

COMPREHENSIVE LEAD AND COPPER RULE TRAINING



January 2001

Introduction

Purpose of This Training

- ☛ Improve consistent implementation nationally
- ☛ Present the Lead and Copper Rule Minor Revisions (LCRMR)
- ☛ Explain primacy issues
- ☛ Present SDWIS reporting

Introduction

Terminology for Primacy Agency

- ☛ “State” means Primacy Agency
- ☛ 40 CFR §141.2 definition for State
- ☛ Possible Primacy Agency
 - State
 - Tribal government
 - EPA Region
- ☛ Federal regulation v. State or Tribal government regulations

Introduction

How The LCR Presentation is Organized

- LCR Overview
- SDWIS Reporting Overview
- LCR Minor Revisions (LCRMR)
- Rule Provisions
 - Lead and Copper Tap/Initial WQP Monitoring
 - Corrosion Control Optimization
 - Public Education
 - Source Water Monitoring & Treatment
 - Replacement of Lead Service Lines
 - State Reporting and Recordkeeping
- Primacy and Implementation

LCR Overview

Health Effects of Lead

☛ Children are highly susceptible

- Impaired mental development
- IQ deficits
- Shorter attention span
- Lowered birth weight
- Altered heme synthesis and Vitamin D metabolism



☛ Adults

- Increased blood pressure

☛ EPA set MCLG at zero

LCR Overview

Health Effects of Copper

- ☛ Stomach and intestinal distress
- ☛ Complications of Wilson's Disease
- ☛ Chronic exposure can cause liver disease in genetically predisposed individuals
- ☛ EPA set MCLG at 1.3 mg/L



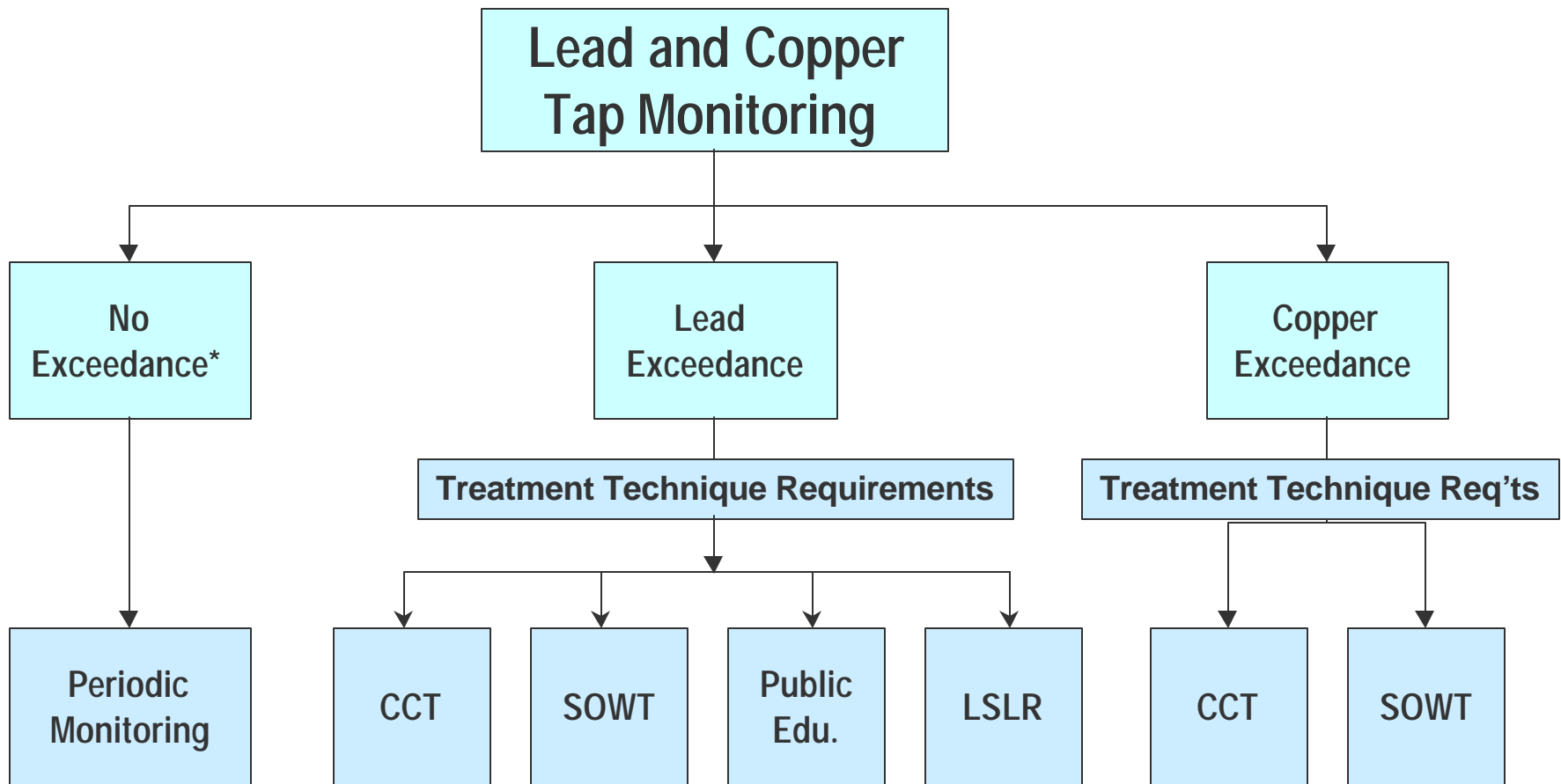
LCR Overview

- Published on June 7, 1991
- Establishes MCLGs for lead and copper
- Mandates treatment techniques vs. MCL, triggered by tap monitoring results $>$ AL

	<u>MCLGs</u>	<u>Action Levels (ALs)</u>
Lead	0 mg/L	0.015 mg/L
Copper	1.3 mg/L	1.3 mg/L

- **AL Exceedance *is not a violation***

LCR Overview



* includes systems serving $\geq 50,000$ people and (b)(3) systems.

Introduction

LCRMR Summary

- ☛ Reduce burden
 - frequency of monitoring
 - flexibility in public education requirements
- ☛ Improve implementation
 - compliance with OWQP
 - sample invalidation
- ☛ Clarifications of 1991 rule
- ☛ Address 2 judicial remands
 - transient water system exclusion
 - lead service line replacement requirements

Introduction

LCRMR Effective Date

- ☞ Published on January 12, 2000
- ☞ Effective April 11, 2000
- ☞ Provisions divided into two categories
 - provisions that are more stringent and systems were required to begin implementing on April 11, 2000 (*marked with a ★ throughout the presentation*)
 - provisions that are less stringent and require State adoption and/or approval to implement

Introduction

SDWIS Reporting Issues to Be Addressed

- ☛ Effective Date
- ☛ Milestone reporting
- ☛ Sample reporting
- ☛ Violation reporting
- ☛ Enforcement/Follow-up actions and linking
- ☛ Significant Non-Compliers (SNC)
- ☛ Data transfer file format (DTF)

Introduction

Summary of Changes to SDWIS Reporting

☛ LCRMR

- 3 milestones (LSLR, DEEM, DONE)
- All 90th lead for medium and large

☛ Non-rule-related changes

- 15 violation types consolidated into 10
- begin date is day after event*
- end date is 12/31/2015*

***Applies to all violations except compliance with optimal water quality parameters and WQP M/R violations.**

Introduction

Effective Date for SDWIS/FED

- ☛ Most requirements/provisions are effective 90 days after LCRMR published (4/11/00)
- ☛ FR lists 5/15/00 as earliest date for reporting new requirements and codes
- ☛ Option to report under old or new until 1/13/02

Introduction

Effective Date for SDWIS/FED

- SDWIS/FED will convert data reported, as necessary and appropriate, until 1/13/02
- After 1/13/02, SDWIS/FED will not convert or accept data which does not meet new requirements
- Provide warning messages in Errors Reports
- Converted data will be identified on SDWIS/FED Error Reports until 1/13/02
- After 1/13/02, data reported that is not consistent with new requirements will be rejected

Introduction

Milestones Summary

- ☛ Reduction of reported Milestones (was 11; now 3)
- ☛ Two new Milestones (DEEM and DONE)
- ☛ CU90 Exceedances reportable as Samples (being converted by SDWIS/FED)
- ☛ PB90 Exceedances no longer reportable as Milestone... must be reported as Sample
- ☛ Remainder of pre-LCRM Milestones are rejected by SDWIS/FED

Introduction

Violation Summary

- ☛ Consolidation of Violation Types ... 15 to 10
- ☛ LCRMR changes non-compliance portrayal
- ☛ Begin date - day after requirement missed
- ☛ End date - defaulted to December 31, 2015 until RTC reported and linked to violation

Introduction and Overview

Enforcement

- Continued reporting required for all formal actions, and when compliance is achieved (RTC)
- New Use for “Intentional No-Action” enforcement

Example: System has LSL replacement violation, but is at or below lead action level for 2, subsequent, consecutive monitoring periods

Introduction and Overview

Significant Non-Compliers (SNCs)

- ☞ No NEW SNCs - modified Initial Tap (51)
- ☞ Consolidated OCCT/SOWT Installation and/or Demonstration into one SNC
- ☞ 3 discrete SNCs
 - Initial Tap Monitoring (51)
 - OCCT/SOWT Installation/Demonstration (58)
 - Public Education (65)

Introduction and Overview

Significant Non-Compliers (SNCs)

Initial Pb/Cu Tap M/R


**Initial SDWIS/FED implementation
as of 4/01 - System with this
violation which was not linked to
RTC**

**OCCT/SOWT Installation,
or
Public Education**

**After 4/01 - System with this
violation**

**System with this violation & 90th
percentile lead level of ≥ 0.030
mg/l in most recent monitoring
period**

Lead and Copper NPDWR Requirements

- 
- Lead and Copper Tap/Initial WQP Monitoring
 - Corrosion Control Optimization
 - Public Education
 - Source Water Monitoring & Treatment
 - Replacement of Lead Service Lines
 - State Reporting and Recordkeeping
 - Primacy and Implementation

Lead and Copper Tap Monitoring Overview

- Required for all CWSs and NTNCWSs
- Systems divided into 3 size categories

<u>Size</u>	<u>No. of People Served</u>
Small	$\leq 3,300$
Medium	3,301 - 50,000
Large	$> 50,000$

Size impacts rule requirements

Samples collected at kitchen/bathroom taps

Sample results dictate other requirements

Lead and Copper Tap Monitoring Site Selection

Sample from Highest Risk Homes (Tier 1)

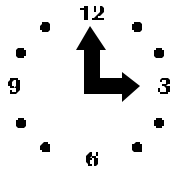
- ☛ Copper pipes with lead solder installed after 1982, but before State's lead ban
- ☛ Lead pipes
- ☛ Lead service lines



Lead and Copper Tap Monitoring Site Selection

- ☛ CWS: Collect Tier 1 → Tier 2 → Tier 3
- ☛ NTNCWS: Collect Tier 1 → Tier 2
- ☛ Minimum number of required sites identified by rule

Lead and Copper Tap Monitoring Sample Collection Method



☞ First draw



6-hour standing time

1 liter



Residents can collect samples



Lead and Copper Tap Monitoring

Minimum Number of Tap Samples

System (Population)	No. of Sampling Sites (Routine)	No. of Sampling Sites (Reduced)
> 100,000	100	50
10,001 to 100,000	60	30
3,301 to 10,000	40	20
501 to 3,300	20	10
101 to 500	10	5
≤ 100	5	5

Lead and Copper Tap Monitoring Action Levels

Lead	0.015 mg/L
Copper	1.3 mg/L

- ☛ Measured at 90th percentile (e.g., if 100 samples, no more than 10 may exceed action level)
- ☛ Exceedance of an AL *is not a violation*

Lead and Copper

Tap Monitoring

How to Calculate 90th Level: > 5 Samples

Step 1: Place lead or copper results in ascending order

Step 2: Assign each sample a number, 1 for lowest value

Step 3: Multiply the total number of samples by 0.9

Example: 20 samples \times 0.9 = 18th sample

Step 4: Compare 90th percentile level to the action level

Lead and Copper

Tap Monitoring

How to Calculate 90th Level: 5 Samples

- Step 1:** Place lead or copper results in ascending order
- Step 2:** Take the average of the 4th and 5th highest samples
- Step 3:** Compare 90th percentile level to the action level

Lead and Copper Tap Monitoring

Initial Monitoring

Start Dates for Monitoring

Jan. 1992: Large Systems (> 50,000)

July 1992: Medium-Size Systems (3,301-50,000)

July 1993: Small Systems (£ 3,300)



**6-month monitoring periods (Jan - June),
(July - December)**

WQP Monitoring

Initial Monitoring

- Required for all large systems
- Required for small/medium systems if exceed an AL
- Sample site locations
 - representative taps (e.g., coliform sites)
 - entry points to the distribution system
- 2 samples per site
- Used to assist in determining optimal CCT

WQP Tap Monitoring

Minimum Number of Tap Samples

System (Population)	No. of Sampling Sites (Routine)	No. of Samples
> 100,000	25	50
10,001 to 100,000	10	20
3,301 to 10,000	3	6
501 to 3,300	2	4
101 to 500	1	2
≤ 100	1	2

Reduced Monitoring for Pb/Cu Criteria

Systems serving	Criteria	Frequency
$\leq 50,000$	Meets both action levels for 2 consecutive 6 months	Annual
	Meets both action levels for 3 consecutive years	Triennial
Any size system that is required to collect WQPs	Meets OWQPs for 2 consecutive 6 months	Annual
	Meets OWQPs for 3 consecutive years	Triennial

LCR Minor Revisions

Changes to Sampling Pool

- ★ Systems without enough tiered sites must use representative sites
- ☞ Systems without enough first-draw sample sites
 - Must collect non-first-draw samples from sites with longest standing times
 - State can waive need for prior approval

★ Implement on April 11, 2000

LCR Minor Revisions

Systems on Reduced Monitoring

LCR

- ☛ Reduced sampling sites not specified
- ☛ No notification if change source or treatment
- ☛ Must request permission if meet OWQPs
- ☛ Sample collection limited to June - Sept
- ☛ No accelerated monitoring

LCRMR

- ★ Must use representative sites & State can specify sites
- ★ Must notify State of change in source or treatment
- ☛ No longer need to request permission
- ☛ State may designate alternate period
- ☛ Accelerated monitoring

★ Implement on April 11, 2000

LCR Minor Revisions

Reduced Monitoring (Continued)

- ☛ States can approve alternate monitoring period
- ☛ Should assist seasonal NTNCWSs
- ☛ Alternate period must be:
 - ≤ 4 consecutive months
 - time of normal operation when highest likely lead levels
- ☛ Transition period specified

LCR Minor Revisions

Accelerated Reduced Monitoring

- ☛ Allowed if 90th percentile levels for two consecutive 6-months are:

