

TOTAL COLIFORM RULE

IMPLEMENTATION MANUAL **(Including Appendix D)**

F I N A L

March 8, 1990

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IMPLEMENTATION MANUAL
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INTRODUCTION

The purpose of this document is to provide guidance to EPA regions and the States on implementation of the rule. More specifically, this document addresses violation determination, FRDS reporting, and State Primacy Revision Application.

This document is broken down into three sections. The first presents time lines showing deadlines for submission of Primacy Revision applications. The second section addresses violation determination and associated reporting requirements. The third section covers State Special Primacy Requirements. This section breaks the requirements down into three categories of relative importance. States may find this categorization useful in preparing their applications for primacy, because the EPA regions may utilize the categories in evaluating the applications.

The Appendices of this document also provide information that should be useful to State and regional EPA offices throughout the primacy application process. The first appendix explains what should be included in a Primacy Revision Application. The second appendix contains information on wellhead protection. The third appendix is a list of questions and responses to the questions which were asked at implementation workshops. The last appendix contains a detailed explanation of requirements and procedures for entering data into FRDS. (This last appendix will be added at a later date.)

SECTION I: TIME LINES

This section of the document outlines time frames for the submission of State Primacy Applications.

The Primacy Rule, published in the Federal Register on 20 December 1989, defined the Primacy Application process. Figure 1, "State Rule Implementation and Revision Guidance", was taken from the rule and is a brief overview of the schedule for State Primacy Revision Application. The schedule shows when States should submit their applications to their EPA region for evaluation and also shows how long EPA reviews should take. States should note that the new Primacy Rule contains a provision that gives the States the opportunity to have a draft of their Primacy Revision Application officially reviewed by their regional EPA office. However, whether the State sends draft(s) to their region or only presents the final version, the States should submit final Primacy Revision Packages by December 1990. Figure 2, "State Program Revision Extension Procedures", gives the time frame States can use should they wish to request an extension to the primacy application process. More information concerning the new Primacy Rule is available in the "Handbook for EPA Review of State Program Revisions Under New Primacy Regulations."

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FIGURE 1
STATE RULE IMPLEMENTATION AND REVISION GUIDANCE

EPA/STATE ACTION	TIME FRAME
1. Rule Published by EPA	[June '89]
2. State Submits Optional Draft Program Revision Package Including: - Preliminary Approval Request - Draft State Regulations - Regulation Crosswalk	[March-June '90]
3. Regional Review of Draft	[within 45 days]
4. State Submits Final Program Revision Package Including: - Request for Approval - Adopted State Regulations - Regulation Crosswalk - 142.16 Primacy Requirement Checklist - 142.10 Program Update Checklist - AG Enforceability Certification	[December '90]
5. EPA Final Review and Determination: - Regional Review - Headquarters Concurrence - Public Notice - Opportunity for Hearing - EPA's Determination	[within 90 days]

FIGURE 2
STATE PROGRAM REVISION EXTENSION PROCEDURES

1. State Request should Include: - Schedule for adoption - <142.12(b)(2)> Demonstration - <142.12(b)(3)> Agreement	[September '90]
2. EPA Approval/Disapproval of Extension	[within 30 days]

SECTION II: VIOLATION DETERMINATION AND FRDS REPORTING

This part of the Implementation Guidance Manual summarizes the events that constitute a violation under the rule. Reporting requirements are also addressed. However, it should be noted that the majority of reporting will be done at the State level only. FRDS reporting requirements do exist for a few violations and are described in section II.C.

A. IMPLEMENTATION TIME FRAME

1. UNTIL 1/91: Systems must monitor and report in accordance with current coliform monitoring and reporting requirements.
2. AFTER 12/90: Systems are required to comply with the new Total Coliform Rule.

B. VIOLATION DETERMINATION

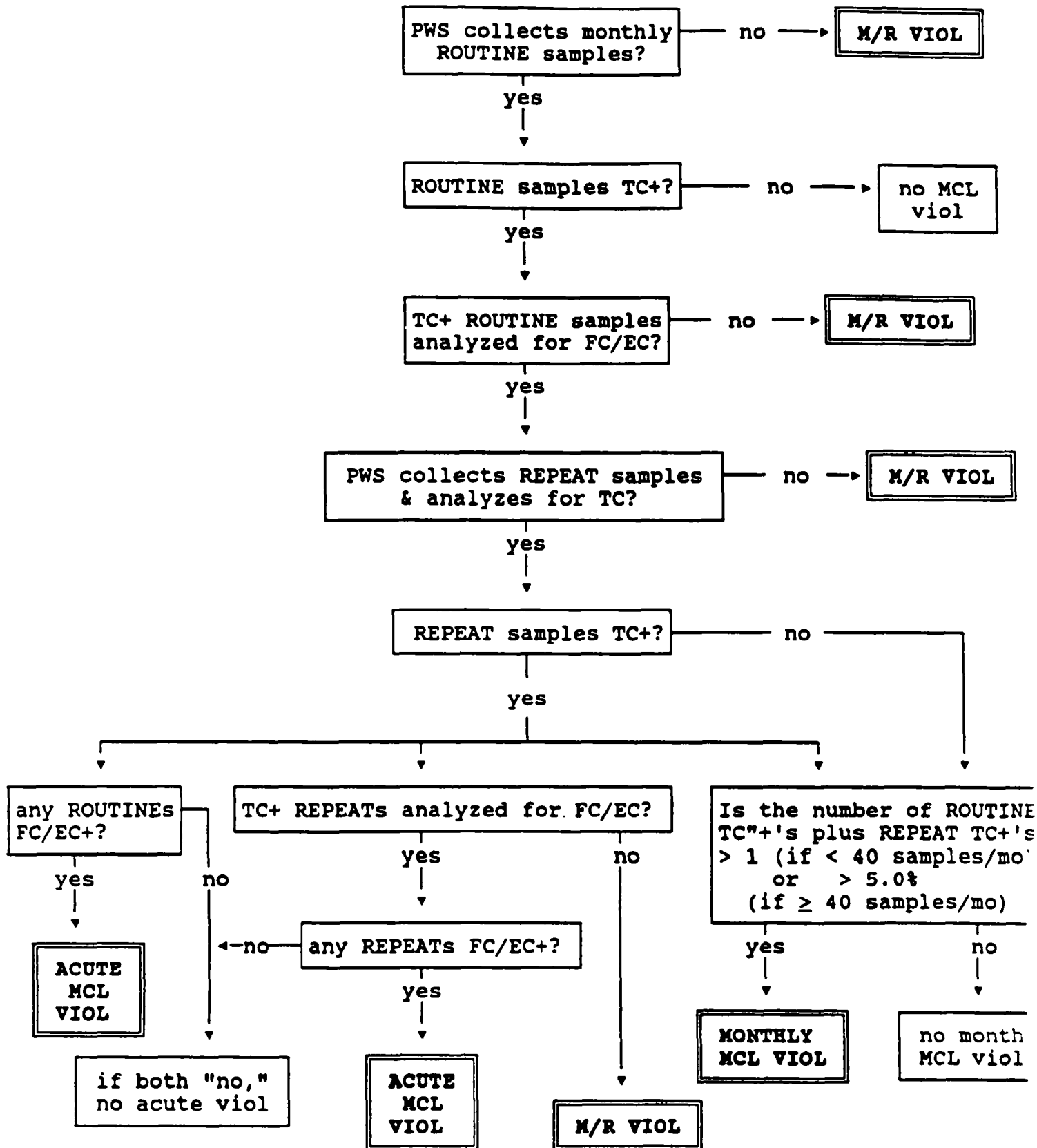
Violations that can be incurred under the TCR include "acute MCL violations", "monthly MCL violations", and "monitoring and reporting violations." The first two types of violations are incurred through different violation processes, but both count similarly toward determination of the requirement to install filtration treatment under the SWTR.

Figure 3 is a flow diagram showing the process a PWS should use to determine if it is in violation. Violations that must be reported to FRDS are shown in the double walled boxes. A further description of FRDS requirements can be found in section II.C.

1. Acute MCL Violations

- a. For the purpose of clarification, the two circumstances that can lead to acute violations are laid out in 1) and 2) below.
 - 1) Case A:
 - a) A routine total coliform sample is positive,
 - b) the fecal coliform or E. coli test of that sample is positive, and
 - c) one or more of the three or four repeat samples is total coliform positive.

FIGURE 3
VIOLATION DETERMINATION FOR THE TCR



2) Case B:

- a) A routine total coliform sample is positive,
- b) the fecal coliform or E. coli test of that sample is negative, and
- c) one or more of the three or four repeat samples is total coliform positive and,
- d) the total coliform-positive repeat sample is fecal coliform or E. coli positive.

2. Monthly MCL Violations

Monthly MCL violations are also shown on Figure 3, but are laid out here for the purpose of clarification.

a. For systems that take fewer than 40 samples/month

If more than one sample tests total coliform-positive, the system will incur a monthly MCL violation. Both routine and repeat coliform samples count toward the total.

b. For systems required to take 40 or more samples/month

If more than 5.0% of the samples taken in a month test total coliform-positive, the system will incur a monthly MCL violation. Both routine and repeat coliform samples count toward the total.

C. FRDS Reporting

The approach for FRDS requirements summarized here reflects regional and State comments that were received during implementation workshops, during the development of this guidance, and through development of the new SNC definition. We believe that the approach summarized here will minimize the burden for those who contribute data and maximize the usefulness of the data for those who interpret it.

Appendix D of this document gives in depth explanations of the technical side of data requirements and submittal methods for FRDS, including specific data elements that must be reported.

The FRDS reporting requirements in this section apply to systems of all sizes. Although the method of violation determination differs slightly between systems required to take 40 or more coliform samples per month versus those required to take fewer than 40 coliform samples per month, the violations are the same.

Please note that no distinction is made between non-community water systems and non-transient non-community water systems in this rule. This is because of the acute and immediate disease threat posed by bacteriological contaminants. A further explanation is provided in Appendix C of this document.

1. Monitoring and Reporting Violations

Monitoring and reporting violations for routine and repeat sampling will be reported to FRDS as major and minor in both categories:

ROUTINE SAMPLING

Major: A system that fails to take all (takes no samples) of the required routine samples in a compliance period.

Minor: A system that fails to take some (but not all) of the required routine samples in a compliance period.

REPEAT SAMPLING

Major: A system that does not conduct follow up monitoring after a total coliform-positive sample (i.e., takes no repeat samples and/or conducts no speciation for fecal/E. coli).

Minor: A system that fails to take some of the required repeat samples and/or a system that fails to speciate at least one (but not all) total coliform-positive samples for fecal/E. coli.

The data that must be reported for monitoring and reporting violations of the TCR are summarized below. Refer to Appendix D for additional details.

a. Routine Monitoring and Reporting Violations

1) Major Routine Monitoring and Reporting Violations

Contaminant Code:	3100 - Coliform (TCR)
Violation Type:	23 - Major Routine M&R viol. under revised TCR
Begin Date:	The first day of the compliance period
Duration:	1 to 12 months, depending on monitoring requirements.

2) Minor Routine Monitoring and Reporting Violations

Contaminant Code: 3100 - Coliform (TCR)
Violation Type: 24 - Minor Routine M&R viol.
under revised TCR
Begin date: The first day of the compliance
period
Duration: 1 to 12 months, depending on
monitoring requirements.

b. Repeat Monitoring and Reporting Violations

1) Major Repeat Monitoring and Reporting Violations

Contaminant Code: 3100 - Coliform (TCR)
Violation Type: 25 - Major Repeat M&R viol.
under revised TCR
Begin Date: The first day of the associated
routine sample's compliance period
Duration: 1 to 12 months, depending on
monitoring requirements.

2) Minor Repeat Monitoring and Reporting Violations

Contaminant Code: 3100 - Coliform (TCR)
Violation Type: 26 - Minor Repeat M&R viol.
under revised TCR
Begin date: The first day of the associated
routine sample's compliance period
Duration: 1 to 12 months, depending on
monitoring requirements.

c. Sanitary Survey

The State must report if a required Sanitary Survey to support reduced monitoring was not conducted. Please note that a **contaminant code cannot be specified for this type of violation**. Failure to have a Sanitary Survey conducted must be reported as summarized below:

Contaminant Code: Not Applicable - Do not report
Violation Type: 28 - Failure to have a Sanitary
Survey conducted
Begin date: The first day of the compliance
period
Duration: Depends on state requirements.

2. MCL Violations

MCL violations will be reported to FRDS separately in two categories, monthly MCL and acute MCL. The data that must be reported for MCL violations of the TCR are summarized below. Refer to Appendix D for additional details.

a. Monthly MCL Violations

Contaminant Code: 3100 - Coliform (TCR)
Violation Type: 22 - Monthly MCL under the revised TCR
Begin date: The first day of the first month of the compliance period
Duration: 1 to 12 months, depending on monitoring requirements.

b. Acute MCL Violations

Contaminant Code: 3100 - Coliform (TCR)
Violation Type: 21 - Acute MCL under the revised TCR
Begin Date: The first day of the first month of the compliance period violation
Duration: 1 to 12 months, depending on monitoring requirements.

SECTION III: STATE SPECIAL PRIMACY REQUIREMENTS

This second part of the Implementation Guidance Manual addresses special primacy requirements and breaks them down into three categories. These categories, sections A, B and C, contain primacy requirements of differing degrees of importance as explained below:

- Section A contains requirements that EPA feels are very important to implementation of the rule. Adoption of these requirements is discretionary, but if the State chooses to adopt the provisions, submission of explanation must be part of the application. These explanations will be reviewed thoroughly at the regional level.
- State responses to section B requirements will not be reviewed as thoroughly as those of section A. The section B requirements will be checked by the regions to determine if the procedures proposed by the State are clear and reasonable.
- State responses to section C will be evaluated only to determine whether the State has procedures in place to review decisions made at, at least, the level of the second level supervisor.

