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| United States Environmental Protection AgencyOffice of Ground Water and Drinking WaterContract No. GS-35F-4461GSDWIS ProjectProduct Control No. SAIC-SDWIS-1.1d3cOctober 16, 2014 | **TCR – RTCR Conversion (SDWIS/STATE 3.3) and Overall RTCR Implementation Using SDWIS/STATE** SAIC Logo |  |



**TCR – RTCR Conversion (SDWIS/STATE 3.3) and Overall RTCR Implementation**

 **Using SDWIS/STATE**

**CONTRACT NO. GS-35F-4461G**

**SDWIS PROJECT**

**Prepared for:**

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1. INTRODUCTION

This document describes how SDWIS/STATE users will be able to create and maintain Revised Total Coliform Rule (RTCR) data including

* Treatment Technique Triggers (maintained in SDWIS/STATE as “RTCR compliance schedules/schedule activities”);
* Level 1 and Level 2 Assessments (maintained in SDWIS/STATE as “RTCR site visits”; and
* Violations.

To make this happen, the following are being prepared:

* Scripts to insert RTCR enabling data that SDWIS Administrators may execute on a SDWIS/STATE database;
* Instructions for SDWIS administrators to add standard responses (that support treatment technique triggers and corrective actions); and
* TCR – RTCR Conversion Software to convert TCR data to RTCR data based on the date the primacy agency using SDWIS/STATE specifies it is implementing RTCR (either for actual Production or Test purposes).

RTCR – enabling data applied to your SDWIS/STATE database allows RTCR candidate repeat sample schedules, candidate violations, and candidate treatment technique triggers to be processed in the existing SDWIS/STATE Bridge. **To take advantage of SDWIS/STATE 3.3, your drinking water primacy agency needs to have upgraded to the current release, SDWIS/STATE 3.21**.

In addition to a brief Concept of Operations, this document provides three tables listing RTCR activities that can be implemented in SDWIS/STATE to reduce the burden on Drinking Water of complying with RTCR. A fourth table lists RTCR activities that can be accomplished using queries and reports that target SDWIS/STATE RTCR data and a fifth table presents the same information presented in tables 1 through 4 but organized by RTCR implementation requirements.

1. CONCEPT OF OPERATIONS

From a SDWIS/STATE data management perspective, implementation of the RTCR can be divided into three activities:

1. Comparing positive Coliform sample results to monitoring schedules in order to create candidate RTCR monitoring or E. coli MCL violations;
2. Tracking the water system’s compliance with requirements for RTCR Level 1 and Level 2 treatment technique triggered assessments and RTCR treatment technique requirements for seasonal system start-up procedures by creating RTCR compliance activity schedules; and
3. Recording Level 1 and Level 2 assessments.

Positive Coliform sample results can produce either candidate RTCR rule violations or can trigger requirements for candidate treatment technique triggers for assessments. A candidate violation occurs only if the associated activities in the schedule are not performed on time or do not meet the requirements of the drinking water primacy agency. In response to a treatment technique trigger, a Level 1 or Level 2 Assessment is conducted and recorded as a Site Visit. Further, if the assessment finds any sanitary defects, compliance activity schedules are created to track the actions and activities the water system must take to address those defects. If the sanitary defect corrective actions (scheduled compliance activities) are not performed on time, the water system incurs a candidate treatment technique violation.

Many RTCR activities can be accommodated by existing SDWIS/STATE 3.21 capabilities. A new

TCR-RTCR Conversion function is under development to leverage the similarities between TCR and RTCR. TCR Compliance Determination functions in SDWIS/STATE 3.21 evaluate sampling results and produce TCR candidate violations. These functions are being converted to produce corresponding RTCR candidate MCL and monitoring violations and candidate treatment technique triggers (compliance schedule activities). For example, the same monitoring results which currently produce a Monthly Non-Acute MCL Violation (type 22) in the TCR, will, starting on the date your drinking water primacy agency designates it is implementing RTCR, instead result in one of two possible candidate triggered assessments:

1. A Candidate Level 1 Triggered Assessment (compliance schedule activity) for that water system. Figure 1 is an example of how a Candidate RTCR Compliance Schedule and Activity for Level 1 Assessment Treatment Technique Trigger is presented in the SDWIS/STATE Bridge.
2. Alternatively, if the Candidate Level 1 Treatment Technique Trigger was the second within 12 months or the second in two consecutive years for annual systems, the TCR-RTCR Conversion software instead creates a Candidate RTCR Compliance Schedule and Activity for Level 2 Assessment Treatment Technique Trigger.

If sanitary defects are found during the Assessment, the water system must take corrective actions to address them. You can use existing functionality to record a sanitary defect as a deficiency associated to a Level 1or 2 Assessment type of Site Visit; and you can apply a Standard Response to the sanitary defect to create a compliance schedule activity to track performance by the water system in correcting the defect. You can also enter the startup procedures for Seasonal Systems as annually repeating compliance schedules. (All schedules discussed in this paragraph are classified as compliance schedules.) After you create or update these compliance schedules, you can use the existing “Schedule Activity Compliance Report” to generate candidate RTCR violations for any scheduled activities which do not satisfy the requirements of the compliance schedule.

Highlight Compliance Schedule Activity and Click **Edit** to view and modify

Activity Name and Violation Type defaults based on Standard Response set up in SDWIS/STATE System Administration (SDWIS/STATE 3.3 Installation Guide and Release Notes will suggest activity naming convention but primacy agency may choose)

Candidate RTCR Compliance Schedule and Activity for Level 1 Assessment Treatment Technique Trigger

**Figure1. SDWIS/STATE Bridge View of Candidate Level 1 Treatment Technique Trigger (Compliance Schedule Activity)**

1. RTCR IMPLEMENTATION WITH SDWIS/STATE

 RTCR activities are divided into four tables presented in Appendix A. RTCR activities are grouped by table, depending on the degree to which the activity, as implemented in SDWIS/STATE, provides a level of burden reduction consistent with what SDWIS/STATE provides for other drinking water rules.

As previously proposed, RTCR information can be maintained in SDWIS/STATE via a combination of enabling scripts, enabling instructions, and a TCR – RTCR Conversion function.

Appendix B of the SDWIS/STATE Design Document is being updated to document the new permitted values that need to be added to SDWIS/STATE tables such as Violation Type, Analyte, Violation Type Analyte Association, etc. Based on these documented changes, a set of scripts to insert enabling data into a SDWIS/STATE 3.2 database are being prepared that support Oracle and MS SQL Server DBMS users.

Consistent with how enabling data has been added for other recent rules (Groundwater Rule, Lead and Copper Rule, Stage 2 D/DBP Rule, etc.), instructions will be provided as part of the SDWIS/STATE 3.3 Release Notes and Installation Guide for SDWIS administrators to add rule-enabling data such as standard responses that for example, support the entry/maintenance of treatment technique triggers.

All RTCR violations supplied in EPA’s Revised Total Coliform Rule Violations + RTC Table (October 16, 2014) are addressed in Table 1, 2, or 3 (and Table 5).

In Appendix A, tables 1 through 5, of this document, rows where RTCR capability is enabled by a script, instructions, or both are clearly marked as such:

* **≈ 3.3 Script Enabled** – denotes the RTCR implementation enabled by a SDWIS/STATE 3.3 script
* **∞ 3.3 Instructions Enabled** – denotes the RTCR implementation enabled by SDWIS/STATE System Administrator entering rule-enabling data following instructions provided in Installation Guide/Release Notes
* **∑ 3.3 Script and Instructions** Enabled – denotes the RTCR implementation enabled in SDWIS/STATE by both above referenced scripts and instructions
	1. Table 1 – Full RTCR Implementation Existing SDWIS/STATE

RTCR requirements/activities listed in Table 1 can be fully implemented using existing SDWIS/STATE functions, once enabling scripts and rule-enabling data have been entered by SDWIS/STATE System Administrator. In this context, fully supported means the software provides the same degree of burden-reducing automation as SDWIS/STATE currently provides for TCR and other drinking water rules – in most cases automated creation of a candidate record.

* 1. Table 2 – New TCR – RTCR Conversion Function SDWIS/STATE 3.3

RTCR requirements/activities listed in Table 2 are those to be implemented with the **TCR – RTCR Conversion** software, once enabling scripts and rule-enabling data have been entered by SDWIS/STATE System Administrator. This table lists the specific TCR function as they exist in current SDWIS/STATE in one column; and beside it describes the RTCR data the TCR – RTCR Conversion software will create based on the date the primacy agency designates it is implementing RTCR. In this context, fully supported means the software provides the same degree of burden-reducing automation as SDWIS/STATE currently provides for TCR. Appropriate sections of SDWIS/STATE Design Document Appendix E are being updated to document the TCR – RTCR Conversion specifications as described in Table 2.

* 1. Table 3 – Partial Support for RTCR Existing SDWIS/STATE

RTCR requirements/activities listed in Table 3 can be partially implemented using existing SDWIS/STATE functions, once enabling scripts and rule-enabling data have been entered by SDWIS/STATE System Administrator. In this context, partial support means the same degree of burden-reducing automation as SDWIS/STATE currently provides for TCR (e.g. primarily online data entry and/or SDWIS/Migration to State but not fully automated burden reduction). For some activities where appropriate, development of queries - in addition to using SDWIS/STATE – is suggested.