Lead	≤ 0.005 mg/L
Copper	≤ 0.65mg/L

System goes directly to triennial monitoring
State approval not required

LCR Minor Revisions

Sample Invalidation

States may invalidate tap sample if:

- **Improper sample analysis**
- **Site selection criteria not met**
- **Sample container damaged**
- **Sample subjected to tampering**



Sample Invalidation Documentation

- ☞ System can request sample invalidation if:
 - All sample results are presented to State
 - Documentation is provided for samples to be invalidated

- ☞ State decision to invalidate sample:
 - Must be in writing
 - Cannot be made based on earlier sample results

- ☞ Invalidated samples not counted for compliance

Sample Invalidation Replacement Samples

☞ Must be taken:

- If needed to meet minimum sampling requirements
- Within 20 days after invalidation or by end of monitoring period, whichever is later
- From same locations, if possible

☞ Cannot be used for subsequent monitoring period

LCR Minor Revisions

Monitoring Waivers

- ☛ Applies to systems serving $\leq 3,300$ people
- ☛ Reduces tap monitoring to once every 9 years
- ☛ Systems must meet specific materials and monitoring criteria
- ☛ States must grant approvals in writing
- ☛ States can require additional activities as waiver condition

Monitoring Waivers

Types

☛ Types of monitoring waivers

Full waiver: both lead and copper

Partial waiver: lead or copper only

Pre-existing waiver: granted prior to 4/11/00

Monitoring Waivers

Materials Criteria

- ☛ Applies to distribution system, service lines, drinking water supply plumbing, including within homes/buildings served
- ☛ Lead criteria:
 - No plastic pipes w/ lead plasticizers or plastic service lines w/ lead plasticizers,
 - No LSLs, lead pipes, lead soldered pipe joints, leaded brass or bronze fittings and fixtures (unless meet lead-leaching std)
- ☛ Copper criteria: no copper pipes or service lines

Monitoring Waivers

Monitoring Criteria

- Must have completed one 6-month round of monitoring since meeting materials criteria
- Pre-existing waivers granted without monitoring required must complete round by 9/30/2000
- 90th percentile levels must be

Lead criteria: ≤ 0.005 mg/L

Copper criteria: ≤ 0.65 mg/L

- **Must continue to monitor once every 9 years**

Monitoring Waivers Renewal

- Recertification every 9 years, with monitoring results
- Renewed automatically if system still meets criteria

Monitoring Waivers

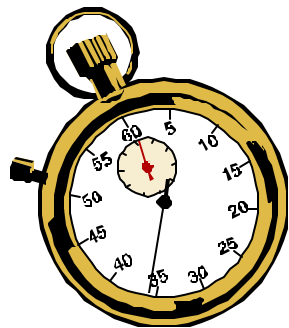
Other

- Notification within 60 days by system
 - If change in treatment or adds source
 - If no longer meets materials criteria
- Waiver revocation must be in writing
 - If due to AL exceedance, must begin CCT steps
 - If other than AL exceedance → triennial monitoring

LCR Minor Revisions

Sample Analysis

- Holding time has been revised to be consistent with other metals
- Refers to minimum time allowed after samples have been acidified and before analysis



LCR Minor Revisions

System Reporting

- State calculation of 90th percentile levels:
 - States must notify system
 - Systems must provide sampling results by deadline
 - States must provide 90th percentile calculation to system before monitoring period end
 - State can incorporate schedule into regulations

LCR Minor Revisions

System Reporting (Continued)

- ☛ Elimination of justification letters for:
 - Use of non-tier 1 sites
 - Insufficient LSL sample sites

- ☛ Elimination of sample certifications for:
 - first-draw
 - resident-collected samples

LCR Minor Revisions

Summary of Tap Monitoring & Reporting Revisions

☞ Changes to Sampling Pool

- ★ Use of representative sites if insufficient tiered sites
 - Use of non-first draw samples

☞ Reduced monitoring

- ★ Must use representative sites & State can specify sites
- ★ Notification of change in treatment/new source
 - No longer need to request permission to reduce Pb/Cu tap monitoring after meeting OWQPs
 - State may designate alternate period
 - Accelerated reduced monitoring

★ Implement on April 11, 2000

LCR Minor Revisions

Summary of Tap Monitoring & Reporting Revisions (Continued)

- ☛ Sample Invalidation
- ☛ Monitoring waivers
- ☛ Reduced holding time
- ☛ Reporting changes
 - elimination of sampling justifications
 - elimination of sample collection certifications
 - 90th percentile calculation by State



Lead and Copper Tap
& Initial WQP

Compliance Examples

Applicable Reporting Requirements

Sample Records

PB90 - Lead 90th percentile levels

CU90 - Copper 90th percentile levels

Violations

51 - Initial lead and copper M/R

52 - Follow-up/routine lead and copper M/R

53 - WQP M/R

Initial Lead and Copper M/R SNC - 51

Applicable Reporting Requirements

Lead Results

ALL Lead 90th Percentile Results (PB90) required for all Large and Medium systems

Reporting of Lead 90th Percentile Exceedances for Small systems continues

Applicable Reporting Requirements

Copper Results

Copper 90th Percentile (CU90) Exceedances now reportable as Sample

Copper 90th Percentile (CU90) Milestone will be converted to a Sample until January 11, 2002

Non-exceedances will not be accepted

Applicable Reporting Requirements

Initial Tap M/R (51)

Contaminant Code “5000”

Violation Type Code “51”

Compliance Portrayal Changed

RTC Requires 2 consecutive, 6-month rounds

Affects New Systems and Pre-Existing Waivers

SNC condition

Applicable Reporting Requirements

Lead and Copper Initial Tap SNC

Initial Tap (51) Violation qualifies for SNC when the system fails to complete Initial Tap Monitoring (requires 2 consecutive 6-month sample sets, or the system exceeds the lead or copper action level and is triggered into corrosion control steps.

Applicable Reporting Requirements

Follow-up/Routine Tap M/R Violations

Contaminant Code “5000”

Violation Type Code “52”

Follow-Up and Routine Monitoring
Compliance Portrayal Changed

RTC Sometimes Requires 2 consecutive 6-
month rounds

NOT SNC condition

Applicable Reporting Requirements

Enforcement/RTC

Formal Enforcement Follow-up actions are Required Reporting

Enforcement/follow-up action must be linked to the violation

Compliance Period/Violation Period End Date is replaced by the RTC action date; therefore, RTC must be reported

Applicable Reporting Requirements

Initial WQP M&R (53)

Contaminant Code “5000”

Violation Type Code “53”

Traditional begin and end dates

6-month compliance period

RTC reporting required

90th Percentile Example

System Collecting 5 samples - Question

Assume 5 samples are collected with lead results as follows:

Site 1: 0.008 mg/L

Site 2: 0.011 mg/L

Site 3: 0.020 mg/L

Site 4 : 0.008 mg/L

Site 5: 0.008 mg/L

What is the 90th Percentile Value?

90th Percentile Example

System Collecting 5 samples - Answer

Step 1: Order results from lowest to highest:

No 1: 0.008 mg/L

No 2: 0.008 mg/L

No 3: 0.008 mg/L

No 4: 0.011 mg/L

No 5: 0.020 mg/L

Step 2: Average the 4th & 5th samples highest samples to get 90th percentile value = 0.016 mg/L

$$\frac{0.011 \text{ mg/L} + 0.020 \text{ mg/L}}{2} = 0.0155 \text{ mg/L}$$

Step 3: Compare to lead action level → Exceedance

90th Percentile Example

System Collecting More Than 5 samples- Question

Assume 10 samples are collected with lead results as follows:

Site 1: 0.005 mg/L

Site 2: 0.015 mg/L

Site 3: 0.005 mg/L

Site 4 : 0.014 mg/L

Site 5: 0.014 mg/L

Site 6: 0.005 mg/L

Site 7: 0.040 mg/L

Site 8: 0.014 mg/L

Site 9: 0.014 mg/L

Site 10: 0.005 mg/L

What is the 90th Percentile Value?

90th Percentile Example

System Collecting More Than 5 samples - Answer

Step 1: Order results from lowest to highest :

No. 1: 0.005	No. 6: 0.014
No. 2: 0.005	No. 7: 0.014
No. 3: 0.005	No. 8: 0.014
No. 4: 0.005	No. 9: 0.015 ←
No. 5: 0.014	No. 10: 0.040

Step 2: Multiply number of samples by 0.9 to determine which sample represents 90th percentile level

$$10 \times 0.9 = 9\text{th sample}$$

Step 3: Compare to lead action level → No Exceedance

90th Percentile Example

System that Collects More Than Minimum
Rounding

Example

The system collects 22 copper samples.

The 19th highest sample = 1.2 mg/L, the 20th highest = 1.5 mg/L.

Determining 90th percentile using rounding

1. 90th percentile copper level is determined at
 $22 \times 0.9 = 19.8\text{th sample}$
2. Round to nearest whole number
3. 90th percentile is 20th highest sample = 1.5 mg/L

90th Percentile Example

System that Collects More Than Minimum Interpolation

Example

The system collects 22 copper samples.

The 19th highest sample = 1.2 mg/L, the 20th highest = 1.5 mg/L.

Determining 90th percentile using interpolation

1. **90th percentile copper level is determined at**
 $22 \times 0.9 = 19.8\text{th sample}$
2. **Take difference between 19th and 20th sample**
 $1.5 - 1.2 = 0.3 \text{ mg/L}$
3. **Multiply by 0.8 =**
 $0.8 \times 0.3 = 0.24$; rounded to 0.2
4. **Add 0.2 to lower of 2 results = 90th percentile of 1.4 mg/L**

Exceedance Determination

Scenario

90th percentile values for tap monitoring between January and June 2000:

Pb = 0.014 mg/L

Cu = 1.4 mg/L

1. Has the system exceeded the lead or copper AL?

The system exceeded the copper action level.

2. Is the system in violation?

No, an exceedance is not a violation.

State Calculation of 90th Percentile

Scenario for Small System

- 1/1/01 - 6/30/01: System required to conduct monitoring
- 2/15/01: State notifies system that it will calculate 90th percentile
- 5/31/01: State deadline for results/supporting documentation from system
- 6/27/01: System provides results and supporting documentation
Pb 90th = 0.014 mg/L
Cu 90th = 1.4 mg/L
- 6/29/01: System receives 90th percentile from the State

1. Is the system in violation?

The system has not violated a Federal requirement.

2. What problem might occur because system learned its 90th percentile values on 6/29/01?

System may be unable to meet its WQP monitoring requirements.

Violation Determination

Scenario for Large Water System

System reports 90th percentile values for tap monitoring between January 1, 2001 and December 31, 2001:

Pb: 0.012 mg/L; Cu: 1.1 mg/L

Note: System collected only 28 of 30 required samples by 12/31/01

1. Has the system exceeded the lead or copper AL?

No, a 90th percentile value cannot be calculated until the required number of samples have been collected and analyzed.

2. Is the system in violation?

Yes, the system incurred a Routine Tap M/R violation (52 violation type code).

3. How does the system return to compliance?

It must meet monitoring and reporting requirements for 1 period.

Violation Determination

Scenario for New Small System

- Required to conduct initial monitoring during 1/1/01-6/30/01
- Completes monitoring by June 30, 2001, but reports on 8/29/01

1. Is the system in violation?

Yes, the system must report results by July 10, 2001 (10 days after the end of the compliance period).

2. If homeowners participated in the monitoring, does the system have to submit a certification to the State that it provided sample collection instructions?

Yes, until the State adopts the new provision that eliminates this requirement.

3. When does the system return to compliance?

On 8/29/01, when it submits all required results.

Pre-existing Monitoring Waivers

Scenario for Small System

- Waiver granted on 7/10/96
- System has never monitored
- Tap monitoring conducted and reported to State on 6/19/01

1. Was the system required to conduct any lead and copper tap monitoring?

Yes, systems with waivers issued before the LCRMR must perform tap monitoring by 9/30/00.

2. Is the system in violation?

Yes, it did not meet the 9/30/00 deadline and has incurred an initial tap M/R violation (code 51) and becomes ineligible for its waiver.

3. When did the system return to compliance? Is it a SNC?

On 6/19/01, when it submitted the required results. Yes, under the new revised definition.

Monitoring Waivers

Scenario for Small System

- Waiver granted on 2/15/01
- As of 1/1/08, conducted last tap monitoring on 7/1/98

1. Is the system required to conduct monitoring after 1998?

Yes, systems with waivers must monitor every 9 years, or by 7/1/07 in this example.

2. Is the system in violation?

Yes, it did not meet the 7/1/07 deadline and becomes ineligible for its waiver.

3. What type of violation has the system incurred? Is the system a SNC?

A routine lead and copper tap M/R violation (code 52). No, this violation type is not included in SNC definition.

Sample Invalidation

Scenario

- System must collect 10 samples during annual monitoring in 2001
- Provides documentation on 8/15/01 for 2 samples to be invalidated
- State grants invalidation request on 8/30/01

1. Is the system required to collect replacement samples?

Yes, two replacement samples are needed to meet minimum sampling requirements.

2. What is the deadline for collecting these samples?

September 30, 2001.

3. If the system does not collect replacement samples, is it in violation?

Yes. It is a routine lead and copper tap M/R violation.

Non-First Draw Samples

Scenario for System Operating 24-hours per Day

- System permitted to collect non-first draw samples
- Monitors during 1/1/2002 - 12/31/2002
- Does not collect samples from sites with the longest standing times.

1. Is the system in violation?

Yes. It must collect samples from sites with longest standing times.

2. What type of violation is this?

Routine lead and copper tap M/R violation (code 52).

3. How does the system return to compliance?

It must submit a round of samples from sites with the longest standing times.

Alternative Monitoring Period

Scenario for Seasonal NTNCWS

- System is closed during summer months and is on annual monitoring
- System last sampled on 7/7/01
- On 9/10/01, State specifies alternative monitoring period of Oct. - Dec.

1. When are the next set of samples due?

December 31, 2002.

2. What if the system had been on triennial monitoring?

December 31, 2004.

3. Can a system incur a violation for failure to meet the transitioning deadline?

Yes. It would be a routine lead and copper tap M/R violation.

4. How does the system return to compliance?

System submits monitoring results that meet sampling, analytical, and reporting content requirements.

Reduced Monitoring

Scenario

- Small system never completed 2 rounds of initial monitoring in 2, consecutive, 6-month periods, but has never exceeded action levels
- State approved reduction to triennial monitoring, and current monitoring period is 1/01/99 - 12/31/01
- System last sampled on 6/28/98

1. Did the system meet the requirements for reduced monitoring?

No. The system must complete two rounds of standard monitoring in two consecutive, six-month compliance periods to qualify for annual monitoring.

2. What if the system had completed two rounds of initial monitoring, but the samples were not collected in consecutive periods?

System must collect 2 consecutive 6-month rounds.