Part II of appendix A, the State Primacy Revision Application, is organized in the same manner as this section. States may use the categories in this section when allocating resources for development of their regulations.

A. STATE SPECIAL PRIMACY REQUIREMENT SUBMISSIONS

This section contains special primacy requirements that EPA feels are very important to implementation of the rule. Adoption of these provisions is not mandatory, but if the State chooses to adopt these provisions, the responses will be reviewed thoroughly at the regional level. States should ensure that their responses completely satisfy the requirements of the rule.

1. Requirements for States choosing to adopt optional provisions

- <142.16c2i>
- a. The method by which the State will determine whether it is appropriate to reduce the total coliform monitoring frequency for community water systems serving 1,000 or fewer persons.

- <142.16c2ii> b. The method by which the State will determine whether is appropriate to reduce the total coliform monitoring frequency for non-community water systems serving 1,000 or fewer persons.

**B. STATE SPECIAL PRIMACY REQUIREMENT SUBMISSIONS
(PROCEDURES)**

Responses to special primacy requirements in this section will not be reviewed in as much depth as those of section A. Submissions will be checked by the regions to ensure that the procedures proposed by the State are clear and reasonable.

1. Required for all States

- <142.16c1> a. The method by which the State will determine whether system sample siting plans are acceptable. The submission must include provisions for periodic reviews. It is acceptable for the system to develop and use the plan, place it in its records, and have the State review the plan during sanitary surveys.

2. Required for States choosing to adopt optional provisions

- <142.16c2iii> a. The method by which the State will determine whether it is appropriate to reduce the total coliform monitoring frequency for non-community water systems serving more than 1,000 persons during any month the system serves 1,000 persons or fewer.
- <142.16c2vii> b. The method by which the State will determine whether it is appropriate to waive the requirement for certain systems to collect additional routine samples the month following a coliform-positive sample.
- <142.16c2viii> c. The method by which the State will determine whether it is appropriate to invalidate a total coliform-positive sample.
- <142.16c2ix> d. The method by which the State will approve agents other than State personnel to conduct sanitary surveys.

C. DISCRETIONARY STATE SPECIAL PRIMACY REQUIREMENT SUBMISSIONS

The state must submit procedures for only those provisions which it adopts. EPA will review the submissions for these special primacy requirements to ensure that the State has a procedure for documenting and approving the variations. These are procedures that the State will use to evaluate unusual circumstances. Since these evaluations will usually be done on a case-by-case basis, EPA does not expect the States to develop detailed technical procedures for the purpose of satisfying the primacy review. For the purpose of the primacy review, the State should identify the process it will use to identify, document and approve these unusual circumstances. The State should also identify the person or persons who are authorized to approve the decision. These two basic provisions are sufficient for approval of the Primacy requirements in Section III.C.

- <142.16c2iv> 1. The method by which the State will determine whether it is appropriate to waive the 24-hour time limit for some systems to take a total coliform sample after a source water turbidity measurement over 1 NTU.
- <142.16c2v> 2. The method by which States will determine whether it is appropriate to waive the 24-hour time limit for some systems to take a repeat total coliform sample.
- <142.16c2vi> 3. The method by which the State will determine whether it is appropriate to allow a system with a single service connection to use an alternative repeat monitoring scheme.
- <142.16c2x> 4. The method by which the State will determine whether it is appropriate to waive fecal coliform or E. coli. testing on a total coliform positive sample.

APPENDIX A

State Primacy Revision Application

The purpose of this appendix is to describe the material required to apply for primacy revision for the TCR. Figure 1 in the manual outlines the time frame in which States must apply for primacy revision and Figure 2 addresses the time frame for extension applications.

A Primacy Revision Application package should consist of the following:

- The State Primacy Revision Checklist: §142.10.
- The text of the State Regulation
- The crosswalk for rule §141, completely filled out and annotated as necessary.
- A checklist identifying that State policies are consistent with Federal requirements for record keeping and reporting, rule §§142.14 and 142.15.
- An explanation of how the State will meet the Special Primacy Requirements from rule §142.16.
- State Attorney General Statement of enforceability.

The following paragraphs explain that the sections of this appendix correspond to the required elements of a Primacy Revision Application, listed above.

Section I is a checklist of program elements, taken from §142.10, that can really be thought of as a table of contents for the primacy revision application. In fact, the new Primacy Rule explains that: a State has primary enforcement responsibility for PWSs in the State...based upon submission made pursuant to §142.11 and submission under §142.12, that such a State, pursuant to appropriate legal authority has ... complied with the provisions of §142.10. The State should use the checklist to indicate the program elements that are and are not revised in response to the revised federal regulation by filling out the first blank column, indicating with a "Yes" or "No" answer whether program elements have been revised. During the evaluation process, EPA will fill out the second blank column with finding and comments.

Section II is a blank copy of the Primacy Revision Crosswalk for §141 of the TCR. States should complete the crosswalk to indicate which State statute or regulation

addresses each federal requirement. If the State's statute or regulation differs from the federal requirement, the State should explain how theirs is "no less stringent." The State should note that §142.63, Variances and Exemptions, are included in this section, and should be dealt with in the same manner as other requirements in the crosswalk.

Section III addresses State reporting and record keeping requirements. The State should use the form to explain that their policies are consistent with federal requirements. If State policies are not consistent, the State should elaborate and show that their policies are at least as stringent as federal requirements.

Section IV is a summary of State Special Primacy Requirements. This section is organized by the priority of the provisions of the rule. Categories A, B and C represent the relative importance of the provisions. For a detailed explanation of this categorization, see section III of the manual. To complete the State Special Primacy Requirements Section, the State should fill out the first blank column with a "Yes" or "No" answer, where allowed, to indicate whether optional provisions are being adopted at the State level. The State should describe how it will satisfy each mandatory requirement and each optional requirement being adopted. During the evaluation process, EPA will fill out the second blank column with finding and comments.

Section V is a model attorney General's Statement, which can be utilized if the State so desires.

Further information on the primacy application process is available in 40 CFR Parts 141 and 142 National Primary Drinking Water regulations Implementation; Primary Enforcement Responsibility; Final Rule dated December 20 1989, and from the Handbook for EPA Review of State Program Revisions Under New Primacy Regulations.

**REVIEW OF STATE PRIMACY
REVISION APPLICATION**

TOTAL COLIFORM RULE

CONTENTS:

- I §142.10 Requirements - Checklist**
- II §141 Requirements - Primacy Revision Crosswalk**
- III §§142.14 and 142.15 Reporting and Record keeping**
- IV §142 State Special Primacy Requirements**
- V Attorney General Certification Statement**

State: _____
Date Application Submitted: _____
Date Review Completed: _____
EPA Region: _____
Reviewing Staff: _____

STATE PRIMACY REVISION CHECKLIST - TCR

	Revision to State Program Yes/ No	EPA Findings/Comments
§142.10 -- Primary Enforcement		
§142.10(a) -- Regs no less stringent		
§142.10(b)(1) -- maintain inventory		
§142.10(b)(2) -- sanitary surv prog		
§142.10(b)(3) -- lab cert prog		
§142.10(b)(4) -- lab capability		
§142.10(b)(5) -- plan review prog		
§142.10(b)(6)(i) -- auth to apply regs		
§142.10(b)(6)(ii) auth to sue		
§142.10(b)(6)(iii) right of entry		
§142.10(b)(6)(iv) auth to req records		
§142.10(b)(6)(v) auth to req PN		
§142.10(b)(6)(vi) civ/crim penalties		
§142.10(c) -- maint of records		
§142.10(d) -- V/E conditions		
§142.10(e) -- emergency plans		

PRIMACY REVISION CROSSWALK - TCR

FEDERAL REQUIREMENT	FEDERAL CITE	STATE AUTHORITY	IF DIFFERENT FROM FEDERAL REQUIREMENT, NOTE DIFFERENCE HERE & EXP WHY "NO LESS STRINGENT" ON SEPARATE SHEET
		STATUTE / REGULATION	
DEFINITIONS			
Confluent growth	141.2		
Domestic or other non- distribution system plumbing problem	141.2		
Near the first service connection	141.2		
System with a single service connection	141.2		
Too numerous to count	141.2		
COLIFORM SAMPLING			
Routine monitoring; collection of samples according to siting plan	141.21(a)(1)		
Monitoring frequency for community water systems - reduced monitoring frequency for community water systems serving 25- 1,000 people	141.21(a)(2)		
Monitoring frequency for non-community water systems using only ground water (not under the direct influence); systems serving 1,000 or fewer persons - reduced monitoring frequency for non-community water systems	141.21(a)(3)(i)		

PRIMACY REVISION CROSSWALK - TCR

FEDERAL REQUIREMENT	FEDERAL CITE	STATE AUTHORITY	IF DIFFERENT FROM FEDERAL REQUIREMENT, NOTE DIFFERENCE HERE & EXPLAD WHY "NO LESS STRINGENT" ON SEPARATE SHEET
		STATUTE / REGULATION	
COLIFORM SAMPLING (cont'd)			
Monitoring frequency for non-community water systems using ground water (not under the direct influence); systems serving 1,000 or more persons - reduced monitoring frequency for months the system serves 1,000 or fewer persons	141.21(a)(3)(ii)		
Monitoring frequency for non-community water systems using surface water	141.21(a)(3)(iii)		
Monitoring frequency for non-community water systems using ground water under the direct influence; begin monitoring six months after determined to be under the direct influence	141.21(a)(3)(iv)		
Collection of samples at regular time intervals	141.21(a)(4)		
Collection of samples for systems using surface water or ground water under the direct influence; systems not filtering	141.21(a)(5)		
Special purpose samples	141.21(a)(6)		
Repeat monitoring; total coliform-positive samples	141.21(b)(1)		
Repeat monitoring; sampling location	141.21(b)(2)		
Repeat monitoring; time period	141.21(b)(3)		

PRIMACY REVISION CROSSWALK - TCR

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		STATUTE / REGULATION	
COLIFORM SAMPLING (cont'd)			
Repeat monitoring; total coliform-positive repeat samples	141.21(b)(4)		
Repeat monitoring; systems collecting fewer than five samples per month with total coliform positive samples	141.21(b)(5)		
Repeat monitoring; waiver of repeat monitoring requirements for systems collecting fewer than five samples per month with total coliform positive samples; site visit	141.21(b)(5)(i)		
Repeat monitoring; waiver of repeat monitoring requirements for systems collecting fewer than five samples per month with total coliform positive samples; problem corrected within one month	141.21(b)(5)(ii)		
Repeat monitoring; use of routine samples as repeat samples	141.21(b)(6)		
Repeat monitoring; results of repeat samples included in determining compliance with the total coliform MCL	141.21(b)(7)		
Invalidation of total coliform-positive samples; improper sample analysis	141.21(c)(1)(i)		

PRIMACY REVISION CROSSWALK - TCR

FEDERAL REQUIREMENT	FEDERAL CITE	STATE AUTHORITY	IF DIFFERENT FROM FEDERAL REQUIREMENT, NOTE DIFFERENCE HERE & EXPLAIN WHY "NO LESS STRINGENT" ON SEPARATE SHEET
		STATUTE / REGULATION	
COLIFORM SAMPLING (cont'd)			
Invalidation of total coliform-positive samples; samples resulting from domestic or other non-distribution system plumbing problems	141.21(c)(1)(ii)		
Invalidation of total coliform-positive samples; result due to circumstances not reflecting distribution system water quality	141.21(c)(1)(iii)		
Invalidation of total coliform-positive samples; samples producing turbid cultures, confluent growth or colonies too numerous to count	141.21(c)(2)		
Sanitary surveys; community water systems not collecting five or more routine samples per month; initial sanitary survey completed by June 29, 1994 - repeat surveys every five years	141.21(d)(1)(i)		
Sanitary surveys; non-community water systems not collecting five or more routine samples per month; initial sanitary survey completed by June 29, 1999 - repeat surveys every five years, except systems using protected and disinfected ground water must repeat surveys every ten years	141.21(d)(1)(i)		

PRIMACY REVISION CROSSWALK - TCR

FEDERAL REQUIREMENT	FEDERAL CITE	STATE AUTHORITY	IF DIFFERENT FROM FEDERAL REQUIREMENT, NOTE DIFFERENCE HERE & EXP. WHY "NO LESS STRINGENT" ON SEPARATE SHEET
		STATUTE / REGULATION	
COLIFORM SAMPLING (cont'd)			
Sanitary surveys; states with wellhead protection programs	141.21(d)(1)(ii)		
Sanitary surveys; performance by approved agent - responsibility for survey	141.21(d)(2)		
Fecal coliform/ <i>E. Coli</i> testing; analysis of total coliform-positive cultures - reporting of fecal coliform/ <i>E. Coli</i> positive samples	141.21(e)(1)		
Fecal coliform/ <i>E. Coli</i> testing; waiver of testing when total coliform positive samples are assumed fecal coliform/ <i>E. Coli</i> positive	141.21(e)(2)		
Analytical methodology; sample volume of 100ml	141.21(f)(1)		
Analytical methodology; determination of presence or absence of total coliform	141.21(f)(2)		
Analytical methodology; approved methods for total coliform analyses	141.21(f)(3)		
Analytical methodology; use of five tube or single culture MTF techniques in lieu of 10-tube MTF technique	141.21(f)(4)		
Analytical methodology; fecal coliform analysis	141.21(f)(5)		

