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**Long Term 2 Surface Water Treatment Rule**

**Data Entry Instructions with Examples**

**Final Update**

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

**SDWIS PROJECT**

**Prepared for:**

**United States Environmental Protection Agency**

**Office of Ground Water and Drinking Water**

**Drinking Water Protection Division**

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**Safe Drinking Water Information System (SDWIS)**

**Reporting Under the Long Term 2 Surface Water Treatment Rule**

The Safe Drinking Water Act (SDWA) requires states to report drinking water information periodically to EPA. Safe Drinking Water Information System, Federal Version (SDWIS/FED) is the EPA national data system that receives all Primacy Agency routine data submittals for the 155,000 Public Water Systems (PWS) and stores and provides the data for user retrieval. EPA uses the data to manage the Public Water System Supervision (PWSS) program; overseeing Primacy Agency activities, performing federal enforcement, providing compliance assistance, providing information to rule makers about the characteristics of the regulated community for input into rule development and evaluation, responding to public inquiries and providing information about the status of rule implementation. Primacy Agencies, mostly State environmental or health agencies, perform the day-to-day activities to implement the regulations and regulate the drinking water systems within their jurisdictions to ensure that each PWS meets state and EPA standards for safe drinking water. Primacy Agencies report the following information routinely to EPA:

* Basic information on each water system, such as water system name, ID number, number of people served, type of system (year-round or seasonal), the source(s) of water (ground water and surface water) and treatments provided;
* Violation information for each water system; where it has failed established monitoring and reporting schedules, failed to comply with mandated treatment techniques, or exceeded any maximum contaminant levels (MCLs) or other standards;
* Enforcement information including the actions Primacy Agencies have taken to ensure that drinking water systems return to compliance when in violation of a drinking water regulation; and
* Sampling results for unregulated contaminants and for regulated contaminants when the monitoring results exceed the MCL.

In most cases, the PWS rule violations that Primacy Agencies report to EPA is a summary of the actual violation details. For example, there are many detailed water quality monitoring requirements needing to be met by PWSs, such as sampling locations, number of samples taken, use of certified laboratories and use of specific analysis methods, as well as reporting schedules for reporting data to Primacy Agencies. PWSs that fail one or more of these requirements will incur a monitoring and reporting violation. EPA has determined that detailed data, specifically the exact activity that was failed need not be reported for each noncompliant PWS, just a single routine monitoring and reporting violation. However, Primacy Agencies and PWSs must maintain details of noncompliance events based upon PWS and Primacy Agency Record Keeping requirements identified in the rules, as well as sufficient information from which to ensure that mitigation of noncompliance is tracked to its completion. In fact, Primacy Agencies are required to report data identifying that noncompliance has “returned to compliance” for many of the violations reported to EPA.

EPA’s SDWIS/FED data system is composed of several parts. SDWIS/FedRep is an application that Primacy Agencies use to manage routine data submittals to EPA; validating data, managing errors found, and communicating the results to EPA regional offices. EPA’s Central Data Exchange (CDX), part of EPA’s National Environmental Information Exchange Network (NEIEN), is used to transfer data from Primacy Agencies to EPA, and for Primacy Agencies to retrieve output reports resulting from additional data validations. SDWIS Operational Data System (SDWIS/ODS) is a database that receives, processes and stores data from Primacy Agency data submittals. SDWIS/Data Warehouse periodically downloads data from SDWIS/ODS, adds additional data fields to better characterize data, and provides the data for end user retrievals as well as for the Standard Reports available through SDWIS/Reporting Services.

# Federally Reported Violations

Violations of the Long Term 2 Enhanced Rule include treatment technique (TT) violations and monitoring and reporting (M&R) violations. These violation types, contaminant codes, and the initial compliance date (The initial compliance date is the earliest date that LT2 violations can occur) are summarized in Exhibit 1, “Summary of Federally Violations for the LT2SWTR.”

| **Exhibit 1: Summary of Federally Reported Violations for the LT2SWTR** | | |
| --- | --- | --- |
| **Violation**  **Code** | **Contaminant**  **Code** | **Violation Name** |
| **Health-based Violations** | | |
| 33 | 0800-LT2 | Failure Submit Treatment Requirement Rpt |
| 41 | 0800-LT2 | Failure to Maintain Microbial Treatment |
| 42 | 0800-LT2 | Failure to Provide Treatment |
| 45 | 0800-LT2 | Failure to Address a Deficiency |
| 47 | 0800-LT2 | Treatment Technique Uncovered Reservoir |
| **Monitoring and Reporting (M/R) Violations** | | |
| 20 | 0800-LT2 | Failure to Consult/Respond |
| 31 | 0800-LT2 | Monitoring Treatment (Surface Unfilt/GW) |
| 32 | 0800-LT2 | Reporting and Source Monitoring LT2 |
| 32 | 0100-Turbidity  3014-*E. coli* or  3015-*Cryptosporidium* | Reporting and Source Monitoring LT2 |
| 36 | 0800-LT2 | Monitoring Treatment (Surface Filter) |
| 37 | 0800-LT2 | Treatment Tech. No Prior State Approval |
| **Other Violations** | | |
| 09 | 0800-LT2 | Record Keeping |
| 75 | 7500-PN Rule | PN Violation for an NPDWR Violation |
|  |  |  |

# Violation Detail for LT2

Exhibit 2 contains the federally reportable violations for the LT2 in more detail. These violations are listed by requirement and violation type. Exhibit 2 includes the SDWIS/FED reporting codes, the regulatory citation, system type affected, and detailed description of the violation. For detailed information about the procedures for Primacy Agency routine data submittals to EPA’s SDWIS/FED database, visit the following web site - <http://www.epa.gov/safewater/databases/index.html>. Examples of reporting these violations to EPA’s SDWIS/FED are detailed in Section 3.0.

| **Exhibit 2: Federally Reported Violations for the LT2SWTR** | | | | | |
| --- | --- | --- | --- | --- | --- |
| **Affected**  **Violation/Citation** | **SDWIS**  **Violation**  **Code** | **Contaminant Code** | **Compliance Period**  **Begin Date** | **Compliance Period**  **End Date** | **Indicators and Underlying Data** |
| **Health-Based Violations** | | | | | |
| ***Failure To Submit Treatment Requirement Report***  **Bin determination report for filtered sources, Unfiltered system *Cryptosporidium* treatment requirements**  CFR §141.700(c)(3), §141.710, §141.712(a), §141.721(c) | 33 | 0800 | Day after report due date | Do not Report | Do Not Report |
| Failure to Maintain Microbial Treatment  **Failure to maintain the level of treatment appropriate for Bin Classification**  [CFR §141.711(c), (§141.715 – §141.720)] | 41 | 0800 | First day of monthly monitoring period | Last day of monthly monitoring period | Do Not Report |
| Failure to Provide Treatment  Failure to install treatment appropriate for Bin Classification  CFR §141.711(a),(b), §141.713 | 42 | 0800 | First day after scheduled date identified in CFR §141.713(c) | Do not Report | Do Not Report |
| ***Failure to Address a Deficiency***  **Failure to address significant deficiency determined and contained in EPA Sanitary Survey Report by failure to meet schedule of corrective actions required in either EPA approved schedule, or within the schedule of the PWS response**  CFR §141.723 | 45 | 0800 | First day after the EPA specified schedule which the PWS failed to meet including interim dates identified in the PWS response to the Sanitary Survey Report | Do not Report | Do Not Report |
| ***Treatment Technique Uncovered Reservoir***  **Failure to take action on uncovered finished water reservoir**  CFR §141.714 | 47 | 0800 | The first day after new uncovered reservoir is used. | Do not Report | Do Not Report |
| **Monitoring and Reporting Violations** | | | | | |
| ***Failure to Consult/Respond***  **Failure to respond to significant deficiency determined and contained in EPA Sanitary Survey Report**  CFR §141.723(c) | 20 | 0800 | First day after the water system failed to respond; defined as 45 days after receipt of EPA Sanitary Survey Report identifying significant deficiencies | Do not Report | Do Not Report |
| ***Monitoring of Treatment (SWTR-Unfilt/GWR)***  **Failure to conduct or report compliance monitoring at a Subpart H unfiltered treatment plant**  CFR § 141.721(f)) | 31 | 0800 | First day of the monthly compliance period Must be on or after 4/1/2012 | Last day of monthly compliance period | **Major Indicator:** Required  **Major:**  < 90% samples collected.  **Minor:**  >=90% samples collected  Do Not Report other Indicators or Objects |
| ***Reporting and Source Monitoring LT2***  **Failure to submit source water sampling schedule, late submittal, or incomplete/deficient submittal, failure to submit Microbial Tool Box report**  CFR §141.702(a), §141.702(c), §141.703(f), §141.721(f)) | 32 | 0800 | Day after sampling plan due date | Do not Report | Do Not Report |
| ***Monitoring, Source Water (LT2*)**  **Failure to conduct source water monitoring**  Initial, second round or replacement  CFR §141.703, §141.706(a) | 32 | 0100 Turbidity,  3014-*E. coli*,  or  3015- *Cryptosporidium* | First day of month of the specified monitoring date | Last day of month of the specified monitoring date | **Major Indicator:** Required  **Major:** No samples collected.  **Minor:** Some but not all collected outside of plus or minus two days of specified date.  Do Not Report Other Indicators or Objects |
| ***Monitoring Treatment (Surface Filter)***  **Failure to conduct or report compliance monitoring at a Subpart H filtered treatment plant**  CFR § 141.721(f)) | 36 | 0800 | First day of the monthly compliance period Must be on or after 4/1/2012 | Optional - Last day of monthly compliance period | **Major Indicator:** Required  **Major:**  < 90% samples collected.  **Minor:**  >=90% samples collected  Do Not Report Other Indicators or Objects |
| ***Treatment Tech., no Prior State Approval***  **Failure to Profile before modifying treatment**  CFR §141.708 | 37 | 0800 | One day after the system failed to profile after treatment is in place for LT2 | Do Not Report | Do Not Report |
| **Other Violations** | | | | | |
| ***Record Keeping***  **Failure to maintain records**  CFR§ 141.722 | 09 | 0800 | First day water system does not maintain records | Do Not Report | Do Not Report |
| ***PN Violation for a NPDWR Violation***  **Failure to provide Public Notice, when a violation of LT2 occurs**  CFR §141.402(g) | 75 | 7500 | Must be first day after PWS fails to provide notification of violation or submit proof to State | Do not Report | **Underlying Object:** Violation ID of Original Violation Requiring PN  Do Not Report Other Indicators or Objects |

# Violation Examples

The following examples illustrate LT2 scenarios; explain whether a violation is incurred, and if so, show the violation details to be reported by the Primacy Agency to EPA.

### Example 1 – Failure to Submit Treatment Requirement Report

Bin Determination Report for Filtered Sources, Unfiltered system *Cryptosporidium* treatment requirements

CFR §141.701(e), §141.710, §141.712(a), §141.721(c)

Violation Type = 33

Contaminant Code = 0800

PWS **PA4236954** is a Subpart H system serving 12,000 people.

* Treatment Plant #1 (TP001) has reservoir source, operates year round and has filtration installed.
* Treatment Plant #2 (TP002) has a well that is characterized as ground water under the direct influence of surface water (GUDISW), operates only in the summer months and does not have filtration.
* The system submitted their sampling schedule in 12/01/2007, and commenced source water monitoring on 04/01/2008.
* Source water monitoring for TP001 consisted of monthly samples of *Cryptosporidium*, E. coli and Turbidity for 24 months (CFR §141.701(a)(1)).
* Source water monitoring for TP002 is performed twice per month during the months of operation, June-September for *Cryptosporidium*, during the same 24-month period (CFR §141.701(a)(2), §141.701(e)(2)).
* Monitoring is completed in 03/20/ 2010.
* The Bin classification report would be due to the Primacy Agency no later than 9/30/2010 as required under CFR §141.710(e).
* The unfiltered system *Cryptosporidium* Treatment Requirements Report would be due to the Primacy Agency no later than 9/30/2010 as required under CFR §141.712(a)(1).
* The system monitors as required; however, they do not submit either the Bin Classification Report or the unfiltered system *Cryptosporidium* Treatment Requirements Report to the State.
* The Primacy Agency notifies the PWS of the violation on 10/10/2010.

