Lead and Copper Rule (LCR)
Logic Flowchart
Baseline Version
Tabs A - N
June 23, 2015
(File name: LCR Flowchart Baseline Tabs A-N)
Note that letter R was not used for Tabs in this Flowchart

Tab A – LCR Applicability and Sample Schedules

Tab A:
Initiate LCR requirements.
This flow determines compliance with the lead and copper rule which establishes a treatment technique that includes requirements for corrosion control treatment, source water treatment, lead service line replacement, and public education. These requirements are triggered, in some cases, by lead and copper action levels measured in samples collected at consumers' taps.
141.80
141.80(b)
Box 1

Required only for CWSs and NTNCWSs.
141.80(a)(1)
Box 2

Is PWS on reduced tap monitoring schedule (e.g., annual, triennial, full or partial waiver)?
141.86(d)(4)
141.86(g)(4)
Box 5

Is this a small PWS (i.e., a PWS serving ≤ 3,300 persons)?
141.86(g)
Box 6

Go to Box 17.
Box 15

Does the primacy agency offer lead and copper tap monitoring waivers for small PWSs?
141.86(g)
Box 7

Does PWS have a full or partial waiver for lead and/or copper?
141.86(g)
Box 8

Go to Tab K Waiver Maint
Box 10

PWS is not eligible for a waiver.
Box 16

Is this a new PWS or has PWS never previously completed two, consecutive, six-month rounds of initial LCR tap monitoring?
142.16(k)
Box 17

Go to Tab C New Systems to determine compliance with initial monitoring.
Box 18

Does PWS have any upcoming long-term change in treatment or an addition of new source?(See Box 19a for definitions of changes in long-term treatment.)
141.81(b)(3)(iii)
141.86(d)(4)(vii)
141.86(g)(4)
Box 20

Go to Box 6.
Box 21

Examples of long-term treatment changes include:

- Addition of a new treatment process or modification of an existing treatment process.
- Examples of modifications include:
  - ✓ Switching secondary disinfectants,
  - ✓ Switching coagulants (e.g., alum to ferric chloride), and
  - ✓ Switching corrosion inhibitor products (e.g., orthophosphate to blended phosphate).
- Long-term changes can include dose changes to existing chemicals if the PWS is planning long-term changes to its finished water pH or residual inhibitor concentration.
- Long-term treatment changes would not include chemical dose fluctuations associated with daily raw water quality changes.
  141.90(a)(3)

Box 19a

Did PWS recently implement any upcoming long-term change in treatment or addition of a new source ? (See Box 19a for definitions of changes in long-term treatment.)
141.81(b)(3)(iii)
141.86(d)(4)(vii)
141.86(g)(4)
Box 13

Go to Box 6.
Box 14

Was PWS required to comply with LSLR requirements this compliance period?
141.84
Box 22

Go to Tab N LSLR
Box 23

Go to Box 31
Box 24

Lead and Copper Tap Monitoring Requirements

Number and Location of Sample Sites
- All tap samples must be collected from representative sites as described in the approved sampling plan (See Tab F Sampling Plan).
- The minimum number of tap samples to collect is based on population served and whether PWS is on Standard or Reduced monitoring schedule. See Tab C 141.86(c) for requirements.

Initial monitoring
- PWS must collect two consecutive rounds of 6-month tap samples. Samples should be collected in the six-month period of January to June and July to December. 141.86(d)
- PWS is required to collect the standard number of tap samples.

Reduced monitoring (annual)
- PWS that serves ≤ 50,000 may reduce sampling to annual if results from initial monitoring do not exceed action levels. 141.86(d)(4)(i)
- If approved by the primacy agency, PWS may also reduce monitoring to annual if results from initial monitoring meet the lead action level and PWS maintains the range of values for water quality parameters specified by the primacy agency. 141.86(d)(4)(ii)
- PWS may collect a reduced number of samples based on population served (see Eval Result for Sample Validity Tab). 141.86(c) and 141.86(d)(4)(iii)
- Samples must be collected during June, July, August, or September (referred to as "summer months"), or an alternate four-month period defined by the primacy agency (per 141.86(d)(4)(iv)(A)).
- PWS is required to collect the reduced number of tap samples.

Triennial monitoring (one sample every three years)
- After three consecutive years of monitoring where PWS meets action levels, or where PWS meets lead action level and the primacy agency-specified range of water quality parameters if PWS has installed CCT, primacy agency may permit PWS to monitor for lead and copper once every three years. Approval must be in writing.
- Samples must be collected no later than every third calendar year. 141.86(d)(4)(iii)
- Samples must be collected during the summer months, or an alternate four-month period defined by the primacy agency (per 141.86(d)(4)(iv)(A)).
- PWS is required to collect the reduced number of tap samples.

Accelerated reduced monitoring
- If lead levels are ≤ 0.005 mg/L, and copper levels are ≤ 0.65 mg/L for two consecutive 6-month periods, PWS may reduce to triennial monitoring. 141.86(d)(4)(v)
- PWS must comply with requirements for triennial monitoring identified above.