PRIMACY REVISION CROSSWALK - TCR

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		STATUTE / REGULATION	
COLIFORM SAMPLING (cont'd)			
Response to violation; State and public notification of MCL exceedance	141.21(g)(1)		
Response to violation; failure to comply with monitoring or sanitary survey requirements	141.21(g)(2)		
REPORTING REQUIREMENTS			
Reporting; systems failing to comply with NPDWRs must report to the State within 48 hours	141.31(b)		
GENERAL PUBLIC NOTIFICATION REQUIREMENTS			
Acute violations; presence of total coliform, fecal coliform or <i>E. Coli</i>	141.32(a)(1)(iii)(C)		
Mandatory health effects language; presence of total coliform	141.32(e)(11)		
Mandatory health effects language; presence of fecal coliform or <i>E.Coli</i>	141.32(e)(12)		
MCLs FOR MICROBIOLOGICAL CONTAMINANTS			
Effective date of Dec. 31, 1990 for deletion of existing coliform MCL and replacement with new microbiological requirements	141.14		

PRIMACY REVISION CROSSWALK - TCR

FEDERAL REQUIREMENT	FEDERAL CITE	STATE AUTHORITY	IF DIFFERENT FROM FEDERAL REQUIREMENT, NOTE DIFFERENCE HERE & EXPL WHY "NO LESS STRINGENT" ON SEPARATE SHEET
		STATUTE / REGULATION	
MCLs FOR MICROBIOLOGICAL CONTAMINANTS (cont'd)			
MCL for systems collecting at least 40 samples per month; no more than five percent are total coliform positive	141.63(a)(1)		
MCL for systems collecting fewer than 40 samples per month; no more than one sample is total coliform positive	141.63(a)(2)		
Violations for fecal coliform or <i>E. Coli</i> positive samples	141.63(b)		
Monthly determination of compliance with total coliform MCL	141.63(c)		
BAT for compliance with the total coliform MCL; protection of wells	141.63(d)(1)		
BAT for compliance with the total coliform MCL; maintenance of a residual disinfectant	141.63(d)(2)		
BAT for compliance with the total coliform MCL; maintenance of distribution system	141.63(d)(3)		
BAT for compliance with the total coliform MCL; filtration and/or disinfection of surface water	141.63(d)(4)		

PRIMACY REVISION CROSSWALK - TCR

FEDERAL REQUIREMENT	FEDERAL CITE	STATE AUTHORITY	IF DIFFERENT FROM FEDERAL REQUIREMENT, NOTE DIFFERENCE HERE & EXPLAIN WHY "NO LESS STRINGENT" ON SEPARATE SHEET
		STATUTE / REGULATION	
MCLs FOR MICROBIOLOGICAL CONTAMINANTS			
BAT for compliance with the total coliform MCL; development of a wellhead protection program	141.63(c)(5)		
VARIANCES AND EXEMPTIONS			
Variances and exemptions from the MCLs are not permitted	142.63		

STATE REPORTING AND RECORD KEEPING REQUIREMENTS - TCR

Are State policies consistent with federal requirements? If not, explain.	
§142.14 -- Records kept by States: See Attachment A	
§142.15 -- Reports by States, requirements: <ul style="list-style-type: none">• annual report of sources allowed to monitor less frequently	

**ATTACHMENT A
to Appendix A**

§142.14 -- Records kept by States

- Records to be kept for 5 years:

- waive the 24-hour time limit to collect repeat samples
- waive the requirement for 5 routine samples after a TC+
- invalidation of a total coliform-positive sample

- Records to be kept for 1 year:

- records of analyses

- Records to be kept to determine each system's status

- decision to reduce monitoring
- decision to waive the time limit for taking a coliform sample after high turbidity
- decision to reduce sanitary survey frequency
- list of non-State agents approved to conduct sanitary surveys
- decision to allow a PWS to forego fecal coliform testing

STATE SPECIAL PRIMACY REQUIREMENTS - TCR

	Applicable to State Yes/ No	Does the application contain req'd info? If not, explain
§142.16 -- Special Primacy Requirements		
Category A		
A.1.a. reduce CWS monitoring frequency		
A.1.b. reduce NCWS monitoring frequency		
Category B		
B.1.a. sample siting plans	Required	
B.2.a. reduce NCWS monitoring		
B.2.b. waive routine samples		
B.2.c. invalidate coliform sample		
B.2.d. non-State sanitary surveys		
Category C		
C.1. waive time limit (turbidity)		
C.2. waive time limit (repeat)		
C.3 alternative repeat monitoring		
C.4 waive repeat testing requirements		

* The State should describe how it will satisfy each mandatory requirement and each optional requirement being adopted.

MODEL ATTORNEY GENERAL'S STATEMENT

I hereby certify, pursuant to my authority as _____ (1) _____ and in accordance with the Safe Drinking Water Act as amended, and _____ (2) _____, that in my opinion the laws of the state [Commonwealth] of _____ (3) _____ [or tribal ordinances of _____ (4) _____] to carry out the program set forth in the "Program Description" submitted by the _____ (5) _____ have been duly adopted and are enforceable. The specific authorities provided are contained in statutes or regulations that are lawfully adopted at the time this Statement is signed and will be fully effective by the time the program is approved.

Seal of Office

Signature

Name (Type or Print)

Title

Date

- (1) Attorney General or attorney for the primacy agency if it has independent legal counsel
- (2) 40 CFR 142.11(a)(6)(i) for initial primacy requests or 142.12(c)(1)(iii) for final requests for approval of program revisions
- (3) Name of state or commonwealth
- (4) Name of tribe
- (5) Name of primacy agency

APPENDIX B
Wellhead Protection

This appendix contains information on aspects of wellhead protection (WHP) as they pertain to specific provisions of the Total Coliform Rule (TCR). Also included is a WHP program summary. The information in this appendix may aid the State in the implementation process and in determining compliance with some sections of the rule.

RULE SECTION: 141.21(a)(2)

Determination of whether a water system is supplied solely by a "protected groundwater source" and is free of sanitary defects:

The existence of a wellhead protection program under SDWA §1428 may be adequate to demonstrate that a system is supplied by a "protected groundwater source."

A WHP program developed under SDWA §1428 may provide information that can be used in conducting a sanitary survey.

RULE SECTION: 141.21(a)(3) and 141.21(d)

Reduction of monitoring frequency for non-community water systems which use only groundwater and serve less than 1,000 people and are free of sanitary defects:

A WHP program can provide information to determine whether groundwater is under the direct influence of surface water.

A WHP program can provide information for and be used to evaluate the adequacy of a sanitary survey.

If groundwater time-of-travel (TOT) from microbiological sources of contamination to the water system well is greater than one year, then the system may be eligible for reduced coliform monitoring. If TOT for such sources is less than one year, then other factors must be considered.

RULE SECTION: 141.63(d)(5)

Identification of the best means of complying with MCL for total coliforms in groundwater:

The development and implementation of an EPA-approved State Wellhead Protection Program under SDWA §1428 is one means of improving the likelihood of long term compliance with the MCL for total coliforms.

Wellhead Protection Program Summary

Section 1428 of the Safe Drinking Water Act (SDWA) contains requirements for the development and implementation of State Wellhead Protection (WHP) Programs to protect wells and well fields which are used, or may be used, to provide drinking water to public water systems. Under Section 1428, each State must adopt and submit to EPA for approval a WHP program that, at a minimum:

- (1) Specifies the duties of State agencies, local governments and public water systems in the development and implementation of the WHP program;
- (2) For each wellhead, determines the wellhead protection area (WHPA), as defined in section 1428(e) of SDWA, based on all reasonably available hydro-geologic information on groundwater flow, recharge, discharge and other information the State deems necessary to adequately determine the WHPA;
- (3) Identifies within each WHPA all potential human sources of contaminants which may have any adverse health effects;
- (4) Describes provisions for technical assistance, financial assistance, implementation of control measures, and education, training, and demonstration projects to protect the water supply within WHPAs from such contaminants;
- (5) Includes contingency plans for the location and provision of alternate drinking water supplies for each public water system in the event of well or well field contamination by such contaminants;
- (6) Requires that State and local governments and public water systems consider all potential sources of human contamination within the expected wellhead area of a new water well which serves a public water system; and
- (7) Requires public participation in developing the WHP program.

Each State is to submit a biennial status report to EPA on the State's progress in implementing the program. (Section 1428 (g)) Federal agencies having jurisdiction over any potential source of contaminants identified by a State program under this section must comply with all the requirements of the State program. (Section 1428(h))

The SDWA required all States to submit a WHP program to EPA by June 19, 1989, for EPA review and approval. To date, EPA has received 29 State programs for review. Other States are expected to submit programs later this year.

APPENDIX C

Questions and Answers

This appendix lists questions and the responses that were made during implementation workshops. As this Appendix continues to develop through the implementation process, new questions and their answers will be added.

DEFINITIONS

Question:

What is a fecal coliform?

Response:

There are two current definitions:

- 1) Anything that grows in fecal coliform medium (EC medium) at 44.5 degrees C.

If a total coliform-positive sample is transferred to EC medium, and gas is produced, fecal coliforms are present. There cannot be a false-positive (e.g. from the presence of Klebsiella) under this definition. This is the definition in the rule.

- 2) A fecal coliform is E.coli.

If a total coliform-positive sample is transferred to EC medium and gas is produced, it might be E.coli, Klebsiella or another organism. False-positives are possible with this definition. An analytical method(s) has not yet been proposed for E.coli, but one or more will be finalized before the effective date of the rule.

Question:

Is Klebsiella a fecal coliform?

Response:

Based on the first definition above for fecal coliforms, the one used in the TCR, some strains are. Fecal coliforms may include strains of Klebsiella, E.coli or anything else that grows in the EC medium at the incubation temperature of 44.5 C.

Question:

What is the best indicator of recent sewage contamination?

Response:

E.coli is a better indicator than total coliforms.

Question:

How is "population served" defined for non-community systems to determine monitoring frequencies?

Response:

States have discretion in determining the population served. However, one method of determining population is as follows. Population (P) could be defined as the sum of the residents (r) and the average daily transient population (total number of transients (t) served per month divided by the number of days (d) of the month during which the transients were served).

$$P = r + t/d$$

Because the calculation would reflect the previous month's population served and because the populations served could vary from month to month, influencing monitoring requirements, it may be appropriate to calculate (P) from previous years the system was in operation. The feasibility of applying this concept will depend on the facility for determining (r) or on estimates rather than actual counts.

Question:

Why doesn't the total coliform rule distinguish between transient non-community and non-transient non-community water systems like some rules regulating chemical contaminants?

Response:

Regulations on chemical contaminants generally deal with chronic exposure, i.e., lifetime exposure; this differs from microbial regulations, where a single exposure may result in illness.

Question:

What is the status of the Colilert (MMO-MUG) Test?

Response:

The Colilert test was promulgated in June 1989 for total coliform detection under the revised TCR. In July 1989, the Colilert test was approved for use as a 5-tube test for enumerating total coliforms under the current TCR. This test will probably be proposed for E.coli detection under the revised rule.

Question:

Can you please identify the commercially available tests that qualify as Mixed Medium ONPG-MUG (MMO-MUG) tests?

Response:

To date, the only commercially available formulation of the approved MMO-MUG test of which EPA is aware is the Autoanalysis Colilert test. Other methods which are identical in formulation and procedure would also be acceptable. Variations in formulation or procedure of the MMO-MUG test that was approved in the Federal Register (54 FR 27544; June 29, 1989) should be submitted to EPA's Environmental Monitoring Systems Laboratory in Cincinnati for review.

Question:

Is the Colilert test comparable to the P/A or membrane filter test?

Response:

Yes. We recommend that a lab using Colilert for the first time compare its results to a traditional technique for a time to determine if the test is effective for its water. The laboratory should specify which method will be used for determination of MCL compliance. This would ensure that systems don't report negative test results for one method and ignore the positive results of the other.

Question:

Is a cross-connection control program included as a best available means for achieving compliance with the MCL?

Response:

§141.63(d) of the rule identifies the best technology, treatment techniques, or other means available for achieving compliance with the MCL for total coliforms. This list includes paragraph (3) in that section, "Proper maintenance of the distribution system including appropriate pipe replacement and repair procedures, main flushing programs, proper operation and maintenance of storage tanks and reservoirs, and continual maintenance of positive pressure in all parts of the distribution system...". EPA considers this statement as including a cross-connection control program.

Question:

How are violations recorded for systems monitoring quarterly?

Response:

A violation for a system monitoring quarterly will have a duration of three months. Also, if a system fails to monitor, the ensuing monitoring/reporting violation will have a duration of three months.

Question:

What is a protected ground water?

Response:

This decision is to be made by the State; at a minimum it should be defined as a groundwater source not under the direct influence of surface water, as defined in the Surface Water Treatment Rule.

Question:

What does the Wellhead Protection Program require?

Response:

The Wellhead Protection program requires States to delineate areas around public water supply wells, and to identify any sources of contamination in the area. They must also develop management approaches to control these sources. However, it is likely that these programs will not be implemented until 1990-91.

MONITORING

Question:

When would a postponement for sampling in cases where the turbidity exceeds 1 NTU be granted.

Response:

This is at the State's discretion. This would most likely occur where a water system is in a remote area and a laboratory is not open on the weekend to allow the system to meet the time requirement. In this case, the State would have to decide if it would be unreasonable to require this system to drive a great distance to an open laboratory.

Question:

What is the basis for the number of repeat samples required for different sized systems?

Response:

The rule was written so that all systems testing coliform-positive will be required to take a total of at least 10 samples in the month of a violation and the month following. More specifically, the intent of the rule is to require at least 5 samples (a combination of routine and repeat samples) the month of the violation and at least 5 routine samples the month after a violation. This approach will give a good indication of the presence of coliforms in the system.

Questions:

If a system is required to take four repeat samples, where do they have to be taken?

Response:

§141.21(b)(2) of the rule states that a system which has a total coliform-positive sample must collect at least one repeat sample from the sampling tap where the original total coliform-positive sample was taken, and at least one repeat sample at a tap within five service connections upstream and at least one repeat sample at a tap within five service connections downstream of the original sampling site. The fourth sample can be taken at any location within five connections upstream or five connections downstream. While EPA did not specifically state that a system was to take the fourth sample within this range, that was implied in the rule in §141.21(b)(2), and was the agency's intention (see the definition of a repeat sample in the preamble on 54 FR 27553, column 1, top paragraph).

