 CFR 141.23(i)). You must notify the State within 48 hours and your customers within 30 days (40 CFR 141.31(b) and 40 CFR 141.203), continue quarterly monitoring, and take other corrective action as required by your State.

Appendix A: Sources for More Information on Arsenic

- The final text of the Arsenic Rule: EPA-815-Z-01-001 or Federal Register Vol. 66, No 14., pp. 6976-7066. The document is also available on line at www.epa.gov/safewater/ars/arsenic_finalrule.html.
- The Arsenic Implementation Guidance, EPA-816-D-01-002: www.epa.gov/safewater/ars/implement.html (available September 2002).
- EPA's Safe Drinking Water Hotline: 1-800-426-4791
- EPA's Safewater Web site (www.epa.gov/safewater/arsenic.html) has a number of documents including the text of the Arsenic Rule, the Arsenic Implementation Guidance, many fact sheets, and a quick reference guide to the Rule.
- American Water Works Association: www.awwa.org
- Association of State Drinking Water Administrators: www.asdwa.org
- National Ground Water Association: www.ngwa.org
- National Rural Water Association: www.nrwa.org
- Natural Resources Defense Council: www.nrdc.org/water/drinking/qarsenic.asp
- U.S. Congressional Research Service—*Report for Congress: Arsenic in Drinking Water- Recent Regulatory Developments and Issues*: <http://cnie.org/NLE/CRSreports/water/h2o-40.cfm>
- The World Health Organization: www.who.int/pcs/ehc/summaries/ehc_224.html