* 1. Table 4 – RTCR Support Suggestion

RTCR requirements/activities listed in Table 4 are those that would need to be implemented outside of SDWIS/STATE – in most cases, using queries and/or reports that target RTCR data in SDWIS/STATE. Please note that even these queries/reports will rely on a prior correct execution of SDWIS/STATE 3.3 enabling scripts, instructions, or both.

* 1. Table 5 – RTCR Support in SDWIS/STATE 3.3 Consolidated List By Major Rule Implementation Requirement

Table 5 is a consolidated presentation of the same information presented in Tables 1 through 4, but organized by RTCR implementation requirement.

**APPENDIX A**

**RTCR Implementation in SDWIS/STATE by Table**

| **Table 1 – Full RTCR Implementation using Existing SDWIS/STATE** |
| --- |
| **No.** | **RTCR Activity** | **SDWIS/STATE 3.21  TCR/GWR/CCR Function** **(Fully Supported)** | **RTCR Implementation using Existing SDWIS/STATE****(Fully Supports  RTCR  Requirement)** |
| 1-1 | Track submittal of sampling planCFR §141.853 (a)(1) | GWR - Enter Compliance Schedule Activities  | Use existing SDWIS/STATE to enter Compliance Schedule Activities associated to new RTCR violation type 5A-Sample Siting Plan Errors **≈ 3.3 Script Enabled** |
| 1-2 | Record and track sampling planCFR §141.853 (a)(1) | GWR – Record sampling plan data including specific rule, approval date and sampling points | Use existing SDWIS/STATE to record sampling plan data including specific rule (e.g. RTCR), approval date and sampling points |
| 1-3 | Record sampling points and designate for RTCRCFR §141.853 (a)(1) and (5) | GWR – Enter sampling point including ID, description and designation | Use existing SDWIS/STATE to enter sampling point including ID, description, and designation as RTCR routine or repeat location or RTCR/GWR dual sample location |
| 1-4 | Sampling Plan Submittal Compliance CFR §141.860 (c)(1) | GWR - Schedule Activity Compliance Report | Use existing SDWIS/STATE Schedule Activity Compliance Report with RTCR Compliance Schedule type and/or Activity typeSDWIS/STATE existing functionality creates appropriate type 5A- Sample Siting Plan Errors (RTCR) of candidate RTCR violation associated to Compliance Activity**≈ 3.3 Script Enabled** |
| 1-5 | Schedule Routine Monitoring CFR §141.854(a) and §141.855(a) | TCR - Sample Schedule | Use existing SDWIS/STATE TCR Sample Schedule maintenance function |
| 1-6 | Maintain Routine Monitoring with Inventory ChangesCFR §141.854(a) and §141.855(a) | TCR - Sample Schedule Evaluation | Existing SDWIS/STATE TCR sampling schedule evaluation function continues to propose changes to TCR sampling schedule based on Inventory changes |
| 1-7 | Maintain Routine Reduced Monitoring Schedules for Community based on Inventory ChangesCFR §141.855(d)  | TCR - Sample Schedule Evaluation | Primacy Agencies have the option of modifying Monitoring & Conditions tables to enable reduced quarterly monitoring.  Once the tables have been modified, existing SDWIS/STATE TCR sampling schedule evaluation function continues to propose changes to TCR sampling schedule based on Inventory changes.  Changes based on non-Inventory criteria (MCL Violation, Treatment Technique Triggers, etc.) are **not** maintained. |
| 1-8 | Maintain Routine Reduced Monitoring Schedules for Non-Community based on Inventory ChangesCFR §141.854(e) | TCR - Sample Schedule Evaluation | Primacy Agencies have the option of modifying Monitoring & Conditions tables to enable reduced annual monitoring.  Once the tables have been modified, existing SDWIS/STATE TCR sampling schedule evaluation function continues to propose changes to TCR sampling schedule based on Inventory changes.  Changes based on non-Inventory criteria (MCL Violation, Treatment Technique Triggers, etc.) are **not** maintained. |
| 1-9 | Maintain Monitoring Periods | TCR - System Administration Monitoring Period Maintenance | Use existing SDWIS/STATE functionality |
| 1-10 | Associate Monitoring Periods to Water Systems | * SDWIS/Migration to State
* TCR Compliance Check
* Online SDWIS/STATE Monitoring/Planning/Associate Monitoring Period
 | Use existing SDWIS/STATE functionality* SDWIS/Migration to State
* Online SDWIS/STATE Monitoring/Planning/Associate Monitoring Period
 |
| 1-11 | Enter Routine Sample Results including Additional samples and samples triggered by high source water turbidityCFR §141.852 | TCR - When routine sample result is entered with either SDWIS/XML Sampling or on-line SDWIS/STATE Sampling Entry pages* Laboratory certification processes verify supplied method and certification
* Results are associated to correct monitoring period
* Positive coliform result triggers Positive Result Validation web service
 | Existing SDWIS/STATE functions apply when routine sample result is entered with either SDWIS/XML Sampling or on-line SDWIS/STATE Sampling Entry pages* Laboratory certification processes verify supplied method and certification
* Results are associated to correct monitoring period
* Positive coliform result triggers Positive Result Validation web service

(Primacy agencies continue to maintain standard methods and certification) |
| 1-12 | Enter Repeat Samples including dual GWR/RTCR source water samplesCFR §141.852  | TCR - When repeat sample result is entered with either SDWIS/XML Sampling or on-line SDWIS/STATE Sampling Entry pages,* Laboratory certification processes verify supplied method and certification
* Results are associated to correct monitoring period
* Positive coliform result triggers Positive Result Validation web service
 | Existing SDWIS/STATE functions apply |
| 1-13 | Level 1 TTT tracking-- triggered when routine TC positive, E. coli negative with insufficient repeats tracking CFR §141.859 (a)(1)(iii) | GWR – Positive Result Validation process uses Standard Response to create candidate Compliance Activities (type Address Contamination) Compliance Officer uses existing SDWIS Bridge functions to review, edit, and migrate candidate compliance schedule | RTCR-Compliance officer enters Compliance Schedule Activity or, as described in Table 2, the TCR Repeat M/R Compliance Check (Row 2-10) process creates candidate Level 1 TTT types of Compliance Schedule Activities associated to violation type 2A- LEVEL 1 ASSESS, TC POS RT NO RPT (RTCR) using standard response Compliance Officer uses existing SDWIS Bridge functions to review, edit, and migrate candidate Compliance Schedule ActivityCompliance officer uses existing SDWIS/STATE to update Achieved Date when assessment is conducted**∞ 3.3 Instructions Enabled** |
| 1-14 | Level 1 TTT tracking-- triggered when systems taking 40 or more (routine and repeat) samples per month, the system exceeds 5.0% total coliform-positive samples for the month or for systems taking fewer than 40 (routine and repeat) samples per month, the system has two or more total coliform-positive samples in the same month.CFR §141.859 (a)(1)(i) and (ii) | GWR – Positive Result Validation process uses Standard Response to create candidate Compliance Activities (type Address Contamination) Compliance Officer uses existing SDWIS Bridge functions to review, edit, and migrate candidate compliance schedule | RTCR- Compliance officer enters Compliance Schedule Activity or, as described in Table 2, the Non-Acute MCL Compliance (Row 2-12) process creates candidate Level 1 TTT types of Compliance Schedule Activities associated to violation type 2A- LEVEL 1 ASSESS, MULTIPLE TC POS (RTCR) using standard response Compliance Officer uses existing SDWIS Bridge functions to review, edit, and migrate candidate Compliance Schedule ActivityCompliance officer uses existing SDWIS/STATE to update Achieved Date when assessment is conducted**∞ 3.3 Instructions Enabled** |
| 1-15 | Level 2 TTT tracking-When more than one Level 1 TTT within specified periodCFR §141.859 (a)(2)(ii) and (iii) | GWR - Positive Result Validation process uses Standard Response to create candidate Compliance Activities (type Address Contamination) Compliance Officer uses existing SDWIS Bridge functions to review, edit, and migrate candidate compliance schedule | RTCR- Compliance officer enters Compliance Schedule Activity or, as described in Table 2 (TCR Repeat M/R Compliance Check (Row 2-10) and the Non-Acute MCL Compliance (Row 2-12)), when more than one Level 1 TTT exists within the specified period, the processes create candidate necessary Level 2, TTT types of Compliance Schedule Activity associated to violation type 2B- LEVEL 2 ASSESSMENT, 2ND LEVEL 1(RTCR) using standard response Compliance Officer uses existing SDWIS Bridge functions to review, edit, and migrate candidate Compliance Schedule ActivityCompliance officer uses existing SDWIS/STATE to update Achieved Date when assessment is conducted.**∑ 3.3 Script and Instructions Enabled** |
| 1-16 | Level 2 TTT tracking-When incur E. coli MCL CFR §141.859 (a)(2)(i) | GWR - Positive Result Validation process uses Standard Response to create candidate Compliance Activities (type Address Contamination) Compliance Officer uses existing SDWIS Bridge functions to review, edit, and migrate candidate compliance schedule | RTCR- Compliance officer enters Compliance Schedule Activity or, as described in Table 2, the Acute MCL determination process (Row 2-4) and the TCR Repeat M/R Compliance Check (Row 2-9) create candidate Level 2 TTT types of Compliance Schedule Activity associated to violation type 2B- LEVEL 2 ASSESSMENT, MCL TRIGGERED (RTCR) using standard response Compliance Officer uses existing SDWIS Bridge functions to review, edit, and migrate candidate Compliance Schedule ActivityCompliance officer uses existing SDWIS/STATE to update Achieved Date when assessment is conducted.**∑ 3.3 Script and Instructions Enabled** |
| 1-17 | Level 1 & 2 TTT Compliance DeterminationCFR §141.860 (b)(1)  | GWR - Schedule Activity Report | Use existing SDWIS/STATE Schedule Activity Compliance Report with RTCR Compliance Schedule type and/or Activity typeSDWIS/STATE existing functionality creates appropriate types of candidate violation(s) associated to Compliance Schedule Activity as follows: * 2A-LEVEL 1 ASSESS, MULTIPLE TC POS (RTCR)
* 2A-LEVEL 1 ASSESS, TC POS RT NO RPT (RTCR)
* 2B-LEVEL 2 ASSESSMENT, MCL TRIGGERED (RTCR)
* 2B-LEVEL 2 ASSESSMENT, 2ND LEVEL 1(RTCR)