Accelerated Reduced Monitoring

Scenario for New Water System (population 5,500)

- System put into service on 1/10/00.
- Completes first round of initial monitoring by 6/30/00:
Pb 90th = 0.008 mg/L; Cu 90th = 0.60 mg/L
- Completes second round of initial monitoring by 12/31/00:
Pb 90th = 0.005 mg/L, Cu 90th = 0.60 mg/L

1. Is this system eligible for accelerated reduced monitoring?

No. Although it met the criteria for copper, the system did not meet the lead criteria, which require a 90th percentile value of less than or equal to 0.005 mg/L for two, consecutive, six-month periods.

2. Could the system be reduced to annual monitoring?

Yes. The system met the requirements for annual monitoring at a reduced number of sites.

WQP M/R Compliance

Scenario for New Water System

- System serves 10,000 people
- Completes first round of initial monitoring by 12/31/02
- Lead 90th = 0.010 mg/L; Copper 90th = 0.65 mg/L

1. Is this system required to conduct WQP monitoring?

No. This is a medium system that did not exceed an action level.

2. What if the system served > 50,000 people?

The system would be required to collect WQP samples within the same compliance period as the tap samples, or by 12/31/02.

Lead and Copper NPDWR Requirements

Lead and Copper Tap/Initial WQP Monitoring

Corrosion Control Optimization



Public Education

Source Water Monitoring & Treatment

Replacement of Lead Service Lines

State Reporting and Recordkeeping

Primacy and Implementation

What Is Corrosion Control?

Corrosion control is chemical treatment that is designed to reduce the corrosivity of water

- **Raising pH to make water less acidic**
- **Adding buffering to make water more stable**

Corrosion Control

Applicability

- $\leq 50,000$ that exceed either AL
- $> 50,000$ regardless of 90th percentile*

*(b)(3) systems not subject to CCT requirements

(b)(3) system = 90th percentile lead - highest source water < 0.005 mg/L for 2 consec. 6 mos.

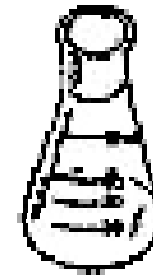
Corrosion Control Treatment Steps

- **Study/Treatment Recommendation by System**
- **State Treatment Determination**
- **Treatment Installation**
- **Follow-up Pb/Cu Tap & WQP Monitoring**
- **State-Specified Operating Parameters**

Corrosion Control Optimization Study

- **State discretion for $\leq 50,000$**
- **Required for $> 50,000$, unless (b)(2) or (b)(3) system**
- **18 months to complete**
- **System must identify constraints for:**

pH and alkalinity adjustment
calcium hardness adjustment
corrosion inhibitors



Fully document treatment recommendation

Corrosion Control Optimization Treatment Installation & Follow-up Monitoring

- State approval/designation of alternative CCT

- 24 months to install

2 consecutive 6 months for Pb/Cu tap & WQP follow-up monitoring

Entry point monitoring changes to biweekly and 1 sample per entry point

≤ 50,000 systems only collect WQPs during monitoring period(s) in which exceed AL



Corrosion Control Optimization

Designation of OWQPs

State-specified Operating Parameters Become Compliance Measures

- ☞ pH
- ☞ alkalinity
- ☞ calcium
- ☞ orthophosphate
- ☞ silica



**State sets OWQPs within 6 months of
receiving follow-up results**

Corrosion Control Optimization

Monitoring after OWQPs Specified

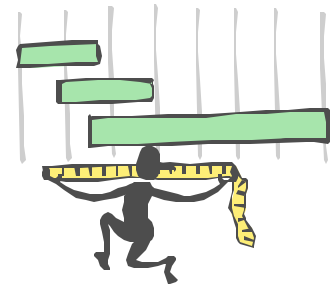
WQP tap monitoring every 6 months*

Reduced tap WQP monitoring if system in compliance with OWQPs for:

- ☛ 2 consecutive 6 months → reduced no. of sites
- ☛ 3 consecutive years of 6-month monitoring → annual frequency
- ☛ 3 consecutive years of annual monitoring → triennial frequency

Entry point remains biweekly

* Systems serving $\leq 50,000$ people, and \leq both ALs, are not required to collect WQPs

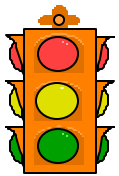


Corrosion Control Optimization

Discontinuing Treatment Steps



$\leq 50,000$ can stop CCT steps if at or below both ALs for 2 consecutive monitoring periods



Must recommence steps if exceed during any subsequent round

LCR Minor Revisions

Optimized Systems with CCT

LCRMR clarify that “optimized” systems with treatment in place must:

- ★ Maintain corrosion control treatment; and
- ★ Meet requirements that State determines are needed to maintain optimal treatment

★ Implement on April 11, 2000

LCR Minor Revisions

Clarification of (b)(2) system requirements

“Optimized” systems that have completed CCT prior to 12/7/92 must:

- ★ Monitor for WQPs after OWQPs are designated
- ★ Continue lead and copper tap sampling

★ Implement on April 11, 2000

LCR Minor Revisions

Expanded definition of (b)(3) system

- Systems also qualify as “(b)(3)” system if for 2 consecutive 6 month periods:
 - source water lead levels $<$ MDL, *and*
 - 90th percentile lead level \leq 0.005 mg/L

LCR Minor Revisions

Clarification of (b)(3) system requirements

★ *(b)(3) systems must:*

- Collect tap samples every 3 years (once between 10/1/97 and 9/30/00)
- Not exceed the copper action level by 7/12/01; &
- Notify State of change in treatment or new source

★ *Systems that no longer are (b)(3) must:*

- Begin CCT steps under §141.81(e)

★ Implement on April 11, 2000

LCR Minor Revisions

New OWQP Compliance Procedure

OWQP Noncompliance

☞ LCR:

- Any value or average is outside OWQP range or below minimum

☞ LCRMR:

- Cannot be outside OWQP range or below minimum on > 9 days in 6-month period

LCR Minor Revisions

New OWQP Compliance Procedure (Cont.)

☛ New criteria for evaluating OWQP compliance:

- Compliance based on a 6-month period
- First 6-month period begins when State specifies OWQPs
- Daily values determined for each WQP at each sampling location
- Daily values determined even if no monitoring has occurred

LCR Minor Revisions

New OWQP Compliance Procedure (Cont.)

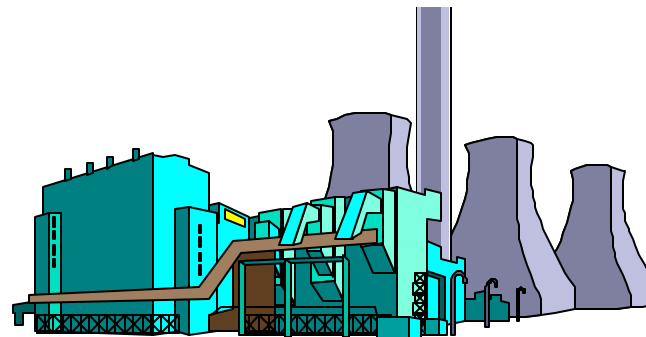
Excursions

- ☛ Excursion = “daily value” below the minimum value or outside the OWQP range
- ☛ Multiple excursions on same day count as 1 excursion
- ☛ Cannot have excursions on > 9 days during 6 month monitoring period
- ☛ > 9 days in 6 month period with excursions = violation
- ☛ Systems in violation return to standard Pb/Cu tap and WQP tap monitoring

LCR MINOR REVISIONS

Representative WQP Entry Point Monitoring

- ☛ Applies to ground water systems
- ☛ Limits entry point WQP monitoring to representative sites after CCT installed
- ☛ Must demonstrate sites are representative of water quality conditions throughout system



LCR Minor Revisions

Accelerated Reduced Tap WQP Monitoring

Applies to > 50,000

☞ Applies to distribution (“tap”) WQP monitoring



Allows systems to monitor triennially for tap WQPs more quickly than before

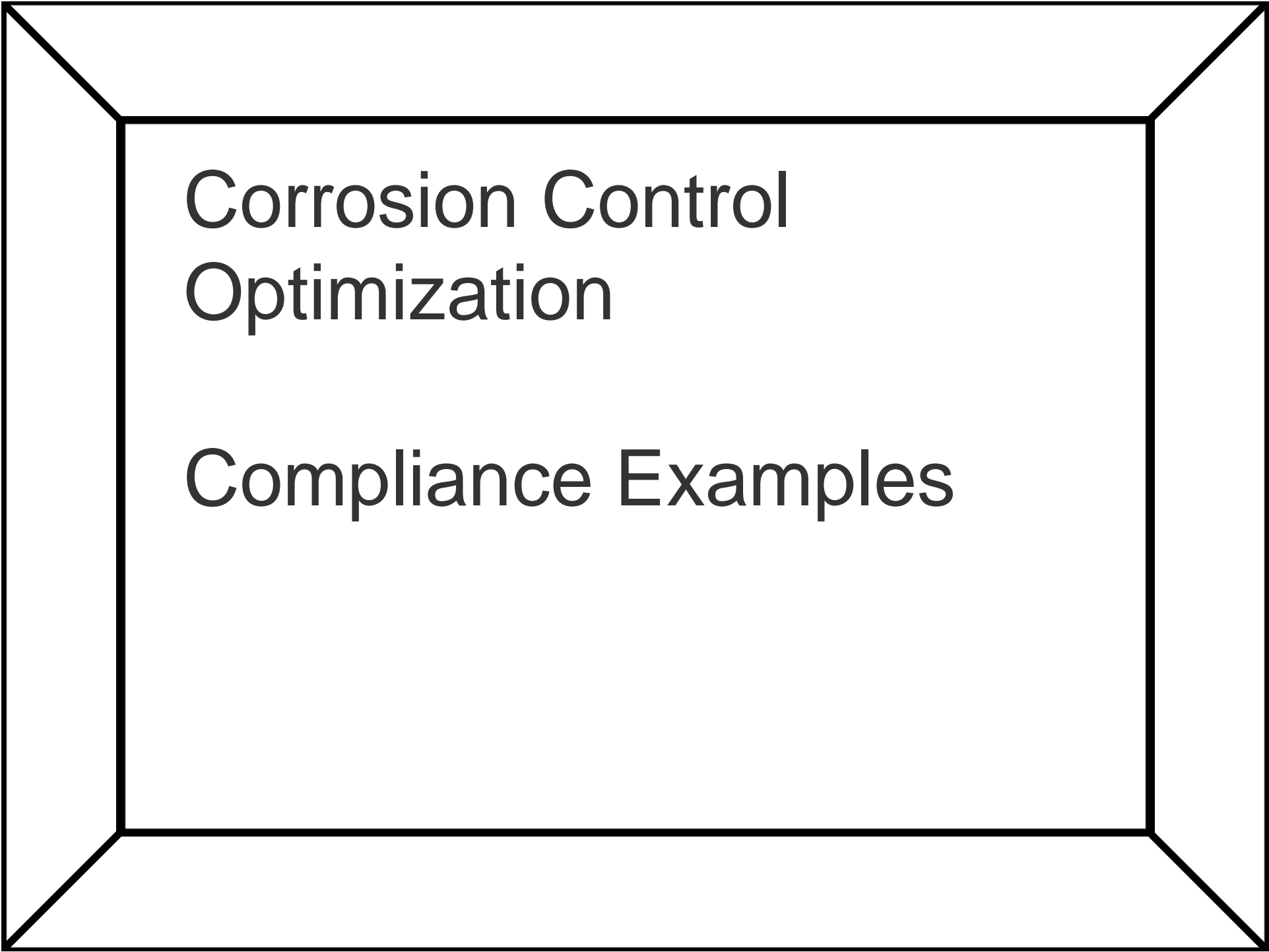
System must for 2 consecutive monitoring periods:
qualify for accelerated Pb/Cu tap monitoring &
be in compliance w/ OWQPs

LCR Minor Revisions

Summary of CCT Revisions

- ★ Clarification of treatment operation and monitoring requirements for:
 - Systems with CCT installed
 - (b)(3) systems
- ★ (b)(3) systems cannot exceed the copper AL
- ☞ System with source lead < MDL can qualify as (b)(3) system
- ☞ New OWQP compliance procedure
- ☞ Representative WQP entry point monitoring
- ☞ Accelerated reduced WQP “tap” monitoring

★ Implement on April 11, 2000



Corrosion Control
Optimization

Compliance Examples

Applicable Reporting Requirements

Reported as 53 violation type

Initial WQP M/R (pre-LCRM code = 53)

Follow-up or routine entry point WQP M/R (pre-LCRM code = 54)

Follow-up or routine tap WQP M/R (pre-LCRM code = 55)

Reported as 59 violation type

WQP Entry Point Noncompliance (pre-LCRM code = 59)

WQP Tap Noncompliance (pre-LCRM code = 60)

Applicable Reporting Requirements

If New OWQP Compliance Procedure Is Not Adopted

Except for consolidation of violation types, reporting remains unchanged

Initial M/R violations are specific to 6-month period

Follow-up, routine tap WQP M/R or OWQP tap noncompliance is 6-month, 12-month, or 36-month violation

Entry point M/R or OWQP noncompliance at entry points is quarterly violation (one violation type per quarter)

Separate tap and entry point violations are reported

Applicable Reporting Requirements

If New OWQP Compliance Procedure Is Adopted

Fixed 6-month compliance period

One OWQP violation is reported per 6-month

One M/R violation is reported per 6-month

Applicable Reporting Requirements

WQP M/R & OWQP Noncompliance Violations

Regardless of whether the new OWQP compliance procedure is adopted:

RTC must be reported

Intentional No-Action candidate apply in certain circumstances

No SNC conditions

Applicable Reporting Requirements

OCCT Treatment Technique Violations

No violation code changes to:

OCCT study/recommendation (57 violation code)

OCCT Installation/Demonstration (58 violation code)

Consolidated OCCT/SOWT Installation and/or
Demonstration into one SNC

Applicable Reporting Requirements

OCCT Treatment/Study Recommendation

Large systems are only subject to Study violation

Medium and small subject to both Recommendation
and Study violation

WQP M/R Compliance

Scenario

- System serves 55,000 people
- Installed CCT
- Fails to collect WQP samples at entry points during July and August 2002
- System is on annual WQP tap monitoring during 2002 and collects samples

1. Is this system in violation?

Yes. The system is in violation for the 6-month period of July - December 2002 for failure to conduct all of its required entry point WQP monitoring.

2. How can this system return to compliance?

It must meet monitoring and reporting requirements for an entire 6-month period.

WQP M/R Compliance

Scenario

- System serves 8,000 people
- System has installed corrosion control treatment
- 7/1/00 - 12/31/00: Pb 90th = 0.018 mg/L; Cu 90th = 1.0 mg/L
- 1/1/01 - 6/30/01: Pb 90th = 0.013 mg/L; Cu 90th = 1.0 mg/L

1. Is this system required to collect WQP samples during 7/1/00-12/31/00?

Yes. The system exceeded the lead action level and must collect WQP samples.

