

Safe Drinking Water Act (SDWA)



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Safe Drinking Water Act

- Brief history of the SDWA
- Regulations
- Regulatory Framework
- Enforcement
- Rule Standards
 - Monitoring
 - Frequency
 - System Responsibilities

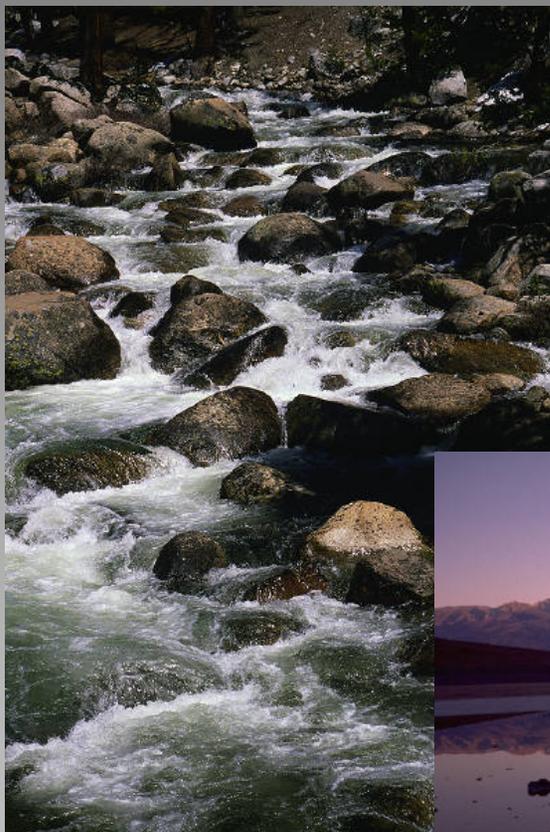


Protection of Public Health

- SDWA passed by Congress in 1974
 - Authorizes USEPA to set national health-based standards for drinking water to protect against both man-made and naturally-occurring contaminants



SDWA amended in 1986 and 1996



- Requires additional protection of water sources- rivers, lakes, reservoirs, springs and groundwater wells



SDWA 1996 Amendments

From

Source

to

Tap



- Operator training (Operator Certification)
- Funding for water system improvements (Drinking Water State Revolving Fund)
- Public information (Consumer Confidence Report)



SDWA Roles and Responsibilities

- SDWA applies to every public water system in the US
- USEPA, States, Water Systems and the public are responsible for ensuring that public water systems provide safe drinking water



“Public Water System” means

“A system for the provision to the public of water for human consumption through pipes or other constructed conveyances, if such system has at least fifteen service connections or regularly serves an average of at least twenty-five individuals daily at least 60 days out of the year.”

Such term includes: any collection, treatment, storage, and distribution facilities under control of the operator of such system and used primarily in connection with such system; and any collection or pretreatment storage facilities not under such control which are used primarily in connection with such system.” (40 CFR 141.2)



A public water system is either a...

- **Community**—“a public water system which serves at least 15 service connections used by year-round residents or regularly serves at least 25 year-round residents.”
- **Non-Transient Non-Community**—“a public water system that is not a community water system and that regularly serves at least 25 of the same persons over 6 months per year.” (Examples: schools, senior centers, detention centers etc.)
- **Transient Non-Community**—“a non-community water system that does not regularly serve at least 25 of the same persons over six months per year.” (Examples: rest stops, convenience centers, restaurants etc.)



SDWA Regulations

USEPA 40 CFR Parts 141-143 contain the regulations that enforce the SDWA



Part 141—National Primary Drinking Water Regulations (NPDWRs)

Part 142—NPDWR Implementation

Part 143—National Secondary Drinking Water Regulations (NSDWRs)



SDWA Regulatory Framework

40 CFR 141–NPDWRs set the following requirements:

- Maximum Contaminant Levels (MCLs), Maximum Residual Disinfectant Levels (MRDLs), Treatment/Disinfection Techniques
- Monitoring and Analytical



40 CFR 141—NPDWR cont.

- Reporting and Record Keeping
- Public Information
- Public Notice of Violations

These requirements are enforceable by law

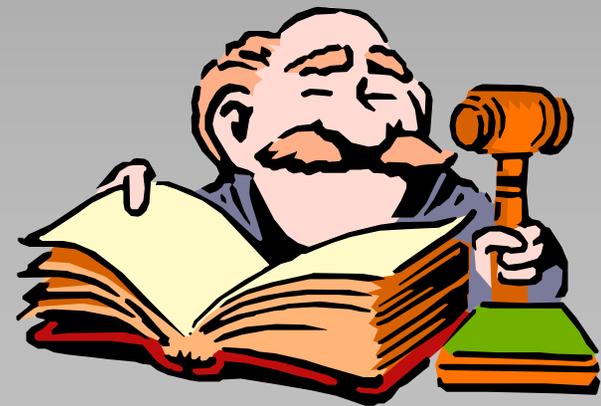
- Definitions
- Maximum Contaminant Level Goals (MCLGs)



SDWA Regulatory Framework

40 CFR 142–NPDWR Implementation

Requirements to Implement and Enforce the NPDWRs



SDWA Regulatory Framework

40 CFR 143–National Secondary Drinking Water Regulations

- Secondary Maximum Contaminant Levels (SMCLs)