**≈ 3.3 Script Enabled** |
| 1-18 | Seasonal Start-up TrackingCFR §141.854 (i)(1) | CCR - Annual entry of Compliance Schedule Activities  | SDWIS/STATE existing functionality supports annual entry of Compliance Schedule Activities associated to violation type 2D-Start-up Procedures Treatment TechniqueCompliance officer uses existing SDWIS/STATE to update Achieved Date when assessment is conducted**≈ 3.3 Script Enabled** |
| 1-19 | Seasonal Start-up ComplianceCFR §141.860 (b)(2)  | CCR - Schedule Activity Compliance Report | Use existing SDWIS/STATE Schedule Activity Compliance Report with RTCR Compliance Schedule type and/or Activity typeSDWIS/STATE existing functionality creates appropriate Candidate type 2D- Treatment Technique Startup Procedures RTCR violation associated to Compliance Activity**≈ 3.3 Script Enabled** |
| 1-20 | Sanitary Defect Recording | GWR - Site Visit with associated significant deficiencies | Use existing SDWIS/STATE Deficiency Maintenance page to enter a significant deficiency associated to site visitRTCR – Due to restrictions on changing user interface, unable to display Sanitary Defect found during Site Visit on Deficiency Maintenance page |
| 1-21 | Assessment Type of Site Visit Entry | GWR - Enter one of four sanitary survey types of Site Visit  | RTCR – Script Supplied with SDWIS/STATE 3.3 adds new assessment type permitted values to table Site Visit column Primary Reason Code so user may specify primary reason on existing Site Visit Maintenance page**≈ 3.3 Script Enabled** |
| 1-22 | Sanitary Defect Corrective Action Tracking | GWR - Apply deficiency standard response to create compliance schedule and associated compliance schedule activity(ies) associated to type 45 violation type | Apply existing SDWIS/STATE deficiency standard response to create associated Compliance Schedule Activity(ies) associated to 2C-TT, Corrective/Expedited Actions (RTCR) violation type**∑ 3.3 Script and Instructions Enabled** |
| 1-23 | Sanitary Defect Corrective Action Compliance Determination | GWR - Schedule Activity Report | Use existing SDWIS/STATE Schedule Activity Compliance Report with RTCR Compliance Schedule and/or Activity typeSDWIS/STATE existing functionality creates appropriate 2C- CORRECTIVE/EXPEDITED ACTIONS (RTCR) type of candidate RTCR violation associated to Compliance Activity**∑ 3.3 Script and Instructions Enabled** |
| 1-24 | Support for Entry/ Maintenance of RTCR Record- Keeping Violation Types listed in Revised Total Coliform Rule Violations + RTC Table October 16, 2014 | Use SDWIS/STATE online Violation Maintenance to add/maintain record-keeping violations for which automated candidate violation creation support is not really possible | Use SDWIS/STATE online Violation Maintenance to add/maintain record keeping (type 5B-RECORDKEEPING VIOLATIONS (RTCR)) RTCR violations**≈ 3.3 Script Enabled** |
| 1-25 | Tracking of triggered routine RTCR coliform sample taken within 24 hours of Source Water Turbidity Sample which exceeds 1 NTU CFR §141.857(c) | Use SDWIS/STATE online Violation Maintenance to add/maintain violation for failure to collect a source water coliform sample following a high turbidity sample | Use existing SDWIS/STATE to enter Compliance Schedule Activities associated to new RTCR violation type 3C-MONITOR COLIFORM TURBIDITY TRIGGER RTCRUse existing SDWIS/STATE Schedule Activity Compliance Report with RTCR Compliance Schedule type and/or Activity typeSDWIS/STATE existing functionality creates appropriate Candidate type 3C-MONITOR COLIFORM TURBIDITY TRIGGER RTCR) RTCR violations associated to Compliance Activity**≈ 3.3 Script Enabled** |
| 1-26 | Indicate that a PWS is a seasonal water system | GWR – Enter Water System Indicators which are reported with SDWIS/FedRep as Additional PWS Reporting | Use SDWIS/STATE System Administration to add new Water System Indicator types and values. Then enter new types of Water System Indicators**≈ 3.3 Script Enabled** |
| 1-27 | Indicate that a PWS is on reduced monitoring | GWR – Enter Water System Indicators which are reported with SDWIS/FedRep as Additional PWS Reporting | Use SDWIS/STATE System Administration to add new Water System Indicator types and values. Then enter new types of Water System Indicators**≈ 3.3 Script Enabled** |

| **Table 2 - New TCR – RTCR Conversion Function (SDWIS/STATE 3.3)** |
| --- |
| **No.** | **RTCR Activity** | **SDWIS/STATE 3.21 TCR Function** **(Fully Supported)** | **New TCR – RTCR Conversion Function (3.3) Requirements****(Fully Supported)** |
| **2-1** | Effective Date for RTCR at this primacy agency |  | RTCR – SDWIS/STATE System Administration/SDWIS Configuration provides capability for Primacy Agency to set effective date for RTCR. This lets primacy agency implement the rule early if desired and also permits testing (e.g. date can set as early as primacy agency wishes to support pre-production testing.) This date is used by the following processes to determine which rule TCR or RTCR is in effect: * Positive Result Validation
* Acute MCL Determination
* Non-Acute MCL Determination
* Routine M/R Compliance Check
* Repeat M/R Compliance Check

**≈ 3.3 Script Enabled** |
| 2-2 | Modify Routine Monitoring (Temporary Routine/Additional) CFR §141.854 (j)  | TCR - Positive Result Validation determines if water system is collecting less than 5 samples per month:* Closes current routine schedule,
* Creates temporary routine schedule for 5 samples the next month,
* Creates new routine TCR schedule (to return to previous routine monitoring frequency) beginning with following monitoring period
 | RTCR - Positive Result Validation determines if water system is not on monthly monitoring: * Closes current TCR routine schedule,
* Creates temporary/additional routine TCR schedule for 3 samples the next month, and
* Creates new routine TCR schedule (to return to previous routine monitoring frequency) beginning with following monitoring period
 |
| 2-3 | Candidate Repeat SchedulesCFR §141.858 (a)  | TCR - Positive Result Validation creates candidate repeat sample schedules associated to the original total coliform positive routine or repeat sample Number of repeat samples, three or four, is based up water system’s Inventory characteristics | RTCR - Number of repeat samples is always three (regardless of water system’s characteristics); otherwise, No Change |
| 2-4 | Candidate Acute MCLCFR §141.860 (a) (1) The system has an *E. coli*-positive repeat sample following a total coliform-positive routine sample.& (2) The system has a total coliform-positive repeat sample following an *E. coli*-positive routine sample.Candidate PN  | TCR - Positive Result Validation creates candidate type 21 violation | RTCR - Positive Result Validation no longer creates Candidate Type 21 Violation but instead creates: * Candidate type 1A-‘MCL E COLI’ violation which is unique by association to precipitating positive routine total coliform Result
* Candidate TTT Compliance Schedule Activity based on standard response named ‘LEVEL 2 TTT MCL E COLI POS SAMPLE RESULT’
* Enforcement Action(s) & PN Schedule from standard response named ‘MCL E COLI POS SAMPLE RESULT’

Validation process considers routine samples which were taken outside the seasonal period and source water samples being used as repeat samples. Compliance Officer uses existing SDWIS Bridge functions to review, edit and migrate candidate MCL violation, candidate compliance schedule, and candidate enforcement action(s)**∑ 3.3 Script and Instructions Enabled** |
| 2-5 | Routine Monitoring ComplianceCFR §141.860 (c)(1) | TCR - Routine M/R Compliance Check process creates * Candidate 23-MONITORING (TCR), ROUTINE MAJOR type violation
* Candidate 24- MONITORING (TCR), ROUTINE MINOR type violation
 | RTCR – TCR Routine M/R process creates candidate violations:* Instead of a Violation type 23-MONITORING (TCR), ROUTINE MAJOR; creates a Violation Type 3A-MONITORING, ROUTINE, MAJOR (RTCR)
* Instead of a Violation type 24-MONITORING (TCR), ROUTINE MINOR MONITORING (TCR), creates a Violation Type 3A-MONITORING, ROUTINE, MINOR (RTCR)

**≈ 3.3 Script Enabled** |
| 2-6 | Failure to speciate **Routine** Total Coliform positive | TCR - Routine M/R Compliance Check process creates Candidate 23-MONITORING (TCR), ROUTINE MAJOR | RTCR – TCR Routine M/R process creates candidate violation:* Instead of a Violation Type 23-MONITORING (TCR), ROUTINE MAJOR; creates a Violation Type 3D- MONITORING, LAB CERT/METHOD ERROR (RTCR)