The system incurs a type 33 violation with a Compliance Period Begin Date of **10/01/2010** (one day after the reports were due. The Primacy Agency must report these violations (see following exhibit below) to EPA using the following violation object, data elements and values. However, since these violations would overlap by one day or more, only one violation should be submitted to per system. This is an open ended violation and thus the Compliance Period End Date is not valued as part of the violation.

| **Exhibit 3 Ex 1: Failure to Submit Treatment Requirement Report Violation Object Data Elements** | |
| --- | --- |
| PWS ID | PA4236954 |
| Facility ID | Do Not Report |
| Violation ID | 75690 |
| Violation Type Code | 33 |
| Contaminant Code | 0800 |
| Compliance Period Begin Date | 2010-10-01 |
| Compliance Period End Date | Do Not Report |
| Analysis Result | Do Not Report |
| Violation Unit of Measure | Do Not Report |
| Level Violated | Do Not Report |
| Major Violation Indicator | Do Not Report |
| Public Notice Underlying Violation ID | Do Not Report |
| Severity Indicator Count | Do Not Report |
| Underlying Object Data Type | Do Not Report |
| Underlying Object ID | Do Not Report |

### Example 2 – Failure to Maintain Microbial Treatment

Failure to maintain the level of treatment appropriate for Bin Classification

[CFR §141.711(c), (§141.715 – §141.720)]

Violation Type = 41

Contaminant Code = 0800

PWS **PA5624945** is a surface water system serving 25,000 people.

* It has one surface water source of water and one treatment plant that has conventional filtration installed.
* The results from initial source water monitoring indicated that the PWS is in Bin 3, which requires 2-log additional treatment for *Cryptosporidium* (CFR §141.711(a)).
* In addition, CFR §141.711(b)(2) requires:

“Systems classified in Bin 3 and Bin 4 must achieve at least 1-log of the additional *Cryptosporidium* treatment required under paragraph (a) of this section using either one or a combination of the following: bag filters, bank filtration, cartridge filters, chlorine dioxide, membranes, ozone, or UV, as described in CFR §141.716 through §141.720.”

* Thus, this PWS must provide 2-log of additional treatment, with 1-log of the additional treatment being achieved using a combination of the options listed in 141.711(b) (2) above. The PWS must meet the following schedule identified in CFR §141.713(c) for the installation of this additional treatment

| **Exhibit 4 Ex 2-A: *Cryptosporidium* Treatment Compliance Dates** | |
| --- | --- |
| **Systems that serve . . .** | **Must comply with *Cryptosporidium* treatment requirements no later than . . . a** |
| (1) At least 100,000 people | (i) April 1, 2012. |
| (2) From 50,000 to 99,999 people | (i) October 1, 2012. |
| **(3) From 10,000 to 49,999 people** | **(i) October 1, 2013.** |
| (4) Fewer than 10,000 people | (i) October 1, 2014. |

a States may allow up to an additional two years for complying with the treatment requirement for systems making capital improvements.

* The system installs and begins operation of the required treatment on 08/15/2013. CFR §141.721(f) requires:

“(f) Systems must report to the State in accordance with the following table for any microbial toolbox options used to comply with treatment requirements under CFR §141.711 or CFR §141.712.”

* The system reports in accordance with CFR §141.721(f).
* In the course of operation, it is found that the installed treatment is not functioning as designed due to poor operation.
* As a result, during the month of June 2016, the treatment plant does not provide the required 2-log treatment.

The system fails to meet the treatment requirements associated with the Bin classification during the month of June 2016 with a Compliance Period Begin Date of **06/01/2016** and with a Compliance Period End Date of **06/30/2016**. The Primacy Agency must report this violation (see following exhibit below) to EPA using the following violation object, data elements and values.

| **Exhibit 5 Ex 2-B: Failure to Maintain Level of Treatment Appropriate for Bin Classification Violation Object Data Elements** | |
| --- | --- |
| PWS ID | PA5624945 |
| Facility ID | Do Not Report |
| Violation ID | 39468 |
| Violation Type Code | 41 |
| Contaminant Code | 0800 |
| Compliance Period Begin Date | 2016-06-01 |
| Compliance Period End Date | 2016-06-30 |
| Analysis Result | Do Not Report |
| Violation Unit of Measure | Do Not Report |
| Level Violated | Do Not Report |
| Major Violation Indicator | Do Not Report |
| Public Notice Underlying Violation ID | Do Not Report |
| Severity Indicator Count | Do Not Report |
| Underlying Object Data Type | Do Not Report |
| Underlying Object ID | Do Not Report |

### Example 3 – Failure to Provide Treatment

Failure to install treatment appropriate for Bin Classification

CFR §141.711(a),(b), §141.713

Violation Type = 42

Contaminant code = 0800

PWS **PA5624945** is a subpart H system serving 25,000 people.

* It has one surface water source of water and one treatment plant that has conventional filtration installed.
* The results from initial source water monitoring indicated that the system is in Bin 3, which requires an additional 1-log *Cryptosporidium* treatment (CFR §141.711(a)).
* In addition, CFR §141.711(b)(2) requires:

“Systems classified in Bin 3 and Bin 4 must achieve at least 1-log of the additional *Cryptosporidium* treatment required under paragraph (a) of this section using either one or a combination of the following: bag filters, bank filtration, cartridge filters, chlorine dioxide, membranes, ozone, or UV, as described in CFR §141.716 through CFR §141.720.”

* Thus, this system must provide additional treatment to achieve an additional 1-log treatment, and must meet the following schedule identified in CFR §141.713(c)

| **Exhibit 6 Ex 3-A: *Cryptosporidium* Treatment Compliance Dates** | |
| --- | --- |
| **Systems That Serve . . .** | **Must comply with *Cryptosporidium* treatment requirements no later than . . .a** |
| (1) At least 100,000 people | (i) April 1, 2012. |
| (2) From 50,000 to 99,999 people | (i) October 1, 2012. |
| **(3) From 10,000 to 49,999 people** | **(i) October 1, 2013.** |
| (4) Fewer than 10,000 people | (i) October 1, 2014. |

a States may allow up to an additional two years for complying with the treatment requirement for systems making capital improvements.

* The system develops plans and begins construction to meet the 2-log treatment required of Bin 3 systems.
* However, the system fails to provide the additional treatment required by CFR §141.711(b)(2) by 10/01/2013.
* During an inspection by the Primacy Agency in 01/15/2014, the Primacy Agency becomes aware that the system still needs to install the additional treatment, and provides notification to the system.

The system incurs a type 42 violation with a Compliance Period Begin Date of **10/02/2013** (one day after the treatment should be in operation). The Primacy Agency must report this violation (see following exhibit below) to EPA using the following violation object, data elements and values. This is an open ended violation and thus the Compliance Period End Date is not valued as part of the violation.

| **Exhibit 7 Ex 3-B: Failure to install treatment appropriate for Bin Classification Violation Object Elements** | |
| --- | --- |
| PWS ID | PA5624945 |
| Facility ID | Do Not Report |
| Violation ID | 74923 |
| Violation Type Code | 42 |
| Contaminant Code | 0800 |
| Compliance Period Begin Date | 2013-10-02 |
| Compliance Period End Date | Do Not Report |
| Analysis Result | Do Not Report |
| Violation Unit of Measure | Do Not Report |
| Level Violated | Do Not Report |
| Major Violation Indicator | Do Not Report |
| Public Notice Underlying Violation ID | Do Not Report |
| Severity Indicator Count | Do Not Report |
| Underlying Object Data Type | Do Not Report |
| Underlying Object ID | Do Not Report |

### Example 4 – Failure to Address a Deficiency

Failure to meet schedule of corrective actions required in either EPA-approved schedule, or within the schedule of the system response

##### CFR §141.723

Violation Type = 45

Contaminant Code = 0800

PWS **012154376** is a subpart H system serving 800 people.

* It has one surface water source of water and one treatment plant that has conventional filtration installed.
* EPA schedules and performs a sanitary survey for this system on 09/01/2013.
* In the course of the survey, three significant deficiencies were found in the operation of the treatment facilities. The sanitarian provides a copy of the report on 09/14/2013. CFR §141.723(c) requires:

“(c) For sanitary surveys performed by EPA, systems must respond in writing to significant deficiencies identified in sanitary survey reports no later than 45 days after receipt of the report, indicating how and on what schedule the system will address significant deficiencies noted in the survey”

* Further, CFR §141.723(d) requires:

“(d) Systems must correct significant deficiencies identified in sanitary survey reports according to the schedule approved by EPA, or if there is no approved schedule, according to the schedule reported under paragraph (c) of this section if such deficiencies are within the control of the system.”

* The system prepares a response to the significant deficiencies found, and submits the report.
* EPA approves the following schedule and creates two corrective actions with Event Schedule Activity IDs of **648, 649** and **650**. Reporting of corrective actions is detailed in Section 5-Other Reporting.
  + Deficiency A
    - Interim Action completed by 10/01/2013
    - Final Action completed by 12/01/2013
  + Deficiency B
    - Final Action completed by 12/01/2013
  + Deficiency C
    - Final Action completed by 12/01/2013
* The system fails to complete the interim action for Deficiency A by 10/01/2013.

The system incurs a type 45 violation with a Compliance Period Begin Date of 10/02/2013 (one day after the interim action is to be completed). EPA must report this violation (see following exhibits below) to EPA HQ, using the violation object, data elements and values. This is an open ended violation and thus the Compliance Period End Date is not valued as part of the violation.

EPA creates another corrective action, #753, for the failed interim activity. The corrective action is reported as an Event Schedule Activity. Reporting of corrective actions is detailed in Section 5-Other Reporting.

To make the violations unique with SDWIS/ODS, the underlying object type and ID must be reported. For type 45 violations, the underlying is the corrective action for the deficiency which is not completed or is not completed on time. The violation underlying object type is “CORATION”-Corrective Action. The violation underlying ID is the Event Schedule Activity ID for the corrective action

| **Exhibit 8 Ex 4-A: Failure to Address a Deficiency Violation Object Data Elements** | |
| --- | --- |
| PWS ID | 012154376 |
| Facility ID | Do Not Report |
| Violation ID | 50832 |
| Violation Type Code | 45 |
| Contaminant Code | 0800 |
| Compliance Period Begin Date | 2013-10-02 |
| Compliance Period End Date | Do Not Report |
| Analysis Result | Do Not Report |
| Violation Unit of Measure | Do Not Report |
| Level Violated | Do Not Report |
| Major Violation Indicator | Do Not Report |
| Public Notice Underlying Violation ID | Do Not Report |
| Severity Indicator Count | Do Not Report |
| Underlying Object Data Type | CORACTION |
| Underlying Object ID | 753 |

* The system completed the final action for Deficiency C ahead of schedule on 11/15/2013.
* The system does not address Deficiencies A and B by completing the final actions by 12/01/2013.