Waiver
- Small systems may apply for a full or partial waiver. Waiver reduces sampling to once every 9 years. See Tab L 9-Year Waiver for waiver requirements. 141.86(g)
-Assume that PWSs with pre-existing waivers prior to April 11, 2000 are subject to the same criteria as the PWSs issued waivers after that date, because they were required to demonstrate they met the eligibility requirements by September 30, 2000. They are treated equally on this flow.

PWS Deemed Optimized for Corrosion Control Treatment
- Once PWs has been deemed optimized for CCT, it must continue lead and copper tap sampling on the following schedule:
- For "b3 systems" that are optimized under 141.81(b)(1), triennial tap sampling is required.
- For all other PWSs deemed optimized, tap sampling will be conducted on the same schedule as other PWSs, see criteria above.

Follow-up Monitoring
- After installation of OCCT, PWS must collect two consecutive rounds of 6-month tap samples within 36 months after the primacy agency designates corrosion control treatment. Samples should be collected in the six-month period of January to June or July to December. 141.86(d)(1) for large PWSs and 141.86(d)(2)(ii) for small and medium PWSs.
- PWS is required to collect the standard number of tap samples.

Lead Service Line Replacement
- After two rounds of monitoring where results are below the lead AL, PWS may discontinue LSR. 141.84(f)

Box 26

At a time specified by the primacy agency, or if no specific time is designated, then as early as possible prior to the addition of a new source or any long-term change in water treatment, did PWS that is: 1) deemed to have optimized corrosion control, 2) subject to reduced monitoring, and/or 3) subject to a monitoring waiver, submit written documentation to primacy agency describing the change or addition?
141.90(a)(3)
Box 27

Does PWS have a full or partial waiver?
141.86(g)(4)
Box 28

TT 58 (Ccode 5000) for failure by PWS with a full or partial monitoring waiver under 141.86(g) to notify the primacy agency and get primacy agency approval of an upcoming long-term change in treatment or addition of a new source before implementing the change.

1. PWS must provide Tier 3 public notice.

RTC:
2. PWS must notify the primacy agency of the long-term change in treatment, and/or the addition of a new source, and the primacy agency must approve the change or new source.
3. Enter return to compliance date as the date of primacy agency approval.
4. Once steps 2-3 are completed, PWS has RTC.
141.86(g)(4)(iii) & 141.90(a)(3)
Box 29

PN Violation Code 75
Go to PN Rule Flowchart for RTC
30

Did PWS provide Tier 2 Public Notice?
141.203
Box 34

Go to PN Rule Flowchart
38

Go to Box 6.
Box 35

Was PWS required to comply with PE requirements this compliance period?
141.85
Box 31

Is PWS a CWS?
Box 32

Go to Tab O: PE for CWSs
Box 33

Go to Tab P: PE for NTNCWSs
Box 36

Go to Box 39
Box 37

The State must review and approve the addition of a new source or long-term change in treatment before it is implemented by the water system. Examples of long-term treatment changes are included in Box 19a.
141.90(a)(3)
Box 43

Monitoring Violation 52 (Ccode 5000) for Failure by a system that is deemed optimized under to notify the primacy agency of an upcoming long-term change in treatment or addition of a new source.

1. PWS must provide Tier 3 public notice.

RTC:
2. PWS must report the long-term change in treatment or an addition of a new source and the primacy agency approves the change or addition.
3. Enter return to compliance date as the date of receipt of consumer notice, certification, or correction.
4. Once steps 2-3 are completed, PWS has RTC.
[141.81(b)(3)(iii) & 141.90(a)(3)]
Box 44

Did the PWS provide a Tier 3 Public Notice?
141.204
Box 45

Go to PN Rule Flowchart
46

PN Violation Code 75
Go to PN Rule Flowchart for RTC
52

Go to Box 6
Box 53

Has primacy agency designated OWQPs?
141.81(d)(6)
141.81(e)(5)
Box 39

Does PWS serve >50,000?
141.81(a)(1)
Box 40

Was PWS required to meet OCCT requirements this compliance period?
141.81(e)
Box 41

Go to Tab S OCCT
Box 42

Has PWS been considered deemed?
141.81(b)
Box 47

Was PWS deemed a b1 and has population increased above 50,000 since they were deemed?
141.81(b)(1)
Box 48

Go to Box 75
Box 49

Go to Tab S OCCT
Box 54

Did primacy agency review and approve the addition of new source or long-term change in treatment?
141.81(b)(3)(iii)
141.86(d)(4)(vii)
141.86(g)(4)(iii)
Box 50

PWS may not implement change in long-term treatment or add new source until primacy agency has approved it. Go to Box 6.
Box 51

Primacy agency may add additional requirements to satisfy that the change in treatment or source will not adversely affect the water quality or compliance. The requirements may include:

1) For deemed PWSs: conduct additional monitoring; or require other actions it deems appropriate to ensure that PWS maintains minimal levels of corrosion in the distribution system;
2) For PWSs on reduced monitoring: require PWS to resume six-month monitoring at standard number of sites; or take other appropriate steps, such as increased WQP monitoring or reevaluation of OCCT, given the potentially different water quality considerations; or
3) For PWSs with full or partial waiver: to add or modify waiver conditions (e.g., require recertification that the PWS is free of lead-containing and/or copper-containing materials, require additional round(s) of monitoring), if it deems such modifications are necessary to address treatment or source water changes at the PWS.