**≈ 3.3 Script Enabled** |
| 2-7 | Temporary Routine/Additional Monitoring ComplianceCFR §141.860 (c)(1) | TCR - Routine M/R Compliance Check process creates * Candidate 23-MONITORING (TCR), ROUTINE MAJOR type violation
* Candidate 24- MONITORING (TCR), ROUTINE MINOR type violation
 | RTCR – TCR Routine M/R Compliance Check process creates candidate violations:* Instead of a Violation Type 23-MONITORING (TCR), ROUTINE MAJOR; creates a Violation Type F- MONITORING, ADD. ROUTINE, MAJOR (RTCR)
* Instead of a Violation Type 24-MONITORING (TCR), ROUTINE MINOR MONITORING (TCR), creates a Violation Type 3B- MONITORING, ADD. ROUTINE, MINOR (RTCR)

**≈ 3.3 Script Enabled** |
| 2-8 | Seasonal Period of RTCR Sample Schedule EnforcedCFR §141.854 (i)(2)(i) | TCR - Sample Result associated to monitoring period associated to water system which falls within sample schedule dates and sample collection dates | RTCR – TCR Routine M/R Compliance process enforces TCR sample schedule’s seasonal period and creates candidate monitoring violations as described in Row 2-5 and potentially additional MCL candidate violations and candidate repeat schedulesRTCR - Positive Result Validation function:* Uses sample result in candidate E. coli MCL compliance determination as described in Row 2-4
* Creates candidate repeat TCR sample schedule as described in Row 2-3

Compliance Officer determines if sample result is counted during MCL compliance and uses existing SDWIS Bridge functions to review candidate, edit and migrate candidate responses**≈ 3.3 Script Enabled** |
| 2-9 | Repeat Monitoring Compliance when Routine Sample Result is E. coli positive CFR §141.860 (a)(3) | TCR - Repeat M/R process creates Candidate 25-MONITORING (TCR), REPEAT MAJOR & 26- MONITORING (TCR), REPEAT MINOR Violation | RTCR – If Routine Sample Result is E. coli positive, TCR Repeat M/R Compliance Check process no longer creates type 25 or 26 candidate violations but instead creates: * Candidate type 1A-‘MCL E COLI’ violation which is unique by association to precipitating positive routine total coliform Result
* Candidate TTT Compliance Schedule Activity associated to violation type 2B- LEVEL 2 ASSESSMENT, MCL TRIGGERED (RTCR) based on standard response named ‘LEVEL 2 TTT MCL INSUFFICIENT REPEATS’
* Candidate Enforcement Action(s) & PN Schedule from standard response named ‘MCL INSUFFICIENT REPEATS’

Compliance Officer uses existing SDWIS Bridge functions to review, edit and migrate candidate MCL violation, candidate compliance schedule, and candidate enforcement action(s)**∑ 3.3 Script and Instructions Enabled** |
| 2-10 | Repeat Monitoring Compliance when Routine Sample Result is E. coli negativeCFR §141.859 (a)(1) | TCR - Repeat M/R Compliance Check process creates Candidate 25-MONITORING (TCR), REPEAT MAJOR & 26- MONITORING (TCR), REPEAT MINOR Violation | RTCR – Routine sample result is E. coli negative, TCR Repeat M/R Compliance Check process creates Candidate TTT Compliance Schedule Activity associated to violation type 2A- LEVEL 1 ASSESS, TC POS RT NO RPT (RTCR) or 2B- LEVEL 2 ASSESSMENT, 2ND LEVEL 1(RTCR) based on following criteria:* If routine monitoring is annual and existing Level 1 or 2 TTT in previous calendar year; use standard response named ‘LEVEL 2 TTT 2ND LVL 1 IN 2 YR INSUF RPT’
* Else, existing Level 1 or 2 TTT in previous 12 months; use standard response named ‘LEVEL 2 TTT 2ND LVL 1 N 12 MN INSUF RPT’
* Else use standard response named ‘LEVEL 1 TTT ORIG EC NEG INSUFF REPEATS’

Compliance Officer uses existing SDWIS Bridge functions to review, edit and migrate candidate compliance schedule(s)**∞ 3.3 Instructions Enabled** |
| 2-11 | No speciation Repeat MONITORING ComplianceCFR §141.860 (a)(4) | TCR- M/R Compliance Check creates candidate type 25 violations | RTCR – TCR Repeat M/R process no longer creates type 25 candidate violation but instead creates: * Candidate type 1A-‘MCL E COLI’ violation which is unique by association to precipitating positive routine total coliform result
* Candidate TTT Compliance Schedule Activity associated to violation type 2B- LEVEL 2 ASSESSMENT, MCL TRIGGERED (RTCR) based on standard response named ‘LEVEL 2 TTT MCL E COLI RPT NOT SPECIATED’
* Candidate Enforcement Action(s) & PN Schedule from standard response named ‘MCL E COLI REPEAT NOT SPECIATED’

Compliance Officer uses existing SDWIS Bridge functions to review, edit and migrate candidate MCL violation, candidate compliance schedule, and candidate enforcement action(s)**∑ 3.3 Script and Instructions Enabled** |
| 2-12 | Non-Acute MCL ComplianceCFR §141.859 (a)(1)(i) and (ii) | TCR - Non-acute MCL Compliance creates candidate 22-MCL (TCR), MONTHLY Violations | RTCR – Non-acute MCL Compliance no longer creates type 22 candidate violation but instead creates candidate TTT Compliance Schedule Activity associated to violation types 2A-LEVEL 1 ASSESS, MULTIPLE TC POS (RTCR) or 2B- LEVEL 2 ASSESSMENT, 2ND LEVEL 1(RTCR) based on following criteria:* If routine monitoring is annual and existing Level 1 or 2 TTT in previous calendar year; use standard response named ‘LEVEL 2 TTT 2ND LVL 1 N 2 YR MULT TC POS’
* Else, existing Level 1 or 2 TTT in previous 12 months; use standard response named ‘LEVEL 2 TTT 2ND LVL 1N12 MN MULT TC POS’
* Else; use standard response named ‘LEVEL 1 TTT MULTIPLE TC POS’

Compliance Officer uses existing SDWIS Bridge functions to review, edit, and migrate candidate compliance Schedule Activity**∞ 3.3 Instructions Enabled** |

| **Table 3 – Partial Support for RTCR in Existing SDWIS/STATE** |
| --- |
| **No.** | **RTCR Activity** | **SDWIS/STATE**  **Existing Function****(Partial Implementation)** |
| 3-1 | Automated addition of Compliance Schedule Activities for Sampling PlansCFR §141.853 (a)(1) | Compliance Schedules not automatically created for sampling plans; however can use on-line pages or SDWIS/Migration to State to add Compliance Schedule Activities associated to violation type 5A-Sample Siting Plan Errors (RTCR)**≈ 3.3 Script Enabled** |
| 3-2 | Associate Repeat Sampling Points to Original Sampling Point CFR §141.853(a)(5) | SDWIS/STATE Inventory allows designation of a sampling point as a repeat location with fields which can be used to list the original sampling pointQueries may be developed to determine if each original sampling point has appropriate repeat sampling points at the required locations; use Violation Maintenance to enter type 5A- Sample Siting Plan Errors (RTCR) **≈ 3.3 Script Enabled** |
| 3-3 | Automated Reduced Monitoring Schedule Maintenance for Community to Quarterly based on non-Inventory changes.CFR §141.855(d) and (e)  | Use existing SDWIS/STATE TCR Sample Schedule Maintenance to modify the Sample Schedule OR use existing SDWIS/Migration to State to update the Monitoring and Conditions table indicators after reviewing results of queries (you may develop to determine if a water system qualifies for reduced monitoring based on following data elements: * MCL Violation
* Level 2 TTT
* Two Level 1 TTT
* TT Violation
* Two monitoring violations in rolling 12 months
* Loss of Certified operator)
 |
| 3-4 | Automated Reduced Monitoring Schedule Maintenance for Non-Community to Quarterly based on non-Inventory changesCFR §141.854 (e) and (f) | Use existing SDWIS/STATE TCR Sample Schedule Maintenance to modify the Sample Schedule OR use existing SDWIS/Migration to State to update the Monitoring and Conditions table indicators after reviewing results of queries (you may develop to determine if a water system qualifies for reduced monitoring based on following data elements: * MCL Violation
* Level 2 TTT
* 2 Level 1 TTT
* TT Violation
* 2 monitoring violations in rolling 12 months
* 1 monitoring violation & 1 Level 1 TTT)
 |
| 3-5 | Additional Monitoring Sample Schedule can be waived or modifiedCFR §141.854 (j) | Use SDWIS/STATE online TCR Sample Schedule Maintenance to modify Temporary/Additional Sample Schedule  |
| 3-6 | Lab Certification and Methods Monitoring violations for laboratory certification and/or method error (RTCR Violation Type 3D)CFR §141.852 | Use SDWIS/STATE online Violation MaintenanceConsistent with other drinking water rules implemented in SDWIS/STATE, no automated candidate violation creation support for laboratory certification method error (RTCR Violation Type 3D) as these sample results are rejected by SDWIS/STATE**≈ 3.3 Script Enabled** |
| 3-7 | Water System Notification Date results in update of positive result actionsCFR §141.858 (b) | Use SDWIS/STATE online TCR Sample Schedule Maintenance to modify Sample Schedules, modify Compliance Schedule Activities, and modify PN Schedule Activities |
| 3-8 | Automated Compliance determination that water system has monitored at the appropriate location, including specification of a pool of sampling points, establishing frequency of monitoring at each location and compliance determination that monitoring occurred at the designated locationCFR §141.853 | Use online Sampling Point Maintenance to designate frequency of monitoring at that sampling pointQueries may be developed to determine sampling has occurred at required locations and Violation Maintenance used to enter type 5A- Sample Siting Plan Errors (RTCR)**≈ 3.3 Script Enabled** |
| 3-9 | Automated addition of Compliance Schedule Activities for Seasonal Start-upCFR §141.854 (i)(1) | Compliance Schedules not automatically created for seasonal start-up; however can use on-line pages or SDWIS/Migration to State to add Compliance Schedule Activities associated to violation type 2D- Treatment Technique Startup Procedures**≈ 3.3 Script Enabled** |
| 3-10 | Designation of sanitary defect types of significant deficiencies CFR §141.859 (b) | Use SDWIS/STATE System Administration to maintain description of the deficiency type used to denote this is a sanitary defect type of finding. **∞ 3.3 Instructions Enabled** |
| 3-11 | Assessment Category Evaluation Recording | Due to restrictions on changing user interface, unable to display permitted value D - Sanitary Defect as a new value for existing Category Evaluation fields. When a Sanitary Defect is found during Site Visit, you can specify existing permitted value S-Significant Deficiency (on Category Evaluation fields) with an assessment type of site visit to denote this is a Sanitary Defect.[SDWIS/FedRep 3.4 extracts value stored in SDWIS/STATE Site Visit Category Evaluation field and will to same with SDWIS/FedRep 3.5. However, as “D-Sanitary Defect” is not among list of existing SDWIS/STATE Site Visit Category Evaluation permitted values from which you may select, this value will not be available for SDWIS/FedRep 3.5 to extract.] |
| 3-12 | Consistent with other drinking water rules implemented in SDWIS/STATE, no automated support for violation types categorized as “reporting” violations (no automated support for RTCR type 4\* violations) | Use SDWIS/STATE online maintenance pages to record * Reported Date for Compliance Schedule Activities late
* Sample Result PWS Notified Date
* Sample Result State Notified Date
* Sample Result timestamp