The system incurs two more type 45 violations with a Compliance Period Begin Date of 12/02/2013 (one day after the deficiencies were to be addressed). EPA must report these violations (see following exhibits below) to EPA HQ, using the violation object, data elements and values. This is an open ended violation and thus the Compliance Period End Date is not valued as part of the violation. To make the violations unique with SDWIS/ODS, the underlying object type and ID must be reported. For type 45 violations, the underlying is the corrective action for the deficiency which is not completed or is not completed on time. The corrective action is reported as an Event Schedule Activity. The violation underlying object type is “CORATION”-Corrective Action. The violation underlying ID is the Event Schedule Activity ID for the corrective action. Reporting of corrective actions is detailed in Section 5-Other Reporting.

| **Exhibit 9 Ex 4-B: Failure to Address a Deficiency Violation Object Data Elements** | |
| --- | --- |
| PWS ID | 012154376 |
| Facility ID | Do Not Report |
| Violation ID | 50832 |
| Violation Type Code | 45 |
| Contaminant Code | 0800 |
| Compliance Period Begin Date | 2013-12-02 |
| Compliance Period End Date | Do Not Report |
| Analysis Result | Do Not Report |
| Violation Unit of Measure | Do Not Report |
| Level Violated | Do Not Report |
| Major Violation Indicator | Do Not Report |
| Public Notice Underlying Violation ID | Do Not Report |
| Severity Indicator Count | Do Not Report |
| Underlying Object Data Type | CORACTION |
| Underlying Object ID | 648 |

| **Exhibit 10 Ex 4-C: Failure to Address a Deficiency Violation Object Data Elements** | |
| --- | --- |
| PWS ID | 012154376 |
| Facility ID | Do Not Report |
| Violation ID | 50833 |
| Violation Type Code | 45 |
| Contaminant Code | 0800 |
| Compliance Period Begin Date | 2013-12-02 |
| Compliance Period End Date | Do Not Report |
| Analysis Result | Do Not Report |
| Violation Unit of Measure | Do Not Report |
| Level Violated | Do Not Report |
| Major Violation Indicator | Do Not Report |
| Public Notice Underlying Violation ID | Do Not Report |
| Severity Indicator Count | Do Not Report |
| Underlying Object Data Type | CORACTION |
| Underlying Object ID | 649 |

### Example 5– Treatment Technique Uncovered Reservoir

Failure to Take Action on Uncovered Finished Water Reservoir

CFR §141.714

Violation Type = 47

Contaminant Code = 0800

PWS **PA8746921** provides water to 32,000 persons

* The system is an unfiltered subpart H system.
* An uncovered water reservoir storage facility is constructed and put on-line on 10/31/1998.
* Its existence and use is discovered by the Primacy Agency during a sanitary survey conducted on 3/3/2010.
* The inspector informs the system operator that the system is in violation of CFR §141.714(b) which states:

“(b) Systems must notify the State of the use of each uncovered finished water storage facility no later than April 1, 2008.”

* The inspector further informs the operator that the system has several options to reconcile the violation including removing it from the water system operations, or, as stated in CFR §141.714(c)(1),(2), install a cover or treat the discharge:

“(c) Systems must meet the conditions of paragraph (c)(1) or (2) of this section for each uncovered finished water storage facility or be in compliance with a State-approved schedule to meet these conditions no later than April 1, 2009.

(1) Systems must cover any uncovered finished water storage facility.

(2) Systems must treat the discharge from the uncovered finished water storage facility to the distribution system to achieve inactivation and/or removal of at least 4-log virus, 3-log *Giardia lamblia,* and 2-log *Cryptosporidium* using a protocol approved by the State.”

* The system decides to remove the reservoir from the water system flow until financing can be arranged to either install a cover or treatment.

The system is out of compliance with CFR §141.714 and incurs a type 47 violation with a Compliance Period Begin Date of **04/02/2008** (the date after use of the uncovered finished water reservoir must be reported). The contaminant code must be 0800 when a system either fails to notify the Primacy Agency by 04/01/2008 or fails to cover the reservoir by 04/01/2009. If the system began construction of an uncovered reservoir after 02/16/1999 the contaminant code would be Interim Enhanced Surface Water Treatment Rule-0300. The Primacy Agency must report this violation (see following exhibit below) to EPA using the following violation object, data elements and values.

| **Exhibit 11 Ex 5: Treatment Technique Uncovered Reservoir Violation Object Data Elements** | |
| --- | --- |
| PWS ID | PA8746921 |
| Facility ID | Do Not Report |
| Violation ID | 695432 |
| Violation Type Code | 47 |
| Contaminant Code | 0800 |
| Compliance Period Begin Date | 2008-04-02 |
| Compliance Period End Date | Do Not Report |
| Analysis Result | Do Not Report |
| Violation Unit of Measure | Do Not Report |
| Level Violated | Do Not Report |
| Major Violation Indicator | Do Not Report |
| Public Notice Underlying Violation ID | Do Not Report |
| Severity Indicator Count | Do Not Report |
| Underlying Object Data Type | Do Not Report |
| Underlying Object ID | Do Not Report |

### Example 6 – Failure to Respond to a Deficiency

Failure to respond to significant deficiency determined and contained in EPA Sanitary Survey Report within 45 days of report receipt

CFR §141.723

Violation Type = 20

Contaminant Code =0800

PWS **PA1208541** is a subpart H system serving 130,000 people.

* It has one surface water source of water and one treatment plant that has conventional filtration installed.
* EPA has scheduled and performed a sanitary survey for this system on 06/12/2008.
* In the course of the survey, four significant deficiencies were found. The sanitarian provided a copy of the report before leaving for the day. CFR §141.723(c) requires:

“(c) For sanitary surveys performed by EPA, systems must respond in writing to significant deficiencies identified in sanitary survey reports no later than 45 days after receipt of the report, indicating how and on what schedule the system will address significant deficiencies noted in the survey”

* The system does not prepare a response to the significant deficiencies by **07/27/2008**

Although the system incurs four type 20 violations with a Compliance Period Begin Date of **07/28/2008** (one day after the water system is to consult with EPA), the Primacy Agency should only report these violations as a single violation, using Exhibit 11 example. This is an open ended violation and thus the Compliance Period End Date is not valued as part of the violation.

| **Exhibit 12 Ex 6: Failure to Respond to Significant Deficiency Violation Object Data Elements** | |
| --- | --- |
| PWS ID | PA1208541 |
| Facility ID | Do Not Report |
| Violation ID | 6392 |
| Violation Type Code | 20 |
| Contaminant Code | 0800 |
| Compliance Period Begin Date | 2008-07-28 |
| Compliance Period End Date | Do Not Report |
| Analysis Result | Do Not Report |
| Violation Unit of Measure | Do Not Report |
| Level Violated | Do Not Report |
| Major Violation Indicator | Do Not Report |
| Public Notice Underlying Violation ID | Do Not Report |
| Severity Indicator Count | Do Not Report |
| Underlying Object Data Type | Do Not Report |
| Underlying Object ID | Do Not Report |

### Example 7 – Monitoring of Treatment (SWTR-Unfilt/GWR)

Failure to conduct or report compliance monitoring at a Subpart H unfiltered treatment plant

CFR §141.721(f)

Violation Type = 31

Contaminant Code =0800

PWS **PA7131979** is a surface water system serving 1,500 people.

* It has one surface water source of water and one treatment plant that does not provide filtration.
* The results from initial source water monitoring indicated the PWS must provide at least 2.0-log treatment for *Cryptosporidium* (CFR §141.712(b)).
* The system installs and begins operation of the required treatment on 10/25/2014. CFR §141.721(f) requires:

“(f) Systems must report to the State in accordance with the following table for any microbial toolbox options used to comply with treatment requirements under CFR §141.711 or CFR §141.712.”

* In the treatment requirements approval, the primacy agency required the water system to monitor residual disinfection levels within the plant every 4 hours and submit a summary of the results by the 10th of the following month.
* The system does not submit the report for February 2015 in accordance with CFR §141.721(f).

Each month the system does not monitor and submit the report it will incur a type 31 violation. The monthly the Compliance Period Begin and End Dates are **02/01/2015** and **02/28/2015**. The Primacy Agency must report these violations (see following exhibit below) to EPA using the following violation object, data elements and values. . The violation requires the Primacy Agency compute whether this is a major or minor violation based on the following formula where at least one of the samples was missed/incorrect/etc.:

* Major = fewer than 90% of the samples collected
* Minor = 90 % or more, but not 100% of samples collected

The PWS did not report any samples; therefore this is a **major** Monitoring and Reporting violation and the Major Violation Indicator is set to **Yes**.

| **Exhibit 13 Ex 7: Failure To Conduct Or Report Compliance Monitoring at Unfiltered Treatment Plant Violation Object Data Elements** | |
| --- | --- |
| PWS ID | PA7131979 |
| Facility ID | Do Not Report |
| Violation ID | 7408 |
| Violation Type Code | 31 |
| Contaminant Code | 0800 |
| Compliance Period Begin Date | 2015-02-01 |
| Compliance Period End Date | 2015-02-28 |
| Analysis Result | Do Not Report |
| Violation Unit of Measure | Do Not Report |
| Level Violated | Do Not Report |
| Major Violation Indicator | Y |
| Public Notice Underlying Violation ID | Do Not Report |
| Severity Indicator Count | Do Not Report |
| Underlying Object Data Type | Do Not Report |
| Underlying Object ID | Do Not Report |

### Example 8 – Reporting and Source Monitoring LT2

Failure to submit source water sampling schedule, late submittal, or incomplete/ deficient submittal

[CFR §141.702(a)] and [CFR §141.703(f)]

Violation Type = 32

Contaminant Code = 0800

PWS **PA5976156** is a large community water system serving 250,000 people.

* The system has five treatment plants using seven sources of water.
* Treatment Plant #1 (TP001) and Treatment Plant #2 (TP002) use surface water and have filtration installed and in operation seasonally between July 1 and September 30.
* Treatment Plant #3 (TP001) uses surface water exclusively and has filtration installed and in operation.
* Treatment Plant #4 (TP004) uses surface water exclusively.
* Treatment Plant #5 (TP005) uses surface water exclusively and has filtration installed and in operation and has 5.5 log treatment for *Cryptosporidium* installed. The system does not have to monitor sources for this treatment plant because they are providing maximum treatment and can take advantage of avoidance criteria.
* In accordance with CFR §141.701(c), the system must submit their sampling schedule no later than 7/1/2006, and begin initial source water monitoring no later than 10/1/2006. The regulations require that this system sample “…their source water for *Cryptosporidium*, *E. coli*, and turbidity at least monthly for 24 months” for the sources with filtration treatment (TP001, TP002, TP003 and TP005), and only for *Cryptosporidium* for the source supplying TP004 (CFR §141.701(a)(2)) at least monthly for 24 months.
* Because TP005 has 5.5 log treatment for *Cryptosporidium* installed, in accordance with CFR §141.701(d), this treatment plant meets the monitoring avoidance criteria and the system need not perform source water monitoring at this site. Given this scenario, the following sampling schedule is appropriate:

| Exhibit 14 Ex 8-A: Source Water Monitoring Requirement to Maintain Adequate Treatment | | | | |
| --- | --- | --- | --- | --- |
| **TP** | **Frequency** | **Analyte(s)** | **Location** | **Regulatory Citations** |
| #1 | Twice/month during July, August and September of 2006 and 2007 | Crypto,  E Coli and turbidity | At a tap of blended water prior to any treatment | CFR §141.701(a)(1)  CFR §141.702(a)(1)  CFR §141.703(b)(1) |
| #2 | Twice/month during July, August and September of 2006 and 2007 | Crypto,  E Coli and turbidity | At a tap of blended water prior to any treatment | CFR §141.701(a)(1)  CFR §141.702(a)(1)  CFR §141.703(b)(1) |
| #3 | Monthly for 24 months, from October 1, 2006 – September 30, 2008 | Crypto,  E Coli and turbidity | At a tap of blended water prior to any treatment | CFR §141.701(a)(1)  CFR §141.702(a)(1)  CFR §141.703(b)(1) |
| #4 | Monthly for 24 months, from October 1, 2006 – September 30, 2008 | Crypto | Prior to chemical treatment, unless approved by State | CFR §141.701(a)(2)  CFR §141.702(a)(1)  CFR §141.703(b)(1) |
| #5 | None required | N/A | N/A | CFR §141.701(d) |

#### **Situation A.**

The system submits the sample schedule to the Primacy Agency on 8/15/2006.

CFR §141.701(c) schedule is as follows:

“(c) *Monitoring schedule.* Systems must begin the monitoring required in paragraphs (a) and (b) of this section no later than the month beginning with the date listed in this table:”

| **Exhibit 15 Ex 8-B: Source Water Monitoring Begin Dates** | | |
| --- | --- | --- |
| **Systems that serve . . .** | **Must begin the first round of source water monitoring no later than the month beginning . . .** | **And must begin the second round of source water monitoring no later than the month beginning . . .** |
| **(1) At least 100,000 people** | **(i) October 1, 2006** | **(ii) April 1, 2015.** |
| (2) From 50,000 to 99,999 people | (i) April 1, 2007 | (ii) October 1, 2015. |
| (3) From 10,000 to 49,999 people | (i) April 1, 2008 | (ii) October 1, 2016. |
| (4) Fewer than 10,000 and monitor for E. coli a | (i) October 1, 2008 | (ii) October 1, 2017. |
| (5) Fewer than 10,000 and monitor for Cryptosporidium b | (i) April 1, 2010 | (ii) April 1, 2019. |

* In addition, CFR §141.702(a)(1) requires system’s to “…submit sampling schedules no later than 3 months prior to the applicable date listed in CFR §141.701(c) for each round of required monitoring.
* Thus, this system must have submitted their sampling schedule to the Primacy Agency no later than 07/01/2006.
* The system submitted their schedule late.