141.81(b)(3)(iii)
141.86(d)(4)(vii)
141.86(g)(4)(iii)
Box 55

Was the PWS required to meet OWQP sampling requirements this compliance period?
141.81(e)
Box 57

Go to Tab T WQP ≤ 50K
Box 59

Go to Box 75
Box 60

PWS was not required by the primacy agency to meet OWQPs after installation of OCCT.
Box 61

Did primacy agency have any additional requirements (additional monitoring, or other action deemed appropriate to ensure that systems maintain minimal levels of corrosion in the distribution system)?
141.81(b)(3)(iii)
141.86(d)(4)(vii)
141.86(g)(4)(iii)
Box 63

Go to Box 6.
Box 64

Is the PWS deemed?
141.81(b)
Box 65

Go to Box 75
Box 66

Is the PWS meeting primacy agency-determined requirements appropriate to ensure OCCT is maintained?
141.81(b)
Box 70

TT Violation Code 59
Box 71

Go to Box 75
Box 72

Did PWS comply with primacy agency-established requirements?
141.81(b)(3)(iii)
141.86(d)(4)(vii)
141.86(g)(4)(iii)
Box 67

If primacy agency requires monitoring, the result would have to be evaluated on Tabs D and E.
Box 68

Go to Box 6.
Box 69

Go to Box 29.
Box 74

Is PWS on 6-month monitoring schedule?
141.81(d)(1)
141.86(d)(1)(ii)(B)
Box 75

Go to Tab G 6-Month M/R
141.86(d)(3)
Box 76

Is PWS on annual monitoring schedule?
141.86(d)(4)(i)
141.86(d)(4)(iii)
Box 77

Go to Tab H Annual M/R.
141.86(d)(4)(ii)
Box 78

Is PWS on accelerated reduced monitoring?
141.86(d)(4)(v)
Box 79

Go to Tab I Triennial M/R.
141.86(d)(4)(v)
Box 80

PWS is on a triennial monitoring Schedule.
141.86(d)(4)(i)
141.86(d)(4)(ii)
Box 81

Go to Tab I Triennial M/R.
141.86(d)(4)(iii)
Box 82

Clarification of references to time periods:

"Subsequent" or "Next" compliance period or monitoring period occurs after you have gone through all required steps in the flow and reached a final step where it's indicated that PWS is "Done with LCR requirements".
"This" or "Current" compliance period is the period we are evaluating in these flowcharts.
"Previous" compliance period refers to a historical period, before the period that is currently being evaluated.

Box 11

Considerations for consecutive systems:
When a public water system supplies water to one or more other public water systems, the primacy agency may modify the monitoring requirements imposed by this part to the extent that the interconnection of the systems justifies treating them as a single system for monitoring purposes. Any modified monitoring shall be conducted pursuant to a schedule specified by the primacy agency and concurred in by the Administrator of the U.S. Environmental Protection Agency. 141.29
- Primacy agency submits written description to EPA Regional Office of how the monitoring, treatment, and reporting requirements will be administered and enforced in consecutive systems that consolidate their operations for lead and copper.
- Agreement would note which PWS is responsible for each aspect of monitoring, including which PWS should be held accountable for rule violations. For example, the parent PWS (seller) may collect all tap samples and include samples from the consecutive systems distribution system. Another common example involves 90th percentile values: they may be calculated separately for each system, or conversely, the terms of the agreement may set up one sampling plan and plan for calculation of one 90th percentile value using both parent and consecutive distribution system tap samples.
- The consecutive PWSs may also have signed contracts/agreements with one another.

For this flow:
- The 1991 LCR preamble indicates that EPA expects the parent PWS to handle corrosion control treatment throughout the distribution system, so the purchaser may not be responsible for OCCT steps.
- Also see the January 10, 1992 EPA memo "Consecutive Systems Regulated under the National Primary Drinking Water Regulations for Lead and Copper."
- Because the terms of each agreement may vary, consecutive systems are not addressed further in this flow. We assume each PWS is responsible for all aspects of the regulation and will be assigned violations independently.

141.29
Box 4

Factors Weighed in Determining Lead and Copper Tap Monitoring Schedule

Special corrosivity monitoring and lead ban
- CWSs must identify construction materials in the distribution system, and report to the primacy agency: lead from piping, solder, caulking, interior lining of distribution mains, alloys and home plumbing; copper from piping and alloys, service lines and home plumbing, ferrous piping materials such as cast iron and steel. 141.42(d)
- Use of lead pipes, solder, or flux is prohibited after June 19, 1986. 141.43

Prior to initial monitoring
- PWSs must complete **a materials evaluation** of the distribution system by the time monitoring begins to identify the sampling sites. All samples must be first draw samples, and samples may not be collected from point-of-use or point-of-entry treatment devices that remove inorganic contaminants (unless there are no other sites that meet the Tier levels described below, and the sample sites are representative of the distribution system) . 141.86(a)(1) and (a)(2) and 141.86(5).
- PWSs must collect tap samples sites from appropriate locations in the distribution system according to Tier level (requirements are specified in the Eval result for Sample Validity Tab). 141.86(a)(3) through (a)(8).
- All tap samples must be first draw samples. 141.86(b)(1).