2. Is this system required to collect WQP samples during 1/1/01-6/30/01?

No. The system did not exceed the AL and is not required to collect WQP samples.

Corrosion Control Study

Scenario

- State notifies system on 9/10/01 that corrosion control study is required
- State receives study on 9/10/03; study contains evaluation of one type of CCT

1. Did the system report the study on-time?

No. The study was due by 3/10/03 (18 months after the State required the study to be completed).

2. Does the study contains the required components?

No. A system must evaluate 3 types of CCT.

Optimal Corrosion Control Installation

Scenario

- 12/15/97: 90th percentile lead value = 0.020 mg/L
- 6/9/98: State determines type of OCCT to be installed
- 10/11/2000: State receives certification of installation

1. Is this system in violation?

Yes. Certification was due by 6/9/2000 (24 months after State determination).

2. When is the system back in compliance?

Once certification is received by State, or on 10/11/2000.

3. Is the system a SNC?

No, the 90th percentile level was < 0.030 mg/L.

Next Steps After Exceedance

Scenario for Small System (population 3,100)

- System on annual monitoring schedule & collects 10 samples
- Lead and copper tap results for 1/01/00-12/31/00:
Pb 90th = 0.011 mg/L; Cu 90th = 1.4 mg/L

1. What are the next steps and deadlines if this is the first time the system exceeds an action level?

The system must:

- collect WQPs before 12/31/00;
- perform source water lead and copper monitoring before 6/30/01;
- make SOWT and OCCT recommendations before 6/30/01; and
- begin an OCCT study (if requested by the State).

2. What is the system's schedule for lead and copper tap monitoring?

It is required to conduct lead and copper tap monitoring for 2, 6-month periods after CCT installation at 20 sites.

System that Increases Size to > 50,000

Scenario for Medium System that Becomes A Large System

- 2/11/00: System adds new connections and increases size from 45,000 to 75,000 people
- Monitoring results during annual tap monitoring conducted during 1999
Lead 90th = 0.010 mg/L; Copper 90th = 1.1 mg/L

1. What are the system's corrosion control treatment requirements?

- System completes a corrosion control study and submits recommendation within 18 months from State notification
- State determines CCT within 6 months of study/recommendation submittal
- System installs treatment within 24 months

2. What are the system's monitoring requirements?

System conducts follow-up lead and copper and WQP monitoring for 2 consecutive, 6 months following treatment installation. System continues on semi-annual monitoring until it qualifies for reduced monitoring by meeting its OWQPs.

Lead and Copper NPDWR Requirements

Lead and Copper Tap/Initial WQP Monitoring

Corrosion Control Optimization

Public Education



Source Water Monitoring & Treatment

Replacement of Lead Service Lines

State Reporting and Recordkeeping

Primacy and Implementation

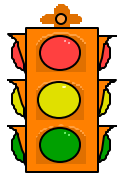
Public Education Applicability

• Any system that $>$ lead AL

• Continues as long as AL is exceeded



STOP: Whenever at or below lead AL for 1 monitoring period

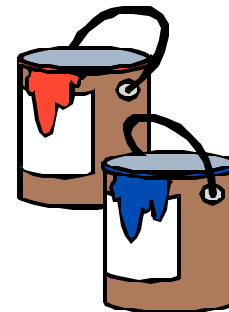


Recommence: If exceed in subsequent period

Public Education Mandatory Language

• Minimum Content Specified in Rule

- Introduction
- Health Effects
- Sources of Lead
- Steps at Home



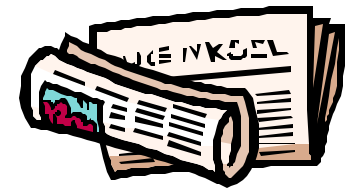
System Can Add Information
Not the same as Public Notification

Public Education

Delivery Requirement for CWSs

Within 60 days of exceeding Lead Action Level:

- Bill stuffers
- Pamphlets to sensitive groups (e.g., pediatricians)
- Major newspapers



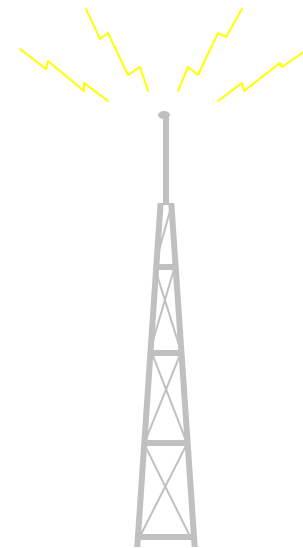
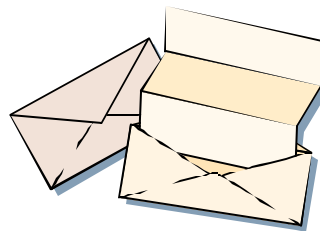
Public Service Announcement (PSA) to radio/TV

Public Education

Delivery Requirements for CWSs (Cont.)

☞ PSAs every 6 months

Inserts, pamphlets, newspaper
notification every 12 months



Public Education

Delivery Requirements for NTNCWSs

- Within 60 days of lead exceedance
 - posters in public places and buildings served
 - pamphlets/brochures to each person served

Repeat annually



LCR Minor Revisions

Content and Delivery Flexibility

All CWSs may:

- ✎ Delete language regarding LSLs
- ✎ Change language regarding building permit record availability
- ✎ Delete the references to “control” of a LSL
- ✎ Send materials separately from water bills

LCR Minor Revisions

Content and Delivery Flexibility (Cont.)

CWSs serving $\leq 3,300$ people may:

- ☛ Forego PSAs
- ☛ Forego notification via newspapers* &
- ☛ Limit distribution of pamphlets*, but must:
 - mail or hand deliver materials to customers who don't receive water bills
 - deliver to wider audience if State requires

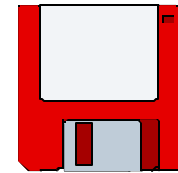
*501-3,300 need State approval

LCR Minor Revisions

Content and Delivery Flexibility (Cont.)

NTNCWSs may:

- ☛ Use specified alternative language
- ☛ Delete references to LSLs in their language
- ☛ Use electronic transmission



Special-case CWSs (prisons, hospitals) may:

Use NTNCWS language and delivery methods

LCR Minor Revisions

Compliance Reporting to State

More Timely Reporting

🐣 LCR

- Due by December 31st



LCRMR

- ★ Due within 10 days after each period in which public education was required
- ★ States can allow system to forego resubmission of distribution list

★ Implement on April 11, 2000

LCR Minor Revisions

Summary of Public Education Revisions

- ☞ Allow content and delivery flexibility
 - delete obsolete or irrelevant language
 - mail notices separately from water bill
- ☞ Reduce requirements for CWSs serving $\leq 3,300$
- ☞ Make NTNCWSs requirements more appropriate
 - specific NTNCWSs language
 - use of electronic transmission
- ☞ Treat special-case CWSs like NTNCWSs
- ★ Require more timely system compliance reporting
- ★ Allow system to forego resubmission of distribution list

★ Implement on April 11, 2000



Public Education

Compliance Examples

Applicable Reporting Requirements

65 - Violation type code (no change)

SNC definition has not been revised

system with violation and lead 90th percentile ≥ 0.030
mg/L

Applicable Reporting Requirements

Public Education

ONE Public Education (PE) Violation must be reported for EACH discrete PE compliance period requirement (i.e., 60 days, semi-annual, and annual)

PWS could incur 3 separate violations in first 14 months after exceedance

10-day period to report to State is not included

Public Education

Scenario

- CWS serves 6,000 people
- 1/1/99-12/31/99: Pb 90th percentile = 0.014 mg/L;
Cu 90th percentile = 0.9 mg/L
- 1/1/00-12/31/00: Pb 90th percentile = 0.020 mg/L;
Cu 90th percentile = 0.9 mg/L

1. Is this system required to deliver public education?

Yes, it exceeded the lead action level.

2. What is the system required to do and in what timeframe?

Within 60 days of exceedance (by 3/1/01), must send notices with water bill, provide newspaper notification, deliver pamphlets/brochures, & PSAs.

3. When is the system required to report compliance to the State?

By March 11, 2001.

Public Education

Scenario

- CWS serves 50 people
- 1/1/-12/31/01: Pb 90th percentile = 0.017 mg/L;
Cu 90th percentile = 1.2 mg/L

1. Is this system required to deliver public education?

Yes it exceeded the lead action level.

2. If the system does not deliver PSAs is it in violation?

The system is not in violation *if* the State has adopted the small system public education provisions.

Public Education

Scenario

- NTNCWS serves 4,000 people
- 1/1/-6/30/01: Pb 90th percentile = 0.012 mg/L;
Cu 90th percentile = 1.6 mg/L

1. Is this system required to deliver public education?

No, public education is not triggered by a copper action level exceedance.

Public Education

Scenario

- CWS serves 2,800 people
- System first delivered public education on February 1998
- System continues to exceed the lead action level in 1999 and 2000
- 1/1/-6/30/01: Pb 90th percentile = 0.020 mg/L; Cu 90th percentile = 0.9 mg/L
- 7/1/-12/31/01: Pb 90th percentile = 0.012 mg/L; Cu 90th percentile = 0.9 mg/L

1. Is this system required to deliver public education during 2001?

Yes, the system is required to deliver public education by February 2001.

2. If the system did not deliver any public education during 2001, how does the system come back into compliance?

The system must complete one more round of public education.

Lead and Copper NPDWR Requirements

Lead and Copper Tap/Initial WQP Monitoring

Corrosion Control Optimization

Public Education

Source Water Monitoring & Treatment

 Replacement of Lead Service Lines

State Reporting and Recordkeeping

Primacy and Implementation

Monitoring & Treatment for Lead and Copper at the Source Steps

Triggered by lead or copper exceedance

☞ Within 6 months of exceedance:

- System provides monitoring results/treatment recommendation

☞ Within 6 months of results:

- State treatment decision

ion exchange

coagulation/filtration

reverse osmosis

no treatment added

lime softening

Source Water Monitoring & Treatment Steps If Treatment Is Needed

If source water treatment is needed:

- ☞ 24 months after State decision
 - System must install treatment
- ☞ 12 months after installation
 - System conducts follow-up monitoring for 2 consecutive 6-months
- ☞ 6 months after follow-up monitoring:
 - State sets MPLs for both lead and copper
- ☞ System must be at or below MPLs

Source Water Monitoring & Treatment

Routine/Reduced Monitoring

**If source water treatment is not needed
or after State sets MPLs***

Source Type	Routine Monitoring	Reduced to every 9 years if:
Ground water	once during 3-year compliance period in effect	Meet MPLs for 3 consecutive compliance periods
Surface or combined	annually	Meet MPLs for 3 consec. yrs

* Assumes system continues to exceed Pb and/or Cu AL

Source Water Monitoring & Treatment

When Monitoring Is Not Required

Once MPLs are set or State decides no SOWT is needed, source water monitoring is not required when:

- ☛ The system is at or below both ALs for entire source water monitoring period
- ☛ Example:
 - system is on 9-year source water monitoring during 2002-2010
 - 90th percentiles \leq ALs for all tap monitoring during 2002 to 2010 → no source monitoring

LCR Minor Revisions

Source Water Monitoring Changes

Reduced monitoring to once every 9 years for systems w/o MPLs if source water levels for:

- ☛ Lead are ≤ 0.005 mg/L
- ☛ Copper are ≤ 0.65 mg/L

Must maintain levels for 3 consecutive compliance periods:

- Ground water = 9 years
- Surface water = 3 years

LCR Minor Revisions

Source Water Monitoring Changes (Cont.)

- ★ **Resampling triggers have been changed for composite samples to:**

≥ 0.160 mg/L for copper

≥ 0.001 mg/L for lead

- ★ **Compositing done by certified laboratory**

- **Labs not required to achieve Copper MDL to analyze composite source water samples**

★ Implement on April 11, 2000

LCR MINOR REVISIONS

Summary of Source Water Monitoring Revisions

- **Reduced monitoring for systems w/o MPLs**
- ★ **Revisions to source water resampling triggers for composite samples**
- ★ **Compositing by certified lab**
- **Labs not required to achieve Copper MDL to analyze composite source water samples**

★ Implement on April 11, 2000



Source Water

Compliance Examples

Applicable Reporting Requirements

Source Water M/R & MPL Noncompliance

No change to violation type code for:

Source water M/R violations (56 violation type)

MPL noncompliance (63 violation type)

Violation code change for:

		Old	New
SOWT recommendation	61	57	
SOWT installation	62		58

Consolidated OCCT/SOWT Installation and/or Demonstration
SNC

Applicable Reporting Requirements

Source Water M/R & MPL Noncompliance

Converted the end dates to 12/31/2015

Source water follow-up monitoring requires two consecutive, 6-month rounds - *only 1 M/R violation is reported*

Monitoring is conducted **AFTER** the lead or copper action level exceedance (No Grandfathering)

Applicable Reporting Requirements

MPL Noncompliance

A system may incur separate Violations for exceeding the Lead MPL and the Copper MPL

Only ONE MPL Noncompliance Violation must be reported for a single contaminant regardless of how many entry points are in violation

Contaminant code is:

1022 = Copper

1030 = Lead

reported in lieu of 5000 code that is used for all other LCR or LCRMR violations

Source Water M/R

Scenario for a New System

- The system's first lead and copper tap monitoring period is 1/1/00 - 6/30/00
- Pb 90th percentile = 0.012 mg/L; Cu 90th percentile = 1.9 mg/L

1. Is this system required to collect source water samples?

Yes.

2. When are these samples due?

By 12/31/00 (within 6 months of exceedance).

3. If the system has the source water samples analyzed for copper only, is it in violation?

Yes. It must have the samples analyzed for both lead and copper.

4. How does the system return to compliance?

Must collect source water samples and have them analyzed for both lead and copper samples for a 6-month compliance period.

Source Water M/R

Scenario for a New System

- 6/30/01: Source water treatment installed
- 1/1/-6/30/02: System collects one round of follow-up monitoring
- 9/15/02: State reviews status of system

1. Assuming the system followed proper monitoring and analytical procedures, is it in violation with its source water M/R requirements?

Yes. 2 consecutive 6-month rounds of follow-up monitoring are required.

2. How does the system return to compliance?

It collects 2 consecutive 6-month round of follow-up monitoring.

Source Water M/R

Scenario

- On 9-year source water monitoring cycle of 1/1/02 - 12/31/10
- Lead and Copper 90th percentile results are as follows:
 - 1/1/00 - 12/31/02: Pb 90th = 0.006 mg/L; Cu 90th = 1.1 mg/L
 - 1/1/03- 12/31/05: Pb 90th = 0.007 mg/L; Cu 90th = 1.0 mg/L
 - 1/1/06 - 12/31/08: Pb 90th = 0.006 mg/L; Cu 90th = 1.2 mg/L
 - 1/1/09 - 12/31/11: Pb 90th = 0.007 mg/L; Cu 90th = 1.5 mg/L

1. Is the system required to collect source water samples during 1/1/02 - 12/31/10?

If tap samples were collected during 2009 or 2010, then yes. If tap samples were collected during 2011, then no source water samples are required. However, source water monitoring must be conducted during the next compliance cycle of 1/1/11 to 12/31/19.