The PWS incurs a type 32 violation with a Compliance Period Begin Date of **07/02/2006** (one day after the reports were due). The Primacy Agency must report this violation (see following exhibit below) to EPA using the following violation object, data elements and values. This is an open ended violation and thus the Compliance Period End Date is not valued as part of the violation.

| **Exhibit 16 Ex 8-C: Failure to Submit Source Water Sampling Schedule Violation Object Data Elements** | |
| --- | --- |
| PWS ID | PA5976156 |
| Facility ID | Do Not Report |
| Violation ID | 59843 |
| Violation Type Code | 32 |
| Contaminant Code | 0800 |
| Compliance Period Begin Date | 2006-07-02 |
| Compliance Period End Date | Do Not Report |
| Analysis Result | Do Not Report |
| Violation Unit of Measure | Do Not Report |
| Level Violated | Do Not Report |
| Major Violation Indicator | Do Not Report |
| Public Notice Underlying Violation ID | Do Not Report |
| Severity Indicator Count | Do Not Report |
| Underlying Object Data Type | Do Not Report |
| Underlying Object ID | Do Not Report |

#### **Situation B.**

* The system submits the sampling schedule on 6/20/2006.
* However, they misinterpret the regulatory requirements, thinking that they did not have to sample sources of water that were used less than six months of the year.
* Thus, their sampling schedule excluded sampling for TP001 and TP002 sources.

CFR §141.701(e), that states that

“(e) *Plants operating only part of the year.* Systems with subpart H plants that operate for only part of the year must conduct source water monitoring …”

* The Primacy Agency reviews their submittal and finds it deficient, notifying the water system on 09/10/2006.
* The system does not modify the plan to include source water sampling for TP001 and TP002 and submits the revised plan to the State.

CFR §141.702(c), that states that

“(c) Systems that fail to meet the criteria of paragraph (b) of this section for any source water sample required under § 141.701 must revise their sampling schedules to add dates for collecting all missed samples. Systems must submit the revised schedule to the State for approval prior to when the system begins collecting the missed samples.”

* Since the system submits a deficient sample schedule and when notified of the deficiency, the system does not make the proper revisions and resubmit.
* All systems submitting insufficient plans incurs a violation beginning on the day the Primacy Agency notifies them the plan is insufficient.

The PWS incurs a type 32 violation with a Compliance Period Begin Date of **09/10/2006** (the date they were notified the plan is insufficient). The Primacy Agency must report this violation (see following exhibit below) to EPA using the following violation object, data elements and values. This is an open ended violation and thus the Compliance Period End Date is not valued as part of the violation.

| **Exhibit 17 Ex 8-D: Monitoring, Source Water (LT2) Violation Object Data Elements** | |
| --- | --- |
| PWS ID | PA5976156 |
| Facility ID | Do Not Report |
| Violation ID | 59843 |
| Violation Type Code | 32 |
| Contaminant Code | 0800 |
| Compliance Period Begin Date | 2006-09-10 |
| Compliance Period End Date | Do Not Report |
| Analysis Result | Do Not Report |
| Violation Unit of Measure | Do Not Report |
| Level Violated | Do Not Report |
| Major Violation Indicator | Do Not Report |
| Public Notice Underlying Violation ID | Do Not Report |
| Severity Indicator Count | Do Not Report |
| Underlying Object Data Type | Do Not Report |
| Underlying Object ID | Do Not Report |

### Example 9 – Reporting and Source Monitoring LT2

Failure to Conduct Source Water Monitoring – Initial, Second Round or Replacement

CFR §141.702(c), §141.703, §141.706(a)

Violation Type = 32

Contaminant code = 0100-Turbidity, 3014 -*E. coli* or 3015-*Cryptosporidium*

PWS **PA8236954** is a small filtered Subpart H system serving 9,000 people

* It has two qualified operators.
* The system's sampling plan specifies collection of source water *E. coli* samples on 12/03/2008 and 12/16/2008
* While System PA8236954 is conducting its required source water monitoring for *E. coli*, the operator that usually collects the bi-weekly *E. coli* sample goes on vacation.
* The system’s other operator decides to wait until his/her colleague returns to work to continue the required source water monitoring instead of collecting the samples themselves.
* Therefore, the system does not collect samples until 12/13/2008 and 12/16/2008.

CFR §141.702(b) requires that;

“Systems must collect samples within two days before or two days after the dates indicated in their sampling schedule ( *i.e.* , within a five-day period around the schedule date) … “

The regulations provide additional sample schedule flexibility where “…extreme condition or situation exists that may pose danger to the sample collector… “ (CFR §141.702(b)(1), or where “…a system is unable to report a valid analytical result for a scheduled sampling date due to equipment failure, loss of or damage to the sample… “ (CFR §141.702(b)(1)(i). In the latter case, the regulations provide up to 21 additional days to collect replacement samples.

* Neither of these two regulations applies to this situation.

Thus, system PA8236954 incurs a monitoring and reporting violation for failing to take scheduled sample between 12/01/2008 and 12/05/2008. The system incurs a type 32 violation with contaminant code 3014-*E. coli* with a begin date of **12/1/2008** and an end date of **12/31/2008**. The Primacy Agency must report these violations (see following exhibit below) to EPA using the following violation object, data elements and values. If the system is required to monitor for *E. coli* and *Cryptosporidium*, two violations would be submitted, one for each contaminant.

| **Exhibit 18 Ex 9: Monitoring, Source Water (LT2) Violation Object Data Elements** | |
| --- | --- |
| PWS ID | PA8236954 |
| Facility ID | Do Not Report |
| Violation ID | 74098 |
| Violation Type Code | 32 |
| Contaminant Code | 3014 |
| Compliance Period Begin Date | 2008-12-01 |
| Compliance Period End Date | 2008-12-31 |
| Analysis Result | Do Not Report |
| Violation Unit of Measure | Do Not Report |
| Level Violated | Do Not Report |
| Major Violation Indicator | N |
| Public Notice Underlying Violation ID | Do Not Report |
| Severity Indicator Count | Do Not Report |
| Underlying Object Data Type | Do Not Report |
| Underlying Object ID | Do Not Report |

Further, CFR §141.702(c) requires:

“(c) Systems that fail to meet the criteria of paragraph (b) of this section for any source water sample required under CFR §141.701 must revise their sampling schedules to add dates for collecting all missed samples. Systems must submit the revised schedule to the State for approval prior to when the system begins collecting the missed samples”

Thus, the system must modify the original sample schedule to include replacement samples. Failure to modify the schedule would be an additional 32/0800 violation.

### Example 10 – Reporting and Source Monitoring LT2

Failure to Submit Microbial Toolbox Report

CFR §141.721(f)

Violation Type = 32

Contaminant Code = 0800

PWS **PA5624945** is a surface water system serving 25,000 people.

* It has one surface water source of water and one treatment plant that has conventional filtration installed.
* As described in Example 3 , the results from initial source water monitoring indicated the PWS is in Bin 3, which requires 1-log additional treatment for *Cryptosporidium* (CFR §141.711(a)).
* The system installs and begins operation of the required treatment on 08/15/2013. CFR §141.721(f) requires:

“(f) Systems must report to the State in accordance with the following table for any microbial toolbox options used to comply with treatment requirements under CFR §141.711 or CFR §141.712.”

* In the Bin treatment approval, the primacy agency required the water system to submit an Annual watershed control program status by March 15th of each year.
* The system does not submit the report by 03/15/2016 in accordance with CFR §141.721(f).

Each year the system does not submit the report it will incur a type 32 violation. This year the Compliance Period Begin Date is 03/16/2016 (the date after the report is due). The Primacy Agency must report this violation (see following exhibit below) to EPA. This is an open ended violation and thus the Compliance Period End Date is not valued as part of the violation.

| **Exhibit 19 Ex 10: Failure to Submit Microbial Toolbox Report**  **Violation Object Data Elements** | |
| --- | --- |
| PWS ID | PA5624945 |
| Facility ID | Do Not Report |
| Violation ID | 7408 |
| Violation Type Code | 32 |
| Contaminant Code | 0800 |
| Compliance Period Begin Date | 2016-03-16 |
| Compliance Period End Date | Do Not Report |
| Analysis Result | Do Not Report |
| Violation Unit of Measure | Do Not Report |
| Level Violated | Do Not Report |
| Major Violation Indicator | Do Not Report |
| Public Notice Underlying Violation ID | Do Not Report |
| Severity Indicator Count | Do Not Report |
| Underlying Object Data Type | Do Not Report |
| Underlying Object ID | Do Not Report |

### Example 11 – Failure to Monitoring of Treatment (SWTR-Filtered)

Failure to conduct or report compliance monitoring at a Subpart H filtered treatment plant CFR §141.721(f)

Violation Type = 36

Contaminant Code = 0800

PWS **PA5624945** is a surface water system serving 25,000 people.

* It has one surface water source of water and one treatment plant that has conventional filtration installed.
* As detailed in Example 3 above, the results from initial source water monitoring indicated that the PWS is in Bin 3, which requires 2-log additional treatment for *Cryptosporidium* (CFR §141.711(a)).
* The system installs and begins operation of the required treatment on 08/15/2013. CFR §141.721(f) requires:

“(f) Systems must report to the State in accordance with the following table for any microbial toolbox options used to comply with treatment requirements under CFR §141.711 or CFR §141.712.”

* In the Bin treatment approval, the primacy agency required the water system to monitor turbidity levels from the combined filter effluent every four hours and submit a summary of the results by the 10th of the following month.
* The system does not monitor over a entire weekend during January 2016 in accordance with CFR §141.721(f).

Each month the system does not monitor and submit the report it will incur a type 36 violation. This monthly Compliance Period Begin and End Dates are **01/01//2016** and **01/31/2016**. The Primacy Agency must report these violations (see following exhibit below) to EPA using the following violation object, data elements and values. . The violation requires the Primacy Agency compute whether this is a major or minor violation based on the following formula where at least one of the samples was missed/incorrect/etc.:

* Major = fewer than 90% of the samples collected
* Minor = 90 % or more, but not 100% of samples collected

The PWS missed 12 of the 186 samples (6 samples every 24 hours the plant is in operation) turbidity samples, roughly 94% of the samples were taken. This is a **minor** Monitoring and Reporting violation and the Major Violation Indicator is set to **No**.

| **Exhibit 20 Ex 11: Failure to Monitoring of Treatment (SWTR-Filtered) Violation Object Data Elements** | |
| --- | --- |
| PWS ID | PA5624945 |
| Facility ID | Do Not Report |
| Violation ID | 7408 |
| Violation Type Code | 36 |
| Contaminant Code | 0800 |
| Compliance Period Begin Date | 2016-01-01 |
| Compliance Period End Date | 2016-01-31 |
| Analysis Result | Do Not Report |
| Violation Unit of Measure | Do Not Report |
| Level Violated | Do Not Report |
| Major Violation Indicator | N |
| Public Notice Underlying Violation ID | Do Not Report |
| Severity Indicator Count | Do Not Report |
| Underlying Object Data Type | Do Not Report |
| Underlying Object ID | Do Not Report |

### Example 12 – Reporting, No State Prior Approval

Failure to Profile/Consult with State Prior to Significant Change in Disinfection Practices

CFR §141.708

Violation Type = 37

Contaminant Code = 0800

PWS **PA3456789** is a surface water system serving 240,000 people.