- Aesthetic quality

- Iron
- Manganese
- Sulfate
- Total Dissolved Solids

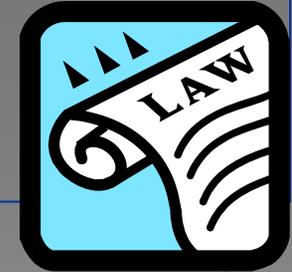
- Monitoring

- ✓ *Not Enforceable*

- ✓ *Guidelines for the States*



Enforcement



SDWA consists of several rules with varying standards and requirements

Compliance with the SDWA is based on:

- Not exceeding MCLs, MRDLs or Action Levels (ALs) for each rule that applies to the type of Public Water System
- Timely Monitoring
- Timely Reporting



Existing Rules

- Total Coliform Rule
- Phases I, II & V (VOCs, IOCs and SOCs)
- Lead and Copper Rule
- Stage 1 Disinfectants and Disinfection Byproducts Rule
- Consumer Confidence Report Rule
- Public Notification Rule
- Arsenic Rule
- Radionuclides Rule



NEW RULES

- Ground Water Rule

Final rule promulgated
October 11, 2006



Other Rules

- Filter Backwash Recycling Rule
- Surface Water Treatment Rule
- Interim Enhanced Surface Water Treatment Rule
- Long Term 1 Enhanced Surface Water Treatment Rule
- Long Term 2 Enhanced Surface Water Treatment Rule
- Stage 2 Disinfectants/Disinfection Byproducts Rule



TOTAL COLIFORM RULE



Total Coliform Rule (TCR)— Standards

- Applies to all Public Water Systems (PWSs)
- Must have a written sample siting plan reviewed and approved by the State
- Must have a sanitary survey performed regularly



TCR—Public Water System Responsibilities

Compliance is...

- ✓ Based on the presence or absence of total coliforms
- ✓ Determined each calendar month or each calendar month that sampling occurs for systems on reduced monitoring
- ✓ Based on results of Routine and Repeat samples



TCR—Monitoring & Frequency

- Number of samples collected based on population served
- Samples must be collected from sites representative of water quality throughout the distribution system as indicated on the sample siting plan
- Samples must be collected at regular time intervals (more than 5 samples monthly)
- Frequency based on type of PWS



TCR–Monitoring & Frequency

- Collect routine monthly/quarterly samples
 - ✓ Each total coliform-**positive** sample must be tested for the presence of fecal coliforms or E.coli
 - ✓ Within 24 hours of learning of a positive routine sample, **repeat** samples must be collected and analyzed for total coliforms
 - ✓ Repeat samples must be collected for any total coliform positive sample (routine or repeat)
 - ✓ Repeat sampling must continue unless the MCL has been exceeded



TCR—Reporting

- Violations must be reported to State and public must be notified
 - 24 hours for acute (Fecal positive)
 - 30 days for non-acute (Total coliform positive)
 - 1 year for monitoring & testing procedure violations
- Bacteriological Records must be kept for five (5) years
- Actions to correct violations must be kept for three (3) years



PHASE I, II AND V RULES



Phases I, II & V (VOCs, IOCs & SOCs) —Standards

- Applies to Community Water Systems (CWSs) and Non-Transient Non-Community Water Systems (NTNCWSs)
 - Nitrate and nitrite standards apply to all PWSs including Transient Non-Community (TNCWSs)



VOCs, IOCs & SOCs— Monitoring & Frequency

The Standard Monitoring Framework (SMF) standardizes monitoring requirements and synchronizes monitoring frequency

- Requirements for asbestos, fluoride, nitrate, and nitrite are different from the other IOC requirements because of unusual characteristics



Standard Monitoring Framework (SMF)

Nine year compliance monitoring cycle that consists of three, 3-year compliance monitoring periods

STANDARDIZED MONITORING FRAMEWORK

IOCs, SOCs, VOCs		Second Cycle									Third Cycle								
		1 st Period			2 nd Period			3 rd Period			1 st Period			2 nd Period			3 rd Period		
		2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Inorganic Contaminants (IOCs) ¹	Groundwater (Below MCL)																		
	Waiver ²					X									X				
	No Waiver		X			X		X				X			X			X	
	Surface Water (Below MCL)																		
	Waiver ²					X									X				
	No Waiver	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	Groundwater and Surface Water (Above MCL) ³																		
	Reliably and Consistently < MCL for Groundwater Systems		X			X			X			X			X			X	
	Reliably and Consistently < MCL for Surface Water Systems	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	> MCL or Not Reliably and Consistently < MCL	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****
Synthetic Organic Contaminants (SOCs)	Population >3,300 (Below Detection Limit)	02	03	04	05	06	07	08	09										
	Waiver		X			X			X										
	< Detect and No Waiver		**			**			**										
	Population < 3,300 (Below Detection Limit)																		
	Waiver		X			X			X										
	< Detect and No Waiver		X			X			X										
	Above Detection Limit																		
	Reliably and Consistently < MCL ⁴	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
> Detect or Not Reliably and Consistently < MCL	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****	****		

Legend

- * = 1 sample at each entry point to distribution system (EPTDS).
- ** = 2 quarterly samples at each EPTDS. Samples must be taken during 1 calendar year during each 3-year compliance period.
- **** = 4 quarterly samples at each EPTDS within time frame designated by the primacy agency.
- X = No sampling required unless required by the primacy agency.
- # = Systems must monitor at a frequency specified by the primacy agency.
- ! = When allowed by the primacy agency, data collected between June 2000 and December 8, 2003 may be grandfathered to satisfy the initial monitoring requirements due in 2004 for gross alpha, radium 226/228, and uranium.



Entry Points

Entry Points are required for SOURCE water sampling and may be different in individual Rules

What is an entry point?