Question:

When can the State waive a systems requirement to test for fecal coliforms or E.Coli?

Response:

The State may waive a system's requirement to sample for fecal coliforms if the State allows the system to assume that the sample is fecal coliform-positive and takes all actions as if the sample were fecal coliform-positive, including taking repeat samples and

complying with public notice requirements of the rule. However, systems should take note that this may result in an acute violation if a repeat sample is total coliform-positive. The State might use this provision if the system had fecal contamination and had a boil water notice in effect.

Question:

Systems which monitor at a frequency of less than five samples per month and have a total coliform-positive sample are required to take repeat samples that month, and at least 5 samples in the following month. Are there any limitation on where the second set of samples are taken?

Response:

No, as long as they are all taken within the distribution system.

Question:

Where are additional sets of repeat samples collected?

Response:

§141.21(b)(4) of the rule states that if one or more samples in a set of repeat samples is coliform-positive, the system must collect an additional set of repeat samples. The rule, however, does not define where the additional set is to be collected, whether five adjacent service connections from the original total coliform-positive tap or the repeat total coliform-positive tap (assuming only one repeat sample is total coliform-positive). EPA believes that this situation would generally occur only when the distribution system is contaminated. Consequently, the rule as stated will allow the system to decide on which of the two taps to center the second set of repeat samples.

Question:

If a system has a total coliform-positive sample on the last day of the month and doesn't take its repeat samples until the next day, can these repeat samples count towards the systems compliance samples for that next month.

Response:

No. Repeat samples apply to compliance determination in the month in which the total coliform-positive routine sample was taken.

Question:

How will systems with one service connection take repeat samples?

Response:

A total of 400 ml of water must be collected, whether it is collected in one or several samples. (see §141.21(b) of the TCR)

Question:

Will persistent violators of monitoring or reporting requirements be given MCL violations?

Response:

No EPA rule, including the revised total coliform rule, states that systems which repeatedly violate specified monitoring or reporting

requirements are, consequentially, in violation of the MCL. States, however, should not be discouraged from taking such an approach.

Question:

Can the State require systems to conduct monitoring more frequently than specified in the rule?

Response:

Yes. In the rule it is stated that sampling must be representative of water in the distribution system. More sampling may be required to achieve this result.

Question:

What happens when a sample taken on the last day of the month is positive?

Response:

The repeat samples are taken within 24 hours of notice of the positive result. Results of the repeat samples are added into the month in which the original routine TC-positive sample was collected.

Question:

Must five samples always be taken the month after a sample testing positive for coliform?

Response:

There is an allowance in the rule for the State to waive the requirement for 5 samples to be taken the next month. EPA does not intend that the States use this option frequently unless the State conducts on-site inspections for each one, as specified in §141.21(b) of the TCR.

Question:

Please explain the collection of a routine sample(s) by a small system the next month after the State waives the requirement for five samples the next month after a total coliform-positive sample.

Response:

§141.21(b)(5)(ii) states that when a State waives the requirement for a system which collects fewer than five routine samples/month to collect at least five routine samples during the next month after a total coliform-positive sample, the system must still take at least one routine sample before the end of the next month, unless the State has determined that the system has corrected the contamination problem before the system took the set of repeat samples. EPA did not intend to suggest by this statement that systems could ignore the routine monitoring frequency requirements specified under §§141.21(a)(2)-(3). A system must still collect the number of routine samples specified by §§141.21(a)(2)-(3).

MCL/VIOLATION DETERMINATION

Question:

Do all samples taken count in determination of % positive each month?

Response:

All routine and repeat sample results count in the calculation. Research has demonstrated that coliforms are unevenly distributed in the system and repeat negatives do not indicate that the result of the routine positive sample was inaccurate.

Question:

If a system has a fecal coliform-positive sample and all repeat samples are total coliform-negative, does that system have an acute violation of the MCL for coliforms?

Response:

No. Based upon §141.63(b), if a system has a total coliform-positive routine sample which is also fecal coliform-positive (or E.Coli.-positive), and all repeat samples are total coliform-negative, then the system does not have an acute MCL violation.

Question:

Can a system have an acute MCL violation without violating the monthly MCL?

Response:

Yes, for a system taking 40 or more samples per month.

Question:

Can systems typically taking fewer than 40 samples per month increase the number of samples taken to 40 or more and determine their compliance based on the 5.0% criteria?

Response:

Yes. The State may limit this, although there is really no reason to.

SANITARY SURVEYS

Question:

Who conducts sanitary surveys and Site visits?

Response:

Routine sanitary surveys and Site visits must be conducted by the State or a State-approved individual. Persons conducting an on-site inspection for granting a waiver to take routine samples the month following a violation for systems required to take > 5 samples may not be conducted by an employee of the system, even if the employee is a State approved agent.

Question:

Who conducts sanitary surveys for systems taking fewer than 5 samples per month?

Response:

Having the surveys conducted is the responsibility of the system. However, they will be conducted by either the State or a State approved agent.

Question:

If a sample is invalidated, is a fecal coliform or E.coli positive from that same sample void?

Response:

Yes.

Question:

Which systems are subject to sanitary surveys?

Response:

Sanitary surveys must be conducted for systems which collect fewer than 5 samples/mo.- a total of approximately 190,000 systems (community and non-community). Systems can monitor at a frequency of 5 samples/month to avoid sanitary surveys. A research study performed by Drexel University found that if 60 samples are taken in the system and less than 5% of the samples are positive there is a 95% confidence that 90% of the water is TC free. Therefore, when 5 samples/month are taken, a system can determine water quality within one year, (i.e. $12 \times 5/\text{mo} = 60$). Consequently, the rule does not require systems taking 5 or more samples per month to have sanitary surveys performed.

SAMPLE INVALIDATION

Question:

How is sample invalidation handled for the new rule?

Response:

There is a major change in the process of sample invalidation. Other than mandatory lab invalidation, only the State, under criteria specified in §141.21(c) of the TCR, can invalidate a sample. A TC-positive sample is not invalidated even if repeat samples are all negative. The State should consider the outcome of sanitary surveys and the operation of the system before granting invalidations.

Question:

When must a laboratory invalidate a total coliform-negative sample?

Response:

Laboratories must invalidate total coliform-negative samples when the lab observes evidence of interference. (see §141.21(c) of the TCR). In some cases, the lab will have to make an informed judgement, (i.e., if a small area of the filter is overgrown). The system must then take a replacement sample.

Question:

The invalidation of a sample which produces a turbid culture with no gas is in conflict with the sixteenth edition of Standard Methods. Which takes precedence?

Response:

The rule takes precedence over Standard Methods.

Total Coliform Rule (TCR)
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Appendix D
FRDS Reporting

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Part A - Document and Code Value Summary

1. Introduction

This Appendix is divided into three parts. Part A consists of this Introduction and a comprehensive list of all new code values that have been defined as a result of the of the Total Coliform Rule and the Surface Water Treatment Rule implementation. Part B contains a description of the technical side of the Federal Reporting Data System (FRDS) data requirements and data submission methods. Part C contains additional guidance on compliance determination and reporting TCR violation data to FRDS.

Section II, Violation Determination and FRDS Reporting, of the TCR Implementation Manual summarizes the events which constitute a violation under the TCR and addresses FRDS reporting requirements in general terms. This Appendix enhances the FRDS Reporting discussion in the implementation manual by identifying specify data elements and codes that must be reported, and by giving examples of completed data capture forms.

Under the TCR, seven (7) distinct violation types must be reported to FRDS by primacy agencies. Five (5) of these violation types are categorized as Monitoring and Reporting (M&R) violations, and the other two (2) types are categorized as Maximum Contaminant Level (MCL) violations.

This Appendix contains the following for each type of TCR violation:

- A general discussion of the violation to be reported (i.e., what must be reported to FRDS and what is optional to report to FRDS);
- A completed FRDS-II Data Capture form and a completed FRDS 1.5 Card 45 form (See note below) to illustrate the information that must be reported to FRDS for the violation; and
- The physical format that must be used to input the violation data to FRDS (i.e., the FRDS-II Data Transfer Format (DTF) transactions or the FRDS 1.5 Card 45 format transactions (See note below)).

This Appendix should be used in conjunction with the FRDS-II Data Element Dictionary, the FRDS-II Data Entry Instructions, and the FRDS 1.5 Data Entry documentation. Updates to the two FRDS-II documents as a result of the TCR implementation will be developed.

Note: Until December 31, 1991, both FRDS 1.5 and FRDS-II input formats are acceptable for reporting TCR related violations. Beginning January 1, 1992, however, only the FRDS-II DTF input format will be acceptable for reporting TCR related violations.

2. Code Value Summary

A. FRDS-II Code Table ID03, Combined Treatment Objective and Treatment Process Codes

<u>Rule</u>	<u>Code</u>	<u>Description</u>
SWTR	N349	Unfiltered, Avoiding Filtration
SWTR	N350	Unfiltered, Must Install Filtration
SWTR	P348	Filtered

B. FRDS-II Code Table ID04, Treatment Process Codes

<u>Rule</u>	<u>Code</u>	<u>Description</u>
SWTR	348	Filtered
SWTR	349	Unfiltered, Avoiding Filtration
SWTR	350	Unfiltered, Must Install Filtration

C. FRDS-II Code Table ID06, Contaminant Identification Codes

<u>Rule</u>	<u>Code</u>	<u>Description</u>
TCR	3000	Coliform (Pre-TCR)
TCR	3100	Coliform (TCR)

Description Change Only

D. FRDS-II Code Table ID08, Violation Type Codes

<u>Rule</u>	<u>Code</u>	<u>Description</u>
TCR	21	MCL, Acute (TCR)
TCR	22	MCL, Monthly (TCR)
TCR	23	Monitoring, Major Routine (TCR)
TCR	24	Monitoring, Minor Routine (TCR)
TCR	25	Monitoring, Major Repeat (TCR)
TCR	26	Monitoring, Minor Repeat (TCR)
TCR	28	Sanitary Survey (TCR)
SWTR	31	Monitoring, Routine/Repeat (SWTR-Unfilt.)
SWTR	36	Monitoring, Routine/Repeat (SWTR-Filter.)
SWTR	41	Treatment Technique (SWTR)

E. FRDS-II Code Table ID10, Combined Source/Entity Record Type and Source/Entry Point/Plant Type Codes

<u>Rule</u>	<u>Code</u>	<u>Description</u>
SWTR	SY	Groundwater (UDI)
SWTR	SZ	Groundwater (UDI), Purchased

F. FRDS-II Code Table 0119, Primary Source Type Codes

<u>Rule</u>	<u>Code</u>	<u>Description</u>
SWTR	Y	Groundwater (UDI)
SWTR	Z	Groundwater (UDI), Purchased

G. FRDS-II Code Table 0407, Source/Entry Point/Plant Type Codes

<u>Rule</u>	<u>Code</u>	<u>Description</u>
SWTR	Y	Groundwater (UDI)
SWTR	Z	Groundwater (UDI), Purchased

H. FRDS-II Code Table 3005, Variance/Exemption/Other Record Type Codes

<u>Rule</u>	<u>Code</u>	<u>Description</u>
SWTR	FR	Filtration Requirement (SWTR)

I. FRDS-II Code Table 3011, Variance/Exemption/Other Status Codes

<u>Rule</u>	<u>Code</u>	<u>Description</u>
SWTR	Additional codes may be assigned, as required, to accurately reflect the status of the effort to install filtration	

J. FRDS-II Code Table 3019, Variance/Exemption/Other Reason Codes

<u>Rule</u>	<u>Code</u>	<u>Description</u>
-------------	-------------	--------------------

Source Water Criteria under the SWTR:

SWTR	21	Source Water Coliform
SWTR	22	Source Water Turbidity

Site-specific Criteria under the SWTR:

SWTR	31	Failure to Meet Daily CT
SWTR	32	Residual Disinfectant < 0.2 mg/l
SWTR	33	Residual Disinfectant Not Detected
SWTR	34	Lack of Redundant Disinfection Equipment
SWTR	35	Watershed Control is Inadequate
SWTR	36	On-site Inspection Warrants Filtration
SWTR	37	Waterborne Disease Outbreak

Violations of Other Rules (SWTR related):

SWTR	41	MCL, Monthly/Acute (TCR)
SWTR	42	MCL, TTHM
SWTR	43	MCL, Turbidity

Other

SWTR	51	PWS opts to Install Filtration
SWTR	52	State Requires Installation (not NPDWR)

K. FRDS-II Code Table 3103, Variance/Exemption/Other Schedule Action Codes

<u>Rule</u>	<u>Code</u>	<u>Description</u>
-------------	-------------	--------------------

SWTR		Additional codes may be assigned, as required, to accurately reflect the events associated with the effort to install filtration
------	--	--

L. FRDS 1.5 "Other Treatment" Codes (C1237, PWS-TRMT-OTHER)

<u>Rule</u>	<u>Code</u>	<u>Description</u>
-------------	-------------	--------------------

SWTR	!	Filtered
SWTR	@	Unfiltered, Avoiding Filtration
SWTR	#	Unfiltered, Must Install Filtration

Part B - Detailed FRDS Reporting Requirements for the TCR

1. Monitoring and Reporting Violations

Monitoring and Reporting (M&R) violations are reported to FRDS in five categories; Major Routine, Minor Routine, Major Repeat, Minor Repeat, and Sanitary Survey M&R violations.

M&R violations are applicable to PWSs with sources categorized as surface, purchased surface, groundwater, purchased groundwater, groundwater under the direct influence (UDI) of surface water, and purchased groundwater UDI.