* The system plans to modify its disinfection process.
* Without disinfection profiling and notifying the Primacy Agency, contractors begin modification to treatment on 10/13/2010.
* Therefore; modifying their treatment, following the completion of initial source water monitoring under CFR § 141.701(a) without profiling is an LT2 violation. Modifications to the treatment without disinfection profiling and notifying the Primacy Agency prior to the dates shown in the following exhibit, would result in a violation reported with Interim Enhanced Surface Water Treatment Rule contaminant code-0300.

| **Exhibit 21 Ex 12-A: *Cryptosporidium* Treatment Compliance Dates** | |
| --- | --- |
| **Systems that serve . . .** | **Must submit *Cryptosporidium* treatment requirements no later than . . .a** |
| **(1) At least 100,000 people** | **(i) March 31, 2009.** |
| (2) From 50,000 to 99,999 people | (i) September 30, 2009. |
| (3) From 10,000 to 49,999 people | (i) September 30, 2010. |
| (4) Fewer than 10,000 people | (i) September 30, 2012. |

The system commits a type 37 violation as a result of failure complete a disinfection profile and submit the profile before making change of significant treatment process modifications. The Compliance Period Begin Date is **10/13/2010** (date changes were made to treatment processes). The Primacy Agency must report this violation (see following exhibit below) to EPA, using the violation object, data elements and values. This is an open ended violation and thus the Compliance Period End Date is not valued as part of the violation.

| **Exhibit 22 Ex 12-B: Reporting, No State Prior Approval Violation Object Data Elements** | |
| --- | --- |
| PWS ID | PA3456789 |
| Facility ID | Do Not Report |
| Violation ID | 64578 |
| Violation Type Code | 37 |
| Contaminant Code | 0800 |
| Compliance Period Begin Date | 2010-10-13 |
| Compliance Period End Date | Do Not Report |
| Analysis Result | Do Not Report |
| Violation Unit of Measure | Do Not Report |
| Level Violated | Do Not Report |
| Major Violation Indicator | Do Not Report |
| Public Notice Underlying Violation ID | Do Not Report |
| Severity Indicator Count | Do Not Report |
| Underlying Object Data Type | Do Not Report |
| Underlying Object ID | Do Not Report |

### Example 13 – Failure to Maintain Records

Failure to maintain records

CFR §141.722

Violation Type = 09

Contaminant Code =0800

PWS **PA3112013** is a subpart H system serving 40,000 people.

* It has one surface water source of water and one treatment plant that has conventional filtration installed.
* The system is required to provide 2.5 log of treatment and per the treatment requirements must maintain an entry point chlorine residual of 0.5mg/l which is monitored continuously. CFR §141.722(c) requires:

(a) Systems must keep results from the initial round of source water monitoring under § 141.701(a) and the second round of source water monitoring under § 141.701(b) until 3 years after bin classification under § 141.710 for filtered systems or determination of the mean *Cryptosporidium* level under § 141.710 for unfiltered systems for the particular round of monitoring.

(b) Systems must keep any notification to the State that they will not conduct source water monitoring due to meeting the criteria of § 141.701(d) for 3 years.

(c) Systems must keep the results of treatment monitoring associated with microbial toolbox options under §§ 141.716 through 141.720 and with uncovered finished water reservoirs under § 141.714, as applicable, for 3 years.

* The system submits summarized monthly monitoring results of the entry point RDC.
* However, the results of a sanitary survey show the system does not have records of the entry point chlorine monitoring from March 10, 2015 to June 3, 2015.

The PWS incurs a type 09 violation with a Compliance Period Begin Date of **03/10/2015** (the date record keeping failure begins). The Primacy Agency must report this violation (see following exhibit below) to EPA using the following violation object, data elements and values. This is an open ended violation and thus the Compliance Period End Date is not valued as part of the violation.

| **Exhibit 23 Ex 13: Failure to Maintain Records Violation Object Data Elements** | |
| --- | --- |
| PWS ID | PA3112013 |
| Facility ID | Do Not Report |
| Violation ID | 6392 |
| Violation Type Code | 09 |
| Contaminant Code | 0800 |
| Compliance Period Begin Date | 2015-03-10 |
| Compliance Period End Date | Do Not Report |
| Analysis Result | Do Not Report |
| Violation Unit of Measure | Do Not Report |
| Level Violated | Do Not Report |
| Major Violation Indicator | Do Not Report |
| Public Notice Underlying Violation ID | Do Not Report |
| Severity Indicator Count | Do Not Report |
| Underlying Object Data Type | Do Not Report |
| Underlying Object ID | Do Not Report |

### Example 14 – Public Notification of Violation

Failure to provide public notification for a violation

CFR §141.203

Violation Type = 75

Contaminant Code = 7500

Using the situation described in Example 1 above,

* The system, **PA4236954**, is officially notified by the Primacy Agency of its failure to consistently provide treatment requirements reports on 10/10/2010.
* The letter also notified the system that they must provide public notice to their customers within 30 days of the violation notification, 11/10/2010 and proof of the public notice to the Primacy Agency 10 days later, 11/20/2010.
* The system did not provide public notification and is notified on 12/01/2010 that since it had not provided public notification, it incurs a public notification violation.
* Further, the PWS must provide public notice as soon as possible and submit proof to the Primacy Agency.
* PWS PA4236954 provided public notification on 12/20/2011 and faxed proof to the Primacy Agency on the same day.

As with any public notification, the Primacy Agency should report the date it requested the public notification from the water system, **10/10/2010** and the date the water system provided the public notification, **12/20/2011** (Exhibit 24 Ex14-A and Exhibit 26 Ex 14-C). These enforcement actions are associated to the "original" failure to provide treatment requirements report violation #75690.

The Primacy Agency must report the public notice violation (Exhibit 25 Ex 14-B) to EPA, using the violation object, and associated data elements and values. Since the public notice is the result of a federal "original" violation, the violation type is type 75 and when it is submitted an association to the "original" violation #75690 is required. The Compliance Period Begin Date is **11/11/2010** (the day after not providing the required notification). This is an open ended violation and thus the Compliance Period End Date is not valued as part of the Violation Object.

| Exhibit 24 Ex 14-A: Enforcement Object  **Primacy Agency Request for Public Notice** | |
| --- | --- |
| PWS ID | PA4236954 |
| Enforcement ID | 74135 |
| Enforcement Date | 2010-10-10 |
| Action code | SIE |
| Enforcement Comment | Optional |
| Associated Violation ID(s) | 75690 |

| Exhibit 25 Ex 14-B: Failure to Provide Public Notice Report Violation Object Data Elements | |
| --- | --- |
| PWS ID | PA4236954 |
| Facility ID | Do Not Report |
| Violation ID | 49432 |
| Violation Type Code | 75 |
| Contaminant Code | 7500 |
| Compliance Period Begin Date | 2010-11-11 |
| Compliance Period End Date | Do Not Report |
| Analysis Result | Do Not Report |
| Violation Unit of Measure | Do Not Report |
| Level Violated | Do Not Report |
| Major Violation Indicator | Do Not Report |
| Public Notice Underlying Violation ID | 75690 |
| Severity Indicator Count | Do Not Report |
| Underlying Object Data Type | Do Not Report |
| Underlying Object ID | Do Not Report |

| Exhibit 26 Ex 14-C: Enforcement Object  **Public Notice Received** | |
| --- | --- |
| PWS ID | PA4236954 |
| Enforcement ID | 74136 |
| Enforcement Date | 2010-12-20 |
| Action code | SIF |
| Enforcement Comment | Optional |
| Associated Violation ID(s) | 75690 |

### Example 15 – Public Notification of Violation

Failure to provide public notification for a violation

CFR §141.203

Violation Type = 75

Contaminant Code = 7500

Using the situation described in Example 2 above,

* The system, **PA5624945**, is officially notified by the Primacy Agency of its failure to maintain treatment requirements reports from the state on **07/20/2016**.
* The letter also notified the system that they must provide public notice to their customers within 30 days of the violation notification, 08/20/2016 and proof of the public notice to the Primacy Agency 10 days later, 08/30/2016.
* The system did provide public notification on **08/15/2016** but did not provide proof to the primacy agency and is notified on 10/01/2016 that since it had not provided proof of public notification, it incurs a public notification violation.
* Further, the PWS must provide proof of public notice as soon as possible to the Primacy Agency.
* PWS **PA5624945** faxed the proof of public notification on 11/20/2016.

As with any public notification, the Primacy Agency should report the date it requested the public notification from the water system, **07/20/2016** and the date the water system provided the public notification, **08/15/2016** (Exhibit 27 Ex 14-A and Exhibit 29 Ex 14-C). These enforcement actions are associated to the "original" failure to maintain treatment requirements violation #39468.

The Primacy Agency must report the public notice violation (Exhibit 28 Ex 14-B) to EPA, using the violation object, and associated data elements and values. Since the public notice is the result of a federal "original" violation, the violation type is type 75 and when it is submitted an association to the "original" violation #39468 is required. The Compliance Period Begin Date is **08/21/2016** (the day after not providing the required proof of public notification). This is an open ended violation and thus the Compliance Period End Date is not valued as part of the Violation Object.

| Exhibit 27 Ex 15-A: Enforcement Object  **Primacy Agency Request for Public Notice** | |
| --- | --- |
| PWS ID | PA5624945 |
| Enforcement ID | 94136 |
| Enforcement Date | 2016-07-20 |
| Action code | SIE |
| Enforcement Comment | Optional |
| Associated Violation ID(s) | 39468. |

| Exhibit 28 Ex 15-B: Failure to Provide Public Notice Report Violation Object Data Elements | |
| --- | --- |
| PWS ID | PA5624945 |
| Facility ID | Do Not Report |
| Violation ID | 89432 |
| Violation Type Code | 75 |
| Contaminant Code | 7500 |
| Compliance Period Begin Date | 2016-08-21 |
| Compliance Period End Date | Do Not Report |
| Analysis Result | Do Not Report |
| Violation Unit of Measure | Do Not Report |
| Level Violated | Do Not Report |
| Major Violation Indicator | Do Not Report |
| Public Notice Underlying Violation ID | 39468 |
| Severity Indicator Count | Do Not Report |
| Underlying Object Data Type | Do Not Report |
| Underlying Object ID | Do Not Report |

| Exhibit 29 Ex 15-C: Enforcement Object  **Public Notice Received** | |
| --- | --- |
| PWS ID | PA5624945 |
| Enforcement ID | 94148 |
| Enforcement Date | 2010-08-15 |
| Action code | SIF |
| Enforcement Comment | Optional |
| Associated Violation ID(s) | 39468 |

# Inventory

Primacy Agencies are required to report Inventory data for all water systems.

This section identifies the following:

* Reporting requirements for Additional PWS Reporting
* Code values for Primacy Agencies to identify treatment of *Giardia lamblia* and *Cryptosporidium*
* Code values for Primacy Agencies to identify Purchased Source filtration by the seller
* Policies and general coding instructions, including examples of Primacy Agency reporting of sources of water, treatment plants, and treatments applied, and flow of water sources to treatment plants.

## Additional PWS Reporting

Additional PWS Reporting data elements were developed to provide the ability to report data about a water system. The Additional PWS Reporting data elements are listed in the following exhibit.

| **Exhibit 30: Additional PWS Reporting Data Elements** | | |
| --- | --- | --- |
| **Element Name** | **Domain** | **Length/**  **Precision** |
| Additional PWS Reporting Name | AN | 40 |
| Additional PWS Reporting Text Value | AN | 40 |
| Additional PWS Reporting Begin Date Value | YYYYMMDD | 8 |
| Additional PWS Reporting Numeric Value | N | 18/9 |
| Additional PWS Reporting End Date Value | YYYYMMDD | 8 |

The following are the permitted values for the Additional PWS Reporting Name

* State Source Water Program
* Combined Distribution System Identifier
* Stage2 DBPR Schedule Category
* Long Term 2 ESWTR Schedule Category
* Outstanding Performer

For each water system, multiple Additional PWS Reporting records may be reported if the Additional PWS Reporting Name is unique within the water system.

* + 1. State Source Water Program

Primacy Agencies are required to report the status of the State Source Water Program for each water system. If the water system has a source water program in place for all sources, the Additional PWS Reporting Text is set to ‘Y’-Yes. Otherwise the value is set to ‘N’-No.