A sample point that has been designated as the location where sample results must meet all applicable drinking water standards



VOCs, IOCs & SOCs– Public Water System Responsibilities

- Samples are collected by the NMED-DWB but may be collected by the system in certain instances
- Ensure that all required samples are collected according to the SMF or schedule set by the NMED-DWB
- Review sample results



VOCs, IOCs & SOCs–PWS Responsibilities

Compliance is...

- ✓ Based on results of compliance samples
- ✓ Based on not exceeding the MCL
- ✓ Based on following the schedule determined by the SMF



VOCs, IOCs and SOCs—Reporting

- Violations must be reported to State and public must be notified
 - 24 hours for acute (Nitrate MCL)
 - 30 days for non-acute
 - 1 year for monitoring & testing procedure violations
- VOC, IOC, and SOC records must be kept for ten (10) years
- Actions to correct violations must be kept for three (3) years



LEAD AND COPPER RULE



Lead & Copper Rule (LCR)—Standards

- Applies to all CWSs and NTNCWSs
- High risk homes/buildings must be identified
- Samples sites divided into three tiers based on industry use of lead solder



LCR–Public Water System Responsibilities

- Samples may be collected by the system or by residents
- Each LCR sample must be tested for lead and copper
- Samples must be collected from the **same** sites every monitoring event
- Systems that exceed lead or copper Action Levels (AL) are required to implement corrosion control treatment
- Systems that exceed the lead AL shall implement public education
- **Systems must notify the individuals (from which the samples were collected) of the results from the lead samples no later than 30 days after receiving results and certify to the State no later than 3 months after the compliance period ends

** (2007 LCR Revisions)



LCR—PWS Responsibilities

Compliance is...

- ✓ Based on concentration of lead or copper in more than 10% of tap water samples (90th percentile)
- ✓ Action Levels for Lead and Copper (0.015 mg/L and 1.3 mg/L respectively)
- ✓ Follow the required sample schedule



LCR– Monitoring & Frequency

- Samples must be collected from vulnerable sites in the distribution system
- Number of samples collected based on population served
- Sample sites **may not include** faucets that have point-of-use or point-of-entry treatment devices designed to remove inorganic contaminants
- Samples must be first draw samples that have stood motionless in the plumbing system for at least 6 hours but no longer than 18 hours and 1 liter in volume
 - Initial sampling shall consist of the specified number of samples collected during 2 consecutive 6 month periods
 - Thereafter annually during June-September for 2 years
 - Then system may qualify for reduced monitoring



LCR—Reporting

- Violations must be reported to State and public must be notified
 - 30 days if one or both ALs are exceeded
 - 1 year for monitoring and testing procedure violations
- Lead and Copper Records must be kept for 12 years
- Actions to correct violations must be kept for three (3) years



STAGE 1 DISINFECTANTS AND DISINFECTION BY-PRODUCT RULE



Stage 1 Disinfectants and Disinfection Byproducts Rule (DBPR)—Standards

- Applies to all CWSs and NTNCWSs that add disinfectant and TNCWSs that use chlorine dioxide
 - Subpart H systems serving $\geq 10,000$ people (January 1, 2002)
 - Subpart H systems serving $< 10,000$ people and ground water systems that chemically disinfect (January 1, 2004)



Stage 1 DBPR–Standards cont.

- New Maximum Residual Disinfectant Level Goals (MRDLGs) and MRDLs for 3 disinfectants (Chlorine, chloramines and chlorine dioxide)
- More stringent MCL for Total Trihalomethanes (TTHMs)
- New MCL for 5 Halo Acetic Acids (HAA5s), Bromate and Chlorite (plants that use ozone and chlorine dioxide)



Stage 1 DBPR—Standards cont.

- Sets MCLGs for some regulated Disinfection Byproducts (DBPs)
- Must have a written sample siting plan reviewed by the State
- Systems must be operated by certified operator
- Disinfectant residual reports submitted to State quarterly



Stage 1 DBPR MRDL & MCL

- MRDLs

Disinfectant	MRDL
Chlorine*	4.0 mg/L
Chloramines*	4.0 mg/L
Chlorine Dioxide	0.8 mg/L

- MCLs

Disinfection Byproduct	MCL
TTHM*	0.080 mg/L
HAA5*	0.060 mg/L
Bromate*	0.010 mg/L
Chlorite	1.0 mg/L

*Based on a running annual average



Stage 1 DBPR–Public Water System Responsibilities

Disinfectant Residuals

- Based on TCR monitoring
 - Collected at same location & frequency as TCR samples
- Must be collected from sites representative of water quality throughout the distribution system
- Must be collected from approved sites indicated on the sample siting plan

Population Served*	Number of Monthly Samples
25 - 1,000	1
1,001 – 2,500	2
2,501 – 3,300	3
3,301 – 4,100	4
4,101 – 4,900	5
4,901 – 5,800	6
5,801 – 6,700	7
6,701 – 7,600	8
7,601 – 8,500	9
8,501 – 12,900	10

* See rule for additional population categories



Stage 1 DBPR—PWS Responsibilities

TTHMs and HAA5 Samples

- Must be collected from sites representative of water quality at maximum residence time (MRT)
- Must be collected from approved sites indicated on the sample siting plan
- Must be collected during the warmest summer months (June-September)



Stage 1 DBPR—PWS Responsibilities

Compliance is...