Source Water M/R

Scenario

- System is a surface water system
- System exceeds the lead action level
- State determines no source water treatment is needed
- Source water monitoring results are as follows:
 - 1/1/00 - 12/31/00: Pb = 0.005 mg/L; Cu 90th = 0.6 mg/L
 - 1/1/01- 12/31/01: Pb = 0.005 mg/L; Cu 90th = 0.5 mg/L
 - 1/1/02 - 12/31/02: Pb = 0.005 mg/L; Cu 90th = 0.6 mg/L

1. What is the system's source water monitoring schedule after 2002?

Under the LCRMR, this system can monitor once every 9 years because it has maintained source water lead levels of ≤ 0.005 mg/L and source water copper levels of ≤ 0.65 for 3 consecutive years.

SOWT Recommendation

Scenario for New Systems

- System exceeds the lead action level for first time during annual monitoring conducted in 2000
- Initial source water results: Pb = 0.005 mg/L; Cu = 0.6 mg/L

1. Is the system required to provide a source water treatment recommendation?

Yes. A recommendation must be provided with the initial source water monitoring results within 6 months of exceeding the AL, even if the recommendation is no treatment.

SOWT Installation

Scenario

- 1/15/1998: State determines type of SOWT to be installed
- 7/15/2000: System installs SOWT
- Most recent tap monitoring results: Pb 90th = 0.035 mg/L; Cu 90th = 1.2 mg/L

1. Is the system in violation?

Yes. The system did not install SOWT on-time (within 24 months of State decision).

2. Is the system an SNC?

Yes because the system incurred a SOWT violation and its most recent lead 90th percentile level was ≥ 0.030 mg/L.

MPL Compliance

Scenario

- System has 1 entry point
- Lead MPL = 0.008 mg/L; Copper MPL = 0.7 mg/L
- Source water results for 2000: Pb = 0.007 mg/L; Cu = 0.6 mg/L
- Source water results for 2001: Pb = 0.008 mg/L; Cu = 0.8 mg/L

1. Is the system in compliance with its MPLs for 2000?

Yes. The system did not exceed either MPL.

2. Is the system in compliance with its MPLs for 2001?

The system is in compliance with its lead MPL, but has exceeded the copper MPL.

MPL Compliance

Scenario

- System has 3 entry points
- State set MPLs for Pb at 0.006 mg/L & Cu at 0.7 mg/L
- Source water monitoring results are:
 - Entry point 1: Pb = 0.006 mg/L; Cu = 0.6 mg/L
 - Entry point 2: Pb = 0.008 mg/L; Cu = 0.8 mg/L
 - Entry point 3: No sample collected

1. Is the system in violation?

Yes. The system is in violation with 3 requirements. Failure to meet its lead and copper MPLs and failure to collect enough source water samples.

Lead and Copper NPDWR Requirements

Lead and Copper Tap/Initial WQP Monitoring

Corrosion Control Optimization

Public Education

Source Water Monitoring & Treatment

Replacement of Lead Service Lines

 State Reporting and Recordkeeping

Primacy and Implementation

Lead Service Line Replacement (LSLR)

Applicability

- Triggered by continued exceedance of lead action level
- State can require if system is more than 1 year late installing CCT or SOWT
- 7% of LSLs replaced each year (15 years total)
- State can require shorter schedule

LSLR

LSLs Not Requiring Replacement

☛ No Replacement Required for Individual Lines ≤ 0.015 mg/L Lead

☛ Monitoring Methods

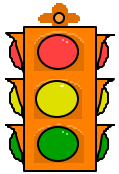
- direct tap into line
- temperature change
- flush volume between end of line & tap

LSLR

Continued Applicability



LSLR stops when $\leq P_b$ AL for 2 consecutive monitoring periods



LSLR recommences if system again exceeds lead AL

LCR Minor Revisions

Ownership Terminology

Ownership Replaces Control

- ★ “Control” terminology eliminated
- ★ Systems triggered into LSLR must:
 - Replace portions of LSLs they own
 - Document which portions they own

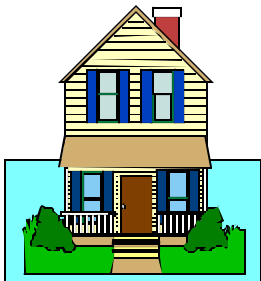
★ Implement on April 11, 2000

LCR Minor Revisions

Partial LSL Replacement

- ★ Clarify who receives offer from system to replace privately-owned portion

- ★ Strengthen requirements for partial LSLR
 - Notification prior to partial LSLR
 - Samples collected after partial LSLR
 - New reporting requirements for systems



★ Implement on April 11, 2000

LCR Minor Revisions

Replacement Offer

Offer to replace privately-owned portion

☞ LCR

- Unclear if offer to users or building owner

☞ LCRMR

- ★ Clarify offer to owner of property or authorized agent

\$\$\$ Cost remains the responsibility of line owner

★ Implement on April 11, 2000

LCR Minor Revisions

Notification of Partial LSLR

If system only replaces portion it owns:

☞ LCR

- No notification requirement except to collect first-flush sample

☞ LCRMR

- ★ System must notify residents at least 45 days prior to replacement
- ★ Collect representative service line sample, and analyze within 72 hours of replacement

★ Implement on April 11, 2000

LCR Minor Revisions

Notification of Partial LSLR

If system only replaces portion owned:

☞ LCR

- Report results to residents within 14 days of partial LSLR
- No requirement to report results to State

☞ LCRMR

- ★ Report results to owner/residents within 3 business days after receiving results
- ★ Submit monitoring results to State, unless otherwise directed

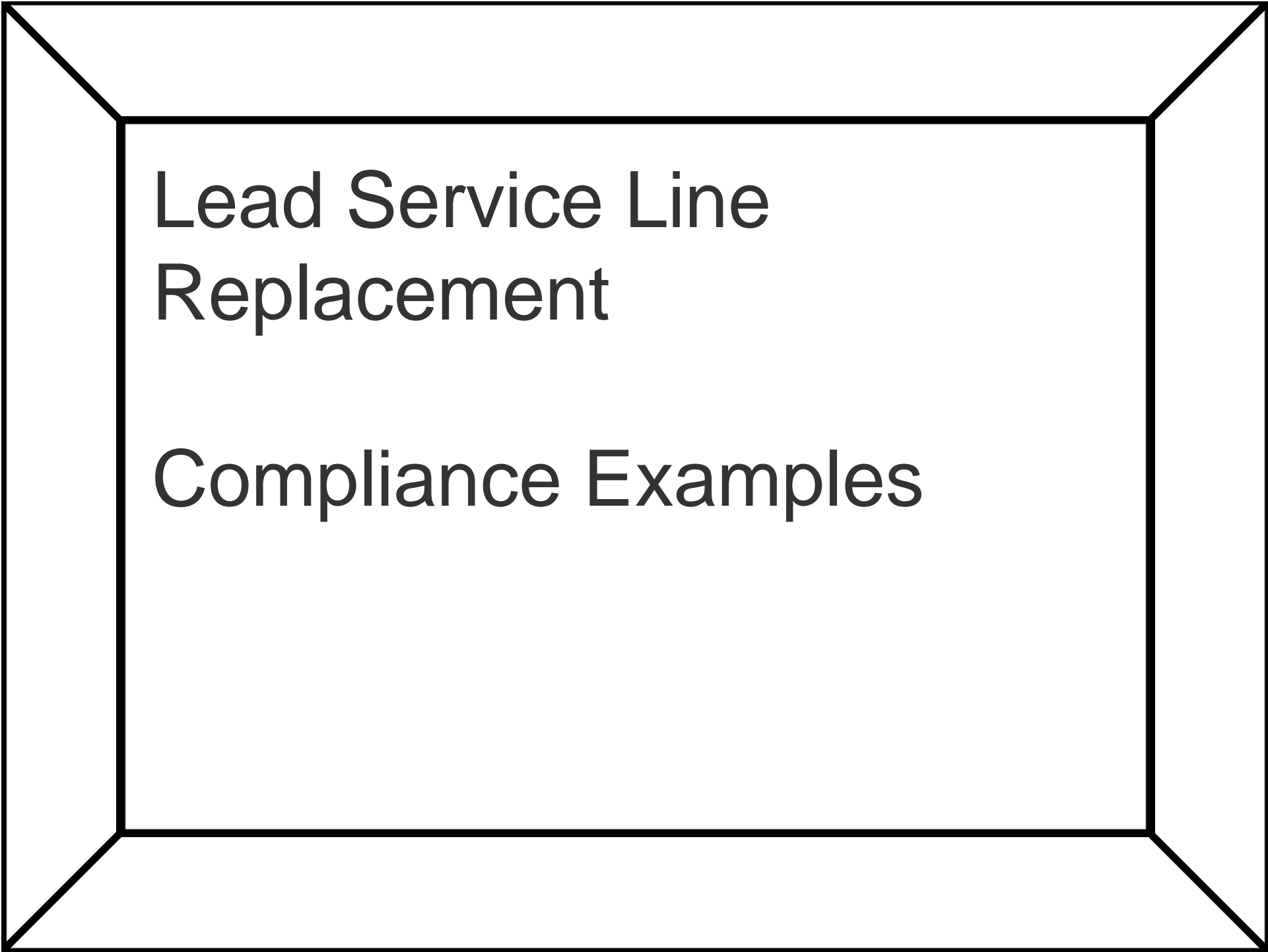
★ Implement on April 11, 2000

LCR Minor Revisions

Summary of LSLR Changes

- ★ **Elimination of control terminology**
- ★ **Clarification of who receives replacement offer**
- ★ **Stronger partial LSL notification requirements**
 - Notification of replacement 45 days prior
 - General content of notification specified
- ★ **Representative service line sample**
 - Analyzed with 72 hours
 - Results reported within 3 business days
- ★ **Partial LSL reporting to State**

★ Implement on April 11, 2000



Lead Service Line
Replacement

Compliance Examples

Applicable Reporting Requirements

LSLR Violation (64)

No change to violation type code 64

Violation 64 now includes:

- Violation of partial LSLR requirements

- Failure to complete annual designated replacement rate

Applicable Reporting Requirements

LSLR Violation (64)

Begin dates based on initial reason for violation

One LSLR violation reported at a time

If LSLR violation is resolved, report a new violation for subsequent noncompliance

Intentional No-Action may apply

Applicable Reporting Requirements

LSLR Milestone

- **Required when system is first triggered into LSLR**
- **Required when system “retriggered” into LSLR requirements**
- **Replacement rate is no longer required to be reported**

LSLR Compliance

Scenario

- Dec. 1998: Installs SOWT
- Jan-June 1998: Follow-up monitoring 90th percentile value: Pb = 0.020 mg/L
- July-Dec 1998: Follow-up monitoring 90th percentile value: Pb = 0.022 mg/L
- Dec. 1999: Installs CCT
- Jan-June 2000: Follow-up monitoring 90th percentile value: Pb = 0.020 mg/L
- July-Dec 2000: Follow-up monitoring 90th percentile value: Pb = 0.018 mg/L

1. Is the system required to replace LSLs?

Yes.

2. When must replacement begin?

July 1, 2000.

LSLR Compliance

Scenario

- Dec. 1998: Installs SOWT
- Jan-June 1998: Follow-up monitoring 90th percentile value: Pb = 0.020 mg/L
- July-Dec 1998: Follow-up monitoring 90th percentile value: Pb = 0.022 mg/L
- Dec. 1999: Installs CCT
- Jan-June 2000: Follow-up monitoring 90th percentile value: Pb = 0.012 mg/L
- July-Dec 2000: Follow-up monitoring 90th percentile value: Pb = 0.011 mg/L

1. Is the system required to replace LSLs? If so, when?

No. It did not exceed the lead action level after CCT was installed.

LSLR Compliance

Scenario

- Dec. 1999: Installs CCT
- Jan-June 2000: Follow-up monitoring 90th percentile value: Pb = 0.016 mg/L
- July-Dec 2000: Follow-up monitoring 90th percentile value: Pb = 0.013 mg/L

1. Is the system required to replace LSLs? If so, when?

Yes the system must begin LSLR on July 1, 2000 because it continued to exceed the lead action level during Jan. - June 2000.



System can discontinue LSLR if it has 2 consecutive monitoring periods at or below the lead action level.

LSLR Compliance

Scenario

- July 1, 2000: System required to replace LSLs
- July 10, 2000: State specifies annual replacement rate of 10 percent
- Aug 20, 2000: System submits letter:
 - indicating it replaced 6% of the LSLs, and
 - with LSL monitoring results that show 4% of its lines contribute ≤ 0.015 mg/L of lead

1. Is the system in violation?

No. The system can count LSLs that contribute ≤ 0.015 mg/L toward its annual replacement requirement.



System must comply with LSLR schedule set by the State.

LSLR Compliance

Scenario

- Required annual replacement rate = 7%
- Yr 2000, system replaces 15% of LSLs
- Yr 2001, system replaces 0% of LSLs

1. Is the system in violation in 2001?

No. If approved by the State, the system can count LSLs replaced during one year toward the next year's replacement requirements.

LSLR Compliance

Scenario

- Required annual replacement rate = 7%
- System is on annual tap monitoring
- Yr 2000, system replaces 7% of LSLs; Pb 90th = 0.011 mg/L
- Yr 2001, system replaces 5% of LSLs; Pb 90th = 0.009 mg/L

1. Is the system in violation for 2001?

No. The system is below the lead action level for two consecutive monitoring periods and can discontinue LSLR.

2. What would be the system's compliance status if it had not replaced any lines in 2000 or 2001?

The system would be in violation for compliance period of Jan - Dec. 2000 only.

3. How would this system return to compliance for the Yr 2000 LSLR violation?

The system is below the lead action level for 2 consecutive monitoring periods and can discontinue LSLR. An "intentional no-action" is reported in lieu of RTC.

Partial LSLR Compliance

Scenario

- Owner does not want privately-owned LSL portion replaced
- 2/15/01: system notifies owner of partial replacement, impacts, protective measures
- 3/1/01: system replaces the portion that it owns
- 3/1/01: system collects LSL sample
- 3/15/01: system receives analytical results
- 3/30/01: system reports results to residents served by line
- 5/10/01: system provides results to the State

1. Is the system in violation?

Requirement

Is the system in violation?