Use online Violation Maintenance to enter type * 4A- Reporting, Assessment Forms (RTCR)
* 4B- Report Sample Result/Fail Monitor RTCR
* 4C- Report Startup Procedures Cert Form RTCR
* 4D- Notification, E Coli Positive (RTCR)
* 4E- Notification, E. coli MCL (RTCR)
* 4F- Notify L1/L2 TT Vio, Correct Action RTCR

Queries can be developed to determine reporting violations for Violation Types: * 4A- Reporting, Assessment Forms (RTCR)
* 4B- Report Sample Result/Fail Monitor RTCR
* 4C- Report Startup Procedures Cert Form RTCR
* 4D- Notification, E Coli Positive (RTCR)
* 4F- Notify L1/L2 TT Vio, Correct Action RTCR

**≈ 3.3 Script Enabled** |
| 3-13 | Automated Return to Compliance  | Use SDWIS/STATE Compliance Schedule Activity or PN Activity Maintenance page to record Achieved Date; when prompted, create the SOX/EOX type of enforcement actionQueries can be developed to determine if monitoring and MCL violations have returned to compliance due to on-going monitoring. Use SDWIS/STATE Violation Maintenance to enter the associated Enforcement Action |

| **Table 4 – RTCR Support Suggestion** |
| --- |
| **No.** | **RTCR Activity** | **SDWIS/STATE 3.3****RTCR Support Suggestion** |
| 4-1 | Compliance determination that water system has monitored evenly throughout the monitoring periodCFR §141.853(a)(2) | Queries may be developed to determine sampling has occurred throughout the monitoring period and Violation Maintenance used to enter type 5A- Sample Siting Plan Errors (RTCR)**≈ 3.3 Script Enabled (including for queries/reports)** |
| 4-2 | Increase Routine Monitoring Frequency Community to MonthlyCFR §141.855 (e) | Queries/reports may be developed to display TCR sample schedules eligible for increased monitoring and Sample Schedule Maintenance used to modify routine TCR sample schedule* MCL Violation
* Level 2 TTT
* TT Violation
* 2 monitoring violations in rolling 12 months

**∑ 3.3 Script and Instructions Enabled(including for queries/reports)** |
| 4-3 | Increase Routine Monitoring Frequency Non-Community to QuarterlyCFR §141.854 (f) | Queries/reports can be created to display TCR sample schedules eligible for increased monitoring and Sample Schedule Maintenance used to modify routine TCR sample schedule* MCL Violation
* Level 2 TTT
* TT Violation
* 2 monitoring violations in rolling 12 months
* 1 monitoring violation & 1 Level 1 TTT violation

**∑ 3.3 Script and Instructions Enabled(including for queries/reports)** |
| 4-4 | Tracking of water system notification to the primacy agency that a violation has occurred and compliance determination when a violation is not reportedCFR §141.860 (d) | Use SDWIS/STATE Violation Comments field of violation to denote notification by the water system to the primacy agency and online Violation Maintenance to enter type * 4B- Report Sample Result/Fail Monitor RTCR
* 4E- Notification, E. coli MCL (RTCR)

**∑ 3.3 Script and Instructions Enabled(including for queries/reports)** |

| **Table 5 – RTCR Support in SDWIS/STATE 3.3 Consolidated List By Major Rule Implementation Requirements** |
| --- |
| **O** | **RTCR Activity** | **SDWIS/STATE 3.21  TCR/GWR/CCR Function**  | **RTCR Implementation in SDWIS/STATE 3.3** | **Row Location in Tables 1 -4** |
| **Primacy Agency Customization** |
|  | Effective Date for RTCR at this primacy agency |  | RTCR – SDWIS/STATE System Administration/SDWIS Configuration provides capability for Primacy Agency to set effective date for RTCR. This lets primacy agency implement the rule early if desired and also permits testing (e.g. date can set as early as primacy agency wishes to support pre-production testing.) This date is used by the following processes to determine which rule TCR or RTCR is in effect: * Positive Result Validation
* Acute MCL Determination
* Non-Acute MCL Determination
* Routine M/R Compliance Check
* Repeat M/R Compliance Check

**≈ 3.3 Script Enabled** | 2-1 |
| **Sampling Plan** |
|  | Track submittal of sampling planCFR §141.853 (a)(1) | GWR - Enter Compliance Schedule Activities  | Use existing SDWIS/STATE to enter Compliance Schedule Activities associated to new RTCR violation type 5A-Sample Siting Plan Errors **≈ 3.3 Script Enabled** | 1-1 |
|  | Automated addition of Compliance Schedule Activities for Sampling PlansCFR §141.853 (a)(1) |  | Compliance Schedules not automatically created for sampling plans; however can use on-line pages or SDWIS/Migration to State to add Compliance Schedule Activities associated to violation type 5A-Sample Siting Plan Errors (RTCR)**≈ 3.3 Script Enabled** | 3-1 |
|  | Record and track sampling planCFR §141.853 (a)(1) | GWR – Record sampling plan data including specific rule, approval date and sampling points | Use existing SDWIS/STATE to record sampling plan data including specific rule (e.g. RTCR), approval date and sampling points | 1-2 |
|  | Record sampling points and designate for RTCRCFR §141.853 (a)(1) and (5) | GWR – Enter sampling point including ID, description and designation | Use existing SDWIS/STATE to enter sampling point including ID, description, and designation as RTCR routine or repeat location or RTCR/GWR dual sample location | 1-3 |
|  | Associate Repeat Sampling Points to Original Sampling Point CFR §141.853(a)(5) |  | SDWIS/STATE Inventory allows designation of a sampling point as a repeat location with fields which can be used to list the original sampling pointQueries may be developed to determine if each original sampling point has appropriate repeat sampling points at the required locations; use Violation Maintenance to enter type 5A- Sample Siting Plan Errors (RTCR) **≈ 3.3 Script Enabled** | 3-2 |
|  | Sampling Plan Submittal Compliance CFR §141.860 (c)(1) | GWR - Schedule Activity Compliance Report | Use existing SDWIS/STATE Schedule Activity Compliance Report with RTCR Compliance Schedule type and/or Activity typeSDWIS/STATE existing functionality creates appropriate type 5A- Sample Siting Plan Errors (RTCR) of candidate RTCR violation associated to Compliance Activity**≈ 3.3 Script Enabled** | 1-4 |
| **Seasonal Water Systems** |
|  | Indicate that a PWS is a seasonal water system | GWR – Enter Water System Indicators which are reported with SDWIS/FedRep as Additional PWS Reporting | Use SDWIS/STATE System Administration to add new Water System Indicator types and values. Then enter new types of Water System Indicators**≈ 3.3 Script Enabled** | 1-26 |
|  | Seasonal Start-up TrackingCFR §141.854 (i)(1) | CCR - Annual entry of Compliance Schedule Activities  | SDWIS/STATE existing functionality supports annual entry of Compliance Schedule Activities associated to violation type 2D-Start-up Procedures Treatment TechniqueCompliance officer uses existing SDWIS/STATE to update Achieved Date when assessment is conducted**≈ 3.3 Script Enabled** | 1-18 |
|  | Seasonal Start-up ComplianceCFR §141.860 (b)(2)  | CCR - Schedule Activity Compliance Report | Use existing SDWIS/STATE Schedule Activity Compliance Report with RTCR Compliance Schedule type and/or Activity typeSDWIS/STATE existing functionality creates appropriate Candidate type 2D- Treatment Technique Startup Procedures RTCR violation associated to Compliance Activity**≈ 3.3 Script Enabled** | 1-19 |
|  | Automated addition of Compliance Schedule Activities for Seasonal Start-upCFR §141.854 (i)(1) |  | Compliance Schedules not automatically created for seasonal start-up; however can use on-line pages or SDWIS/Migration to State to add Compliance Schedule Activities associated to violation type 2D- Treatment Technique Startup Procedures**≈ 3.3 Script Enabled** | 3-9 |
| **Routine Sample Schedules** |
|  | Schedule Routine Monitoring CFR §141.854(a) and §141.855(a) | TCR - Sample Schedule | Use existing SDWIS/STATE TCR Sample Schedule maintenance function | 1-5 |
|  | Maintain Routine Monitoring with Inventory ChangesCFR §141.854(a) and §141.855(a) | TCR - Sample Schedule Evaluation | Existing SDWIS/STATE TCR sampling schedule evaluation function continues to propose changes to TCR sampling schedule based on Inventory changes | 1-6 |
|  | Maintain Routine Reduced Monitoring Schedules for Community based on Inventory ChangesCFR §141.855(d)  | TCR - Sample Schedule Evaluation | Primacy Agencies have the option of modifying Monitoring & Conditions tables to enable reduced quarterly monitoring.  Once the tables have been modified, existing SDWIS/STATE TCR sampling schedule evaluation function continues to propose changes to TCR sampling schedule based on Inventory changes.  Changes based on non-Inventory criteria (MCL Violation, Treatment Technique Triggers, etc.) are **not** maintained. | 1-7 |
|  | Maintain Routine Reduced Monitoring Schedules for Non-Community based on Inventory ChangesCFR §141.854(e) | TCR - Sample Schedule Evaluation | Primacy Agencies have the option of modifying Monitoring & Conditions tables to enable reduced annual monitoring.  Once the tables have been modified, existing SDWIS/STATE TCR sampling schedule evaluation function continues to propose changes to TCR sampling schedule based on Inventory changes.  Changes based on non-Inventory criteria (MCL Violation, Treatment Technique Triggers, etc.) are **not** maintained. | 1-8 |
|  | Indicate that a PWS is on reduced monitoring | GWR – Enter Water System Indicators which are reported with SDWIS/FedRep as Additional PWS Reporting | Use SDWIS/STATE System Administration to add new Water System Indicator types and values. Then enter new types of Water System Indicators**≈ 3.3 Script Enabled** | 1-27 |
|  | Increase Routine Monitoring Frequency Community to MonthlyCFR §141.855 (e)- MCL Viol |  | Queries/reports may be developed to display TCR sample schedules eligible for increased monitoring and Sample Schedule Maintenance used to modify routine TCR sample schedule* Level 2 TTT
* TT Violation
* 2 monitoring violations in rolling 12 months