- ✓ Based on Running Annual Average (RAA)
- ✓ Not exceeding the MRDL or MCL
- ✓ Reporting quarterly to State (residuals)



Stage 1 DBPR—Monitoring and Frequency

GROUP 1

- Ground water systems serving < 10,000
- Subpart H systems serving < 500

GROUP 2

- Ground water systems serving $\geq 10,000$
- Subpart H systems serving 500 - 9,999

	COVERAGE	MONITORING FREQUENCY	COMPLIANCE
TTHM/HAA5	Surface and ground water under the direct influence of surface water serving $\geq 10,000$	4/plant/quarter	Running annual average
	Surface and ground water under the direct influence of surface water serving 500 - 9,999	1/plant/quarter	Running annual average
	Surface and ground water under the direct influence of surface water serving < 500	1/plant/year in month of warmest water temperature**	Running annual average of increased monitoring
	Ground water serving $\geq 10,000$	1/plant/quarter	Running annual average
	Ground water serving < 10,000	1/plant/year in month of warmest water temperature**	Running annual average of increased monitoring
Bromate	Ozone plants	Monthly	Running annual average
Chlorite	Chlorine dioxide plants	Daily at entrance to distribution system; monthly in distribution system	Daily/follow-up monitoring
Chlorine dioxide	Chlorine dioxide plants	Daily at entrance to distribution system	Daily/follow-up monitoring
Chlorine/Chloramines	All systems	Same location and frequency as TCR sampling	Running annual average
DBP precursors	Conventional filtration	Monthly for total organic carbon and alkalinity	Running annual average

** System must increase monitoring to 1 sample per plant per quarter if an MCL is exceeded.

Monitoring and Frequency—Group 1

Routine:

- 1 sample per treatment plant per year
- Located at MRT
- Taken in month(s) of warmest water temperature

Increased:

- Quarterly if an annual sample exceeds the MCL
- Exceedence of *either* MCL → increase monitoring for *both*
 - Must remain on increased monitoring for at least one year
 - May return to routine if RAA is:
 - ≤ 0.060 mg/L for TTHM
 - ≤ 0.045 mg/L for HAA5

GW < 10,000
Subpart H < 500



Monitoring and Frequency—Group 1

Reduced monitoring: Subpart H systems serving <500

- None

Reduced monitoring: GW systems serving < 10,000

State must approve

- TTHM RAA \leq 0.040 mg/L &
- HAA5 RAA \leq 0.030 mg/L for two consecutive years

Or

- TTHM RAA \leq 0.020 mg/L &
- HAA5 RAA \leq 0.015 mg/L for one year

**Minimum frequency: 1 sample per plant per 3-year cycle



Monitoring and Frequency—Group 2

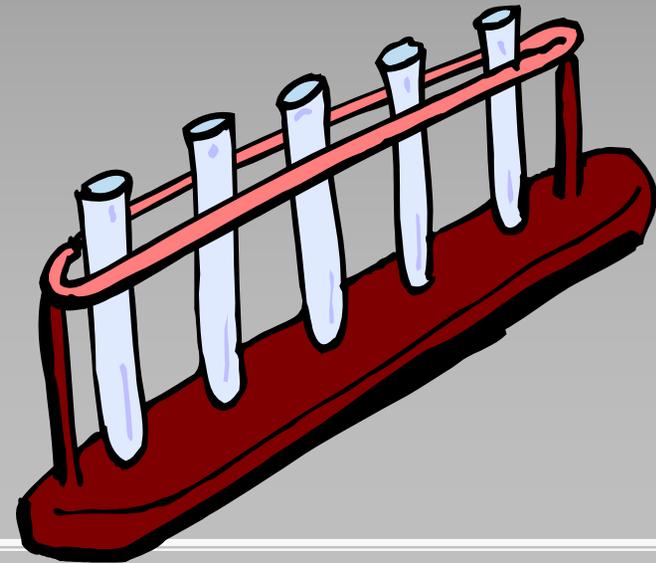
Routine Monitoring:

- 1 sample per treatment plant per quarter
- Sample at MRT

Increased Monitoring:

- None

Subpart H $\geq 500 - 9,999$
GW $\geq 10,000$



Monitoring and Frequency—Group 2

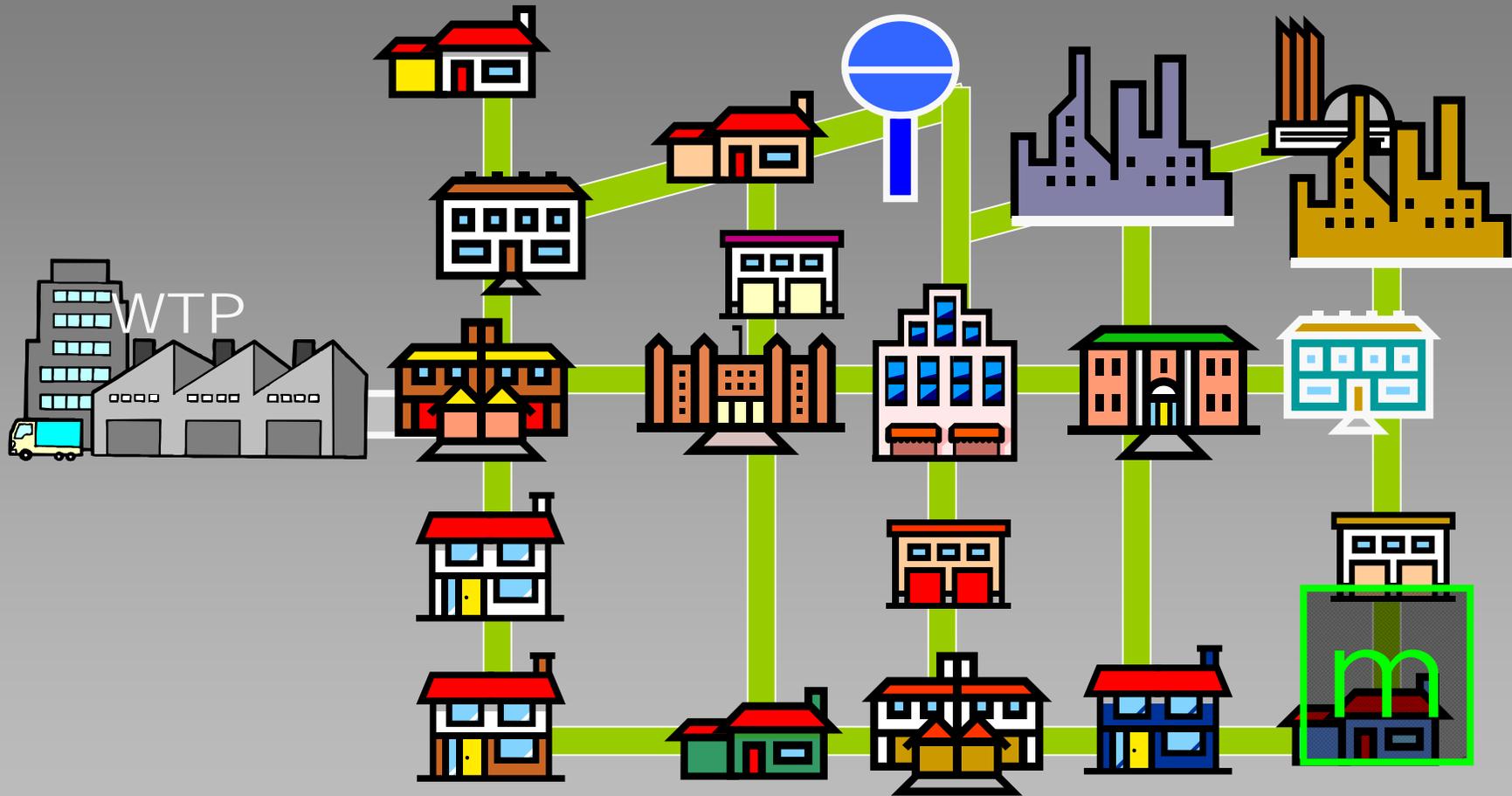
Reduced Monitoring: State must approve

Subpart H $\geq 500 - 9,999$
GW $\geq 10,000$

- Criteria:
 - TTHM RAA < 0.040 mg/L
 - HAA5 RAA < 0.030 mg/L
 - RAA of monthly TOC levels < 4.0 mg/L prior to any treatment (Subpart H only)
- Minimum frequency: 1 sample per plant per year during month(s) of warmest water temperature
- May remain on reduced as long as results or RAA of results:
 - ≤ 0.060 mg/L for TTHM
 - ≤ 0.040 mg/L for HAA5



Example DBPR Monitoring



m

Location of MRT



Stage 1 DBPR—Reporting

Content of Chlorine Residual Report

- Number and location of samples taken during the last quarter
- Location, date, and result of each sample taken during the last quarter
- Arithmetic average of all samples taken in the last quarter
- Annual arithmetic average of all averages for the last 4 quarters (RAA)
- Whether MRDL was exceeded



Stage 1 DBPR—Reporting

- Violations must be reported to State and public must be notified
 - 24 hrs. acute chlorine dioxide MRDL violation
 - 30 days for MRDL, MCL, and TT violations
 - 1 year for monitoring and testing procedure violations
- Stage 1 DBPR records must be kept for 10 years
- Actions to correct violations must be kept for three (3) years



CONSUMER CONFIDENCE REPORT RULE



Consumer Confidence Report Rule (CCR)—Standards & Frequency

- Applies to all CWSs
- Must include specific system information
- Must include USEPA language
- July 1 each year—Distribute to consumers and State
- October 1 each year—Certify to State that CCR was distributed. Include the date and method(s) of distribution



CCR—Public Water System Responsibilities

Content of CCR Report

- ✓ Water system information
 - Name, phone and contact person
 - Public participation
 - Non-English speaking population

- ✓ Source water assessment information
 - Availability of SWA
 - Identify source(s) of water delivered
 - Potential sources of contamination



Content of CCR Report cont.

- ✓ Definitions
 - MCLs, MCLGs, TT, MRDLs, MRDLGs, ALs and Variance and Exemptions

- ✓ Data on detected regulated contaminants
 - Typical source of detected contaminants
 - Educational statement and health effects for Arsenic levels between 5 ppb and 10 ppb



Content of CCR Report cont.

- ✓ Compliance with DWRs
 - Violations and steps to correct

- ✓ Required educational information
 - Bottled water
 - Vulnerable populations
 - Health information on arsenic, nitrate, and TTHMs (if applicable)
 - **Health information on lead
 - USEPA's Safe Drinking Water Hotline phone number

** (2007 LCR & CCR revisions)



CCR—PWS Responsibilities

Compliance

- ✓ Must prepare and deliver CCR to consumers and State by deadline
- ✓ Content must be accurate
- ✓ Must certify to State by deadline that:
 - The report was distributed
 - The date of distribution
 - What method(s) were used



CCR—Reporting

- Violations must be reported to State and public must be notified
 - 1 year for reporting violations
- CCR reports must be kept for 3 years
- Actions to correct violations must be kept for three (3) years



PUBLIC NOTIFICATION RULE



Public Notification Rule (PNR)— Standards & Frequency

- Applies to all PWS
- Must notify public when any NPDWR violation occurs
- Must notify public within a specified time depending on severity of violation
- Must contain requirements concerning appropriate content, language, and explanations