Definition of PWS sizes for purpose of the LCR:
Large PWS: serving > 50,000 persons
Medium PWS: serving more than 3,300 and ≤ 50,000 persons
Small PWS: serving ≤ 3,300 persons

Box 19

Tab B – LCR Tap Monitoring Requirements

§ 141.86 Monitoring requirements for lead and copper in tap water.

§ 141.86(c)

System size (number of people served)	Number of sites (standard monitoring)	Number of sites (reduced monitoring)
>100,000	100	50
10,001 to 100,000	60	30
3,301 to 10,000	40	20
501 to 3,300	20	10
101 to 500	10	5
?100	5	5

Definitions:
- Standard monitoring is the term used to describe a six-month monitoring period, including initial monitoring and follow-up monitoring (which is required after installation of optimal corrosion control treatment).
- Reduced monitoring is the reduced monitoring schedule permitted after the primacy agency evaluates results from the initial and follow-up sampling rounds and approves a reduced schedule.

Tab AD – Recordkeeping

Did PWS retain on its premises original records of all PE materials for no fewer than 12 years?
141.91
1

PWS is in compliance with recordkeeping requirements
2

Other Code 09 (Ccode 5000) for a PWS that fails to retain on its premises original records of all sampling data and analyses, reports, surveys, letters, evaluations, schedules, primacy agency determinations, and any other information for no fewer than 12 years.

1. No PN required for reporting violation.

RTC for 09:
2.RTC is achieved once the system provides the documented materials to the primacy agency.
3. Enter return to compliance code with the date of when the PWS returned to compliance.
4. Once steps 2-3 are complete, PWS has RTC.