Appendix B: Safe Drinking Water Act Primacy Agencies

EPA Region 1

www.epa.gov/region1/eco/drinkwater/index.html

(617) 918-1584

Connecticut

Department of Public Health: Water Supplies Section

www.state.ct.us/dph/BRS/WSS/water_supplies.htm

(860) 509-7333

Maine

Maine Department of Human Services: Division of Health Engineering

www.state.me.us/dhs/eng/water/index.htm

(207) 287-2070

Massachusetts

Department of Environmental Protection: Drinking Water Program

www.state.ma.us/dep/brp/dws/dwshome.htm

(617) 292-5770

New Hampshire

Department of Environmental Services: Water Supply Engineering Bureau

www.des.state.nh.us/wseb/

(603) 271-2513

Rhode Island

Department of Health: Office of Drinking Water Quality

www.healthri.org/environment/dwq/home.htm

(401) 222-6867

Vermont

Department of Environmental Conservation: Water Supply Division

www.anr.state.vt.us/dec/watersup/wsd.htm

(802) 241-3400

EPA Region 2

www.epa.gov/region02/water/drinktop.htm

(212) 637-3879

New Jersey

Department of Environmental Protection: Bureau of Safe Drinking Water

www.state.nj.us/dep/watersupply/safedrnk.htm

(609) 292-5550

New York

Department of Health: Bureau of Public Water Supply Protection

www.health.state.ny.us/nysdoh/water/main.htm

(518) 402-7650

Puerto Rico

Department of Health: Public Water Supply Supervision Program

www.epa.gov/region02/cepd/prlink.htm

(787) 977-5870

Virgin Islands

Department of Planning & Natural Resources: Division of Environmental Protection

www.dpnr.gov.vi/dep/publicwatersup.htm

(340) 774-3320

EPA Region 3

www.epa.gov/reg3wapd/

(215) 814-2300

Delaware

Delaware Health & Social Services: Division of Public Health

www.state.de.us/dhss/dph/hsp.htm

(302) 739-4731

District of Columbia

Department of Health

www.dchealth.dc.gov/index.asp

(202) 442-5999

Maryland

Department of the Environment: Public Drinking Water Program

www.mde.state.md.us/

(410) 631-3702

Pennsylvania

Department of Environmental Protection: Bureau of Water Supply Management

www.dep.state.pa.us/dep/deputate/watermgt/wsm/wsm.htm

(717) 787-5017

Virginia

Department of Health: Division of Drinking Water

www.vdh.state.va.us/ddw/index.htm

(804) 786-5566

West Virginia

Bureau for Public Health: Environmental Engineering Division

www.wvdhhr.org/oehs/eed/

(304) 558-2981

EPA Region 4

www.epa.gov/region4/water/

(404) 562-9345

Alabama

Department of Environmental Management: Water Supply Branch

www.adem.state.al.us/waterdiv/drinking%20water/dwmaininfo.htm

(334) 271-7773

Florida

Department of Environmental Protection: Drinking Water Section

www.dep.state.fl.us/water/drinkingwater/index.htm

(850) 487-1762

Georgia

Department of Natural Resources: Water Resources Branch

www.ganet.org/dnr/environ/

(404) 656-6328

Kentucky

Department for Environmental Protection: Drinking Water Branch

water.nr.state.ky.us/dw/

(502) 564-3410

Mississippi

Department of Health: Public Water Supply Program

www.msdh.state.ms.us/watersupply/index.htm

(601) 576-7518

North Carolina

Department of Environment and Natural Resources: Public Water Supply Section

www.deh.enr.state.nc.us/pws

(919) 715-3232

South Carolina

Department of Health & Environmental Control: Bureau of Water

www.scdhec.net/water/html/dwater.html

(803) 898-4300

Tennessee

Department of Environment & Conservation: Division of Water Supply

www.state.tn.us/environment/dws/index.html

(615) 532-0191

EPA Region 5

www.epa.gov/region5/water/gwdw

(312) 886-6206

Illinois

Environmental Protection Agency: Bureau of Water

www.epa.state.il.us/water/

(217) 785-8653

Indiana

Department of Environmental Management: Drinking Water Branch

www.state.in.us/idem/owm/dwb/index.html

(317) 308-3282

Michigan

Department of Environmental Quality: Drinking Water Program

www.michigan.gov/deq/0,1607,7-135-3313_3675-,00.html

(517) 335-9218

Minnesota

Department of Health: Drinking Water Protection Section

www.health.state.mn.us/divs/eh/water/index.html

(612) 215-0770

Ohio

Environmental Protection Agency: Division of Drinking & Ground Waters

www.epa.state.oh.us/ddagw/

(614) 644-2752

Wisconsin

Department of Natural Resources: Bureau of Drinking Water and Ground Water

www.dnr.state.wi.us/org/water/dwg/

(608) 266-2299

EPA Region 6

www.epa.gov/region6/

(214) 665-2757

Arkansas

Department of Health: Division of Engineering

www.healthyarkansas.com/eng/index.html

(501) 661-2623

Louisiana

Office of Public Health: Center for Environmental Health

www.dhh.state.la.us/OPH/safewtr.htm

(225) 765-5038

New Mexico

Environment Department: Drinking Water Bureau

www.nmenv.state.nm.us/dwb/dwbtop.html

(877) 654-8720

Oklahoma

Department of Environmental Quality: Water Quality
Division

www.deq.state.ok.us/wqdnew/index.htm

(405) 702-8100

Texas

Commission on Environmental Quality

www.tnrcc.state.tx.us/permitting/waterperm/pdw/pdw000.html

(512) 239-4300

EPA Region 7

www.epa.gov/region07/water/dwggw.html

(913) 551-7030

Iowa

Department of Natural Resources: Water Supply Section

www.state.ia.us/government/dnr/organiza/epd/wtrsuply/wtrsup.htm

(515) 725-0275

Kansas

Department of Health & Environment: Public Water Supply
Section

www.kdhe.state.ks.us/water/pwss.html

(785) 296-5503

Missouri

Department of Natural Resources: Public Drinking Water
Program

www.dnr.state.mo.us/deq/pdwp/homepdwp.htm

(573) 751-5331

Nebraska

Health & Human Services System: Public Water Supply
Program

www.hhs.state.ne.us/enh/pwsindex.htm

(402) 471-2541

EPA Region 8

[www.epa.gov/region08/water/dwhome/
dwhome.html](http://www.epa.gov/region08/water/dwhome/dwhome.html)