Major Routine, Minor Routine, Major Repeat, and Minor Repeat M&R violations are applicable to PWSs of all sizes and types. Sanitary Survey M&R violations are applicable only to PWSs collecting fewer than five (5) routine total coliform samples per month.

When a single type of M&R violation is incurred by a system it must be reported to FRDS.

When more than one type of Routine/Repeat Major/Minor M&R violation has been incurred by a system for the same compliance period, only one of them needs to be reported¹ to FRDS. Only the most severe Routine/Repeat Major/Minor violation type that has been incurred by the system for the same compliance period needs to be reported. The order of precedence to utilize when determining which Routine/Repeat Major/Minor M&R violation type is to be reported, is as follows:

- 1 -- Major Repeat
- 2 -- Major Routine
- 3 -- Minor Repeat
- 4 -- Minor Routine

If both a Sanitary Survey and one or more Routine/Repeat Major/Minor M&R violations have been incurred by a system for the same compliance period, both types (or all types, if the State so chooses) must be reported to FRDS. See the examples in Part C of this appendix.

If both an M&R and an MCL violation have been incurred by a system for the same compliance period, both must be reported to FRDS.

¹ All Major/Minor Routine/Repeat M&R violations incurred by a system for the same compliance period may be reported to FRDS, at the States' discretion. Reporting only a single Major/Minor Routine/Repeat M&R violation according to the hierarchy listed, is intended to reduce the reporting burden in situations where a system incurs multiple types of Major/Minor Routine/Repeat M&R violations for the same compliance period.

A. Routine Sampling M&R Violations

1. Major Routine M&R Violations

A Major Routine M&R violation is issued when a system doesn't take any of the routine samples which are required to be collected for a compliance period.

a. FRDS-II DTF Input Format

When reporting to FRDS in DTF format, the primacy agency must provide the following data:

===== Data Element =====			Comment
No.	Name	Description	/ Value
C101	PWS-ID	The PWS ID number	
C1101	VIO-ID	An ID for the violation	
C1103	VIO-CONTAMINANT	The contaminant ID for the violation	3100
C1105	VIO-TYPE	The violation type	23
C1107	VIO-COMP-PERIOD-BEGIN-DATE	The date the compliance period began	mmddyy
C1111	VIO-COMP-PERIOD-MONTHS	The duration of the compliance period in months	1-12 (See note on page D - 9)

The primacy agency may optionally report the following data:

===== Data Element =====			Comment
No.	Name	Description	/ Value
Instead of reporting C1111, VIO-COMP-PERIOD-MONTHS, report:			
C1109	VIO-COMP-PERIOD-END-DATE	The date the compliance period ended	mmddyy

Figure 1 illustrates a completed FRDS-II data capture form for reporting a major routine monitoring and reporting violation. Figure 2 illustrates the FRDS-II DTF transactions which equate to the completed data capture form. Refer to the FRDS-II Data Entry Instructions documentation for further details.

Note: Usually, a duration of 1 to 12 months must be reported to FRDS for TCR M&R and MCL violations, dependent upon State specific monitoring requirements. However, between January 1, 1991, and June 29, 1994, a duration of up to 42 months is acceptable for non-community water systems using only groundwater (except groundwater under the direct influence of surface water) and serving 1,000 persons or fewer, if a sanitary survey shows that the system is free of sanitary defects and the State has approved the reduced monitoring frequency in writing.



U.S. ENVIRONMENTAL
PROTECTION AGENCY

Public Water System Data Capture Form D

PWS ID

ACTION CODE

BATCH DATE

State

ID Number

CA 6215486
(C101)

I

I = Insert M = Modify

07/15/91

D1

VIOLATION DATA

VIOLATION ID
ID NUMBER
911G0001
(C1101)

CONTAMINANT
3100
(C1103)

VIOLATION
TYPE
23
(C1105)

COMPLIANCE PERIOD BEGIN
MO DAY YR
04/01/91
(C1107)

COMPLIANCE PERIOD END
MO DAY YR
(C1109)

OR

COMPLIANCE PERIOD
DURATION
003
(C1111)

SE ID

(C1143)

AWARENESS DATE
MO DAY YR

(C1115)

MONITORING AND REPORTING VIOLATIONS

NUM SAMPLES
REQUIRED

(C1127)

NUM SAMPLES
TAKEN

(C1129)

OR

MAJOR
VIOLATION

(C1131)

Y = YES
N = NO

OR

MAXIMUM CONTAMINANT LEVEL VIOLATIONS

ANALYSIS
METHOD

(C1121)

ANALYSIS RESULT

(C1123)

MCL VIOLATED

(C1125)

Figure 1: Major Routine M&R Violation - FRDS-II Data Capture Form

05	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80
+		+			++	+								+	
D1CA621548691G0001					IC11033100										071591
D1CA621548691G0001					IC110523										071591
D1CA621548691G0001					IC1107040191										071591
D1CA621548691G0001					IC1111003										071591

Figure 2: Major Routine M&R Violation - FRDS-II DTF Transactions

b. FRDS 1.5 Card 45 Input Format

When reporting to FRDS in 1.5 Card 45 format, the primacy agency must provide the following data:

<u>Card 45 Form Name</u>	<u>Positions</u>	<u>Comment / Value</u>
State	1 - 2	
Card Code	3 - 4	45
PWS-ID	5 - 11	
Action Code	17 - 17	2
Vio. Type	18 - 19	23
Contam. Code	20 - 23	3100
Vio. Date	24 - 29	yyymmdd
Duration Months	30 - 32	001 - 012 (See note on page D - 9)
FY	73 - 74	

The primacy agency may optionally report the following data:

<u>Card 45 Form Name</u>	<u>Positions</u>	<u>Comment / Value</u>
Vio. ID	12 - 16	
Follow-up Actions (6x1)	55 - 55	
	56 - 56	
	57 - 57	
	58 - 58	
	59 - 59	
	60 - 60	
Enf. Action Date	61 - 66	yyymmdd
Batch Date	75 - 80	yyymmdd

Figure 3 illustrates a completed FRDS 1.5 Card 45 data entry form for reporting a major routine monitoring and reporting violation. Figure 4 illustrates the FRDS 1.5 Card 45 transaction which equates to the completed data entry form.

Public Water System
FRDS 1.5 VIOLATION ENFORCEMENT DATA

CARD 45

STATE CODE <u>1</u> <u>0</u> <u>1</u> 1-2	CARD CODE <u>4</u> <u>5</u> 3-4	PWS-ID <u>6</u> <u>2</u> <u>1</u> <u>5</u> <u>4</u> <u>8</u> <u>6</u> 5-11	VIO-ID <u> </u> <u> </u> <u> </u> <u> </u> <u> </u> 12-16	ACTION CODE <u>2</u> 17	VIO TYPE <u>2</u> <u>3</u> 18-19	CONTAM CODE <u>3</u> <u>1</u> <u>0</u> <u>0</u> 20-23
VIO. DATE YY MM DD <u>9</u> <u>1</u> <u>1</u> <u>0</u> <u>1</u> <u>4</u> <u>10</u> <u>1</u> 24-29		DURATION MONTHS <u>1</u> <u>0</u> <u>0</u> <u>3</u> 30-32	MAJOR MINOR <u> </u> 33	SAMPLES REQUIRED <u> </u> <u> </u> <u> </u> 34-36	SAMPLES TAKEN <u> </u> <u> </u> <u> </u> 37-39	
ANALYSIS METHOD <u> </u> <u> </u> <u> </u> 40-42	ANALYSIS RESULT <u> </u> <u> </u> <u> </u> <u> </u> <u> </u> 43-47	ANALYSIS DECIMAL <u> </u> 48	MCL VIOLATED <u> </u> <u> </u> <u> </u> <u> </u> <u> </u> 49-53	MCL VIO. DECIMAL <u> </u> 54	FOLLOW-UP. ACTION <u> </u> <u> </u> <u> </u> <u> </u> <u> </u> 55-60	
ENF. ACTION DATE YY MM DD <u> </u> <u> </u> <u> </u> <u> </u> <u> </u> 61-66		AWARENESS DATE YY MM DD <u> </u> <u> </u> <u> </u> <u> </u> <u> </u> 67-72		APPLICABLE FY <u>9</u> <u>1</u> 73-74	BATCH DATE YY MM DD <u> </u> <u> </u> <u> </u> <u> </u> <u> </u> 75-80	

Figure 3: Major Routine M&R Violation - FRDS 1.5 Card 45 Data Entry Form

05.	10.	15.	20.	25.	30.	35.	40.	45.	50.	55.	60.	65.	70.	75.	80.
+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
CA456215486		2233100910401003										91			

Figure 4: Major Routine M&R Violation - FRDS 1.5 Card 45 Transaction

2. Minor Routine M&R Violations

A Minor Routine M&R violation is issued when a system takes some (but not all) of the routine samples which are required to be collected for a compliance period.

a. FRDS-II DTF Input Format

When reporting to FRDS in DTF format, the primacy agency must provide the following data:

===== Data Element =====			Comment
No.	Name	Description	/ Value
C101	PWS-ID	The PWS ID number	
C1101	VIO-ID	An ID for the violation	
C1103	VIO-CONTAMINANT	The contaminant ID for the violation	3100
C1105	VIO-TYPE	The violation type	24
C1107	VIO-COMP-PERIOD-BEGIN-DATE	The date the compliance period began	mmdyy
C1111	VIO-COMP-PERIOD-MONTHS	The duration of the compliance period in months	1-12 (See note on page D - 9)

The primacy agency may optionally report the following data:

===== Data Element =====			Comment
No.	Name	Description	/ Value
Instead of reporting C1111, VIO-COMP-PERIOD-MONTHS, report:			
C1109	VIO-COMP-PERIOD-END-DATE	The date the compliance period ended	mmdyy

Figure 5 illustrates a completed FRDS-II data capture form for reporting a minor routine monitoring and reporting violation. Figure 6 illustrates the FRDS-II DTF transactions which equate to the completed data capture form. Refer to the FRDS-II Data Entry Instructions documentation for further details.



U.S. ENVIRONMENTAL
PROTECTION AGENCY

Public Water System Data Capture Form D

PWS ID

ACTION CODE

BATCH DATE

State ID Number
WY 16 84 51 26
(C101)

L
I - Insert M - Modify

MO DAY YR
07 15 91

D1

VIOLATION DATA

VIOLATION ID
FY ID NUMBER
91 10 00 52
(C1101)

CONTAMINANT
131 10 00
(C1103)

VIOLATION
TYPE
124
(C1105)

COMPLIANCE PERIOD BEGIN
MO DAY YR
06 01 91
(C1107)

COMPLIANCE PERIOD END
MO DAY YR
(C1109)

OR

COMPLIANCE PERIOD
DURATION
00 01
(C1111)

SE ID
(C1143)

AWARENESS DATE
MO DAY YR
(C1115)

MONITORING AND REPORTING VIOLATIONS		
NUM SAMPLES REQUIRED (C1127)	NUM SAMPLES TAKEN (C1129)	MAJOR VIOLATION Y = YES N = NO (C1131)

OR

MAXIMUM CONTAMINANT LEVEL VIOLATIONS

ANALYSIS METHOD (C1121)	ANALYSIS RESULT (C1123)	MCL VIOLATED (C1125)

Figure 5: Minor Routine M&R Violation - FRDS-II Data Capture Form

05	10	15	20	25	30	35	40	45	50	55	60	65	70	75
D1WY68451269100052					IC11033100									1
D1WY68451269100052					IC110521									1
D1WY68451269100052					IC1107060191									1
D1WY68451269100052					IC1111001									1

Figure 6: Minor Routine M&R Violation - FRDS-II DTF Transactions

b. FRDS 1.5 Card 45 Input Format

When reporting to FRDS in 1.5 Card 45 format, the
primacy agency must provide the following data:

<u>Card 45 Form Name</u>	<u>Positions</u>	<u>Comment / Value</u>
State	1 - 2	
Card Code	3 - 4	45
PWS-ID	5 - 11	
Action Code	17 - 17	2
Vio. Type	18 - 19	24
Contam. Code	20 - 23	3100
Vio. Date	24 - 29	yymmdd
Duration Months	30 - 32	001 - 012 (See note on page D - 9)
FY	73 - 74	

The primacy agency may optionally report the following
data:

<u>Card 45 Form Name</u>	<u>Positions</u>	<u>Comment / Value</u>
Vio. ID	12 - 16	
Follow-up Actions (6x1)	55 - 55	
	56 - 56	
	57 - 57	
	58 - 58	
	59 - 59	
	60 - 60	
Enf. Action Date	61 - 66	yymmdd
Batch Date	75 - 80	yymmdd

Figure 7 illustrates a completed FRDS 1.5 Card 45 data entry form
for reporting a minor routine monitoring and reporting violation.
Figure 8 illustrates the FRDS 1.5 Card 45 transaction which equates
to the completed data entry form.