PNR—Standards & Frequency

The Public Notice Rule—

–Divided into 3 tiers

- Takes into account the seriousness of the violation or situation and any potential adverse health effects



PNR—Standards & Frequency

Tier 1—Significant potential health risks with short term **exposure—24 hours**

- Radio
- TV
- Hand Delivery
- Posting
- Other methods specified by State



PNR—Standards & Frequency

Tier 2 Potential health risks—30 days

- Mail or direct delivery for CWSs
- Mail, direct delivery or posting for NCWs

Tier 3 No potential health risks—1 year

- Same as Tier 2
- CCR



PNR—Standards

Examples of Situations Requiring Public Notice

Tier 1

- MCL violation Fecal Coliform
- MCL violation Nitrate/Nitrite or when confirmation sample is not collected
- Single sample maximum turbidity violations required by State
- Waterborne disease outbreaks

Tier 2

- MCL violations (non-acute)
- MRDL violations
- Treatment Technique violations

Tier 3

- Monitoring violations
- Testing procedure violations
- Reporting violations
- Fluoride secondary MCL violation



PNR– Public Water System Responsibilities

Content of Public Notice

- Description of violation
- When violation occurred
- Potential adverse health effects including the USEPA standard language
- Population at risk
- Whether alternative water supply should be used



PNR—PWS Responsibilities Content of Public Notice cont.

- Actions consumers should take
- Correction actions by the PWS
- When PWS expects to return to compliance
- Name, address, and phone number of PWS owner, operator or designee
- Statement to encourage sharing the information to other persons that may not have been notified



PNR—PWS Responsibilities

Compliance

- ✓ Certify to State that PN was conducted
- ✓ Submit certification and copy of PN to State within 10 days



PNR—Reporting

- Violations must be reported to State and public must be notified
 - 1 year for reporting violations
- Public notices must be kept for 3 years



ARSENIC RULE



Arsenic Rule Standards

- Applies to all CWSs and NTNCWSs
- Changes Arsenic MCL from 50 ppb to 10 ppb
- Implementation Date was January 23, 2006
- Does not change baseline sampling frequency



Arsenic Rule —Monitoring & Frequency

- To avoid receiving a violation of the NMDWR, Public Water Systems must either:
 - Comply with the 10 ppb arsenic standard by the 2005–2007 compliance period or;
 - Apply for and receive either a variance or exemption from the Arsenic Rule.



Arsenic Rule —Reporting

- Violations must be reported to State and public must be notified
 - 30 days for MCL violations
 - 1 year for monitoring and testing procedure violations
- Arsenic sampling records must be kept for 10 years
- Actions to correct violations must be kept for three (3) years



RADIONUCLIDES RULE



Radionuclide Rule Standards

- Applies to all C and NTNC Water Systems
- Implementation Date was December 8, 2003 with completed initial monitoring by December 31, 2007
- Sets an MCL for Uranium ($30 \mu\text{g/L}$)
- Retains the existing MCLs for:
 - Radium 226+228 - 5 pCi/L
 - Gross alpha particle radioactivity - 15 pCi/L
 - Beta particle and photon activity - 4 mrem/yr



Radionuclides Rule—Standards

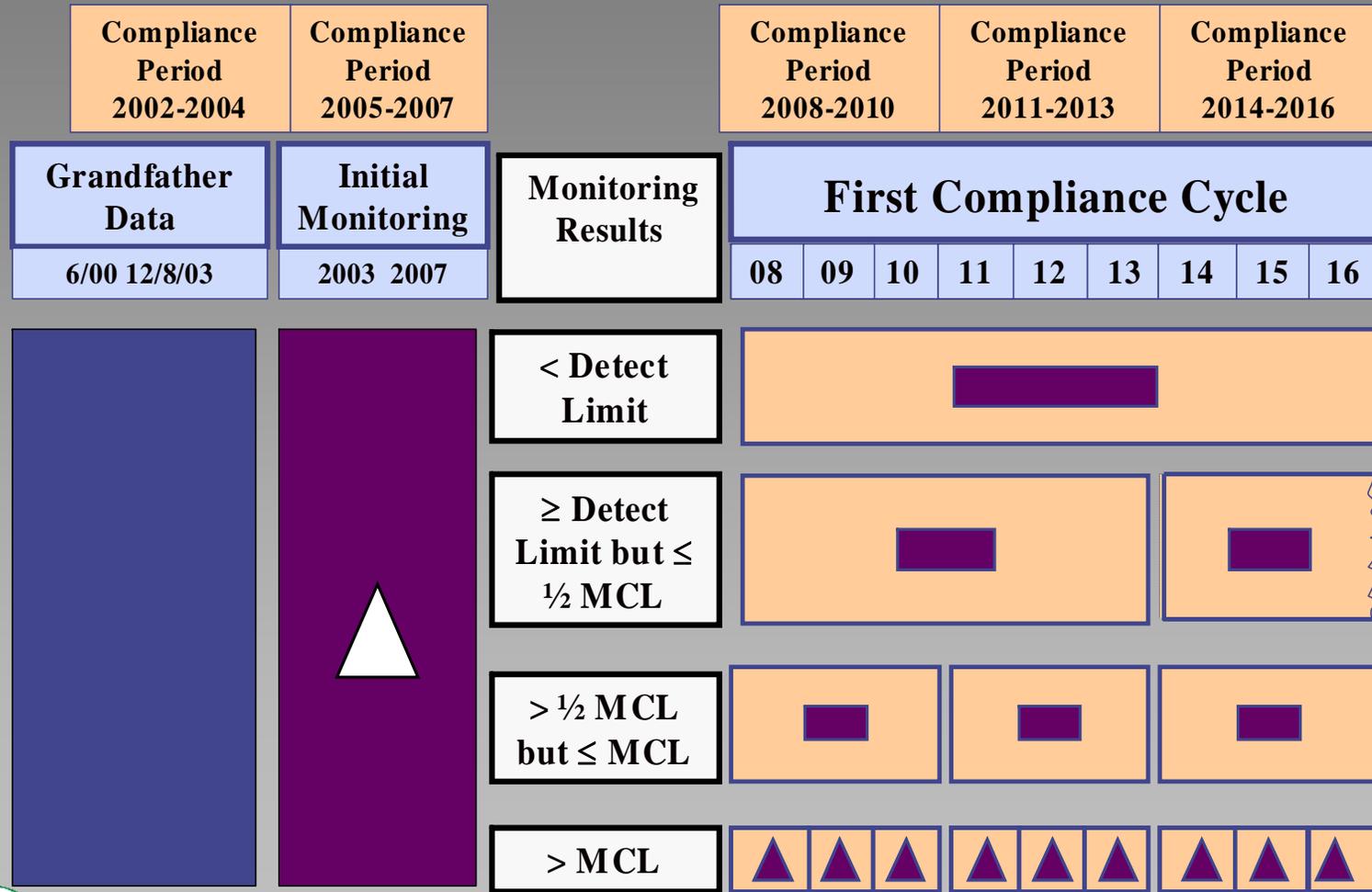
- Revises monitoring requirements
 - Standardized monitoring framework