Notification prior to pLSLR

Not if pLSLR done w/emergency repairs

LSLR sample

No, collected within 72 hours of pLSLR

Results to residents

Yes, was not done within 3 business days

Results to State

Yes, due by 4/10/01, unless State modifies req't

Partial LSLR Compliance Replacement & pLSLR

Scenario

- 3/30/02: system required to notify owners and residents of LSL sample results.
- 5/31/02: system reports results to residents served by line
- 12/30/02: system only replaced 5% of its LSLs (required to replace 7% in the year 2002)

1. How many LSLR violations should be reported for the system?

Two. The system did not meet its pLSLR notification but corrected the violation before it incurred a violation for not meeting the requirements of its LSLR schedule.

• If the system did not RTC in 2002 for failing to notify its residents:

a. How many violations would be reported for the system?

One.

b. What action would be reported if the system was at or below the lead action level for 2 consecutive, 6-month monitoring periods during 2002?

An “Intentional no-action”.

Lead and Copper NPDWR Requirements

Lead and Copper Tap/Initial WQP Monitoring

Corrosion Control Optimization

Public Education

Source Water Monitoring & Treatment

Replacement of Lead Service Lines

State Reporting and Recordkeeping



Primacy and Implementation

State Reporting Requirements

LCR

Under the LCR, States reported each system that:

- ☛ Exceeded lead or copper AL and date
- ☛ Required to complete CC study & date study received
- ☛ State determined CCT, date, and installed OCCT
- ☛ State designated OWQPs & date
- ☛ Required to install SOWT, date, and installed SOWT
- ☛ State set MPLs
- ☛ Required to replace LSLs, on accelerated schedule, and in compliance with schedule

LCRMR Minor Revisions

LCRMR State Reporting Requirements

Under the LCRMR, States report:

- ☛ All 90th percentile Pb values for $> 3,300$
- ☛ 90th percentile Pb exceedances for $\leq 3,300$
- ☛ 90th percentile Cu exceedances for all systems
- ☛ More streamlined LSL replacement milestone

LCR Minor Revisions

LCRMR State Reporting Requirements

Under the LCRMR, States report (cont.):

- ☛ New “Deem” milestone
- ☛ New “Done” milestone
- ☛ EPA requests reporting by 2/15/01



LCR Minor Revisions

Deem Milestone

C817 Code Value	Definition	Day Reported to SDWIS/FED
B1	System \leq 50,000 that is at or below both ALs for 2 consecutive 6 months	State determines system met (b)(1) criteria
WQP	A (b)(2) system or one for which State has designated OWQPs	Date State Designates OWQPs
B3	A (b)(3) system	State determines system met (b)(3) criteria

LCR Minor Revisions

Done Milestone

☛ Replaces several LCR milestones

- STIN: System installs SOWT
- OTIN: System installs CCT
- MPLS: State sets MPLs
- OWQP: State sets OWQPs

☛ System can become “undone”

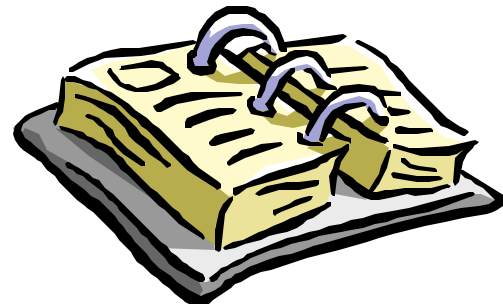
- No longer qualifies as (b)(1) or (b)(3) system
- Does not meet MPLs or OWQPs

LCR Minor Revisions

LCRMR State Reporting Schedule

☞ Schedule for reporting new requirements

- Option of reporting old requirements until 1/11/02
- Report only new requirements by 1/12/02



State Recordkeeping Requirements

LCRMR

- Adds recordkeeping requirements that correspond to new decisions
 - Additional actions to maintain optimal corrosion control
 - Content of written public education materials and their distribution
 - Use of non-first-draw samples
 - State-specified sampling locations for systems on reduced monitoring

State Recordkeeping Requirements

LCRMR

• Additional recordkeeping requirements (continued)

- Alternative sample collection periods for reduced monitoring
- Sample invalidation
- Monitoring waivers, revocations, renewals
- Representative entry point locations

State Recordkeeping Requirements

LCRMR

- Additional recordkeeping requirements (continued)
 - Compliance with partial LSLR
 - Resubmission of public education distribution list
 - 90th percentile calculations
- Removes determination of limited control of LSL



State Reporting

Compliance Examples

“Deemed” Determination

Scenario

- System serves 75,000 people
- July - Dec 1993: Pb 90th = 0.007 mg/L; Cu 90th = 0.7 mg/L
- Jan. - June 1994: Pb 90th = 0.008 mg/L; Cu 90th = 0.8 mg/L
- No lead or copper is detected in source water samples collected during 1993 and 1994.
- 4/30/00: State reviews file to determine if system meets “deemed” criteria

1. Does the system meet the “deemed” criteria?

No. A large system can only meet the deemed criteria when the State sets OWQPs or it qualifies as a (b)(3) system.

“Deemed” Determination

Scenario

- System serves 55,000 people
- Jan - June 1992:
source Pb = 0.005 mg/L; Pb 90th = 0.007 mg/L; Cu 90th = 1.2 mg/L
- July - Dec 1992:
source Pb = 0.005 mg/L; Pb 90th = 0.008 mg/L; Cu 90th = 1.4 mg/L
- July - Dec 2000:
source Pb = 0.005 mg/L; Pb 90th = 0.008 mg/L; Cu 90th = 0.8 mg/L

1. Does the system meet the “deemed” criteria?

Yes, on Dec. 31, 2000 when it meets the (b)(3) criteria, based on the LCRMR definition.

2. What if the system was at or below the copper action level during monitoring conducted in 1992.

The system would have met the deemed criteria on Dec. 31, 1992.

“Deemed” & “Done” Determinations

Scenario

- System serves 35,000 people
- System has lead service lines
- July - Dec. 31 1992: Pb 90th = 0.020 mg/L; Cu 90th = 1.2 mg/L
- Dec. 15, 1996: System installs CCT
- Jan - June 1997: Pb 90th = 0.007 mg/L; Cu 90th = 0.8 mg/L
- July to Dec 1997: Pb 90th = 0.007 mg/L; Cu 90th = 0.8 mg/L
- May 15, 1998: State designates OWQPs

1. Does the system meet the “deemed” criteria?

Yes, on 5/15/98, when the State sets OWQPs.

2. Does the system meet the “done” criteria?

Yes, also on 5/15/98.

3. What if it had exceeded the lead AL level during 1997?

No, the system would have been triggered into LSLR and would not be “done” until LSLR completed or no longer required.

“Done” Determination

Scenario

- System serves 500 people
- Initial monitoring:
 - July - Dec. 1993: Pb 90th = 0.007 mg/L; Cu 90th = 1.2 mg/L
 - Jan - June.1994: Pb 90th = 0.007 mg/L; Cu 90th = 1.1 mg/L
- Reduced monitoring during Aug 2001:
 - Pb 90th = 0.008 mg/L; Cu 90th = 1.5 mg/L
- Monitoring after CCT installation:
 - Jan - June 2004: Pb 90th = 0.006 mg/L; Cu 90th = 0.7 mg/L
 - July - Dec 2004: Pb 90th = 0.007 mg/L; Cu 90th = 0.6 mg/L
- May 1, 2005: State designates OWQPs

1. Does the system meet the “Done” criteria?

June 31, 1994	Done, meets (b)(1) criteria
Aug 2001	Undone because exceeds copper AL
May 1, 2005	Done, State sets OWQPs.

SDWIS/FED Reporting Milestones

DEEM Milestone

- Reason Code (C817) used for DEEM milestone
- Represents the basis for the State's determination that a system is "deemed" to be optimized under the LCR/LCRM
- Permitted values: B1, WQP, and B3

SDWIS/FED Reporting Milestones

DONE Milestone

- “UNDONE” must be reported (Modify DONE milestone with END Date)
- Report only most Recent DONE status
- Reason Codes not required
- SDWIS/FED & DTFWriter change

SDWIS/FED Reporting Milestones

SDWIS/FED Implementation

- Conversion of PB90 and CU90 to samples
- Rejection of discontinued milestones
- Requesting DEEM milestones be reported by February 15, 2001 (req'd by Jan. 11, 2002)
- Continued tracking of discrete Milestones by State
- Missed milestones reported as violations

SDWIS/FED Reporting Milestones

SDWIS/FED Milestone Record Format

DATA ELEMENT

<u>Number</u>	<u>Name</u>	<u>Type</u>	<u>Length</u>	<u>Format/Comment</u>
C101	PWS ID	A/N	9	SSxxxxxxx
C801	Milestone ID	Number	4	nnnn
C803	Milestone Date	Date	8	YYYYMMDD
C804	Milestone End Date	Date	8	YYYYMMDD
C805	Milestone Code	A/N	4	DEEM, DONE, LSLR
C813	Milestone Comment	A/N	40	text field
C815	Milestone Value	Decimal	7.8	nnnnnnn.nnnnnnnn*
C817	Milestone Reason Code	A/N	4	B1, B3, WQP

* Milestone Value no longer valid for LCRMR violations as of January 2000

SDWIS/FED Reporting

Milestones

DTF Transaction Form

Form ID	Data Qualifiers Qual 1	Qual 2	Qual3	Action Code	Data Element Number	Data Element Value	Batch Seq. Num.
1-2	3-11	12-18	19-25	26	27-31	32 - 71	72-74 75-80
C4	DC1234567	0001		I	C803	19940701	010715
C4	DC1234567	0001		I	C805	DEEM	010715
C4	DC1234567	0001		I	C817	B1	010715
C4	DC1234567	0002		I	C803	19940701	010715
C4	DC1234567	0002		I	C805	DONE	010715
C4	DC1234567	0002		I	C813	B1 criteria	010715
C4	DC1234567	0002		M	C804	20010801	030011
C4	DC1234567	0002		M	C813	Exceeded Copper August 2001	030011

SDWIS/FED Reporting Summary

SDWIS/FED Reporting and Implementation Summary

SDWIS/FED Reporting Summary

Sample Records

PB90 - Lead 90th percentile levels

All for Large and Medium

ONLY exceedances required for Small

CU90 - Copper 90th percentile levels

Exceedances only for ALL systems sizes

SDWIS/FED Reporting Summary

SDWIS/FED LCRMR Sample Implementation

- ☛ Copper milestones converted to samples
- ☛ Lead samples generated when lead milestone existed without matching sample
- ☛ Copper and lead milestone data archived
- ☛ Will accept data under LCR reporting requirements until January 11, 2002
- ☛ After January 12, 2002 will reject

SDWIS/FED Reporting Summary

Pb/Cu Sample Record

Data Element

<u>Number</u>	<u>Name</u>	<u>Type</u>	<u>Length</u>	<u>Format/Comment</u>
C101	PWS ID	A/N	9	SSxxxxxxx
C2101	Sample ID	Number	5	nnnnn
C2103	Sample Begin Date	Date	8	yyyymmdd
C2105	Sample End Date	Date	8	yyyymmdd
C2107	Sample Contaminant Code	A/N	4	Cu90, Pb90
C2111	Sample Result	Number	7.8	nnnnnnn.nnnnnnnn

SDWIS/FED Reporting

Summary

General Violation Information

- 15 pre-LCRMR Violations
- 10 post-LCRMR Violations
- No new Violations under LCRMR
- Five Violations previously reported as discrete Violations have been consolidated for reporting with other Violations

SDWIS/FED Reporting Summary

Typical Noncompliance Portrayal

Noncompliance traditionally has been portrayed by a Compliance Period ... Begin Date and End Date (or Begin Date and Duration in months) of the monitoring period in effect

SDWIS/FED Reporting

Summary

NEW Violation Noncompliance

- Begins when the monitoring event or requirement due date is missed, with the exception of WQP non-compliance and WQP M/R violations
- Ends when the monitoring requirements have been fulfilled or requirement has been completed (RTC reported to SDWIS)
- Portrayed as the actual time it took the system to complete the event or fulfill the requirement past the due date

SDWIS/FED Reporting

Summary

NEW Violation Non-compliance

- Compliance Period End Date (or Duration) should not be specified when these Violations initially reported to SDWIS/FED
- SDWIS/FED defaults end date of 12/31/2015
- RTC Enforcement Action date replaces defaulted 12/31/2015 date
- Intentional No-Action would also replace defaulted 12/31/2015 date

SDWIS/FED Reporting

Intentional No-Action

Applies to the following violations after a system is no longer subject to the requirement for which it has incurred the violation

- ☞ CCT recommendation or study violation (57)*
- ☞ OCCT demonstration/installation (58)*
- ☞ OWQP noncompliance (59)*
- ☞ Source water M/R (56)
- ☞ MPL noncompliance (63)
- ☞ LSLR (64)

***Applies to systems serving $\leq 50,000$ only**

SDWIS/FED Reporting Summary

SDWIS/FED Violation Record Layout

DATA ELEMENT

<u>Number</u>	<u>Name</u>	<u>Type</u>	<u>Length</u>	<u>Format/Comment</u>
C101	PWS ID	A/N	9	SSxxxxxxxx
C1101	Violation ID	A/N	7	FFxnenn
C1103	Contaminant Code	Number	4	1022, 1030, or 5000
C1105	Violation Type Code	Number	2	51-53, 56-59, 62-65
C1107	Compliance Period Begin	Date	8	YYYYMMDD
C1109	Compliance Period End, or	Date	8	YYYYMMDD
C1111	Compliance Period Duration	Number	3	# of months

SDWIS/FED Reporting Summary

Four Monitoring and Reporting Violations

- 51 - Initial Tap Lead and Copper
- 52 - Follow-up / Routine Lead and Copper
- 53 - Water Quality Parameter (WQP)
- 56 - Source Water

SDWIS/FED Reporting

Summary

Initial, Follow-up/ Routine Tap M/R

- Contaminant Code “5000”
- Violation Type Codes “51” and “52”
- New criteria = 60 day notification to State of change in source or treatment (type 52)
- Compliance Portrayal Changed
- RTC May require 2 consecutive 6-month rounds
- SNC condition for Initial (revised definition)

SDWIS/FED Reporting

Summary

Initial Tap (51) Violation qualifies for SNC when the system fails to complete Initial Tap Monitoring which requires 2 consecutive 6-month sample sets (unless the system exceeds the lead or copper action level).