3

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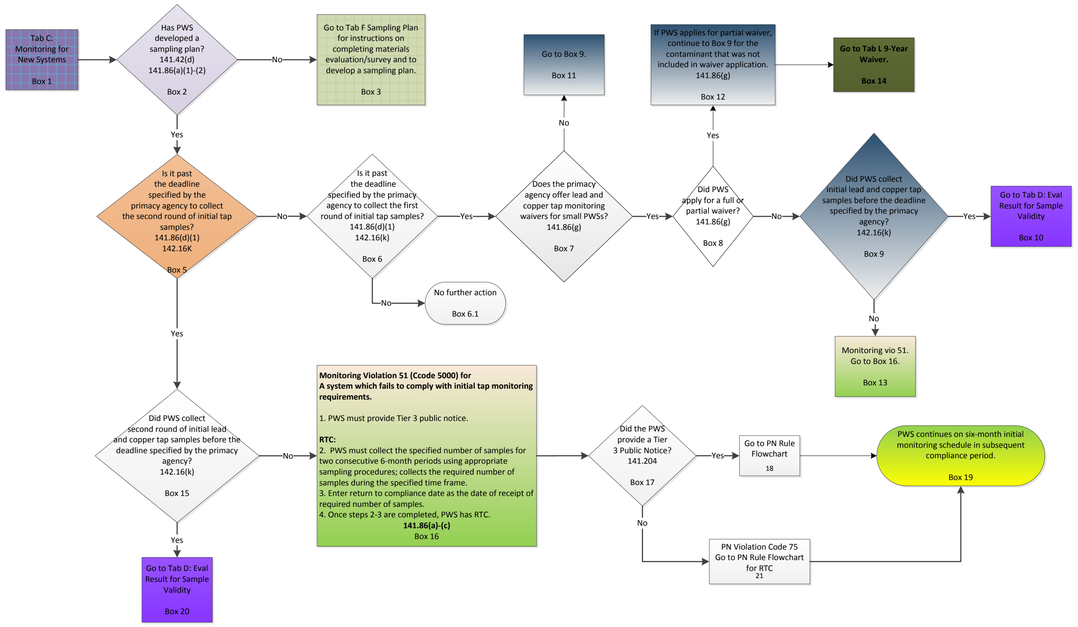
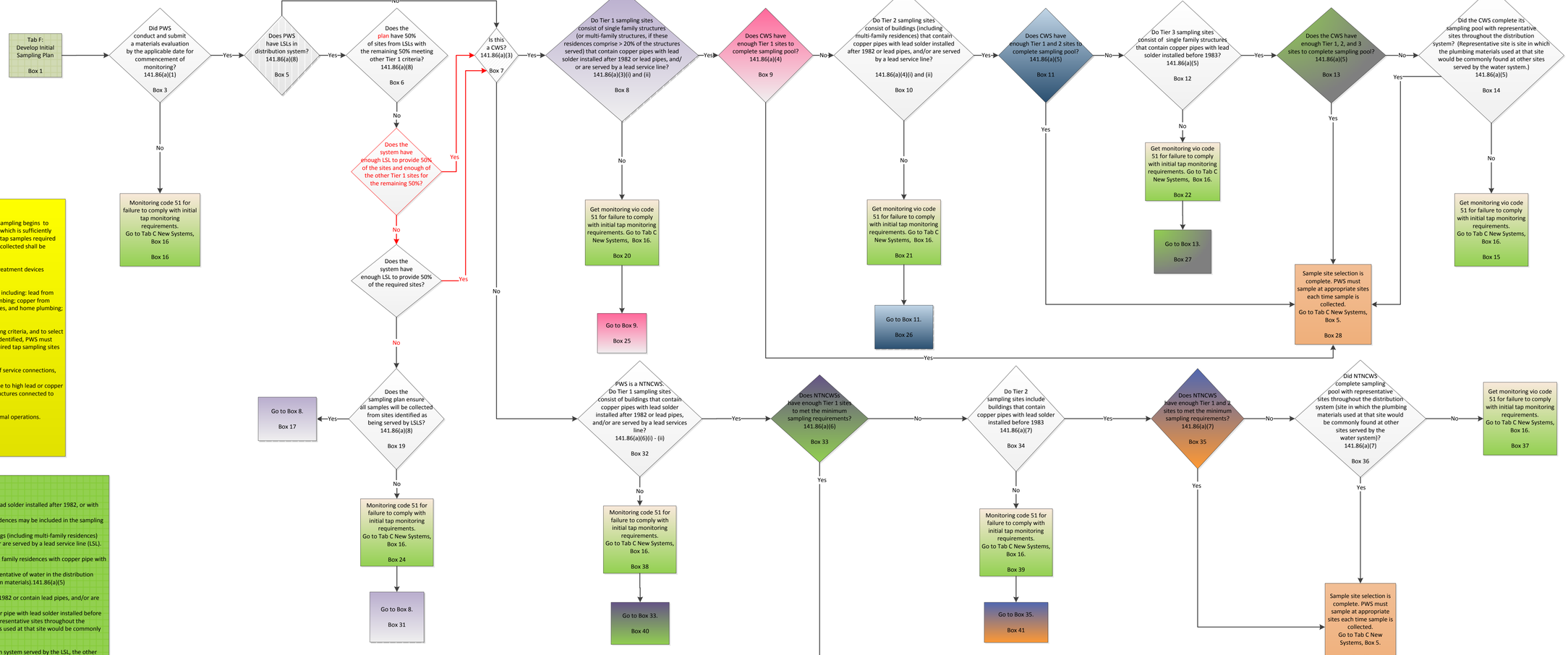
Tab C – Monitoring for New Systems



Tab F – Develop Initial LCR Tap Sampling Plan



Materials Evaluation and Survey

PWS is required to conduct and submit a materials evaluation by the time initial sampling begins to identify a pool of targeted sampling sites that meets the sample site criteria, and which is sufficiently large to ensure that the water system can collect the number of lead and copper tap samples required for standard and reduced monitoring. All sites from which first draw samples are collected shall be selected from this pool of targeted sampling sites.

Sampling sites may not include faucets that have point-of-use or point-of-entry treatment devices designed to remove inorganic contaminants.

PWS must identify whether construction materials are in the distribution system, including: lead from piping, solder, caulking, interior lining of distribution mains, alloys and home plumbing; copper from piping and alloys, service lines, and home plumbing; galvanized piping, service lines, and home plumbing; ferrous piping materials (like cast iron and steel).

PWS is required to use the information identified above to meet sample site Tiering criteria, and to select the required number of tap samples. If an insufficient number of sample sites is identified, PWS must also review additional information sources to identify the correct number of required tap sampling sites such as:
-plumbing codes, permits, and building records to identify plumbing materials
-distribution system inspections and records that identify material composition of service connections, and
-all existing water quality information, indicating locations that may be susceptible to high lead or copper concentrations, including results of all prior analyses of the PWS or individual structures connected to the PWS.

PWS shall seek to collect such information where possible in the course of its normal operations.
141.42(d)
141.86(a)(1)-(2)

Box 2

Sample site Selection: Samples must be selected to meet the following criteria:

For CWSs:
1. Must select Tier 1 sites from a single family structure with copper pipes with lead solder installed after 1982, or with lead pipes, and/or are served by a lead service line (LSL). 141.86(a)(3)(i) and (ii)
2. If > 20% of structures served by CWS are multiple family residences, these residences may be included in the sampling pool. 141.86(a)(3)(ii)
3. If there aren't enough Tier 1 sites, CWS may select Tier 2 sites including buildings (including multi-family residences) with copper pipes with lead solder installed after 1982, or with lead pipes, and/or are served by a lead service line (LSL). 141.86(4)
4. If there aren't enough Tier 2 sites, CWS may select Tier 3 sites, including single family residences with copper pipe with lead solder installed before 1983. 141.86(a)(5)
5. If there aren't enough Tier 1, 2, or 3 sites, CWS may select sites that are representative of water in the distribution system (where plumbing materials represent commonly found distribution system materials).141.86(a)(5)