The Additional PWS Reporting Begin Date Value must be earlier or same as the current date and is conditionally mandatory if the State Source Water Program is reported as ‘Y’.

| **Exhibit 31: State Source Water Program Data Elements for Water System Object** | | |
| --- | --- | --- |
| **Element Name** | **Optionality for Reporting Outstanding Performer** | **Permitted Values** |
| Additional PWS Reporting Name | Required | ‘State Source Water Program’ |
| Additional PWS Reporting Text Value | Required | Y-Yes  N-No |
| Additional PWS Reporting Begin Date Value | Conditional | Must be reported if Text Value =’Y’ |
| Additional PWS Reporting End Date Value | Prohibited |  |
| Additional PWS Reporting Numeric Value | Prohibited |  |

* + 1. Outstanding Performers

The Interim Enhanced Surface Water Treatment Rule (IESWTR) and Ground Water Rule (GWR) set the frequency of sanitary survey based on water system federal type. Primacy Agencies must conduct sanitary surveys at least every 3 years for community systems and every 5 years for non-community systems. If the Primacy Agency determines a community system is an Outstanding Performer, the frequency of sanitary survey may be reduced to every 5 years.

By maintaining Outstanding Performers information, EPA may better keep the public informed of their activities and role in promoting safe drinking water.

* Primacy Agencies which reduce the frequency of sanitary surveys for Outstanding Performers must report all water systems which are Outstanding Performers to EPA along with the date of the determination.
* Optionally, primacy agencies which do not reduce the frequency of sanitary surveys may report if a water system is an Outstanding Performer
* Optionally, all primacy agencies may report if a water system is not an Outstanding Performer.

The Additional PWS Reporting Begin Date Value must be earlier or same as the current date and is conditionally mandatory if the Outstanding Performer Code is reported as Y.

| **Exhibit 32: Outstanding Performers Data Elements for Water System Object** | | |
| --- | --- | --- |
| **Element Name** | **Optionality for Reporting Outstanding Performer** | **Permitted Values** |
| Additional PWS Reporting Name | Required | ‘Outstanding Performer’ |
| Additional PWS Reporting Text Value | Required | Y-Yes  N-No |
| Additional PWS Reporting Begin Date Value | Conditional | Must be reported if Text Value =’Y’ |
| Additional PWS Reporting End Date Value | Prohibited |  |
| Additional PWS Reporting Numeric Value | Prohibited |  |

* + 1. Long Term 2 ESWTR Schedule Category

The LT2 describes Schedule Categories for water systems in CFR §141.702(c) based on a water system’s type of sources, population, and membership in a combined distribution system. The schedule category establishes source water monitoring and treatment requirement due dates. Reporting of the schedule category allows EPA to determine when a water system is implementing portions of the rule.

The Additional PWS Reporting Begin Date Value, Additional PWS Reporting Begin Date Value, and Additional PWS Reporting Numeric Value must not be reported.

| **Exhibit 33: Long Term 2 ESWTR Schedule Category Data Elements for Water System Object** | | |
| --- | --- | --- |
| **Element Name** | **Optionality for Reporting LT2 Schedule Category** | **Permitted Values** |
| Additional PWS Reporting Name | Required | ‘Long Term 2 ESWTR Schedule Category’ |
| Additional PWS Reporting Text Value | Required | ‘1’,’2’,’3’,’4’,’5’ |
| Additional PWS Reporting Begin Date Value | Prohibited |  |
| Additional PWS Reporting End Date Value | Prohibited |  |
| Additional PWS Reporting Numeric Value | Prohibited |  |

## Treatment Processes

The Surface Water Treatment suite of rules sets monitoring requirements based on the absence or presence of treatment processes, specifically chemical disinfectant and type of filtration. Explicitly reporting presence of treatment processes to EPA is necessary for PWSS program oversight. Currently, no single treatment process or combination of processes may be used to infer the provided level of treatment for *Giardia lamblia* or *Cryptosporidium*.

Report this information using a treatment process for water systems directly applying the treatment; and a seller source treatment code for water systems purchasing water treated with filtration.

* + 1. Treatment Objective/Processes Applied at PWS

Treatment process codes are available for mandatory reporting of treatment of microbials for Subpart H water systems applying treatment of *Giardia lamblia* and/or *Cryptosporidium*. These codes must be paired with the Disinfectant treatment objective:

Treatment Objective: D

Treatment Process: 361-372

| Exhibit 34: Required Treatment Process Code | | |
| --- | --- | --- |
| Rule | Treatment Process | | |
| Code | Description | |
| GWR | 361 | 4-log virus treatment | |
| SWTR | 362 | 3-log removal and/or inactivation of *Giardia lamblia* cysts | |
| 363 | 4-log removal and/or inactivation of viruses | |
| IESWTR and LT1 | 364 | 2-log removal of *Cryptosporidium* | |
| LT2 | 365 | 1-log treatment of *Cryptosporidium* | |
| 366 | 1.5-log treatment of *Cryptosporidium* | |
| 367 | 2-log treatment of *Cryptosporidium* | |
| 368 | 2.5-log treatment of *Cryptosporidium* | |
| 369 | 3-log treatment of *Cryptosporidium* | |
| 370 | 4-log removal and inactivation of *Cryptosporidium* | |
| 371 | 5.0-log removal and inactivation of *Cryptosporidium* | |
| 372 | 5.5-log removal and inactivation of *Cryptosporidium* | |

* + 1. Treatment Applied by Seller for a Purchased Water Source

Primacy Agencies must report certain treatments provided by the seller as the seller source treatment code for all purchased sources (consecutive connections and non-purchased). Seller Source Treatment Code “F” (Treated by seller including filtration for SWT) denotes treatment of ground water sources to provide 4-log treatment of viruses.

| Exhibit 35: Required Seller Source Treatment Code in WSF Source Object | | |
| --- | --- | --- |
| **Code** | **Description** | **Water Type** |
| F | Treated by seller including SWT filtration | SW or GU |

The following decision process is suggested for identifying the proper value to enter in this data element (Seller Source Treatment Code in the Water System Facility Source object):

* No treatment provided by seller (regardless of water type)--Not Treated by Seller; value = ‘N’
* If source is surface water or ground water under the direct influence of surface water,
  + Treated by seller including surface water treatment regulation required filtration, value = ‘F’
  + Treated by seller not including filtration, value = 'Y'
* If source is ground water,
  + Treated by seller including 4-log treatment of viruses, value = ‘G’
  + Treated by seller not including 4-log treatment of viruses, value = 'Y'
    1. Generic Reporting for Sources, Treatment Plants, Flows, Treatments

Primacy Agencies are required to identify and report all sources of drinking water (those controlled by the PWS as well as those purchased by the PWS) to EPA, using the Water System Facility Source object. In addition, Primacy Agencies must report all treatments applied to the sources of water by the PWS with the use of a Water System Facility Treatment Plant object. Several data elements are required to be reported to characterize treatments applied to purchased water sources by the seller prior to any additional treatments that may be implemented by the purchasing water system. Further, linkages between Water System Facility Source objects and Water System Facility Treatment Plant objects must be made using the Facility Flow object. Finally, the treatments implemented/applied by the PWS at the treatment plants must be encoded using the Treatment Data object. The narrative below reiterates EPA’s policy for reporting sources of water and their treatments, including those sources of water purchased from other Public Water Systems (known as Purchased Sources). The next three exhibits identify the data elements to be reported for Sources of Water (purchased or not), treatment plants, facility flows between sources and treatment plants, and treatments, respectively.

The following rules apply to source, treatment plant and treatment reporting:

1. All treatment detail records must be reported to SDWIS/FED associated with treatment plant records, regardless of whether the treatment is occurring at a large treatment plant or is a small building in which disinfectant is added.
2. Primacy Agencies may only report treatment data for treatment plant type water system facilities.
3. Primacy Agencies must provide information to allow SDWIS/FED to link the source records to the treatment plant records as water system facility flows.
4. For consecutive connections, EPA is aware of the complex relationships that may exist between water systems and their treatment(s). For the purchasing water system, EPA requires reporting whether the seller is partially treating the source as outlined above, filtering a surface water source, providing 4-log treatment of viruses for a ground water source, or not providing any treatment. Any buyer treatment must be reported as outlined above. Treatment provide by Sellers must be reported with the Sellers treatment plant inventory.
5. Explicit reporting of “no treatment” for a source is required in the Source Treated Code element to explicitly confirm the source is not treated.

For additional information regarding the reporting of Water System, Water System Facility Source, Water System Facility Treatment Plant, Facility Flow and Treatment Data objects, refer to the most current SDWIS/FedRep Requirements document.

| **Exhibit 36: Water System Object Element Optionality** | |
| --- | --- |
| **Element Name** | **Optionality** |
| PWS ID | Required |
| PWS Type | Required |
| PWS Name | Required |
| Activity Flag | Required |
| Deactivation Date | Conditional |
| Wholesale of Water | Optional |
| Retail Population Served | Required |
| Retail Service Connections | Required |
| Non-Community Season Begin (Month And Day) | Conditional |
| Non-Community Season End (Month And Day) | Conditional |
| Owner Type | Required |
| Source Water Protection Code | Optional |
| Source Water Protection Date | Conditional |
| Outstanding Performer Code | Optional |
| Outstanding Performer Date | Conditional |

| Exhibit 37: Source WSF Object Element Optionality | |
| --- | --- |
| **Element Name** | **Optionality** |
| PWS ID | Required |
| Facility ID | Required |
| Activity Flag | Required |
| Deactivation Date Facility | Conditional |
| Facility Name | Required |
| State Database Facility ID | Optional |
| Facility Type Code | Required |
| Facility Water Type Code | Required |
| Availability | Required |
| Seller PWS ID | Conditional |
| Seller Source Treatment Code | Conditional |
| Source Treated Code | Conditional |
| Reported Filtration Status Code | Conditional |

| Exhibit 38: SDWIS/FED Water Sources and Codes | | |
| --- | --- | --- |
| **Facility Type Code** | **Description** | **Permissible Facility Water Type Codes** |
| IN | Intake | Surface Water |
| WL | Well | Ground Water (GW), GWUDI (GU) |
| RC | Roof Catchment | Ground Water (GW) |
| SP | Spring | Surface (SW), Ground (GW), GWUDI (GU) |
| IG | Infiltration Gallery | Surface (SW), GWUDI (GU) |
| RS | Reservoir | Surface (SW) |
| NP | Non-piped | Surface (SW), Ground (GW), GWUDI (GU) |
| CC | Consecutive Connection | Surface (SW), Ground (GW), GWUDI (GU) |

Specific reporting requirements exist for purchased sources of water. These are identified in the Water System Facility Source object with a Facility Type Code element value of either “CC” or “NP”. The following Water System Facility Source object elements must be valued:

| Exhibit 39: Purchased Source Seller Source Treatment Code Permitted Values | | |
| --- | --- | --- |
| **Element** | **Description** | **Permissible Code Values** |
| Seller Source Treatment Code | Indicates whether the seller is or is not treating the source or whether the seller treatment status is unknown. | Not treated 🡪 ‘N’  SWTR Filtration 🡪 ‘F’ (for SW and GUI sources)  4-log treatment of viruses 🡪 ‘G’ for GW sources  Partial treatment 🡪 ‘Y’ |

Primacy Agencies must report all treatment applied to sources of drinking water. If a source of water is not treated, Primacy Agencies must affirm that as well. Treatment is reported via a Treatment Plant facility record. Finally, the Primacy Agency must report a linkage between the source of water facility and treatment plant facility.

To meet the SDWIS/FED reporting requirement for linking Water System Facility Source objects and Water System Facility Treatment Plant objects, use the Facility Flow object which

* Requires
  + PWS ID,
  + Facility ID From element to identify the Water System Facility Source object that is being treated at the treatment plant, and
  + Facility ID To element to identify the Water System Facility Treatment Plant object the source(s) flow to, and
* Prohibits linkage between a facility (source, treatment plant, etc.) and itself; and
* Prohibits duplicate links between a specific source and treatment plant combination.