SDWIS/FED Reporting Summary

Initial Tap Follow-up & Routine M/R Implementation

- Converted compliance period end date to 12/31/2015
- Will convert follow-up and routine end dates to 12/31/2015 in Sept 2000 (estimated)
- Only 1 violation reported when 2 consecutive 6-month monitoring periods required

SDWIS/FED Reporting

Summary

SDWIS/FED LCRMR WQP Implementation

- Converted Pre-Existing WQP M/R Violations to 53 (violation types 54 and 55 to type 53)
- Converted Pre-Existing WQP TT Violations to 59 (tap violation type 60 to type 59)
- Pre-existing WQP Violation begin dates unchanged
- Standard compliance period
- No SNC conditions

SDWIS/FED Reporting

Summary

LCR WQP Non-Compliance

- A single entry point WQP Noncompliance Violation must be reported for any system in which the WQP values of any sample collected during the quarter are below the minimum value or outside the range established by the State per §141.82(g)
- Tap WQP non-compliance periods are 6, 12, or 36 months

SDWIS/FED Reporting Violations

LCRMR WQP Non-Compliance (TT)

- LCRMR established fixed 6-month periods
- Compliance determinations are always based on a 6-month period, regardless of the system's monitoring schedule (e.g., daily, biweekly, semi-annually, annually, triennially) or whether the WQP results are from an entry point or tap samples
- ANY combination is a single violation

SDWIS/FED Reporting

Summary

Six LCR Treatment Technique Violations

- OCCT/SOWT Study/Recommendation (57)
- OCCT/SOWT Installation/Demonstration (58)
- Entry Point/Tap WQP Noncompliance (59)
- MPL Noncompliance (63)
- Lead Service Line Replacement (64)
- Public Education (65)

SDWIS/FED Reporting Summary

OCCT Treatment Technique Violations

No violation code changes to:

- OCCT study/recommendation (57 violation code)

- OCCT Installation/Demonstration (58 violation code)

Consolidated OCCT/SOWT Installation and/or
Demonstration into one SNC

Converted violation end date to 12/31/2015

SDWIS/FED Reporting

Summary

Treatment Study/Recommendation (OCCT)

- **Large systems are only subject to Study violation**
- **Medium and small subject to both Recommendation and Study violation**

SDWIS/FED Reporting Summary

Public Education Implementation

65 - Violation code has not changed

SNC definition has not been revised

system with violation and lead 90th percentile ≥ 0.030 mg/L

Converted violation end date to 12/31/2015

SDWIS/FED Reporting

Summary

Public Education

- ONE Public Education (PE) Violation must be reported for EACH discrete PE compliance period requirement (i.e., 60 day, semi-annual, and annual)
- PWS could incur 3 separate violations in first 14 months after exceedance
- 10-day period to report to State is not included

SDWIS/FED Reporting

Summary

Source Water Monitoring & MPL Non-Compliance

- **No change to violation type code for:**
 - **Source water M/R violations (56 violation type)**
 - **MPL noncompliance (63 violation type)**
- **Converted SOWT Recommendation violations to type 57**
- **Converted SOWT Installation violations to type 58**
- **Consolidated OCCT/SOWT Installation and/or Demonstration SNC**

SDWIS/FED Reporting Summary

Source Water M/R & MPL Noncompliance

Converted the end dates to 12/31/2015

Source water follow-up monitoring requires two consecutive, 6-month rounds - only 1 M/R violation is reported.

Monitoring is conducted **AFTER** the lead or copper action level exceedance (No Grandfathering)

SDWIS/FED Reporting

Summary

MPL Noncompliance

A system may incur separate Violations for exceeding the Lead MPL and the Copper MPL

Only ONE MPL Noncompliance Violation must be reported for a single contaminant regardless of how many entry points are in violation

Contaminant code is:

1022 = Copper

1030 = Lead

reported in lieu of 5000 code that is used for all other LCR or LCRMR violations

SDWIS/FED Reporting

Summary

Lead Service Line Replacement

- **64 Violation Type Code**

Includes violation of partial LSLR requirements

Failure to complete annual designated replacement rate

- **Converted pre-existing end dates to 12/31/2015**
- **Default violation end dates until 1/11/2002**
- **No SNC conditions**

Data Transfer Format (DTF)

- ❧ **DTF transactions are 80 characters long**
- ❧ **DTF is the only way to get data into SDWIS/FED, Except for SETS (restricted to EPA)**
- ❧ **Single DTF transaction is required for each piece of data to be inserted, modified, or deleted, Except for Enforcement Linking**

Data Transfer Format (DTF)

DTF Transaction Format

Form ID	Data Qualifiers			Action Code	Data Element Number	Data Element Value	N/A	Batch Seq. Number
	Qual 1	Qual 2	Qual 3					
1 - 2	3-11	12-18	19-25	26	27-31	32 - 71	72-74	75 - 80

Data Transfer Format (DTF)

DTF Transaction Format

Form ID	Data Qualifiers			Action Code	Data Element Number	Data Element Value	N/A	Batch Seq. Number
	Qual 1	Qual 2	Qual 3					
1 - 2	3-11	12-18	19-25	26	27-31	32 - 71	72-74	75 - 80

Data Transfer Format (DTF)

DTF Content - Form ID Illustrated

A2 NH0199050	I C0117 25	990224
A2 NH0199050	I C0147 0000010	990224
A2 NH0199050	I C0163 4	990224
A2 NH0199050	I C0165 B	990224
A2 NH0199050	I C0159 0101	990224
A2 NH0199050	I C0161 1231	990224
B1 NH0199050 001	I C0403 BRW 1, 85' WEST OF BLDG	990224

NOTE: Blank spaces have been inserted between DTF Components above for clarity.

Data Transfer Format (DTF)

DTF Content - Form IDs and Data Qualifiers

FORM ID	FORM NAME	Record	QUAL 1	QUAL 2	QUAL 3
A1	System Address Data	100	PWS-ID		
A2	PWS Characteristics Data	100	PWS-ID		
A3	Other Address Data	300	PWS-ID	ADDRESS- ID	
B1	Source/Entity Data	400	PWS-ID	SE-ID	
B1(2)	Location Data		PWS-ID	SE-ID	
B2	Treatment Data	480	PWS-ID	SE-ID	TREATMENT-ID
B3	Facility Flow Data	A5000	PWS-ID	SE-ID	
B4	Treatment Plant Address Data	350	PWS-ID	SE-ID	

Data Transfer Format (DTF)

DTF Content - Data Qualifiers Illustrated

A2	NH0199050		I C0159 0101	990224
A2	NH0199050		I C0161 1231	990224
B1	NH0199050	001	I C0403 BRW 1, 85' WEST OF BLDG	990224
B1	NH0199050	001	I C0405 S	990224
B1	NH0199050	001	I C0407 G	990224
B1	NH0199050	001	I C0409 P	990224
B2	NH0199050	001 01	I C0483 D	990224
B2	NH0199050	001 01	I C0485 423	990224

NOTE: Blank spaces have been inserted between DTF Components above for clarity.

Data Transfer Format (DTF)

DTF Content - Data Qualifiers Illustrated

B1	NH0199050	G01		I C0403 BRW 1, 85' WEST OF BLDG	990224
B1	NH0199050	G01		I C0405 S	990224
B1	NH0199050	G01		I C0407 G	990224
B1	NH0199050	G01		I C0409 P	990224
B2	NH0199050	G01	G1	I C0483 D	990224
B2	NH0199050	G01	G1	I C0485 423	990224
B2	NH0199050	G01	G2	I C0483 P	990224
B2	NH0199050	G01	G2	I C0485 344	990224

NOTE: Blank spaces have been inserted between DTF Components above for clarity.

Data Transfer Format (DTF)

DTF Content – Action Code Illustrated

A2 NH0199050		M C0117 25	990224
B1 NH0199050 001		D C0300	990224
B2 NH0199050 002	01	I C0483 D	990224
B2 NH0199050 002	01	I C0485 423	990224

NOTE: Blank spaces have been inserted between DTF Components above for clarity.

Data Transfer Format (DTF)

DTF Content – Data Element Number

Record Numbers

Used in DTF ONLY to identify entire records in SDWIS/FED to be deleted in a Traditional update

Valid record numbers are shown on the *Record Deletion Form*

Data Transfer Format (DTF)

DTF Content – Data Element Number

Record Numbers Illustrated

A3 NH0199050 1	D C0300	990224
B1 NH0199050 001	D C0400	990224
B2 NH0199050 001 01	D C0480	990224
B3 NH0199050 001	D A5000	990224
B4 NH0199050 001	D C0350	990224
C1 NH0199050 00001	D C0500	990224
C2 NH0199050 00001	D C0600	990224
C3 NH0199050 00001	D C0700	990224
C4 NH0199050 0001	D C0800	990224
D1 NH0199050 9900001	D C1100	990224
E1 NH0199050 9900001	D C1200	990224
F1 NH0199050 9900001	D C3000	990224
F2 NH0199050 9900001 01	D C3100	990224
H1 NH0199050 00001	D C2100	990224

NOTE: Blank spaces have been inserted between DTF Components above for clarity.

Data Transfer Format (DTF)

Deletion of a Single Attribute

- Attribute level deletion allowed for “optional” data
- Data Entry Instructions provides attribute deletion indicator

Example: Deletion of the milestone comment attribute

C4 LQ1234567 00045 M C813 \$ 000025

Data Transfer Format (DTF)

DTF Content – Batch Sequence Number

- **Used to sequence update events in traditional updates only ... not used in total replace updates**
- **Lowest number processed first**
- **Alpha/numeric format**

Data Transfer Format (DTF)

DTF Content – Batch Sequence Number

Enforcement Won't be Linked to Violation - Why?

D1 CT0099233 9900147	I C1103 1025	990224
D1 CT0099233 9900147	I C1105 03	990224
D1 CT0099233 9900147	I C1107 19980701	990224
D1 CT0099233 9900147	I C1111 001	990224
E1 CT0099233 9900144	I C1203 19990111	990223
E1 CT0099233 9900144	I C1205 SIF	990223
E1 CT0099233 9900144	I Y5000 9900147	990223

NOTE: Blank spaces have been inserted between DTF Components above for clarity.

Data Transfer Format (DTF) Review

DTF Transaction Format

DTF Content

Questions?

SDWIS/FED Reporting Enforcements

Enforcement/Follow-Up Actions (RTC) and Enforcement Linking

SDWIS/FED Reporting Enforcements

Enforcement/RTC

- Formal Enforcement Follow-up actions are Required Reporting
- Enforcement/follow-up action must be linked to the violation
- Compliance Period/Violation Period End Date is replaced by the RTC action date; therefore, RTC must be reported

SDWIS/FED Reporting

Enforcements

MUST be reported for ALL Enforcement Actions

- PWS ID (C101 – Data Qualifier #1)
- Enforcement ID (C1201 – Data Qualifier #2)
- Enforcement Date C1203 - Date Action taken
- Follow-up Action Code C1205 - See Notes
- Enforcement Comment C1215 - Optional

SDWIS/FED Reporting Enforcements

Enforcement Record Data

Data Element

<u>Number</u>	<u>Name</u>	<u>Type</u>	<u>Length</u>	<u>Format/Comment</u>
C101	PWS ID	A/N	9	SSxxxxxxx
C1201	Enforcement ID	A/N	7	FFxnxxx
C1203	Enforcement Date	Date	8	YYYYMMDD
C1205	Follow-up Action Code	A/N	3	
C1215	Enforcement Comment	A/N	40	Optional

And the appropriate Link data. Note: not all link methods are appropriate for all violation conditions or for all enforcement actions.

SDWIS/FED Reporting Enforcements

Links to Violations

- Formal Enforcement Actions should be linked to the appropriate violation(s)
- RTC and Intentional No Action are “Formal”
- Unlinked Enforcements are “Orphans”
- 4 Methods to Link Enforcements to Violation(s)

SDWIS/FED Reporting Enforcements

Link Methods

- X5000 - Associated Violation Range
- Y5000 - Associated Violation IDs
- Z5000 - Associated Violation Contaminant Groups
- J5000 - Associated J5000 Group

SDWIS/FED Reporting

Enforcements

X5000 - Associated Violation Range

- Enforcement is linked to Violation(s) between specified date range
- Maximum of one Associated Violation Date Range in the Data Element Value
- Links to violations matching **begin** or **end** dates
- Links to ALL violations of ALL Rules (CAUTION)
- Failed Link - posts Enforcement - rejects Link

SDWIS/FED Reporting Enforcements

X5000 - Associated Violation Range Illustration

E1 CT0099233 9900144	I C1203 19990511	990224
E1 CT0099233 9900144	I C1205 SIF	990224
E1 CT0099233 9900144	I X5000 1999030119990331	990224
or		
E1 CT0099233 9900144	I X5000 1999010119990331	990224

**First example links to violations in one month:
3/1/1999 to 3/31/1999**

**Second example links violations in one quarter:
1/1/1999 to 3/31/1999**

NOTE: Blank spaces have been inserted between DTF Components above for clarity.

SDWIS/FED Reporting Enforcements

Y5000 - Associated Violation IDs

- Enforcement is linked to specific Violation(s) by Violation ID
- Maximum of four Associated Violation IDs in the Data Element Value
- Failed link - posts Enforcement - rejects Link

SDWIS/FED Reporting Enforcements

Y5000 - Associated Violation IDs Illustrated (Proper Use of Y5000)

E1 CT0099233 9900144	I C1203 19990111	990224
E1 CT0099233 9900144	I C1205 SIF	990224
E1 CT0099233 9900144	I Y5000 9900047	990224
E1 CT0099233 9900144	I Y5000 9900048	990224
E1 CT0099233 9900144	I Y5000 9900049	990224

Allows 3 transaction rows - one violation link on each row, OR

NOTE: Blank spaces have been inserted between DTF Components above for clarity.

SDWIS/FED Reporting Enforcements

Y5000 - Associated Violation IDs Illustrated (Proper Use of Y5000)

E1 CT0099233 9900144	I C1203 19990111	990224
E1 CT0099233 9900144	I C1205 SIF	990224
E1 CT0099233 9900144	I Y5000 9900047 9900048 9900049	990224

3 violation ID s on One transaction row

NOTE: Blank spaces have been inserted between DTF Components above for clarity.

SDWIS/FED Reporting Enforcements

Y5000 - Associated Violation IDs Illustrated (Improper Use of Y5000)

E1 CT0099233 9900144	I C1203 19990111	990224
E1 CT0099233 9900144	I C1205 SIF	990224
E1 CT0099233 9900144	I Y5000 9900047	990224
E1 CT0099233 9900145	I C1203 19990111	990224
E1 CT0099233 9900145	I C1205 SIF	990224
E1 CT0099233 9900145	I Y5000 9900048	990224
E1 CT0099233 9900146	I C1203 19990111	990224
E1 CT0099233 9900146	I C1205 SIF	990224
E1 CT0099233 9900146	I Y5000 9900049	990224

Results in “Duplicate” Enforcements when in fact only one Enforcement exists - SDWIS/FED will post these link transactions using only the FIRST enforcement record ID

SDWIS/FED Reporting Enforcements

Z5000 - Associated Violation Contaminant Groups

- Link requires exact match of:
 - **Violation Type**
 - **Contaminant, and**
 - **Violation Compliance Period Begin Date**
- Maximum of two Associated Violation Contaminant Groups in the Data Element Value
- Failed Link - posts Enforcement - rejects Link

SDWIS/FED Reporting Enforcements

Z5000 - Associated Violation Contaminant Groups Illustrated (Proper Use of Z5000)

E1 CT0187031 99G0001	I C1203 19970129	990224
E1 CT0187031 99G0001	I C1205 SFO	990224
E1 CT0187031 99G0001	I Z5000 51500019920101	990224
E1 CT0187031 99G0001	I Z5000 53500019920101	990224

NOTE: Blank spaces have been inserted between DTF Components above for clarity.