For NTNCWSs:
1. Tier 1 sites include buildings with copper pipes with lead solder installed after 1982 or contain lead pipes, and/or are served by a LSL. 141.86(a)(6)(i) and (ii)
2. If there aren't enough Tier 1 sites, NTNCWSs may select Tier 2 sites with copper pipe with lead solder installed before 1983. 141.86(a)(7)3. If there aren't sufficient Tier 2 sites, NTNCWs may select representative sites throughout the distribution system. A representative site is a site in which the plumbing materials used at that site would be commonly found at other sites served by the water system. 141.86(a)7)

For CWSs and NTNCWSs:
1. For PWSs with LSLs, 50% of tap samples must be collected from the distribution system served by the LSL, the other 50% must be collected from sites with lead pipes or copper pipes with lead solder. If an insufficient number of sample sites is identified from the LSL, PWS must collect first draw samples from all sites identified as being served by LSLs. 141.86(a)(8)

Box 4

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Tab D – Eval Sample for Validity

Tab D:
Evaluate to determine if tap samples are valid compliance samples

Box 1

Were all tap samples collected first draw samples?
141.86(b)(1)
141.86(b)(2)

Box 4

Yes

Were all tap samples collected 1 liter in volume and had
water stood motionless in the plumbing system for at least six hours?
141.86(b)(2)

Box 5

Yes

Were all samples collected from a cold water kitchen or bathroom tap for residential buildings, or from an interior tap where water is normally used for consumption for non-residential buildings?
141.86(b)(2)

Box 6

Yes

Did PWS collect samples from the same sample site locations as the previous round of samples?
141.86(b)(4)

Box 7

Yes

MINIMUM NUMBER OF LEAD AND COPPER TAP SAMPLES FOR PWSs (141.86(c))

System Size	Minimum Number of Initial/Routine Tap Samples	Minimum Number of Tap Samples Reduced Monitoring
> 100,000	100	50
10,001 - 100,000	60	30
3,301 - 10,000	40	20
501 - 3,300	20	10
101 – 500	10	5
≤ 100	5	5

BOX 8

Does PWS have lead service lines (LSLs)?
141.86(a)(3)(ii)
141.86(a)(4)(ii)
141.86(b)(3)

Box 9

Yes

PWS must:
1. Collect 50% of samples from LSLs.
2. Collect 50% of samples from sites that contain lead pipes, or copper pipes and lead solder.
3. If not enough samples can be collected from sites served by a lead line, PWS shall collect first-draw samples from all sites served by such lines.
141.86(a)(8)

Box 28

Were samples collected from sites in the distribution system in the proportions described in Box 28?
141.86(a)(8)

Box 43

No

Monitoring Vio per 141.86(a)-(c). Go to Box 10.

Box 44

Yes

Were LSL samples collected using sample collection methods described in Box 60?
141.86(b)(i)-(iii)

Box 61

Yes

Go to Box 10.

Box 62

No

Monitoring Vio per 141.86(a)-(c). Go to Box 10.

Box 67

No

Did PWS collect enough tap samples based on its population served from its pool of targeted sampling sites?
141.86(a)
141.86(c)

Box 10

Yes

Go to Box 11

10a

No

Does the PWS have fewer than five sample taps that can be used for human consumption?
141.86(c)

Box 29

No

Monitoring Vio per 141.86(a)-(c). Go to Box 11.

Box 30

Yes

Did PWS submit request to primacy agency to sample fewer than five taps, including all taps that can be used for human consumption, or did primacy agency verify conditions onsite?
141.86(c)

Box 45

No

Yes

Did primacy agency approve—in writing—a reduction from the minimum number of tap samples?
141.86(c)

Box 56

No

Did PWS collect one sample from each available tap, and then collect the remainder of its samples from those taps on different days during the monitoring period?
141.86(c)

Box 57

Yes

Go to Box 11.

Box 58

No

Monitoring Vio per 141.86(a)-(c) . Go to Box 11.

Box 63

Yes

Did primacy agency specify the sampling locations for tap samples?
141.86(c)

Box 68

No

Did PWS collect the required number of samples?
141.86(c)

Box 69

Yes

Go to Box 11

Box 70

No

Monitoring Vio per 141.86(a)-(c) . Go to Box 11.

Box 76

Yes

Did PWS collect samples from the correct sites as specified by the primacy agency?
141.86(c)

Box 75

No

Go to Box 12.

Box 80

Yes

Is PWS a NTNCWS, or a CWS meeting description in Box 3, point 9, without enough first-draw sample sites?
141.86(b)(2)

Box 22

No

Monitoring Vio per 141.86(a)-(c). Go to Box 5.