**Public Water System
FRDS 1.5 VIOLATION ENFORCEMENT DATA**

CARD 45

STATE CODE WY 1-2	CARD CODE 45 3-4	PWS-ID 6845126 5-11	VIO-ID _____ 12-16	ACTION CODE 2 17	VIO TYPE 24 18-19	CONTAM CODE 3100 20-23
VIO. DATE YY MM DD 910601 24-29	DURATION MONTHS 001 30-32		MAJOR MINOR _____ 33	SAMPLES REQUIRED _____ 34-36	SAMPLES TAKEN _____ 37-39	
ANALYSIS METHOD _____ 40-42	ANALYSIS RESULT _____ 43-47	ANALYSIS DECIMAL _____ 48	MCL VIOLATED _____ 49-53	MCL VIO. DECIMAL _____ 54	FOLLOW-UP. ACTION _____ 55-60	
ENF. ACTION DATE YY MM DD _____ 61-66	AWARENESS DATE YY MM DD _____ 67-72		APPLICABLE FY 91 73-74	BATCH DATE YY MM DD _____ 75-80		

Figure 7: Minor Routine M&R Violation - FRDS 1.5 Card 45 Data Entry Form

05	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80
+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
WY456845126			2243100910601001										91		

Figure 8: Minor Routine M&R Violation - FRDS 1.5 Card 45 Transaction

B. Repeat Sampling M&R Violations

1. Major Repeat M&R Violations

A Major Repeat M&R violation is issued when a system doesn't conduct any of the follow up monitoring required after a total coliform-positive sample (i.e., takes no repeat samples and/or conducts no speciation for fecal/E. coli).

a. FRDS-II DTF Input Format

When reporting to FRDS in DTF format, the primacy agency must provide the following data:

===== Data Element =====			Comment
No.	Name	Description	/ Value
C101	PWS-ID	The PWS ID number	
C1101	VIO-ID	An ID for the violation	
C1103	VIO-CONTAMINANT	The contaminant ID for the violation	3100
C1105	VIO-TYPE	The violation type	25
C1107	VIO-COMP-PERIOD-BEGIN-DATE	The date the routine sample compliance period began	mmddyy
C1111	VIO-COMP-PERIOD-MONTHS	The duration of the routine sample compliance period in months	1-12 (See note on page D - 9)

The primacy agency may optionally report the following data:

===== Data Element =====			Comment
No.	Name	Description	/ Value

Instead of reporting C1111, VIO-COMP-PERIOD-MONTHS, report:

C1109	VIO-COMP-PERIOD-END-DATE	The date the compliance period ended	mmddyy
-------	--------------------------	--------------------------------------	--------

Figure 9 illustrates a completed FRDS-II data capture form for reporting a major repeat monitoring and reporting violation. Figure 10 illustrates the FRDS-II DTF transactions which equate to the completed data capture form. Refer to the FRDS-II Data Entry Instructions documentation for further details.



U.S. ENVIRONMENTAL
PROTECTION AGENCY

Public Water System Data Capture Form D

PWS ID

ACTION CODE

BATCH DATE

State ID Number
C1A 62115486
(C101)

I
I - Insert M - Modify

MO DAY YR
05 15 91

D1

VIOLATION DATA

VIOLATION ID CONTAMINANT VIOLATION TYPE COMPLIANCE PERIOD BEGIN COMPLIANCE PERIOD END COMPLIANCE PERIOD DURATION
FY ID NUMBER MO DAY YR MO DAY YR OR
911600011 3100 25 040191 0011
(C1101) (C1103) (C1105) (C1107) (C1109) (C1111)

SE ID AWARENESS DATE
MO DAY YR
C1143 C1115

MONITORING AND REPORTING VIOLATIONS
NUM SAMPLES REQUIRED NUM SAMPLES TAKEN MAJOR VIOLATION
C1127 C1129 OR C1131 Y - YES
N - NO

OR

MAXIMUM CONTAMINANT LEVEL VIOLATIONS

ANALYSIS METHOD ANALYSIS RESULT MCL VIOLATED
C1121 C1123 C1125

Figure 9: Major Repeat M&R Violation - FRDS-II Data Capture Form

05	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80
				++											
D1CA621548691G0001					IC11033100					051591					
D1CA621548691G0001					IC110525					051591					
D1CA621548691G0001					IC1107040191					051591					
D1CA621548691G0001					IC1111001					051591					

Figure 10: Major Repeat M&R Violation - FRDS-II DTF Transactions

b. FRDS 1.5 Card 45 Input Format

When reporting to FRDS in 1.5 Card 45 format, the primacy agency must provide the following data:

<u>Card 45 Form Name</u>	<u>Positions</u>	<u>Comment / Value</u>
State	1 - 2	
Card Code	3 - 4	45
PWS-ID	5 - 11	
Action Code	17 - 17	2
Vio. Type	18 - 19	25
Contam. Code	20 - 23	3100
Vio. Date	24 - 29	yymmdd
Duration Months	30 - 32	001 - 012 (See note on page D - 9)
FY	73 - 74	

The primacy agency may optionally report the following data:

<u>Card 45 Form Name</u>	<u>Positions</u>	<u>Comment / Value</u>
Vio. ID	12 - 16	
Follow-up Actions (6x1)	55 - 55	
	56 - 56	
	57 - 57	
	58 - 58	
	59 - 59	
	60 - 60	
Enf. Action Date	61 - 66	yymmdd
Batch Date	75 - 80	yymmdd

Figure 11 illustrates a completed FRDS 1.5 Card 45 data entry form for reporting a major repeat monitoring and reporting violation. Figure 12 illustrates the FRDS 1.5 Card 45 transaction which equates to the completed data entry form.

**Public Water System
FRDS 1.5 VIOLATION ENFORCEMENT DATA**

CARD 45

STATE CODE CA 1-2	CARD CODE 45 3-4	PWS-ID 6215486 5-11	VIO-ID [][][][] 12-16	ACTION CODE 2 17	VIO TYPE 25 18-19	CONTAM CODE 3100 20-23
VIO. DATE YY MM DD 911040 24-29		DURATION MONTHS 60 30-32	MAJOR MINOR [] 33	SAMPLES REQUIRED [][] 34-36	SAMPLES TAKEN [][] 37-39	
ANALYSIS METHOD [][] 40-42	ANALYSIS RESULT [][][][] 43-47	ANALYSIS DECIMAL [] 48	MCL VIOLATED [][][][] 49-53	MCL VIO. DECIMAL [] 54	FOLLOW-UP. ACTION [][][][] 55-60	
ENF. ACTION DATE YY MM DD [][][][] 61-66	AWARENESS DATE YY MM DD [][][][] 67-72		APPLICABLE FY 91 73-74	BATCH DATE YY MM DD [][][][] 75-80		

Figure 11: Major Repeat M&R Violation - FRDS 1.5 Card 45 Data Entry Form

05	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80
+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
CA456215486		2253100910401001										91			

Figure 12: Major Repeat M&R Violation - FRDS 1.5 Card 45 Transaction

2. Minor Repeat M&R Violations

A Minor Repeat M&R violation is issued when a system takes some (but not all) of the repeat samples required to be collected and/or when a system speciates some (but not all) of the total coliform-positive samples for fecal/E. coli.

a. FRDS-II DTF Input Format

When reporting to FRDS in DTF format, the primacy agency must provide the following data:

===== Data Element =====			Comment
No.	Name	Description	/ Value
C101	PWS-ID	The PWS ID number	
C1101	VIO-ID	An ID for the violation	
C1103	VIO-CONTAMINANT	The contaminant ID for the violation	3100
C1105	VIO-TYPE	The violation type	26
C1107	VIO-COMP-PERIOD-BEGIN-DATE	The date the routine sample compliance period began	mmddyy
C1111	VIO-COMP-PERIOD-MONTHS	The duration of the routine sample compliance period in months	1-12 (See note on page D - 9)

The primacy agency may optionally report the following data:

===== Data Element =====			Comment
No.	Name	Description	/ Value
		Instead of reporting C1111, VIO-COMP-PERIOD-MONTHS, report:	
C1109	VIO-COMP-PERIOD-END-DATE	The date the compliance period ended	mmddyy

Figure 13 illustrates a completed FRDS-II data capture form for reporting a minor repeat monitoring and reporting violation. Figure 14 illustrates the FRDS-II DTF transactions which equate to the completed data capture form. Refer to the FRDS-II Data Entry Instructions documentation for further details.



U.S. ENVIRONMENTAL
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Public Water System Data Capture Form D

PWS ID

ACTION CODE

BATCH DATE

State

ID Number

WY 6 8 4 5 1 2 6
(C101)

I

I - Insert M - Modify

MO DAY YR
0 7 1 5 9 1 1

D1

VIOLATION DATA

VIOLATION ID
ID NUMBER

9 1 1 0 0 1 5 2
(C1101)

CONTAMINANT

3 1 0 0
(C1103)

VIOLATION
TYPE

2 6
(C1105)

COMPLIANCE PERIOD BEGIN

MO DAY YR
0 6 0 1 9 1 1
(C1107)

COMPLIANCE PERIOD END

MO DAY YR
(C1109)

OR

COMPLIANCE PERIOD
DURATION

0 0 1
(C1111)

SE ID

(C1143)

AWARENESS DATE

MO DAY YR
(C1115)

MONITORING AND REPORTING VIOLATIONS

NUM SAMPLES
REQUIRED

(C1127)

NUM SAMPLES
TAKEN

(C1129)

OR

MAJOR
VIOLATION

Y - YES
N - NO
(C1131)

OR

MAXIMUM CONTAMINANT LEVEL VIOLATIONS

ANALYSIS
METHOD

(C1121)

ANALYSIS RESULT

(C1123)

MCL VIOLATED

(C1125)

Figure 13: Minor Repeat M&R Violation - FRDS-II Data Capture Form

.05	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80
+	+				+	+								+	+
D1WY68451269100052					IC11033100					071591					
D1WY68451269100052					IC110526					071591					
D1WY68451269100052					IC1107060191					071591					
D1WY68451269100052					IC1111001					071591					

Figure 14: Minor Repeat M&R Violation - FRDS-II DTF Transactions

b. FRDS 1.5 Card 45 Input Format

When reporting to FRDS in 1.5 Card 45 format, the primacy agency must provide the following data:

<u>Card 45 Form Name</u>	<u>Positions</u>	<u>Comment / Value</u>
State	1 - 2	
Card Code	3 - 4	45
PWS-ID	5 - 11	
Action Code	17 - 17	2
Vio. Type	18 - 19	26
Contam. Code	20 - 23	3100
Vio. Date	24 - 29	yymmdd
Duration Months	30 - 32	001 - 012 (See note on page D - 9)
FY	73 - 74	

The primacy agency may optionally report the following data:

<u>Card 45 Form Name</u>	<u>Positions</u>	<u>Comment / Value</u>
Vio. ID	12 - 16	
Follow-up Actions (6x1)	55 - 55	
	56 - 56	
	57 - 57	
	58 - 58	
	59 - 59	
	60 - 60	
Enf. Action Date	61 - 66	yymmdd
Batch Date	75 - 80	yymmdd

Figure 15 illustrates a completed FRDS 1.5 Card 45 data entry form for reporting a minor repeat monitoring and reporting violation. Figure 16 illustrates the FRDS 1.5 Card 45 transaction which equates to the completed data entry form.

**Public Water System
FRDS 1.5 VIOLATION ENFORCEMENT DATA**

CARD 45

STATE CODE WY 1-2	CARD CODE 45 3-4	PWS-ID 6875126 5-11	VIO-ID _____ 12-16	ACTION CODE 2 17	VIO TYPE 26 18-19	CONTAM CODE 3100 20-23
VIO. DATE YY MM DD 91106011 24-29		DURATION MONTHS 1001 30-32	MAJOR MINOR _____ 33	SAMPLES REQUIRED _____ 34-36	SAMPLES TAKEN _____ 37-39	
ANALYSIS METHOD _____ 40-42	ANALYSIS RESULT _____ 43-47	ANALYSIS DECIMAL _____ 48	MCL VIOLATED _____ 49-53	MCL VIO. DECIMAL _____ 54	FOLLOW-UP. ACTION _____ 55-60	
ENF. ACTION DATE YY MM DD _____ 61-66		AWARENESS DATE YY MM DD _____ 67-72		APPLICABLE FY 911 73-74	BATCH DATE YY MM DD _____ 75-80	

Figure 15: Minor Repeat M&R Violation - FRDS 1.5 Card 45 Data Entry Form

05	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80
+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
WY456845126 2263100910601001															

Figure 16: Minor Repeat M&R Violation - FRDS 1.5 Card 45 Transaction

A sanitary survey M&R violation is issued to PWSs that fail to have a sanitary survey conducted at the required frequency.

When reporting to FRDS in DTF format, the primacy agency must provide the following data:

The primacy agency may optionally report the following data:

Instead of reporting C1111, VIO-COMP-PERIOD-MONTHS,
report:

D - 25

Notes:

- 1 - For purposes of illustration, the scenario and example below assumes that the State has adopted the NPDWR sampling dates, frequencies, etc. by reference. Of course, if the State chooses, they can adopt more stringent requirements.

To illustrate what must be reported to FRDS for the compliance period begin date, consider the following:

A PWS collecting fewer than 5 routine samples per month must undergo an initial sanitary survey by June 29, 1994 (for CWSs), or by June 29, 1999 (for NCWSs). Thereafter, the system must undergo another sanitary survey every five years (ten years for NCWSs using only protected and disinfected groundwater) after the initial sanitary survey.

A community PWS that regularly collects 3 routine samples per month (a system that serves between 2,501 and 3,300 persons) has an initial sanitary survey conducted on May 31, 1992. Its next sanitary survey must be conducted by no later than May 30, 1997 (within 5 years of the date of the initial sanitary survey).

If we assume that the systems' second sanitary survey was not conducted by May 30, 1997, a sanitary survey M&R violation must be reported to FRDS with a compliance period begin date of June 1, 1992. This is one day after the initial sanitary survey was conducted, and it is the first day of the compliance period for which a sanitary survey was not conducted. The violation would be given a compliance period duration of 60 months.

- 2 - Since the effective date of the TCR regulation is January 1, 1991, the community PWS deadline of June 29, 1994, is 42¹ months after the effective date of the rule, and the non-community water system deadline of June 29, 1999, is 102¹ months after the effective date.

(Continued)

¹ At State discretion, more stringent requirements can be adopted. If a State adopts more stringent requirements, the compliance period durations of 42, 102, 60, and/or 120 months would be replaced, as appropriate, with the more stringent State specific values.

Therefore, for systems that fail to have the initial sanitary survey conducted, the compliance period duration would be a maximum of 42¹ months for community PWSs, or a maximum of 102¹ months for non-community PWSs.

For systems that fail to have a subsequent sanitary survey conducted (after the initial sanitary survey period), the compliance period duration would be 60¹ months (120¹ months for NCWSs using only protected and disinfected groundwater).