**∑ 3.3 Script and Instructions Enabled(including for queries/reports)** | 4-2 |
|  | Increase Routine Monitoring Frequency CFR §141.854 (f)-Non-Community to MN |  | Queries/reports can be created to display TCR sample schedules eligible for increased monitoring and Sample Schedule Maintenance used to modify routine TCR sample schedule* MCL Viol
* Level 2 TTT
* TT Viol
* 2 monitoring violations in rolling 12 months
* 1 monitoring violations & 1 Level 1 TTT

**∑ 3.3 Script and Instructions Enabled(including for queries/reports)** | 4-3 |
|  | Reduce Routine Monitoring Frequency for Community to Quarterly based on non-Inventory changes CFR §141.855(d) and (e) |  | Use existing SDWIS/STATE TCR Sample to modify the Sample Schedule OR use existing SDWIS/Migration to State to update the Monitoring and Conditions table indicators after reviewing results of queries (you may develop to determine if a water system qualifies for reduced monitoring based on following data elements: * MCL Violation
* Level 2 TTT
* Two Level 1 TTT
* TT Violation
* Two monitoring violations in rolling 12 months
* Loss of Certified operator)
 | 3-3 |
|  | Reduce Routine Monitoring Frequency for Non-Community to Quarterly based on non-Inventory changesCFR §141.854 (e) and (f) |  | Use existing SDWIS/STATE TCR Sample to modify the Sample Schedule OR use existing SDWIS/Migration to State to update the Monitoring and Conditions table indicators after reviewing results of queries (you may develop to determine if a water system qualifies for reduced monitoring based on following data elements: * MCL Violation
* Level 2 TTT
* 2 Level 1 TTT
* TT Violation
* 2 monitoring violations in rolling 12 months
* 1 monitoring violation & 1 Level 1 TTT)
 | 3-4 |
| **Sample Result Collection and Storage** |
|  | Maintain Monitoring Periods | TCR - System Administration Monitoring Period Maintenance | Use existing SDWIS/STATE functionality | 1-9 |
|  | Associate Monitoring Periods to Water Systems | * SDWIS/Migration to State
* TCR Compliance Check
* Online SDWIS/STATE Monitoring/Planning/Associate Monitoring Period
 | Use existing SDWIS/STATE functionality* SDWIS/Migration to State
* Online SDWIS/STATE Monitoring/Planning/Associate Monitoring 2A$EPeriod
 | 1-10 |
|  | Enter Routine Sample Results including Additional samples and samples triggered by high source water turbidityCFR §141.852 | TCR - When routine sample result is entered with either SDWIS/XML Sampling or on-line SDWIS/STATE Sampling Entry pages* Laboratory certification processes verify supplied method and certification
* Results are associated to correct monitoring period
* Positive coliform result triggers Positive Result Validation web service
 | Existing SDWIS/STATE functions apply when routine sample result is entered with either SDWIS/XML Sampling or on-line SDWIS/STATE Sampling Entry pages* Laboratory certification processes verify supplied method and certification
* Results are associated to correct monitoring period
* Positive coliform result triggers Positive Result Validation web service

(Primacy agencies continue to maintain standard methods and certification) | 1-11 |
|  | Enter Repeat Samples including dual GWR/RTCR source water samplesCFR §141.852  | TCR - When repeat sample result is entered with either SDWIS/XML Sampling or on-line SDWIS/STATE Sampling Entry pages,* Laboratory certification processes verify supplied method and certification
* Results are associated to correct monitoring period
* Positive coliform result triggers Positive Result Validation web service
 | Existing SDWIS/STATE functions apply | 1-12 |
|  | Lab Certification and Methods Monitoring violations for laboratory certification and/or method error (RTCR Violation Type 3D)CFR §141.852 |  | Use SDWIS/STATE online Violation MaintenanceConsistent with other drinking water rules implemented in SDWIS/STATE, no automated candidate violation creation support for laboratory certification method error (RTCR Violation Type 3D) as these sample results are rejected by SDWIS/STATE**≈ 3.3 Script Enabled** | 3-6 |
| **Repeat and Additional Sample Schedules** |
|  | Modify Routine Monitoring (Temporary Routine/Additional) CFR §141.854 (j)  | TCR - Positive Result Validation determines if water system is collecting less than 5 samples per month:* Closes current routine schedule,
* Creates temporary routine schedule for 5 samples the next month,
* Creates new routine TCR schedule (to return to previous routine monitoring frequency) beginning with following monitoring period
 | RTCR - Positive Result Validation determines if water system is not on monthly monitoring: * Closes current TCR routine schedule,
* Creates temporary/additional routine TCR schedule for 3 samples the next month, and
* Creates new routine TCR schedule (to return to previous routine monitoring frequency) beginning with following monitoring period
 | 2-2 |
|  | Additional Monitoring Sample Schedule can be waived or modifiedCFR §141.854 (j) |  | Use SDWIS/STATE online TCR Sample Schedule Maintenance to modify Temporary/Additional Sample Schedule  | 3-5 |
|  | Candidate Repeat SchedulesCFR §141.858 (a)  | TCR - Positive Result Validation creates candidate repeat sample schedules associated to the original total coliform positive routine or repeat sample Number of repeat samples, three or four, is based up water system’s Inventory characteristics | RTCR - Number of repeat samples is always three (regardless of water system’s characteristics); otherwise, No Change | 2-3 |
| **MCL Determination** |
|  | Candidate Acute MCLCFR §141.860 (a) (1) The system has an *E. coli*-positive repeat sample following a total coliform-positive routine sample.& (2) The system has a total coliform-positive repeat sample following an *E. coli*-positive routine sample.Candidate PN  | TCR - Positive Result Validation creates candidate type 21 violation | RTCR - Positive Result Validation no longer creates Candidate Type 21 Violation but instead creates: * Candidate type 1A-‘MCL E COLI’ violation which is unique by association to precipitating positive routine total coliform Result
* Candidate TTT Compliance Schedule Activity based on standard response named ‘LEVEL 2 TTT MCL E COLI POS SAMPLE RESULT’
* Enforcement Action(s) & PN Schedule from standard response named ‘MCL E COLI POS SAMPLE RESULT’

Validation process considers routine samples which were taken outside the seasonal period and source water samples being used as repeat samples. Compliance Officer uses existing SDWIS Bridge functions to review, edit and migrate candidate MCL violation, candidate compliance schedule, and candidate enforcement action(s)**∑ 3.3 Script and Instructions Enabled** | 2-4 |
|  | 2-9 | TCR - Repeat M/R process creates Candidate 25-MONITORING (TCR), REPEAT MAJOR & 26- MONITORING (TCR), REPEAT MINOR Violation | RTCR – If Routine Sample Result is E. coli positive, TCR Repeat M/R Compliance Check process no longer creates type 25 or 26 candidate violations but instead creates: * Candidate type 1A-‘MCL E COLI’ violation which is unique by association to precipitating positive routine total coliform Result
* Candidate TTT Compliance Schedule Activity associated to violation type 2B- LEVEL 2 ASSESSMENT, MCL TRIGGERED (RTCR) based on standard response named ‘LEVEL 2 TTT MCL INSUFFICIENT REPEATS’
* Candidate Enforcement Action(s) & PN Schedule from standard response named ‘MCL INSUFFICIENT REPEATS’