SDWIS/FED Reporting Enforcements

Z5000 - Associated Violation Contaminant Groups Illustrated (Proper Use of Z5000)

E1 CT0187031 02G0001	I C1203 20020429	020224
E1 CT0187031 02G0001	I C1205 SFO	020224
E1 CT0187031 02G0001	I Z5000 6550002002030153500020010701	020224

Links the following 2 violation groups:

- **Vio type: 65, Contam: 5000, Vio begin date: 3/1/2002**
- **Vio type: 53, Contam: 5000, Vio begin date: 7/1/2001**

NOTE: Blank spaces have been inserted between DTF Components above for clarity.

SDWIS/FED Reporting Enforcements

J5000 - Associated J5000 Group

- Link requires exact match of:
 - **Violation Type**
 - **Contaminant or Rule**
 - **Enforcement Period Begin Date, and**
 - **Enforceable Compliance Date**
- Maximum of one Associated Violation J5000 Group in Data Element Value
- Failed link **REJECTS ENFORCEMENT**

SDWIS/FED Reporting Enforcements

J5000 - Associated J5000 Group Illustrated

E1 PR0455114 99G1118	I C1203 19990715	990224
E1 PR0455114 99G1118	I C1205 SFL	990224
E1 PR0455114 99G1118	I J5000 1999013120000715	LCR 990224

- **Enforcement Period begin Date: 1/31/1999**
- **Enforceable Compliance Date: 7/15/2000**
- **Rule Code: LCR - Lead and Copper Rule, or
contaminant code of 5000**

NOTE: Blank spaces have been inserted between DTF Components above for clarity.

SDWIS/FED Reporting

Enforcements

Violation, Enforcement and Z5000 - Associated Violation Contaminant Groups Link Example

D1 CT0187031 0400221	I C1103 5000	040224
D1 CT0187031 0400221	I C1105 59	040224
D1 CT0187031 0400221	I C1107 20030701	040224
D1 CT0187031 0400221	I C1109 20031231	040224
E1 CT0187031 0400035	I C1203 19990129	040224
E1 CT0187031 0400035	I C1205 SFO	040224
E1 CT0187031 0400035	I C1215 CASE REFERENCE T-2275	990224
E1 CT0187031 0400035	I Z5000 59500020030701	040224

Y5000 would look like the following:

E1 CT0187031 0400035	I Y5000 0400221	040224
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SDWIS/FED Reporting

General Information

All LCR/LCRMR data is required to be reported to SDWIS/FED within 45 days after the end of the quarter in which the monitoring, violations, milestone determinations, and or enforcement/follow-up actions were completed, issued, made or taken.

Data review and error correction should be completed by the 90th day after the end of the quarter.

The Production database is frozen on or about the 5th day of the 4th month after the end of the quarter and the data is provided to EPA's ENVIROFACTS web site for public access.

SDWIS/FED Reporting Information Resources

SDWIS/FED Documentation: EPA Home Page

WWW.EPA.GOV/SAFEWATER/SDWISFED/SDWIS3.htm

- SDWIS/FED User Support: Michelle Stoner 202-260-2798
- SDWIS/FED Production Control/Help Line: 703-292-6121
- SDWIS/FED Technical information: Fran Haertel 214-665-8090
- LCRMR Implementation and Compliance Determination
Questions: Leslie Cronkhite 202-260-0713
- EPA Regional Data Management Coordinators

Lead and Copper NPDWR Requirements

Lead and Copper Tap/Initial WQP Monitoring

Corrosion Control Optimization

Public Education

Source Water Monitoring & Treatment

Replacement of Lead Service Lines

State Reporting and Recordkeeping

Primacy and Implementation



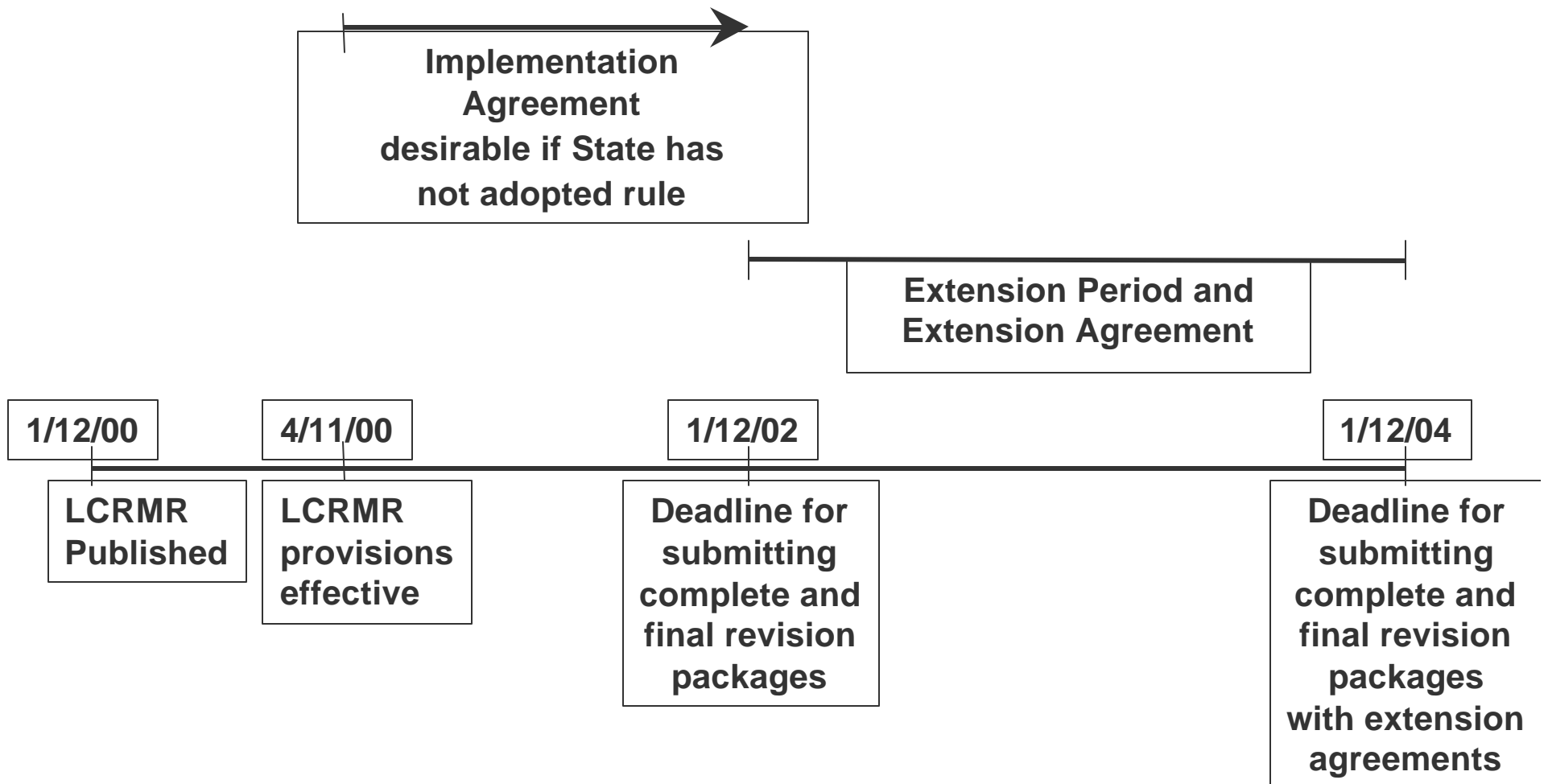
Primacy Revision Application

- ☛ State Primacy Revision Checklist
- ☛ Text of State Regulation
- ☛ Primacy Revision Crosswalk
- ☛ State Reporting and Recordkeeping Checklists
- ☛ Special Primacy Requirements
- ☛ Attorney General's Statement of Enforceability

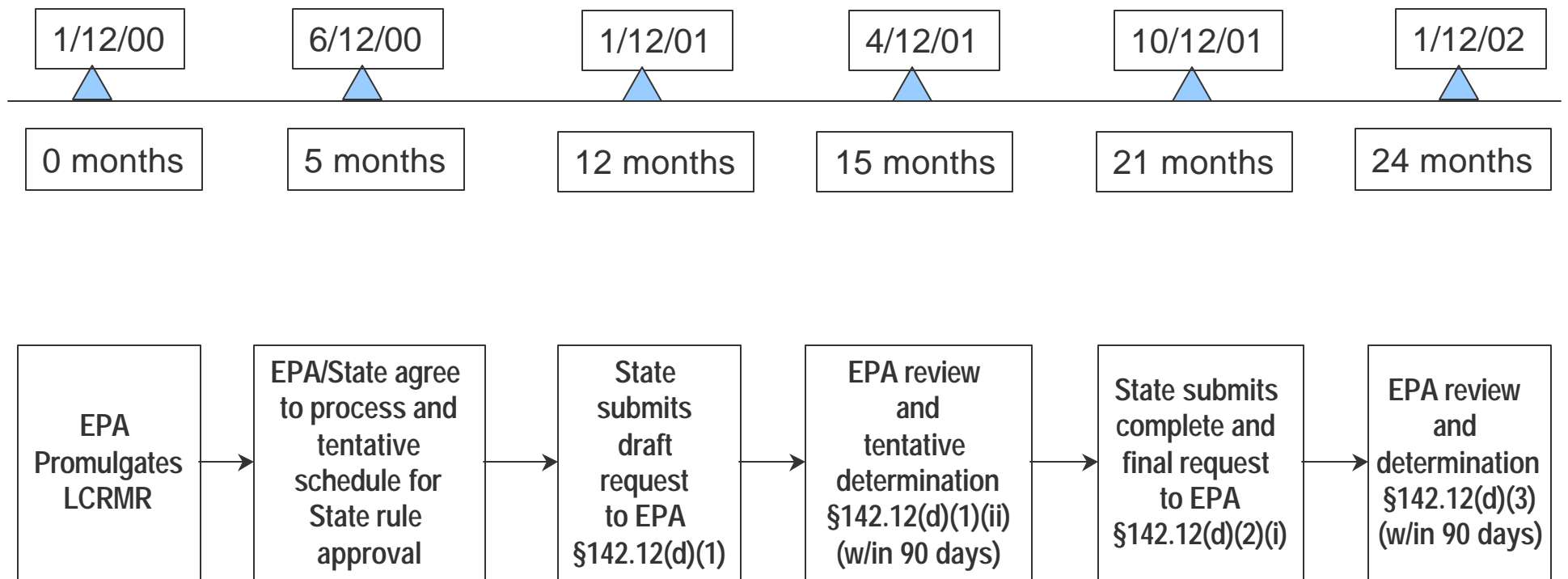
EPA and State Implementation Agreement

- ☛ After 4/11/00, EPA responsible for enforcing rule until State receives primacy
- ☛ States/EPA may agree to co-implement rule
- ☛ Unnecessary if State has submitted package and meets requirements for Interim Primacy

Primacy Program Revisions Timetable



The Primacy Revision Process



Primacy and Implementation

Revisions that Must Be Adopted

☛ Revisions that must be adopted to maintain primacy:

- Are more stringent than the 1991 Rule
- Must be implemented beginning April 11, 2000 by Region or State
- Must be incorporated into State regulations by January 12, 2002 to retain primacy (extension available)
- Include clarifications to original LCR language

Primacy and Implementation

Revisions that Must Be Adopted

☞ Pb/Cu Tap Monitoring and Reporting

- Use of representative sites
- States can specify reduced sampling locations
- Report change in treatment or new source

☞ Continued monitoring and/or treatment requirements for systems:

- with CCT but WQP monitoring not required
- with treatment in place prior to 12/7/92
- that qualify as (b)(3) systems

Primacy and Implementation

Revisions that Must Be Adopted

- ☛ More timely public education compliance reporting by systems
- ☛ Source water monitoring
 - Revisions to source water resampling triggers
 - Compositing by a certified lab
- ☛ LSLR requirements
 - Who receives replacement offer clarified
 - All revisions pertaining to partial LSLR

Primacy and Implementation

Cannot Be Implemented Unless State Allows

☛ These revisions:

- Are generally less stringent than 1991 Rule
- Cannot be implemented by systems until and unless incorporated into State regulations
- Are optional inclusions in State regulation

Primacy and Implementation

Cannot Be Implemented Unless State Allows

☞ Changes to Sampling Pool

- Use of non-first draw samples

☞ Reduced Lead and Copper Tap Monitoring

- No longer need to request permission
- State may designate alternate period
- Accelerated reduced monitoring

Primacy and Implementation

Cannot Be Implemented Unless State Allows

- ☛ Sample Invalidation
- ☛ Monitoring waivers
- ☛ Reduced holding time for acidified samples
- ☛ Reporting changes
 - 90th percentile calculation by State
 - elimination of sampling justifications
 - elimination of sample collection certifications

Primacy and Implementation

Cannot Be Implemented Unless State Allows

- ☛ Expanded (b)(3) definition
- ☛ Change in OWQP compliance procedure
- ☛ Representative entry point WQP monitoring for ground water systems
- ☛ Accelerated reduced WQP tap monitoring

Primacy and Implementation

Cannot Be Implemented Unless Adopted

- ☛ All public education revisions except more timely system reporting & need for resubmitting distribution list
- ☛ Reduced source water monitoring for systems without MPLs
- ☛ Labs not required to meet Copper MDL

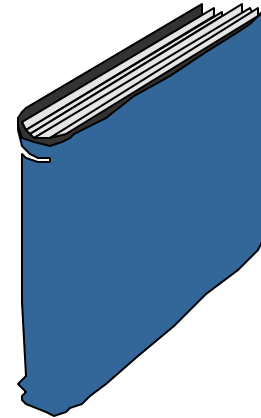
Special Primacy Conditions

- LCRMR add 3 new special primacy conditions
 - Use of alternate OWQP formula for multiple samples
 - Verification of partial LSLR activities
 - Designation of alternative reduced tap monitoring periods for CWSs

Outreach Materials

🦋 Guidance Documents

- State Implementation Guide
- OWQP compliance
- Summary of Revisions
- Monitoring waivers
- Partial LSLR



🦋 Fact Sheets

Outreach Materials

SDWIS/FED

- ☛ LCRMR Reporting Guidance - DRAFT
- ☛ SDWIS/FED Data Entry Instructions
- ☛ SDWIS/FED Online Data Dictionary (ODD)
- ☛ SDWIS/FED Error Code Data Base (ECDB)
- ☛ DTFWriter Software, Release 5.2
- ☛ DTFWriter User Manual