(303) 312-6312

Colorado

Department of Public Health & Environment: Drinking
Water Program

www.cdphe.state.co.us/wq/drinking_water/drinking_water_program.htm

(303) 692-3500

Montana

Department of Environmental Quality: Public Water Supply
Section

www.deq.state.mt.us/pcd/csb/pws/index.asp

(406) 444-4400

North Dakota

Department of Health: Drinking Water Program

www.ehs.health.state.nd.us/ndhd/envirom/fm/index.htm

(701) 328-5211

South Dakota

Department of Environment & Natural Resources: Drinking
Water Program

www.state.sd.us/denr/des/drinking/dwprg.htm

(605) 773-3754

Utah Department of Environmental Quality: Division of Drinking Water	http://drinkingwater.utah.gov	(801) 536-4200
Wyoming EPA Region VIII: Wyoming Drinking Water Program	www.epa.gov/region08/water/dwhome/wycon/wycon.html	(303) 312-6312
EPA Region 9	www.epa.gov/region9/water	(415) 972-3547
American Samoa Environmental Protection Agency: American Samoa	www.epa.gov/Region9/cross_pr/islands/samoa.html	(415) 972-3767
Arizona Department of Environmental Quality: Drinking Water Section	www.adeq.state.az.us/environ/water/dw/index.html	(602) 771-4644
California Department of Health Services: Division of Drinking Water & Environmental Management	www.dhs.cahwnet.gov/org/ps/ddwem/	(916) 323-6111
Guam Environmental Protection Agency: Guam	www.epa.gov/region09/cross_pr/islands/guam.html	(671) 472-8863
Hawaii Department of Health: Safe Drinking Water Branch	www.hawaii.gov/health/eh/eiemdw00.htm	(808) 586-4258
Nevada Department of Human Resources: Bureau of Health Protection Services	www.state.nv.us/health/bhps/sdwp.htm	(775) 687-6615
Navajo Nation	www.navajo.org	(928) 871-7692
EPA Region 10	www.epa.gov/region10/	(206) 553-1893
Alaska Department of Environmental Conservation: Drinking Water & Wastewater Program	www.state.ak.us/dec/deh/safewater.htm	(907) 269-7653
Idaho Department of Environmental Quality: Water Quality	www2.state.id.us/deq/water/water1.htm	(208) 373-0502
Oregon Department of Human Services: Drinking Water Program	www.ohd.hr.state.or.us/dwp/welcome.htm	(503) 731-4010
Washington Department of Health: Division of Drinking Water	www.doh.wa.gov/ehp/dw/	(360) 236-3100

Appendix C: Tribal Contacts

U.S. EPA Headquarters

American Indian Environmental Office	www.epa.gov/indian	(202) 564-0303
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U.S. EPA Regional Tribal Capacity Development Coordinators

U.S. EPA Region 1	www.epa.gov/region01/topics/government/tribal.html	(888) 372-7341
U.S. EPA Region 2	www.epa.gov/region02/nations/index.html	(212) 637-3600
U.S. EPA Region 4	www.epa.gov/region04/ead/indian/index.htm	(404) 562-6939
U.S. EPA Region 5	www.epa.gov/region5/water/stpb/	(312) 353-2123
U.S. EPA Region 6	www.epa.gov/region06/6xa/tribal.htm	(800) 887-6063
U.S. EPA Region 7	www.epa.gov/region07/government_tribal/index.htm	(913) 551-7030
U.S. EPA Region 8	www.epa.gov/region08/tribes	(303) 312-6116
U.S. EPA Region 9	www.epa.gov/region09/cross_pr/indian/index.html	(415) 744-1500
U.S. EPA Region 10	yosemite.epa.gov/r10/tribal.NSF/webpage/tribal+office+homepage?opendocument	(206) 553-4011

Other Contacts

Administration for Native Americans	www.acf.dhhs.gov/programs/ana/	(877) 922-9262
Bureau of Indian Affairs	www.doi.gov/bureau-indian-affairs.html	(202) 208-3710
Indian Health Service	www.ihs.gov	(301) 443-3024
Native American Water Association	www.nawainc.org	(775) 782-6636

Appendix D: Other STEP Documents

This brochure is one in a series of Simple Tools for Effective Performance (STEP) documents for small drinking water systems. The currently available STEP documents can be obtained from EPA by calling the Safe Drinking Water Hotline at 1-800-426-4791 and requesting the document by its publication number. To check on the availability of STEP documents listed below as under development, go to www.epa.gov/safewater/smallsys/ssinfo.htm.

AVAILABLE NOW

Small Systems Guide to the Total Coliform Rule (TCR)

This workbook is designed to help small systems understand the TCR and the mandatory monitoring required under the rule. The workbook provides sample worksheets to help systems organize and track TCR monitoring data, and provides appropriate follow-up actions should monitoring show a positive presence of coliform.

Publication number EPA 816-R-01-017A

Published: June 2001

Safe Drinking Water Act (SDWA) Regulation Overview Brochure for Small Systems

This brochure summarizes SDWA regulations that currently exist, are proposed, or are under development that effect or will effect small water systems. The brochure emphasizes how the regulations relate to each other, and explains the multi-barrier approach to microbial and chemical risks and how SDWA regulations fit into this type of framework. The brochure also emphasizes how most small systems can achieve compliance through process optimization and more efficient system management.

Publication number EPA 816-R-02-004

UNDER DEVELOPMENT

Disinfectants/Disinfection By-Products (D/DBP) Rule Workbook

Publication number EPA 816-R-02-007A

Strategic Planning Workbook

Publication number EPA 816-R-02-005

Asset Management Workbook

Publication number EPA 816-K-02-006