Compliance Officer uses existing SDWIS Bridge functions to review, edit and migrate candidate MCL violation, candidate compliance schedule, and candidate enforcement action(s)**∑ 3.3 Script and Instructions Enabled** |  |
|  | No speciation Repeat MONITORING ComplianceCFR §141.860 (a)(4) | TCR- M/R Compliance Check creates candidate type 25 violations | RTCR – TCR Repeat M/R process no longer creates type 25 candidate violation but instead creates: * Candidate type 1A-‘MCL E COLI’ violation which is unique by association to precipitating positive routine total coliform result
* Candidate TTT Compliance Schedule Activity associated to violation type 2B- LEVEL 2 ASSESSMENT, MCL TRIGGERED (RTCR) based on standard response named ‘LEVEL 2 TTT MCL E COLI RPT NOT SPECIATED’
* Candidate Enforcement Action(s) & PN Schedule from standard response named ‘MCL E COLI REPEAT NOT SPECIATED’

Compliance Officer uses existing SDWIS Bridge functions to review, edit and migrate candidate MCL violation, candidate compliance schedule, and candidate enforcement action(s)**∑ 3.3 Script and Instructions Enabled** | 2-11 |
| **Monitoring Compliance Determination** |
|  | Routine Monitoring ComplianceCFR §141.860 (c)(1) | TCR - Routine M/R Compliance Check process creates * Candidate 23-MONITORING (TCR), ROUTINE MAJOR type violation
* Candidate 24- MONITORING (TCR), ROUTINE MINOR type violation
 | RTCR – TCR Routine M/R process creates candidate violations:* Instead of a Violation type 23-MONITORING (TCR), ROUTINE MAJOR; creates a Violation Type 3A-MONITORING, ROUTINE, MAJOR (RTCR)
* Instead of a Violation type 24-MONITORING (TCR), ROUTINE MINOR MONITORING (TCR), creates a Violation Type 3A-MONITORING, ROUTINE, MINOR (RTCR)

**≈ 3.3 Script Enabled** | 2-5 |
|  | Seasonal Period of RTCR Sample Schedule EnforcedCFR §141.854 (i)(2)(i) | TCR - Sample Result associated to monitoring period associated to water system which falls within sample schedule dates and sample collection dates | RTCR – TCR Routine M/R Compliance process enforces TCR sample schedule’s seasonal period and creates candidate monitoring violations as described in Row 2-5 and potentially additional MCL candidate violations and candidate repeat schedules RTCR - Positive Result Validation function:* Uses sample result in candidate E. coli MCL compliance determination as described in Row 2-4
* Creates candidate repeat TCR sample schedule as described in Row 2-3

Compliance Officer determines if sample result is counted during MCL compliance and uses existing SDWIS Bridge functions to review candidate, edit and migrate candidate responses**≈ 3.3 Script Enabled** | 2-8 |
|  | Tracking of triggered routine RTCR coliform sample taken within 24 hours of Source Water Turbidity Sample which exceeds 1 NTU CFR §141.857(c) | Use SDWIS/STATE online Violation Maintenance to add/maintain violation for failure to collect a source water coliform sample following a high turbidity sample | Use existing SDWIS/STATE to enter Compliance Schedule Activities associated to new RTCR violation type 3C-MONITOR COLIFORM TURBIDITY TRIGGER RTCRUse existing SDWIS/STATE Schedule Activity Compliance Report with RTCR Compliance Schedule type and/or Activity typeSDWIS/STATE existing functionality creates appropriate Candidate type 3C-MONITOR COLIFORM TURBIDITY TRIGGER RTCR) RTCR violations associated to Compliance Activity**≈ 3.3 Script Enabled** | 1-25 |
|  | Automated Compliance determination that water system has monitored at the appropriate location, including specification of a pool of sampling points, establishing frequency of monitoring at each location and compliance determination that monitoring occurred at the designated locationCFR §141.853 |  | Use online Sampling Point Maintenance to designate frequency of monitoring at that sampling pointQueries may be developed to determine sampling has occurred at required locations and Violation Maintenance used to enter type 5A- Sample Siting Plan Errors (RTCR)**≈ 3.3 Script Enabled** | 3-8 |
|  | Compliance determination that water system has monitored evenly throughout the monitoring periodCFR §141.853(a)(2) | Queries may be developed to determine sampling has occurred throughout the monitoring period and Violation Maintenance used to enter type 5A- Sample Siting Plan Errors (RTCR)**≈ 3.3 Script Enabled (including for queries/reports)** |  | 4-1 |
|  | Failure to speciate **Routine** Total Coliform positive | TCR - Routine M/R Compliance Check process creates Candidate 23-MONITORING (TCR), ROUTINE MAJOR | RTCR – TCR Routine M/R process creates candidate violation:* Instead of a Violation Type 23-MONITORING (TCR), ROUTINE MAJOR; creates a Violation Type 3D- MONITORING, LAB CERT/METHOD ERROR (RTCR)

**≈ 3.3 Script Enabled** | 2-6 |
|  | Temporary Routine/Additional Monitoring ComplianceCFR §141.860 (c)(1) | TCR - Routine M/R Compliance Check process creates * Candidate 23-MONITORING (TCR), ROUTINE MAJOR type violation
* Candidate 24- MONITORING (TCR), ROUTINE MINOR type violation
 | RTCR – TCR Routine M/R Compliance Check process creates candidate violations:* Instead of a Violation Type 23-MONITORING (TCR), ROUTINE MAJOR; creates a Violation Type F- MONITORING, ADD. ROUTINE, MAJOR (RTCR)
* Instead of a Violation Type 24-MONITORING (TCR), ROUTINE MINOR MONITORING (TCR), creates a Violation Type 3B- MONITORING, ADD. ROUTINE, MINOR (RTCR)

**≈ 3.3 Script Enabled** | 2-7 |
| **Level 1 and Level 2 Treatment Technique Triggers** |
|  | Level 1 TTT tracking-- triggered when routine TC positive, E. coli negative with insufficient repeats tracking CFR §141.859 (a)(1)(iii) | GWR – Positive Result Validation process uses Standard Response to create candidate Compliance Activities (type Address Contamination) Compliance Officer uses existing SDWIS Bridge functions to review, edit, and migrate candidate compliance schedule | RTCR-Compliance officer enters Compliance Schedule Activity or, as described in Table 2, the TCR Repeat M/R Compliance Check (Row 2-5) process creates candidate Level 1 TTT types of Compliance Schedule Activities associated to violation type 2A- LEVEL 1 ASSESS, TC POS RT NO RPT (RTCR) using standard response Compliance Officer uses existing SDWIS Bridge functions to review, edit, and migrate candidate Compliance Schedule ActivityCompliance officer uses existing SDWIS/STATE to update Achieved Date when assessment is conducted**∞ 3.3 Instructions Enabled** | 1-13 |
|  | Repeat Monitoring Compliance when Routine Sample Result is E. coli negativeCFR §141.859 (a)(1) | TCR - Repeat M/R Compliance Check process creates Candidate 25-MONITORING (TCR), REPEAT MAJOR & 26- MONITORING (TCR), REPEAT MINOR Violation | RTCR – Routine sample result is E. coli negative, TCR Repeat M/R Compliance Check process creates Candidate TTT Compliance Schedule Activity associated to violation type 2A- LEVEL 1 ASSESS, TC POS RT NO RPT (RTCR) or 2B- LEVEL 2 ASSESSMENT, 2ND LEVEL 1(RTCR) based on following criteria:* If routine monitoring is annual and existing Level 1 or 2 TTT in previous calendar year; use standard response named ‘LEVEL 2 TTT 2ND LVL 1 IN 2 YR INSUF RPT’
* Else, existing Level 1 or 2 TTT in previous 12 months; use standard response named ‘LEVEL 2 TTT 2ND LVL 1 N 12 MN INSUF RPT’
* Else use standard response named ‘LEVEL 1 TTT ORIG EC NEG INSUFF REPEATS’