In summary, the Primacy Agency must report all sources of water, all treatment, assign the treatment to a treatment plant record, and link the source records to the treatment plant records. With regard to SWTR reporting, it must also inform EPA of decisions made on unfiltered surface water sources and ground water under the influence of surface water on ground water sources.

* + 1. WSF Source, WSF Treatment Plant, Treatment Data, Facility Flows

The exhibits in this section provide general examples for reporting for a large, active, locally-owned, community water system, PA1234567, with the following WSF sources, WSF treatment plants, treatment data and facility flows:

* Population of 100,000 and 25,000 service connections
* Five permanent sources of water (sources 1-5) which all have a State Source Water Program in effect since 06/03/1992, including
  + One purchased from another water system (Source 2-CC02),
  + One emergency source (Source 6-WL06), and
* Treatment Plant 1 (TP1) provides numerous treatments including, conventional filtration which includes 3- log removal of *Giardia lamblia* cysts and 4-log inactivation of viruses prescribed by SWTR and 1.5 log treatment of *Cryptosporidium* prescribed by LT2, and treats Sources 1-3
* Treatment Plant 2 (TP2) has an innovative treatment and provides 4-log of virus treatment required for the GWR and treats Sources 4 and 5
* Source 6, an emergency source, is not treated.
* PA1234567 is determined to be an outstanding performer on 05/23/2012 and is on Schedule Category 1 for LT2.

| **Exhibit 40: Water System Object Elements** | | |
| --- | --- | --- |
| **Element Name** | | **Data Value** |
| PWS ID | | PA1234567 |
| PWS Type | | C |
| PWS Name | | Anytown, USA |
| Activity Flag | | A |
| Deactivation Date | | Do Not Report |
| Wholesale of water | |  |
| Retail Population Served | | 100000 |
| Retail Service Connections | | 25000 |
| Non-Community Season Begin (Month And Day) | | Do Not Report |
| Non-Community Season End (Month And Day) | | Do Not Report |
| Owner Type | | L |
|  | Additional PWS Reporting Name | State Source Water Program |
|  | Additional PWS Reporting Text Value | Y |
|  | Additional PWS Reporting Begin Date Value | 1992-06-03 |
|  |  |  |
|  | Additional PWS Reporting Name | Outstanding Performer |
|  | Additional PWS Reporting Text Value | Y |
|  | Additional PWS Reporting Begin Date Value | 2012-05-23 |
|  |  |  |
|  | Additional PWS Reporting Name | Long Term 2 ESWTR Schedule Category |
|  | Additional PWS Reporting Text Value | 1 |

| Exhibit 41: Source Facilities | | | | | | |
| --- | --- | --- | --- | --- | --- | --- |
| **Element Name** | **Source 1** | **Source 2** | **Source 3** | **Source 4** | **Source 5** | **Source 6** |
| PWS ID | PA1234567 | PA1234567 | PA1234567 | PA1234567 | PA1234567 | PA1234567 |
| Facility ID | IN01 | CC02 | WL03 | WL04 | WL05 | WL06 |
| Activity Flag | A | A | A | A | A | A |
| Deactivation Date Facility |  |  |  |  |  |  |
| Facility Name | Source1 | Source 2 | Source 3 | Source 4 | Source 5 | Source 6 |
| State Database Facility ID |  |  |  |  |  |  |
| Facility Type Code | IN | CC | WL | WL | WL | WL |
| Facility Water Type Code | SW | SW | GU | GW | GW | GW |
| Availability | P | P | P | P | P | E |
| Seller PWS ID |  | PA7654321 |  |  |  |  |
| Seller Source Treatment Code |  | N |  |  |  |  |
| Source Treated Code |  |  |  |  |  | N |
| Reported Filtration Status Code |  |  |  |  |  |  |

| Exhibit 42: Treatment Plant Facilities | | |
| --- | --- | --- |
| **Element Name** | **Treatment Plant1** | **Treatment Plant 2** |
| PWS ID | PA1234567 | PA1234567 |
| Facility ID | TP1 | TP2 |
| Activity Flag | A | A |
| Deactivation Date Facility |  |  |
| Facility Name | Treatment Plant 1 | Treatment Plant 2 |
| State Database Facility ID |  |  |
| Facility Type Code | TP | TP |
| Facility Water Type Code | Do Not Report | Do Not Report |
| Availability | Do Not Report | Do Not Report |
| Seller PWS ID | Do Not Report | Do Not Report |
| Seller Source Treatment Code | Do Not Report | Do Not Report |
| Source Treated Code | Do Not Report | Do Not Report |
| Reported Filtration Status Code | Do Not Report | Do Not Report |

| Exhibit 43: Treatment Data\* | | | | | | |
| --- | --- | --- | --- | --- | --- | --- |
| **Element** | **Treatment Plant 1** | | | | **Treatment Plant 2** | |
| PWS ID | PA1234567 | PA1234567 | PA1234567 | PA1234567 | PA1234567 | PA1234567 |
| Facility ID | TP1 | TP1 | TP1 | TP1 | TP2 | TP2 |
| Treatment ID | TT1 | TT2 | TT3 | TT4 | TT5 | TT6 |
| Treatment Objective | D | D | D | D | D | D |
| Treatment Process | 344 | 362 | 363 | 366 | 999 | 361 |
| Treatment Comments |  |  |  |  | Innovative Treatment Name |  |
| \* Several other treatments may be applied at either of these plants. This example focuses on those required for recent rules and an innovative treatment. | | | | | | |

| Exhibit 44: Facility Flows | | | |
| --- | --- | --- | --- |
|  | **PWS ID** | **Facility ID Flow From** | **Facility ID Flow To** |
| Source 1 | PA1234567 | IN01 | TP1 |
| Source 2 | PA1234567 | CC02 | TP1 |
| Source 3 | PA1234567 | WL03 | TP1 |
| Source 4 | PA1234567 | WL04 | TP2 |
| Source 5 | PA1234567 | WL05 | TP2 |

# Other Actions

In addition to the Violation object reporting in Section 2, IESWTR and LT2 Actions domain reporting includes Sanitary Surveys reported using the Site Visit object and Corrective Actions reported using the Event Schedule Activity object.

## Sanitary Survey

Primacy agencies are required to conduct sanitary surveys at all Subpart H water systems, and the survey must include an evaluation of eight categories. Sanitary surveys are reported using the Site Visit object which is part of the Actions Subject Area. Optionally, primacy agencies may report other types of site visits, including sanitary survey follow-ups.

A finished sanitary survey is one where all eight applicable categories are evaluated for the entire water system. For reporting purposes, a finished sanitary survey (code SNSV) means the date a sanitary survey visit is conducted in which all eight sanitary survey components are evaluated for the entire water system according to the requirements of 40 CFR 141.401(c).

A partial sanitary survey is one where all eight applicable categories are not evaluated for the entire water system. A partial sanitary survey (code SNSP) means not all eight sanitary survey components were evaluated for the entire water system. When a sanitary survey is conducted in multiple visits, (that is, not over consecutive days), the primacy agency must report each visit using the SNSP code and the last visit as finished using the SNSV code.

All finished and partial sanitary surveys conducted for ground water systems must be reported and include the evaluation for each of the eight required categories. This could include a category being reported as either X- Not Evaluated or Z – Not Applicable. When a sanitary survey (partial or finished) is conducted over multiple consecutive days, the primacy agency may report this as a single visit, using the last date of the visit.

The following exhibits list the Site Visit object elements, permitted values for Visit Reason, Visit Agency Type and all the Category Evaluations. Additional data details are provided in SDWIS/FedRep Requirements documentation.

| Exhibit 45: Site Visit Object Elements | |
| --- | --- |
| **Element Name** | **Optionality** |
| PWS ID | Required |
| Visit ID | Required |
| Visit Date | Required |
| Visit Reason | Required |
| Visit Agency Type | Required |
| Category Evaluation Management and Operations | Conditionally Mandatory \* |
| Category Evaluation Source | Conditionally Mandatory \* |
| Category Evaluation Pumps | Conditionally Mandatory \* |
| Category Evaluation Operator Compliance | Conditionally Mandatory \* |
| Category Evaluation Monitoring and Reporting Data Verification | Conditionally Mandatory \* |
| Category Evaluation Treatment | Conditionally Mandatory \* |
| Category Evaluation Finished Water Storage | Conditionally Mandatory \* |
| Category Evaluation Distribution | Conditionally Mandatory \* |
| Category Evaluation Security | Optional |
| Category Evaluation Other | Optional |
| Category Evaluation Financial | Optional |
| Site Visit Comment | Optional |
| \* Conditionally Mandatory where Visit Reason Code for Sanitary Survey is ‘SNSV’, ‘SSVF’, or ‘SNSP’ and Visit Date is after 11/30/2009 | |

| Exhibit 46: Site Visit Object  Visit Type Permitted Values | | | |
| --- | --- | --- | --- |
| **Code** | | **Description** | |
| CAPD | Capacity Development Assessment | |
| CMPA | Compliance Assistance | |
| CNST | Construction Inspection | |
| CPEV | Comprehensive Performance Evaluation (CPE) | |
| EMRG | Emergency Assistance | |
| ENGR | Engineering Determination/Advice/Plan Review | |
| FENF | Formal Enforcement | |
| FUFE | Follow-up to Formal Enforcement | |
| IENF | Informal Enforcement | |
| INFI | Informal System Inspection | |
| INVG | Investigation (Complaint/Violation/etc.) | |
| LABC | Laboratory Certification | |
| LABI | Laboratory Inspection | |
| LOCD | Locational Data Collection | |
| NEED | Needs Survey | |
| OM | Operation and Maintenance | |
| OTHR | Other | |
| PRMT | Permit (Qualification/Review/Compliance) | |
| PUBH | Public Hearing | |
| RCDR | Record Review | |
| RSCH | Regularly Scheduled | |
| SHAZ | Sanitary Hazards Investigation | |
| SITE | Site Inspection | |
| SMPL | Sample Collection | |
| SNSV | Sanitary Survey, Finished | |
| SNSP | Sanitary Survey, Partial | |
| SRCE | Source Water Inspection | |
| SRF | State Revolving Fund | |
| SSVF | Sanitary Survey Follow-up | |
| TECH | Technical Assistance (Non-Specific) | |
| TRNG | Training | |
| TRTP | Water Treatment Plant Site Visit | |
| VAEX | Variance/Exemption related | |
| WHPP | Wellhead Protection Program | |
| WSHD | Watershed Evaluation | |
| XCON | Cross Connection Inspection/Investigation | |

| Exhibit 47: Visit Agency Type Permitted Values | |
| --- | --- |
| **Code** | **Description** |
| AR | Alaskan Remote Village |
| AT | Authority |
| BR | Borough |
| CM | Commission |
| CN | County |
| CT | City |
| DS | District |
| FD | Federal |
| MN | Municipality |
| NA | Native American Tribe |
| PR | Parish |
| RG | Region |
| SA | State Administrative District |
| SD | School District |
| SR | State Administrative Region |
| ST | State |
| TW | Town |
| WD | Water District |

| Exhibit 48: Category Evaluation Permitted Values | |
| --- | --- |
| **Code** | **Description** |
| M | Minor deficiencies |
| N | No deficiencies or recommendations |
| R | Recommendations made |
| S | Significant deficiencies |
| X | Not Evaluated |
| Z | Not Applicable |

* + 1. Sanitary Survey Examples

The following examples illustrate Subpart H sanitary survey scenarios and show the Site Visit details to be reported by the Primacy Agency to EPA.

Example 1 – Purchase Water System without Treatment or Finished Water Storage

Golden Age MHP, **PA9876543**, is a community system serving 500 people. Golden Age MHP purchases surface water from PA1234567 and does not provide additional treatment nor does it have finished water storage. A sanitary survey is conducted on **01/22/2010** by personnel from the county health department. A significant deficiency in the pumps and a recommendation to exercise the distribution system valves were discussed with the owner during the survey. There were no other negative findings.