Box 23

Yes

Did PWS ask primacy agency in writing to substitute non-first draw samples for the first-draw requirement?
141.86(b)(5)
141.90(a)(2)(i)

Box 37

Yes

Did primacy agency approve request in writing, or waive pre-approval through regulation or written notification to the PWS?
141.86(b)(5)

Box 38

No

Monitoring Vio per 141.86(a)-(c). Go to Box 5.

Box 50

Yes

Did PWS collect tap samples from as many first-draw sites as possible, and then collect the remainder of tap samples from the approved non-first draw sites, identified as sampling times and locations that would likely result in the longest standing time for the remaining sites?
141.86(b)(5)

Box 39

Yes

Go to Box 5

Box 40

No

Monitoring Vio per 141.86(a)-(c). Go to Box 5.

Box 51

No

Monitoring Vio per 141.86(a)-(c). Go to Box 5.

Box 49

No

Monitoring Vio per 141.86(a)-(c). Go to Box 6.

Box 24

No

Monitoring Vio per 141.86(a)-(c). Go to Box 7.

Box 25

No

Did PWS collect tap samples from another sample site identified in the sampling pool (see Sampling Plan Tab) which meets the same tiering criteria, and is near the original sampling point?
141.86(b)(4)

Box 26

Yes

Did PWS provide an explanation for the change in sampling sites to the primacy agency within 10 days of the end of the monitoring period?
141.90(a)(1)(v)

Box 27

No

Assign Reporting Violation in Box 35. Go to Box 8.

Box 42

No

Monitoring Vio per 141.86(a)-(c). Go to Box 8.

Box 41

Tap Sample Collection Methods

1. Lead and copper tap samples must be first-draw samples from where water has stood motionless for at least six hours in the plumbing system. 141.86(b)(1) through 141.86(b)(3)
2. Samples from lead service lines must have stood motionless in the LSL for at least six hours. 141.86(b)(3)
3. Samples must be one liter in volume and collected and analyzed according to the approved EPA method. 141.86(b)(2) and 141.86(b)(3)
4. First-draw samples from residential housing must be collected from the cold water kitchen tap or bathroom sink tap. 141.86(b)(1) and 141.86(b)(2)
5. First-draw from a non-residential building and non-first draw samples (as permitted under 141.86(b)(5), described in points 8 and 9, below) shall be collected at interior tap from which water is typically drawn for consumption. 141.86(b)(2)
6. First-draw samples may be collected by PWS or by residents after instructing the residents of correct sampling procedures. 141.86(b)(2)
7. Samples must be collected from same sampling site as in the previous round of samples. If samples cannot be collected from the same sites, PWS may collect tap sample from another sampling site in its sampling pool (see Sampling Plan tab for identification of the sampling pool) as long as the new site meets the same targeting criteria, and is within reasonable proximity of the original site. Note that PWSs may collect samples from another Tier level, or representative sites as long as these sites are representative of sites throughout the distribution system if they do not have enough sample sites at the appropriate tier as allowed in 141.86(a)(5). 141.86(b)(4)
8. CWSs that meet the criteria outlined in point 9, below, and NTNCWSs without enough first-draw sample sites may ask primacy agency in writing to collect non-first draw samples; collecting as many first-draw samples as possible, and identifying sample times and locations resulting in the longest standing water time for remaining sites. Primacy agency may waive requirement for pre-approval via regulation or through written notice to PWS. 141.86(b)(5)
9. Description of CWS that may apply to collect non-first draw samples: Must be 1) a facility, such as a prison or a hospital, where the population served is not capable of or is prevented from making improvements to plumbing or installing point of use treatment devices; and 2) provide water as part of the cost of services provided and not separately charge for water consumption. 141.85(b)(7)
10. If PWS allows residents to sample, PWS may not challenge, based on alleged errors in sample collection, the accuracy of sampling results.

Box 3

Methods to collect LSL samples.

LSL samples should be collected in one of the following three ways:
(i) At the tap after flushing the volume of water between the tap and the lead service line. The volume of water shall be calculated based on the interior diameter and length of the pipe between the tap and the lead service line;
141.86(b)(3)(i)

(ii) Tapping directly into the lead service line; 141.86(b)(3)(ii), or

(iii) If the sampling site is a building constructed as a single-family residence, allowing the water to run until there is a significant change in temperature which would be indicative of water that has been standing in the lead service line.
141.86(b)(3)(iii)

Box 60

Were any sample results invalidated by the primacy agency under 141.86(f)?

Box 11

Yes

Primacy agency may invalidate a tap water sample for any of the following reasons:
1. Improper sample analysis caused erroneous results (as determined by laboratory)
2. Sample was collected from an invalid site
3. Sample container was damaged in transit
4. Sample is believed to have been tampered with
141.86(f)(1)(i) – (iv)

Box 31

Did PWS submit all results to the primacy agency with documentation to support invalidation?
141.86(f)(2)
141.90(a)(1)(iii)

Box 46

No

If documentation is not submitted, samples may not be invalidated. Go to Box 12
141.86(f)

Box 52

Yes

Was the decision and rationale for the invalidation documented in writing by the primacy Agency and submitted? Note that the primacy agency may not invalidate samples solely because they are higher or lower than the original sample.
141.86(f)(3)

Box 59

No

Yes

Without invalidated sample(s), does PWS still have enough tap samples to meet the minimum required number of samples? (Note also cannot use invalidated result to calculate 90th percentile value.)
141.86(f)(4)

Box 64

No

Did PWS collect tap samples from enough Tier 1 sites to meet the minimum sampling requirements? (See Tab F Sampling Plan for more detail.)
141.86(a)(3)
141.86(a)(6)

Box 12

Yes

Go to Box 19.