¹ At State discretion, more stringent requirements can be adopted. If a State adopts more stringent requirements, the compliance period durations of 42, 102, 60, and/or 120 months would be replaced, as appropriate, with the more stringent State specific values.



U.S. ENVIRONMENTAL
PROTECTION AGENCY

Public Water System Data Capture Form D

PWS ID

ACTION CODE

BATCH DATE

State

ID Number

TX 45112668
(C101)

I

I - Insert M - Modify

06/15/97

D1

VIOLATION DATA

VIOLATION ID

ID NUMBER

970003
(C1101)

CONTAMINANT

(C1103)

VIOLATION
TYPE

R18
(C1105)

COMPLIANCE PERIOD BEGIN

MO DAY YR

06/01/97
(C1107)

COMPLIANCE PERIOD END

MO DAY YR

(C1109)

OR

COMPLIANCE PERIOD
DURATION

06/01
(C1111)

SE ID

(C1143)

AWARENESS DATE

MO DAY YR

(C1115)

MONITORING AND REPORTING VIOLATIONS

NUM SAMPLES
REQUIRED

(C1127)

NUM SAMPLES
TAKEN

(C1129)

OR

MAJOR
VIOLATION

(C1131)

Y = YES
N = NO

OR

MAXIMUM CONTAMINANT LEVEL VIOLATIONS

ANALYSIS
METHOD

(C1121)

ANALYSIS RESULT

(C1123)

MCL VIOLATED

(C1125)

Figure 17: Sanitary Survey M&R Violation - FRDS-II Data Capture Form

05	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80
D1TX45126689700003															
D1TX45126689700003															
D1TX45126689700003															

Figure 18: Sanitary Survey M&R Violation - FRDS-II DTF Transactions

2. FRDS 1.5 Card 45 Input Format

When reporting to FRDS in 1.5 Card 45 format, the primacy agency must provide the following data:

<u>Card 45 Form Name</u>	<u>Positions</u>	<u>Comment / Value</u>
State	1 - 2	
Card Code	3 - 4	45
PWS-ID	5 - 11	
Action Code	17 - 17	2
Vio. Type	18 - 19	28
Vio. Date	24 - 29	yymmdd (See note #1, page D - 26)
Duration Months	30 - 32	042, 060, 102, 120 (See note #2, page D - 26)
FY	73 - 74	

The primacy agency may optionally report the following data:

<u>Card 45 Form Name</u>	<u>Positions</u>	<u>Comment / Value</u>
Vio. ID	12 - 16	
Follow-up Actions (6x1)	55 - 55	
	56 - 56	
	57 - 57	
	58 - 58	
	59 - 59	
	60 - 60	
Enf. Action Date	61 - 66	yymmdd
Batch Date	75 - 80	yymmdd

Figure 19 illustrates a completed FRDS 1.5 Card 45 data entry form for reporting a sanitary survey monitoring and reporting violation. Figure 20 illustrates the FRDS 1.5 Card 45 transaction which equates to the completed data entry form.

Public Water System
FRDS 1.5 VIOLATION ENFORCEMENT DATA

CARD 45

STATE CODE [7][X] 1-2	CARD CODE [4][5] 3-4	PWS-ID [4][5][1][2][6][6][8] 5-11	VIO-ID [][][][][] 12-16	ACTION CODE [2] 17	VIO TYPE [2][8] 18-19	CONTAM CODE [][][][] 20-23
VIO. DATE YY MM DD [9][2][0][6][0][1] 24-29		DURATION MONTHS [0][6][0] 30-32		MAJOR MINOR [] 33	SAMPLES REQUIRED [][][] 34-36	SAMPLES TAKEN [][][] 37-39
ANALYSIS METHOD [][][] 40-42	ANALYSIS RESULT [][][][] 43-47	ANALYSIS DECIMAL [] 48	MCL VIOLATED [][][][][] 49-53	MCL VIO. DECIMAL [] 54	FOLLOW-UP. ACTION [][][][][] 55-60	
ENF. ACTION DATE YY MM DD [][][][][][] 61-66		AWARENESS DATE YY MM DD [][][][][][] 67-72		APPLICABLE FY [9][7] 73-74	BATCH DATE YY MM DD [][][][][][] 75-80	

Figure 19: Sanitary Survey M&R Violation - FRDS 1.5 Card 45 Data Entry Form

05	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80
TX451512668 228 220601060 27															

Figure 20: Sanitary Survey M&R Violation - FRDS 1.5 Card 45 Transaction

2. Maximum Contaminant Level Violations

Maximum Contaminant Level (MCL) violations are reported to FRDS in two separate categories; Monthly MCL and Acute MCL violations.

MCL violations are applicable to PWSs of all sizes.

If both a Monthly MCL and an Acute MCL violation are incurred by a system for the same compliance period, each violation type must be reported to FRDS.

If both an MCL and an M&R violation are incurred by a system for the same compliance period, each violation type must be reported to FRDS.

A. Monthly MCL Violations

1. FRDS-II DTF Input Format

When reporting to FRDS in DTF format, the primacy agency must provide the following data:

===== Data Element =====			Comment
No.	Name	Description	/ Value
C101	PWS-ID	The PWS ID number	
C1101	VIO-ID	An ID for the violation	
C1105	VIO-TYPE	The violation type	22
C1107	VIO-COMP-PERIOD-BEGIN-DATE	The date the compliance period began	mmddyy
C1111	VIO-COMP-PERIOD-MONTHS	The duration of the compliance period in months	1-12 (See note on page D - 9)

The primacy agency may optionally report the following data:

===== Data Element =====			Comment
No.	Name	Description	/ Value
Instead of reporting C1111, VIO-COMP-PERIOD-MONTHS, report:			
C1109	VIO-COMP-PERIOD-END-DATE	The date the compliance period ended	mmddyy

Figure 21 illustrates a completed FRDS-II data capture form for reporting a monthly MCL violation. Figure 22 illustrates the FRDS-II DTF transactions which equate to the completed data capture form. Refer to the FRDS-II Data Entry Instructions documentation for further details.



U.S. ENVIRONMENTAL
PROTECTION AGENCY

Public Water System Data Capture Form D

PWS ID

ACTION CODE

BATCH DATE

Style

ID Number

W I 2 6 4 5 1 6 8
(C101)

I

I - Insert M - Modify

0 8 1 5 1 9 1 1
MO DAY YR

D1

VIOLATION DATA

VIOLATION ID

ID NUMBER

9 1 6 0 0 0 1
(C1101)

CONTAMINANT

3 1 0 0
(C1102)

VIOLATION
TYPE

2 2
(C1105)

COMPLIANCE PERIOD BEGIN

0 7 0 1 9 1 1
MO DAY YR
(C1107)

COMPLIANCE PERIOD END

MO DAY YR
(C1109)

OR

COMPLIANCE PERIOD
DURATION

0 0 1
(C1111)

SE ID

MO DAY YR
(C1143)

AWARENESS DATE

MO DAY YR
(C1115)

MONITORING AND REPORTING VIOLATIONS

NUM SAMPLES
REQUIRED

MO DAY YR
(C1127)

NUM SAMPLES
TAKEN

MO DAY YR
(C1129)

OR

MAJOR
VIOLATION

Y - YES
N - NO
(C1131)

OR

MAXIMUM CONTAMINANT LEVEL VIOLATIONS

ANALYSIS
METHOD

MO DAY YR
(C1121)

ANALYSIS RESULT

MO DAY YR
(C1123)

MCL VIOLATED

MO DAY YR
(C1125)

Figure 21: Monthly MCL Violation - FRDS-II Data Capture Form

05	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80
D1WI254516891G0001					++										01
D1WI254516891G0001															01
D1WI254516891G0001															01
D1WI254516891G0001															01

Figure 22: Monthly MCL Violation - FRDS-II DTF Transactions

2. FRDS 1.5 Card 45 Input Format

When reporting to FRDS in 1.5 Card 45 format, the primacy agency must provide the following data:

<u>Card 45 Form Name</u>	<u>Positions</u>	<u>Comment / Value</u>
State	1 - 2	
Card Code	3 - 4	45
PWS-ID	5 - 11	
Action Code	17 - 17	2
Vio. Type	18 - 19	22
Contam. Code	20 - 23	3100
Vio. Date	24 - 29	yymmdd
Duration Months	30 - 32	001 - 012 (See note on page D - 9)
FY	73 - 74	

The primacy agency may optionally report the following data:

<u>Card 45 Form Name</u>	<u>Positions</u>	<u>Comment / Value</u>
Vio. ID	12 - 16	
Follow-up Actions (6x1)	55 - 55	
	56 - 56	
	57 - 57	
	58 - 58	
	59 - 59	
	60 - 60	
Enf. Action Date	61 - 66	yymmdd
Batch Date	75 - 80	yymmdd

Figure 23 illustrates a completed FRDS 1.5 Card 45 data entry form for reporting a monthly MCL violation. Figure 24 illustrates the FRDS 1.5 Card 45 transaction which equates to the completed data entry form.

**Public Water System
FRDS 1.5 VIOLATION ENFORCEMENT DATA**

CARD 45

STATE CODE 1-2 11	CARD CODE 3-4 45	PWS-ID 5-11 1264516	VIO-ID 12-16 11111	ACTION CODE 17 21	VIO TYPE 18-19 22	CONTAM CODE 20-23 3100
VIO. DATE YY MM DD 1911071011		DURATION MONTHS 30-32 1001	MAJOR MINOR 33 1	SAMPLES REQUIRED 34-36 111	SAMPLES TAKEN 37-39 111	
ANALYSIS METHOD 40-42 111	ANALYSIS RESULT 43-47 11111	ANALYSIS DECIMAL 48 1	MCL VIOLATED 49-53 11111	MCL VIO. DECIMAL 54 1	FOLLOW-UP. ACTION 55-60 11111	
ENF. ACTION DATE YY MM DD 111111	AWARENESS DATE YY MM DD 111111	APPLICABLE FY 73-74 91	BATCH DATE YY MM DD 111111			

Figure 23: Monthly MCL Violation - FRDS 1.5 Card 45 Data Entry Form

.05	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80
+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
WI452645168 2223100910701001 .1															

Figure 24: Monthly MCL Violation - FRDS 1.5 Card 45 Transaction

B. Acute MCL Violations

1. FRDS-II DTF Input Format

When reporting to FRDS in DTF format, the primacy agency must provide the following data:

===== Data Element =====			Comment
No.	Name	Description	/ Value
C101	PWS-ID	The PWS ID number	
C1101	VIO-ID	An ID for the violation	
C1105	VIO-TYPE	The violation type	21
C1107	VIO-COMP-PERIOD-BEGIN-DATE	The date the compliance period began	mmddyy
C1111	VIO-COMP-PERIOD-MONTHS	The duration of the compliance period in months	1-12 (See note on page D - 9)

The primacy agency may optionally report the following data:

===== Data Element =====			Comment
No.	Name	Description	/ Value
Instead of reporting C1111, VIO-COMP-PERIOD-MONTHS, report:			
C1109	VIO-COMP-PERIOD-END-DATE	The date the compliance period ended	mmddyy

Figure 25 illustrates a completed FRDS-II data capture form for reporting an acute MCL violation. Figure 26 illustrates the FRDS-II DTF transactions which equate to the completed data capture form. Refer to the FRDS-II Data Entry Instructions documentation for further details.



U.S. ENVIRONMENTAL
PROTECTION AGENCY

Public Water System Data Capture Form D

PWS ID

ACTION CODE

BATCH DATE

State ID Number
SC 8615462
(C101)

I
I - Insert M - Modify

MO DAY YR
10 15 91

D1

VIOLATION DATA

VIOLATION ID
FY ID NUMBER
9100413
(C1101)

CONTAMINANT
3100
(C1103)

VIOLATION
TYPE
21
(C1105)

COMPLIANCE PERIOD BEGIN
MO DAY YR
07 01 91
(C1107)

COMPLIANCE PERIOD END
MO DAY YR

(C1109)

OR

COMPLIANCE PERIOD
DURATION
003
(C1111)

SE ID

(C1143)

AWARENESS DATE
MO DAY YR

(C1115)

MONITORING AND REPORTING VIOLATIONS

NUM SAMPLES
REQUIRED

(C1127)

NUM SAMPLES
TAKEN

(C1129)

OR

MAJOR
VIOLATION
Y - YES
N - NO

(C1131)

OR

MAXIMUM CONTAMINANT LEVEL VIOLATIONS

ANALYSIS
METHOD

(C1121)

ANALYSIS RESULT

(C1123)

MCL VIOLATED

(C1125)

Figure 25: Acute MCL Violation - FRDS-II Data Capture Form

05	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80
				++											
DISC86154629100413				IC11033100								.01591			
DISC86154629100413				IC110521								.01591			
DISC86154629100413				IC1107070191								.01591			
DISC86154629100413				IC1111003								.01591			

Figure 26: Acute MCL Violation - FRDS-II DTF Transactions

2. FRDS 1.5 Card 45 Input Format

When reporting to FRDS in 1.5 Card 45 format, the primacy agency must provide the following data:

<u>Card 45 Form Name</u>	<u>Positions</u>	<u>Comment / Value</u>
State	1 - 2	
Card Code	3 - 4	45
PWS-ID	5 - 11	
Action Code	17 - 17	2
Vio. Type	18 - 19	21
Contam. Code	20 - 23	3100
Vio. Date	24 - 29	yymmdd
Duration Months	30 - 32	001 - 012 (See note on page D - 9)
FY	73 - 74	

The primacy agency may optionally report the following data:

<u>Card 45 Form Name</u>	<u>Positions</u>	<u>Comment / Value</u>
Vio. ID	12 - 16	
Follow-up Actions (6x1)	55 - 55	
	56 - 56	
	57 - 57	
	58 - 58	
	59 - 59	
	60 - 60	
Enf. Action Date	61 - 66	yymmdd
Batch Date	75 - 80	yymmdd

Figure 27 illustrates a completed FRDS 1.5 Card 45 data entry form for reporting an acute MCL violation. Figure 28 illustrates the FRDS 1.5 Card 45 transaction which equates to the completed data entry form.