Provision	1976 Rule	2000 Final Rule (Effective 12/03)
MCLG	None	MCLG = 0
Uranium MCL	Not Regulated	30 µg/L
Monitoring baseline	4 quarterly measurements > 1/2 MCL? 4 samples/4 yrs < 1/2 MCL? 1 sample/4 yrs.	Standardized Monitoring Framework.
Beta Particle & Photon Emitters	Surface water systems > 100,000 screen at 50 pCi/L. Vulnerable systems screen at 15pCi/L	Vulnerable systems screen at 50 pCi/Ls



Radionuclides Rule—Standards

Standardized Monitoring Framework - Radionuclides



Radionuclides Rule—Monitoring & Frequency

Increased Monitoring

- Must begin quarterly sampling
- Must continue until 4 consecutive quarterly samples are below the MCL
 - NOTE: compliance determination based on annual average



Radionuclides Rule—Reporting

- Violations must be reported to State and public must be notified
 - 48 hours for average annual MCL violations (Gross Alpha and Total Radium)
 - 30 days for other MCL violations
 - 1 year for monitoring and testing procedure violations
- Sampling records must be kept for 10 years
- Actions to correct violations must be kept for three (3) years



NEW RULE



GROUND WATER RULE

Ground Water Rule (GWR):

Requirements based on 4 major components

1. Periodic Sanitary Surveys
2. Source Water Monitoring
3. Corrective Actions
4. Compliance Monitoring



GWR—Standards

Applies to ALL ground water systems AND any system that mixes surface and ground water if the ground water is added directly to the distribution system and provided to consumers without treatment equivalent to surface water treatment.



Periodic Sanitary Surveys

Purpose: To provide an additional barrier to pathogens entering drinking water by correcting deficiencies identified in the surveys

- Community Systems—Every 3 years
 - Non-Community—Every 5 years
- ✓ Significant deficiencies will be identified during sanitary surveys
- Systems must fix significant deficiencies or apply treatment



GWR—Sanitary Survey Requirements:

Eight Elements

1. Source
2. Treatment
3. Distribution system
4. Finished water storage
5. Pumps/pump facilities and controls
6. Monitoring/reporting/data verification
7. Water system management/operations
8. Operator compliance w/ State requirements



Examples of **Significant** Deficiencies:

Source

- Improper construction
- Unsafe source
- Well in flood zone

Treatment

- Inadequate application of treatment chemicals
- Lack of redundant disinfection components
- Lack of cross-connection control for treatment chemicals
- Inadequate treatment process monitoring



Distribution System

- Negative pressures
- Inadequate disinfectant residual monitoring
- Unprotected cross-connections

Finished Water Storage

- Inadequate cleaning of storage tank
- Lack of screening of overflow pipe and drain
- Improper venting in storage tank
- Inadequate roofing of storage tank



Pumps, Pump Facilities, and Controls

- Inadequate pump capacity
- Inadequate maintenance
- Inadequate/inoperable control system

Monitoring, Reporting, and Data Verification

- Failure to properly monitor water quality
- Failure to meet reporting requirements
- Inadequate record keeping requirements
- TCR MCL or monitoring violation



System Management and Operation

- Failure to meet water supply demands/interruptions to service
- Lack of approved emergency response plan
- Inadequate follow-up to deficiencies noted on previous assessment/survey

Operator Compliance with State Requirements

- Operator is not certified as required by State
- Lack of operator training



GWR—Source Water Monitoring:

Monitor for presence of fecal indicator
(*E. coli*, Coliphage, Enterococci)

Two types:

- Routine monitoring -- required for hydrogeologically sensitive GW systems
 - Monthly, can reduce to quarterly
- Triggered monitoring -- required for GW systems not providing 4-log inactivation / removal of viruses after being notified of a TC+ under TCR



GWR—Hydrogeologic Sensitivity Assessment:

Systems identified as hydrogeologically sensitive must monitor for fecal contamination

- Two components of hydrogeologic assessment:
 - Determine whether a system's wells are located in a sensitive aquifer type (karst, gravel, cobble or fractured bed rock)
 - Determine whether a hydrogeologic barrier is present that protects wells in a sensitive aquifer type



GWR—Corrective Action:

- Systems must take corrective action if:
 - A significant deficiency is identified, OR
 - Source water tests positive for FC
- System must consult with State to determine corrective action approach within 30 days of receiving written notification (which may include):
 - Correct the significant deficiency
 - Eliminate the source of contamination
 - Provide an alternative source of water
 - Provide treatment that reliably achieves 4-log inactivation/removal of viruses
- Corrective action must be taken ASAP but w/in 120 days after written notification



GWR—Compliance Monitoring:

Ensures reliable disinfection treatment (4-log inactivation /removal of viruses)

- Required for systems that indicate that they currently achieve 4-log inactivation and are not required to meet the triggered source water monitoring requirement
- Required for systems that select disinfection as a corrective action



WHAT ARE THE COMPLIANCE DEADLINES ASSOCIATED WITH THE GWR?

PWS Requirements	Required Beginning ¹ :
Source water monitoring	December 1, 2009
Corrective actions	
Compliance monitoring ²	
	Required By ¹ :
Notification of 4-log treatment of viruses ²	December 1, 2009
State Requirements	Required By ¹ :
Complete sanitary surveys for most CWSs	December 31, 2012 (and every 3 years after)
Complete sanitary surveys for NCWSs and remaining CWSs ³	December 31, 2014 (and every 5 years after)

1. Individual states may have earlier compliance requirement dates.

2. If systems providing at least 4-log treatment of viruses want to avoid triggered source water monitoring, they must submit written notification to the state by December 1, 2009, and begin compliance monitoring by December 1, 2009.

3. May include CWSs providing at least 4-log treatment of viruses for all their ground water sources and CWSs that have an outstanding performance record, as determined by the state.



Ground Water Rule—Record Keeping

- Corrective actions must be kept for 10 years
- Public notice must be kept for 3 years
- Records of decision and records of invalidation must be kept for 5 years
- Consecutive systems—notifications to the wholesale system of TC+ must be kept for 5 years
- Records of compliance monitoring for disinfectant residuals must be kept for 10 years



Ground Water Rule—Record Keeping

- Records of lowest daily residual and any failure to maintain minimum disinfectant residuals must be kept for 5 years
- Records of failure to meet membrane operating, integrity, or alternative treatment operating requirements must be kept for 5 years
- Actions to correct violations must be kept for three (3) years



Ground Water Rule—Reporting

WHAT ARE THE VIOLATIONS ASSOCIATED WITH THE GWR?

If a system is in violation of a GWR requirement, the system must report the problem to the state and notify the public. Note that when a system has a ground water source with a fecal indicator-positive sample, it is a *situation* and not a violation. In accordance with the GWR, the system must still meet the Tier 1 Public Notification (PN) requirements.

Situation or Violation	Report to State	Notify Public ¹	Tier	PN Method
Source water monitoring sample fecal indicator-positive for <i>E. coli</i> , enterococci, or coliphage and not invalidated by the state	Within 24 hours	Within 24 hours	1	TV, hand-delivery, public postings, or other state-approved method (consult your state)
Failure to complete required corrective action	Within 48 hours	Within 30 days	2	Hand-delivery, direct mail, public postings, newspaper, or radio announcements
Failure to comply with a state-approved corrective action plan and schedule ²	Within 48 hours	Within 30 days	2	Hand-delivery, direct mail, public postings, newspaper, or radio announcements
For systems conducting compliance monitoring, failure to maintain 4-log treatment of viruses and restore 4-log treatment within 4 hours	Within 48 hours	Within 30 days	2	Hand-delivery, direct mail, public postings, newspaper, or radio announcements
Failure to conduct required source water monitoring (triggered, additional, or assessment)	Consult your State	Within 12 months	3	CCR ² (consult your state for other specific PN requirements)
Failure to conduct required compliance monitoring	Consult your State	Within 12 months	3	CCR ² (consult your state for other specific PN requirements)
Uncorrected significant deficiency	-	Annually	-	Special Notice ²
Unaddressed fecal contamination (CWSs only)	-	Annually	-	Special Notice in CCR (CWSs only)

1. Systems are required to send a copy of the PN to the state within 10 days of making the notification.

2. Community GWSs may use the Consumer Confidence Report (CCR) to make this notification if it meets the requirement to notify the public within 12 months. NCWSs must use an alternate form of notice approved by their state.





Complying with the Ground Water Rule: Small Entity Compliance Guide

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



Additional copies of this guide are available through the Safe Drinking Water Hotline at (800) 426-4791. Please reference document number EPA 815-R-07-018. You can also download the guide from EPA's Safe Drinking Water Web site at www.epa.gov/safewater/smallsys/ssinfo.htm

Contact Information

For more information on the SDWA or the Rules, contact your NMED-DWB Field Office

Albuquerque Field Office – (505) 222-9500

Santa Fe Field Office – (505) 476-8600

Clovis Field Office – (505) 762-3728

Las Cruces Field Office – (505) 524-6300



Contact Information cont.

- NMED DWB website:
 - www.nmenv.state.nm.us/dwb/
- USEPA website:
 - www.epa.gov/safewater
- USEPA Safe Drinking Water Hotline:
 - (800) 426-4791
 - hotline-sdwa@epamail.epa.gov



Questions