Compliance Officer uses existing SDWIS Bridge functions to review, edit and migrate candidate compliance schedule(s)**∞ 3.3 Instructions Enabled** | 2-10 |
|  | Level 1 TTT tracking-- triggered when systems taking 40 or more (routine and repeat) samples per month, the system exceeds 5.0% total coliform-positive samples for the month or for systems taking fewer than 40 (routine and repeat) samples per month, the system has two or more total coliform-positive samples in the same month.CFR §141.859 (a)(1)(i) and (ii) | GWR – Positive Result Validation process uses Standard Response to create candidate Compliance Activities (type Address Contamination) Compliance Officer uses existing SDWIS Bridge functions to review, edit, and migrate candidate compliance schedule | RTCR- Compliance officer enters Compliance Schedule Activity or, as described in Table 2, the Non-Acute MCL Compliance (Row 2-12) process creates candidate Level 1 TTT types of Compliance Schedule Activities associated to violation type 2A- LEVEL 1 ASSESS, MULTIPLE TC POS (RTCR) using standard response Compliance Officer uses existing SDWIS Bridge functions to review, edit, and migrate candidate Compliance Schedule ActivityCompliance officer uses existing SDWIS/STATE to update Achieved Date when assessment is conducted**∞ 3.3 Instructions Enabled** | 1-14 |
|  | Non-Acute MCL ComplianceCFR §141.859 (a)(1)(i) and (ii) | TCR - Non-acute MCL Compliance creates candidate 22-MCL (TCR), MONTHLY Violations | RTCR – Non-acute MCL Compliance no longer creates type 22 candidate violation but instead creates candidate TTT Compliance Schedule Activity associated to violation types 2A-LEVEL 1 ASSESS, MULTIPLE TC POS (RTCR) or 2B- LEVEL 2 ASSESSMENT, 2ND LEVEL 1(RTCR) based on following criteria:* If routine monitoring is annual and existing Level 1 or 2 TTT in previous calendar year; use standard response named ‘LEVEL 2 TTT 2ND LVL 1 N 2 YR MULT TC POS’
* Else, existing Level 1 or 2 TTT in previous 12 months; use standard response named ‘LEVEL 2 TTT 2ND LVL 1N12 MN MULT TC POS’
* Else; use standard response named ‘LEVEL 1 TTT MULTIPLE TC POS’

Compliance Officer uses existing SDWIS Bridge functions to review, edit, and migrate candidate compliance Schedule Activity**∞ 3.3 Instructions Enabled** | 2-12 |
|  | Level 2 TTT tracking-When more than one Level 1 TTT within specified periodCFR §141.859 (a)(2)(ii) and (iii) | GWR - Positive Result Validation process uses Standard Response to create candidate Compliance Activities (type Address Contamination) Compliance Officer uses existing SDWIS Bridge functions to review, edit, and migrate candidate compliance schedule | RTCR- Compliance officer enters Compliance Schedule Activity or, as described in Table 2 (TCR Repeat M/R Compliance Check (Row 2-10) and the Non-Acute MCL Compliance (Row 2-12)), when more than one Level 1 TTT exists within the specified period, the processes create candidate necessary Level 2, TTT types of Compliance Schedule Activity associated to violation type 2B- LEVEL 2 ASSESSMENT, 2ND LEVEL 1(RTCR) using standard response Compliance Officer uses existing SDWIS Bridge functions to review, edit, and migrate candidate Compliance Schedule ActivityCompliance officer uses existing SDWIS/STATE to update Achieved Date when assessment is conducted.**∑ 3.3 Script and Instructions Enabled** | 1-15 |
|  | Level 2 TTT tracking-When incur E. coli MCL CFR §141.859 (a)(2)(i) | GWR - Positive Result Validation process uses Standard Response to create candidate Compliance Activities (type Address Contamination) Compliance Officer uses existing SDWIS Bridge functions to review, edit, and migrate candidate compliance schedule | RTCR- Compliance officer enters Compliance Schedule Activity or, as described in Table 2, the Acute MCL determination process (Row 2-4) and the TCR Repeat M/R Compliance Check (Row 2-9) create candidate Level 2 TTT types of Compliance Schedule Activity associated to violation type 2B- LEVEL 2 ASSESSMENT, MCL TRIGGERED (RTCR) using standard response Compliance Officer uses existing SDWIS Bridge functions to review, edit, and migrate candidate Compliance Schedule ActivityCompliance officer uses existing SDWIS/STATE to update Achieved Date when assessment is conducted.**∑ 3.3 Script and Instructions Enabled** | 1-16 |
|  | Level 1 & 2 TTT Compliance DeterminationCFR §141.860 (b)(1)  | GWR - Schedule Activity Report | Use existing SDWIS/STATE Schedule Activity Compliance Report with RTCR Compliance Schedule type and/or Activity typeSDWIS/STATE existing functionality creates appropriate types of candidate violation(s) associated to Compliance Schedule Activity as follows: * 2A-LEVEL 1 ASSESS, MULTIPLE TC POS (RTCR)
* 2A-LEVEL 1 ASSESS, TC POS RT NO RPT (RTCR)
* 2B-LEVEL 2 ASSESSMENT, MCL TRIGGERED (RTCR)
* 2B-LEVEL 2 ASSESSMENT, 2ND LEVEL 1(RTCR)

**≈ 3.3 Script Enabled** | 1-17 |
| **Assessments and Corrective Actions** |
|  | Assessment Type of Site Visit Entry | GWR - Enter one of four sanitary survey types of Site Visit  | RTCR – Script Supplied with SDWIS/STATE 3.3 adds new assessment type permitted values to table Site Visit column Primary Reason Code so user may specify primary reason on existing Site Visit Maintenance page**≈ 3.3 Script Enabled** | 1-21 |
|  | Assessment Category Evaluation Recording |  | Due to restrictions on changing user interface, unable to display permitted value D - Sanitary Defect as a new value for existing Category Evaluation fields. When a Sanitary Defect is found during Site Visit, user can specify existing permitted value S-Significant Deficiency (on Category Evaluation fields) with an assessment type of site visit to denote this is a Sanitary Defect.[SDWIS/FedRep 3.4 extracts value stored in SDWIS/STATE Site Visit Category Evaluation field and will to same with SDWIS/FedRep 3.5. However, as “D-Sanitary Defect” is not among list of existing SDWIS/STATE Site Visit Category Evaluation permitted values from which you may select, this value will not be available for SDWIS/FedRep 3.5 to extract.] | 3-11 |
|  | Designation of sanitary defect types of significant deficiencies CFR §141.859 (b) |  | Use SDWIS/STATE System Administration to maintain description of the deficiency type used to denote this is a sanitary defect type of finding. **∞ 3.3 Instructions Enabled** | 3-10 |
|  | Sanitary Defect Recording | GWR - Site Visit with associated significant deficiencies | Use existing SDWIS/STATE Deficiency Maintenance page to enter a significant deficiency associated to site visitRTCR – Due to restrictions on changing user interface, unable to display Sanitary Defect found during Site Visit on Deficiency Maintenance page | 1-20 |
|  | Sanitary Defect Corrective Action Tracking | GWR - Apply deficiency standard response to create compliance schedule and associated compliance schedule activity(ies) associated to type 45 violation type | Apply existing SDWIS/STATE deficiency standard response to create associated Compliance Schedule Activity(ies) associated to 2C-TT, Corrective/Expedited Actions (RTCR) violation type**∑ 3.3 Script and Instructions Enabled** | 1-22 |
|  | Sanitary Defect Corrective Action Compliance Determination | GWR - Schedule Activity Report | Use existing SDWIS/STATE Schedule Activity Compliance Report with RTCR Compliance Schedule and/or Activity typeSDWIS/STATE existing functionality creates appropriate 2C- CORRECTIVE/EXPEDITED ACTIONS (RTCR) type of candidate RTCR violation associated to Compliance Activity**∑ 3.3 Script and Instructions Enabled** | 1-23 |
| **Reporting Violations** |
|  | Tracking of water system notification to the primacy agency that a violation has occurred and compliance determination when a violation is not reportedCFR §141.860 (d) |  | Use SDWIS/STATE Violation Comments field of violation to denote notification by the water system to the primacy agency and online Violation Maintenance to enter type * 4B- Report Sample Result/Fail Monitor RTCR
* 4E- Notification, E. coli MCL (RTCR)

**∑ 3.3 Script and Instructions Enabled(including for queries/reports)** | 4-4 |
|  | Consistent with other drinking water rules implemented in SDWIS/STATE, no automated support for violation types categorized as “reporting” violations (no automated support for RTCR type 4\* violations) |  | Use SDWIS/STATE online maintenance pages to record * Reported Date for Compliance Schedule Activities late
* Sample Result PWS Notified Date
* Sample Result State Notified Date
* Sample Result timestamp

Use online Violation Maintenance to enter type * 4A- Reporting, Assessment Forms (RTCR)
* 4B- Report Sample Result/Fail Monitor RTCR
* 4C- Report Startup Procedures Cert Form RTCR
* 4D- Notification, E Coli Positive (RTCR)
* 4E- Notification, E. coli MCL (RTCR)
* 4F- Notify L1/L2 TT Vio, Correct Action RTCR

Queries can be developed to determine reporting violations for Violation Types: * 4A- Reporting, Assessment Forms (RTCR)
* 4B- Report Sample Result/Fail Monitor RTCR
* 4C- Report Startup Procedures Cert Form RTCR
* 4D- Notification, E Coli Positive (RTCR)
* 4F- Notify L1/L2 TT Vio, Correct Action RTCR

**≈ 3.3 Script Enabled** | 3-12 |
|  | Support for Entry/ Maintenance of RTCR Record- Keeping Violation Types listed in Revised Total Coliform Rule Violations + RTC Table October 16, 2014 | Use SDWIS/STATE online Violation Maintenance to add/maintain record-keeping violations for which automated candidate violation creation support is not really possible | Use SDWIS/STATE online Violation Maintenance to add/maintain record keeping (type 5B-RECORDKEEPING VIOLATIONS (RTCR)) RTCR violations**≈ 3.3 Script Enabled** | 1-24 |
|  | Automated Return to Compliance  |  | Use SDWIS/STATE Compliance Schedule Activity or PN Activity Maintenance page to record Achieved Date; when prompted, create the SOX/EOX type of enforcement actionQueries can be developed to determine if monitoring and MCL violations have returned to compliance due to on-going monitoring. Use SDWIS/STATE Violation Maintenance to enter the associated Enforcement Action | 3-13 |