CARD 45

Figure 27: Acute MCL Violation - FRDS 1.5 Card 45 Data Entry Form

Figure 28: Acute MCL Violation - FRDS 1.5 Card 45 Transaction

Part C - Examples

1. Examples of Monitoring and Reporting Violations

A. Major Routine M&R Violation

PWS Characterization:

- System is a community PWS
- System serves 3,500 people
- System is required to collect 4 Total Coliform (TC) routine samples/month
- System collects no routine TC samples for the compliance period 01/01/91 - 01/31/91

State Actions:

- The State must report a Major Routine monitoring and reporting violation for the system (i.e., for failing to collect at least one routine sample)
- The contaminant code reported to FRDS would be "3100" (i.e., Coliform (TCR))
- The violation type reported to FRDS would be "23" (i.e., Major Routine M&R Violation)
- The compliance period begin date reported to FRDS would be "010191"
- The duration of the compliance period reported to FRDS would be "001"

B. Minor Routine M&R Violation

PWS Characterization:

- System is a community PWS
- System serves 3,500 people
- System is required to collect 4 Total Coliform (TC) routine samples/month
- System collects 3 routine TC samples for the compliance period 02/01/91 - 02/28/91
- All 3 routine TC samples are TC negative (TC-)

State Actions:

- The State must report a Minor Routine monitoring and reporting violation for the system (i.e., for collecting some (3), but failing to collect all (4) routine samples required for the compliance period)
- The contaminant code reported to FRDS would be "3100" (i.e., Coliform (TCR))
- The violation type reported to FRDS would be "24" (i.e., Minor Routine M&R Violation)
- The compliance period begin date reported to FRDS would be "020191"
- The duration of the compliance period reported to FRDS would be "001"

C. Major Repeat and Minor Routine M&R Violations

PWS Characterization:

- System is a community PWS
- System serves 3,500 people
- System is required to collect 4 Total Coliform (TC) routine samples/month
- System collects 2 routine TC samples for the compliance period 03/01/91 - 03/31/91
- 1 routine sample is Total Coliform negative (TC-)
- 1 routine TC sample is Total Coliform positive (TC+)
- No speciation for Fecal Coliform (FC) or E. Coli (EC) was performed on the TC+ routine sample
- System collects no repeat samples for the TC+ routine sample

State Actions:

- The State must report a Major Repeat monitoring and reporting violation for the system (i.e., for failing to conduct any follow up monitoring after a TC+ routine sample (the system conducted no speciation for FC/EC and took no repeat samples))
- The contaminant code reported to FRDS would be "3100" (i.e., Coliform (TCR))
- The violation type reported to FRDS would be "25" (i.e., Major Repeat M&R Violation)
- The compliance period begin date reported to FRDS would be "030191"
- The duration of the compliance period reported to FRDS would be "001"

- The system has also incurred a Minor Routine monitoring and reporting violation for the system (i.e., for collecting some (2), but failing to collect all (4) routine samples required for the compliance period. However, this violation does not need to be reported to FRDS (unless the State so chooses) because the system also incurs a Major Repeat M&R violation which is a more severe violation than is the Minor Routine M&R violation

- If the State chooses to report the Minor Routine monitoring and reporting violation for the system, they must proceed as follows:
 - The contaminant code reported to FRDS would be "3100" (i.e., Coliform (TCR))
 - The violation type reported to FRDS would be "24" (i.e., Minor Routine M&R Violation)
 - The compliance period begin date reported to FRDS would be "030191"
 - The duration of the compliance period reported to FRDS would be "001"

D. Minor Repeat and Minor Routine M&R Violations

PWS Characterization:

- System is a community PWS
- System serves 3,500 people
- System is required to collect 4 Total Coliform (TC) routine samples/month
- System collects 1 routine TC sample for the compliance period 04/01/91 - 04/30/91
- Routine sample is (TC+)
- Speciation for Fecal Coliform (FC) was performed on the TC+ routine sample, result: FC-
- System collects 2 repeat samples for the TC+ sample
- Both repeats are TC negative (TC-)

State Actions:

- The State must report a Minor Repeat monitoring and reporting violation for the system (i.e., for collecting some (2), but failing to collect all (3) repeat samples required for the compliance period)
- The contaminant code reported to FRDS would be "3100" (i.e., Coliform (TCR))
- The violation type reported to FRDS would be "26" (i.e., Minor Repeat M&R Violation)
- The compliance period begin date reported to FRDS would be "040191"
- The duration of the compliance period reported to FRDS would be "001"

- The system has also incurred a Minor Routine monitoring and reporting violation for the system (i.e., for collecting some (1), but failing to collect all (4) routine samples required for the compliance period) However, this violation does not need to be reported to FRDS (unless the State so chooses) because the system also incurs a Minor Repeat M&R violation which is a more severe violation than is the Minor Routine M&R violation

- If the State chooses to report the Minor Routine monitoring and reporting violation for the system, they must proceed as follows:
 - The contaminant code reported to FRDS would be "3100" (i.e., Coliform (TCR))
 - The violation type reported to FRDS would be "24" (i.e., Minor Routine M&R Violation)
 - The compliance period begin date reported to FRDS would be "040191"
 - The duration of the compliance period reported to FRDS would be "001"

E. Sanitary Survey M&R Violations

1. Initial Sanitary Survey M&R Violation

PWS Characterization:

- System is a community PWS
- System serves 2,500 people
- System is required to have an initial sanitary survey conducted on or before 06/29/94 and subsequent sanitary surveys every 5 years thereafter
- System fails to have an initial sanitary survey conducted by the deadline

State Actions:

- The State must report a Sanitary Survey monitoring and reporting violation for the system (i.e., for failing to have the initial sanitary survey conducted by the community system deadline - 06/29/94)
- A contaminant code is intentionally not reported to FRDS (i.e., a contaminant code cannot be reported to FRDS for Sanitary Survey M&R violations)
- The violation type reported to FRDS would be "28" (i.e., a Sanitary Survey M&R violation)
- The compliance period begin date reported to FRDS would be "010191"
- The duration of the compliance period reported to FRDS would be "042"
(i.e., 06/29/94 - 01/01/91 =
(3 years + 5 months + 28 days) =
(36 months + 5 months + 1 month) = 42 months)

2. Subsequent Sanitary Survey M&R Violation

PWS Characterization:

- System is a community PWS
- System serves 2,500 people
- System is required to have an initial sanitary survey conducted on or before 06/29/94 and subsequent sanitary surveys every 5 years
- System failed to have an initial sanitary survey conducted by 06/29/94. This "initial" sanitary survey M&R violation was previously reported to FRDS
- System must have subsequent sanitary surveys conducted at five year intervals (i.e., the next survey must be conducted by 06/29/99)
- System fails to have a follow-up sanitary survey conducted

State Actions:

- The State must report a Sanitary Survey monitoring and reporting violation for the system (i.e., for failing to have the follow-up sanitary survey conducted within the 5 year time period allotted)
- A contaminant code is intentionally not reported to FRDS (i.e., a contaminant code cannot be reported to FRDS for Sanitary Survey M&R violations)
- The violation type reported to FRDS would be "28" (i.e., a Sanitary Survey M&R violation)
- The compliance period begin date reported to FRDS would be "063094"
- The duration of the compliance period reported to FRDS would be "060"
(i.e., 06/29/99 - 06/30/94 =
(4 years + 11 months + 29 days) =
(48 months + 11 months + 1 month) = 60 months)

2. Examples of Maximum Contaminant Level Violations

A. Monthly MCL Violation

PWS Characterization:

- System is a non-community PWS
- System serves 5,700 people
- System utilizes surface water
- System is required to collect 6 Total Coliform (TC) routine samples/month
- System collects 6 routine TC samples for the compliance period 06/01/91 - 06/30/91
- Analytical results were as follows:

<u>Sample</u>	<u>Routine TC+</u>	<u>Routine FC/EC+</u>	<u>Repeats Taken</u>	<u>Repeats TC+</u>	<u>Repeats FC/EC+</u>
1	no				
2	no				
3	yes	no	3	1	no
4	no				
5	yes	no	3	0	no
6	no				

State Actions:

- The State must report a Monthly MCL violation for the system since more than 1 TC+ sample was encountered (i.e., 2 routines TC+ (sample #3 & #5) and 1 repeat TC+ (sample #3))
- The contaminant code reported to FRDS would be "3100" (i.e., Coliform (TCR))
- The violation type reported to FRDS would be "22" (i.e., a Monthly MCL violation)

- The compliance period begin date reported to FRDS would be "060191"
- The duration of the compliance period reported to FRDS would be "001"

B. Acute MCL Violation

PWS Characterization:

- System is a non-community PWS
- System serves 750 people
- System utilizes groundwater
- System is required to collect 1 Total Coliform (TC) routine sample/quarter
- System collects 2 routine TC samples for the compliance period 04/01/91 - 06/30/91 (1 more than required)
- Analytical results were as follows:

<u>Sample</u>	<u>Routine TC+</u>	<u>Routine FC/EC+</u>	<u>Repeats Taken</u>	<u>Repeats TC+</u>	<u>Repeats FC/EC+</u>
1	yes	yes	3	1	no
2	no				

State Actions:

- The State must report an Acute MCL violation for the system since there was a TC+ routine sample that speciated FC/EC+ followed by a TC+ repeat
- The contaminant code reported to FRDS would be "3100" (i.e., Coliform (TCR))
- The violation type reported to FRDS would be "21" (i.e., an Acute MCL violation)
- The compliance period begin date reported to FRDS would be "040191"
- The duration of the compliance period reported to FRDS would be "003"

C. Monthly and Acute MCL Violations

PWS Characterization:

- System is a community PWS
- System serves 500 people
- System has no history of coliform contamination in its current configuration
- A sanitary survey conducted two years ago showed system to be supplied solely by a protected groundwater source and to be free of sanitary defects
- State has reduced the systems' monitoring requirement from 1 Total Coliform (TC) routine sample per month to 2 TC routine samples per quarter
- System collects 2 routine TC samples for the compliance period 07/01/91 - 09/30/91

- Analytical results were as follows:

<u>Sample</u>	<u>Routine TC+</u>	<u>Routine FC/EC+</u>	<u>Repeats Taken</u>	<u>Repeats TC+</u>	<u>Repeats FC/EC+</u>
1	no				
2	yes	no	3	1	1

State Actions:

- The State must report a Monthly MCL violation for the system since more than 1 TC+ sample encountered (i.e., sample #2 routine and 1 of the 3 repeats collected for sample #2)
- The contaminant code reported to FRDS would be "3100" (i.e., Coliform (TCR))
- The violation type reported to FRDS would be "22" (i.e., a Monthly MCL violation)
- The compliance period begin date reported to FRDS would be "070191"
- The duration of the compliance period reported to FRDS would be "003"
- The State must also report an Acute MCL violation for the system since there was a TC+ routine sample encountered (sample #2) and a TC+ repeat sample speciated FC/EC+
- The contaminant code reported to FRDS would be "3100" (i.e., Coliform (TCR))
- The violation type reported to FRDS would be "21" (i.e., an Acute MCL violation)
- The compliance period begin date reported to FRDS would be "070191"
- The duration of the compliance period reported to FRDS would be "003"

3. Example of M&R and MCL Violation Combination

A. Minor Routine M&R and Monthly MCL Violations

PWS Characterization:

- System is a non-community PWS
- System uses a single groundwater source only
- System serves 200 people
- State has conducted and reviewed the results of a recent sanitary survey, and the System is presently required to collect 1 Total Coliform (TC) routine sample per quarter
- System collects 1 routine TC sample for the compliance period 01/01/91 - 03/31/91
- Analytical results were as follows:

<u>Sample</u>	<u>Routine TC+</u>	<u>Routine FC/EC+</u>	<u>Repeats Taken</u>	<u>Repeats TC+</u>	<u>Repeats FC/EC+</u>
1	yes	no	4	no	no

- System was notified of TC+ during the 1st week in April and immediately collected the required 4 repeats. Although collected during April, the repeats count towards the 01/01/91 - 03/31/91 compliance determination
- Because of the occurrence of the TC+ (sample #1 above), the system must collect at least 5 TC routine samples during the next month
- System collects 4 routine TC samples during the 04/01/91 - 04/30/91 compliance period
- Analytical results were as follows:

<u>Sample</u>	<u>Routine TC+</u>	<u>Routine FC/EC+</u>	<u>Repeats Taken</u>	<u>Repeats TC+</u>	<u>Repeats FC/EC+</u>
1	no				
2	no				
3	yes	no	3	1	no
4	yes	no	3	0	no

State Actions:

- The State must report a Minor Routine monitoring and reporting violation for the system (i.e., for collecting some (4), but failing to collect all (5) required TC routine samples for April)
- The contaminant code reported to FRDS would be "3100" (i.e., Coliform (TCR))
- The violation type reported to FRDS would be "24" (i.e., a Minor Routine violation)
- The compliance period begin date reported to FRDS would be "040191"
- The duration of the compliance period reported to FRDS would be "001"
- The State must also report a Monthly MCL violation for the system since more than 1 TC+ sample was encountered (i.e., 2 routines TC+ (sample #3 & #4) and 1 repeat TC+ (sample #3))
- The contaminant code reported to FRDS would be "3100" (i.e., Coliform (TCR))
- The violation type reported to FRDS would be "22" (i.e., a Monthly MCL violation)
- The compliance period begin date reported to FRDS would be "040191"
- The duration of the compliance period reported to FRDS would be "001"