This sanitary survey is reported as finished using code SNSV. All eight categories must be reported; two are reported as Z-Not Applicable (see following exhibit below).

| Exhibit 49 Ex 1: Purchase Water System without Treatment or Finished Water Storage Site Visit Object Elements | |
| --- | --- |
| **Element Name** | **Data Value** |
| PWS ID | PA9876543 |
| Visit ID | 3585 |
| Visit Date | 2010-01-22 |
| Visit Reason | SNSV |
| Visit Agency Type | CN |
| Category Evaluation Management and Operations | N |
| Category Evaluation Source | N |
| Category Evaluation Pumps | S |
| Category Evaluation Operator Compliance | N |
| Category Evaluation Monitoring and Reporting Data Verification | N |
| Category Evaluation Treatment | Z |
| Category Evaluation Security | N |
| Category Evaluation Other | Z |
| Category Evaluation Finished Water Storage | Z |
| Category Evaluation Distribution | R |
| Category Evaluation Financial | N |
| Site Visit Comment | Optional |

**Example 2 – Large Surface Water System with Two Partial Sanitary Surveys not on Consecutive Days**

Nice Town, **PA6479339**, is a community system serving 230,000 people. Nice Town has two intakes, five wells which are treated at four treatment plants.

* A sanitary survey conducted on **02/07/2010** by personnel from one of the state's administrative regions included review of the wells, pumps and finished water storage.
* A significant deficiency with two of the wells and a recommendation to exercise back-up pumps were recorded with the operator.
* A **second visit** conducted on **08/19/2011** by personnel from one of the state's administrative regions included evaluation of the remaining categories.
* During the second visit the operator is informed of a minor deficiency at the treatment plant.

These two partial sanitary surveys must be reported separately using code SNSP. All eight categories must be reported; one is reported as Z-Not Applicable, those not evaluated are reported as X-Not Evaluated. All eight required categories must be reported as evaluated (M- Minor deficiencies N- No deficiencies or recommendations, R- Recommendations made, or S-Significant deficiencies) in one or the other of the visits (see following exhibits below).

| Exhibit 50 Ex 2-A: Visit Object Elements for Large Ground Water System with Ten Wells Reported as First of Two Visits | |
| --- | --- |
| **Element Name** | **Data Value** |
| PWS ID | PA6479339 |
| Visit ID | 8543 |
| Visit Date | 2010-02-07 |
| Visit Reason | SNSP |
| Visit Agency Type | SR |
| Category Evaluation Management and Operations | X |
| Category Evaluation Source | S |
| Category Evaluation Pumps | R |
| Category Evaluation Operator Compliance | X |
| Category Evaluation Monitoring and Reporting Data Verification | X |
| Category Evaluation Treatment | X |
| Category Evaluation Finished Water Storage | N |
| Category Evaluation Distribution | X |
| Category Evaluation Security | X |
| Category Evaluation Other | Z |
| Category Evaluation Financial | X |
| Site Visit Comment | Optional |

| Exhibit 51 Ex 2-B: Site Visit Object Elements for Large Ground Water System with Ten Wells Reported as Second of Two Visits | |
| --- | --- |
| **Element Name** | **Data Value** |
| PWS ID | PA6479339 |
| Visit ID | 8543 |
| Visit Date | 2011-08-19 |
| Visit Reason | SNSP |
| Visit Agency Type | SR |
| Category Evaluation Management and Operations | N |
| Category Evaluation Source | X |
| Category Evaluation Pumps | X |
| Category Evaluation Operator Compliance | N |
| Category Evaluation Monitoring and Reporting Data Verification | N |
| Category Evaluation Treatment | M |
| Category Evaluation Finished Water Storage | X |
| Category Evaluation Distribution | N |
| Category Evaluation Security | N |
| Category Evaluation Other | Z |
| Category Evaluation Financial | N |
| Site Visit Comment | Optional |

## Corrective Actions

Water systems with significant deficiencies or fecal indicator positive sources must complete corrective actions as defined in CFR §142.16, §141.403, §141.723. Corrective actions will be reported to SDWIS/FED using Event Schedule Activity object. A corrective action may have multiple interim schedule dates; however, only the final date for each significant deficiency or fecal indicator positive source water sample event must be reported unless the water system incurs a violation for an interim step. When the water system incurs a violation for an interim step, the interim corrective action must be reported as an Event Schedule Activity.

The following exhibits list the Event Schedule Activity object elements, new permitted values for Activity Type Code and Reason Code. Additional data details are provided in SDWIS/FedRep Requirements documentation.

| Exhibit 52: Event Schedule Activity Object Elements | | |
| --- | --- | --- |
| **Element Name** | **Optionality for GWR Events** | **Element Description** |
| PWS ID | Required | Public Water System Identifier |
| Event Activity ID | Required | Uniquely identifies the event schedule activity within the water system |
| Activity Type Code | Required | Describes the activity associated with the corrective action |
| Activity Actual/Due Date | Required | Required calendar date by which corrective action must be successfully completed |
| Activity End/Achieved Date | Conditional | Calendar date on which corrective action was successfully completed |
| Reason Code | Conditional | Code value that represents reason this corrective action is required |
| Activity Comment | Optional |  |

| Exhibit 53: Activity Type Code Permitted Values for GWR | |
| --- | --- |
| **Code** | **Description** |
| SDFF | Significant Deficiency Corrective Action |
| SDFI | Significant Deficiency Interim Step |
| FICF | Fecal Indicator Contamination |
| FICI | Fecal Indicator Contamination Interim Step |

| Exhibit 54: Reason Code Permitted Values for GWR and Optional Surface Water Corrective Actions | |
| --- | --- |
| **Code** | **Description** |
| GW | Ground Water |
| SH | Subpart H |

The Reason Code for all GW or GWP systems is GW. If corrective actions are reported for Subpart H systems the reason code must be SH.

* + 1. Event Schedule Activity Examples

The following examples illustrate corrective action scenarios and show the Event Schedule Activity details to be reported by the Primacy Agency to EPA. These refer to Example 4 in Section 3-Violations.

Significant Deficiency Corrective Actions

PWS 012154376 is a community system using surface water serving 800 people.

* During a sanitary survey on 09/01/2013, the EPA identifies two significant deficiencies.
* The system is notified of the deficiencies on 09/14/2013 in a letter from the EPA. The letter does not indicate a specific corrective action that the system is required to take.
* As required, the system contacts the EPA within 45 days of receiving written notice of the significant deficiency and the system and the EPA develop a plan for implementing corrective action.
* The EPA approves the following schedule
  + Deficiency A
    - Interim Action completed by 10/01/2013
    - Final Action completed by 12/01/2013
  + Deficiency B
    - Final Action completed by 12/01/2013
  + Deficiency C
    - Final Action completed by 12/01/2013
* The final corrective actions of the approved schedule must be reported (see following exhibit below) with the next quarterly actions report without an Activity End/Achieved Date. The EPA includes a description of the deficiencies in the optional comment field.

| Exhibit 55 Ex 1-A: Significant Deficiency A Final Corrective Actions Event Schedule Activity Object Elements Initially Reported | |
| --- | --- |
| **Element Name** | **Data Value** |
| PWS ID | 012154376 |
| Event Activity ID | 648 |
| Activity Type Code | SDFF |
| Activity Actual/Due Date | 2013-12-01 |
| Activity End/Achieved Date | Do Not Report |
| Reason Code | SH |
| Activity Comment | ”Deficiency A TP01 Chlorinator Feed” |

| Exhibit 56 Ex 1-B: Significant Deficiency B Final Corrective Actions Event Schedule Activity Object Elements Initially Reported | |
| --- | --- |
| **Element Name** | **Data Value** |
| PWS ID | 012154376 |
| Event Activity ID | 649 |
| Activity Type Code | SDFF |
| Activity Actual/Due Date | 2013-12-01 |
| Activity End/Achieved Date | Do Not Report |
| Reason Code | SH |
| Activity Comment | ”Deficiency B Distribution Low Pressure” |

| Exhibit 57 Ex 1-C: Significant Deficiency C Final Corrective Actions Event Schedule Activity Object Elements Initially Reported | |
| --- | --- |
| **Element Name** | **Data Value** |
| PWS ID | 012154376 |
| Event Activity ID | 650 |
| Activity Type Code | SDFF |
| Activity Actual/Due Date | 2013-12-01 |
| Activity End/Achieved Date | Do Not Report |
| Reason Code | SH |
| Activity Comment | ”Deficiency C-Pump Missing Auxiliary Power” |

* The interim step for Deficiency A is not completed on 12/01/2013.
* When the interim corrective action step is not completed on time, it must be reported (see following exhibit below) with the next quarterly actions report without an Activity End/Achieved Date. A type 45 violation is reported with the Underlying Object ID equal to the corrective action’s Event Activity ID.

| Exhibit 58 Ex 1-D: Significant Deficiency A Interim Corrective Actions Event Schedule Activity Object Elements Initially Reported | |
| --- | --- |
| **Element Name** | **Data Value** |
| PWS ID | 012154376 |
| Event Activity ID | 753 |
| Activity Type Code | SDFI |
| Activity Actual/Due Date | 2013-10-01 |
| Activity End/Achieved Date | Do Not Report |
| Reason Code | SH |
| Activity Comment | ”Deficiency A TP01 Chlorinator Feed” |

* The water system completes the final step for Deficiency C on 11/15/2013.
* The completed interim corrective action step must be reported with an Activity End/Achieved Date (see following exhibit below) with the next quarterly actions report with the same Event Activity ID previously reported for the interim corrective action.

| Exhibit 59 Ex 1-E: Significant Deficiency C Completed Final Corrective Actions Event Schedule Activity Object Elements Reported | |
| --- | --- |
| **Element Name** | **Data Value** |
| PWS ID | 012154376 |
| Event Activity ID | 650 |
| Activity Type Code | SDFF |
| Activity Actual/Due Date | 2013-12-01 |
| Activity End/Achieved Date | 2013-11-15 |
| Reason Code | SH |
| Activity Comment | ”Deficiency C-Pump Missing Auxiliary Power” |

* The interim step is completed on 02/25/2014.
* The completed interim corrective action step must be reported with an Activity End/Achieved Date (see following exhibit below) with the next quarterly actions report with the same Event Activity ID previously reported for the interim corrective action.

| Exhibit 60 Ex 1-F: Significant Deficiency A Completed Interim Corrective Actions Event Schedule Activity Object Elements Reported | |
| --- | --- |
| **Element Name** | **Data Value** |
| PWS ID | 012154376 |
| Event Activity ID | 753 |
| Activity Type Code | SDFI |
| Activity Actual/Due Date | 2013-10-01 |
| Activity End/Achieved Date | 2014-02-25 |
| Reason Code | SH |
| Activity Comment | ”Deficiency A TP01 Chlorinator Feed” |

* The water system does not complete the final steps for Deficiencies A and B by 12/01/2013. Two type 45 violations, one for each deficiency, must be reported with the Underlying Object ID equal to the corrective action’s Event Activity ID. However, no additional corrective action reporting is required at this time.
* Final step for Deficiency A is completed on 08/23/2014.
* Final step for Deficiency B is completed on 09/17/2014.
* The final completed corrective actions must be reported with the next quarterly actions report; each corrective action is updated with an Activity End/Achieved Date (see following exhibits) with the same Event Activity ID previously reported.

| Exhibit 61 Ex 1-G: Significant Deficiency A Completed Final Corrective Actions Event Schedule Activity Object Elements Reported | |
| --- | --- |
| **Element Name** | **Data Value** |
| PWS ID | 012154376 |
| Event Activity ID | 648 |
| Activity Type Code | SDFF |
| Activity Actual/Due Date | 2013-12-01 |
| Activity End/Achieved Date | 2014-08-23 |
| Reason Code | SH |
| Activity Comment | ”Deficiency A TP01 Chlorinator Feed” |

| Exhibit 62 Ex 1-H: Significant Deficiency B Completed Final Corrective Actions Event Schedule Activity Object Elements Reported | |
| --- | --- |
| **Element Name** | **Data Value** |
| PWS ID | 012154376 |
| Event Activity ID | 649 |
| Activity Type Code | SDFF |
| Activity Actual/Due Date | 2013-12-01 |
| Activity End/Achieved Date | 2014-09-17 |
| Reason Code | SH |
| Activity Comment | ”Deficiency B Distribution Low Pressure” |