Box 32

No

Did CWS collect enough samples from Tier 2 sites, or did NTNCWS collect enough samples from sites with copper pipe and lead solder installed before 1983 to meet the minimum sampling requirements?
141.86(a)(4)
141.86(a)(7)

Box 13

Yes

Go to Box 19.

Box 33

No

If CWS did not have enough Tier 2 sites to collect samples from, or NTNCWS did not have enough sites with copper pipe and lead solder, did CWS collect samples from Tier 3 sites, or did NTNCWS collect samples from representative sites throughout the distribution system?
141.86(a)(5)
141.86(a)(7)

Box 14

Yes

Go to Box 19.

Box 33

No

Is PWS a CWS?

Box 15

No

Monitoring Vio per 141.86(a)-(c). Go to Box 19.

Box 34

Yes

Did CWS collect enough samples from representative sites throughout the distribution system if they did not have enough Tier 1, 2, or 3 sites to meet minimum sampling requirements?
141.86(a)(5)

Box 16

No

Go to PN Rule Flowchart

54

Yes

Did PWS provide a Tier 3 Public Notice?
141.204

Box 48

No

PN Violation Code 75 Go to PN Rule Flowchart for RTC

53

Sample result information should also be reviewed to determine whether there is a reporting violation. Go to Box 19.

Box 55

Yes

Previously on this FC, did PWS receive Monitoring vio per 141.86(a)-(c)?

Box 17

Yes

Monitoring Violation 52 (Code 5000) for failure to comply with initial tap monitoring requirements as required and specified in 141.86(a)-(c).

1. PWS must provide Tier 3 public notice.

RTC:
2. PWS must collect the required number of tap samples in accordance with 141.86(c) and (d)(1); using correct sampling procedures in accordance with 141.86(a) and (b); and conduct analyses using the correct procedures in accordance with 141.89(a).
3. Enter return to compliance date as the date of receipt of samples.
4. Once steps 2-3 are completed, PWS has RTC.
141.86(a)-(c)

Box 47

No

Documentation Required with Sample
The following information must be supplied with the tap samples:

1. Location of each site and the criteria under which the site was selected for the sampling pool;141.90(a)(1)(i)
2. Documentation for each tap water lead or copper sample for which the PWS requests invalidation; 141.90(a)(ii)
3. Standing times and locations for enough non-first-draw samples to make up the sampling pool under § 141.86(b)(5) by the start of the first applicable monitoring period under § 141.86(d) , unless the primacy agency has waived prior approval of non-first-draw sample sites selected by the PWS pursuant to § 141.86(b)(5); 141.90(a)(2)(i)
3. If the primacy agency has waived prior approval of non-first-draw sample sites selected by the PWS, will identify, in writing, each site that did not meet the six-hour minimum standing time and the length of standing time for that particular substitute sample collected pursuant to § 141.86(b)(5).141.90(a)(2)(ii)

Box 18

Were tap sample results and all required documentation (see Box 18 Documentation Required with Sample), submitted within the first 10 days following the end of each applicable monitoring period? (For monitoring periods with a duration less than six months, the end of the monitoring period is the last date samples can be collected during that period)
141.90(a)
141.90(a)(1)(ii)
141.90(a)(1)(iii)
141.90(g)

Box 19

Yes

PWS must calculate 90th percentile results. Go to Tab E- 90th Percentile Calc.

Box 20

No

Reporting Violation 52 (Code 5000) for failure to provide all the monitoring information on time or to provide sample information needed for the primacy agency to perform 90th percentile calculations.

1.None.

RTC:
2.PWS must provide sample information needed for primacy agency to perform the 90th percentile calculation and all required monitoring information.
3. Enter return to compliance date as the date of receipt of sample information needed to perform 90th percentile calculation and all required monitoring information.
4. Once steps 2-3 are completed, PWS has RTC.
141.90(a)(1)(i)

Box 35

PWS must calculate 90th percentile results. Go to Tab E-90th Percentile Calc.

Box 36

Did PWS collect replacement samples?
141.86(f)(4)

Box 65

Yes

Did the PWS collect replacement samples at the same sites as invalidated samples or if these sites were not available at locations other than those already used for sampling during the monitoring period?
141.86(f)(4)

Box 72

No

Monitoring Violation 52 (Ccode 5000) for failure to replace invalidated samples, if the samples are needed to meet minimum sampling requirements, in accordance with 141.86(f)(4).

1. PWS must provide Tier 3 public notice.

RTC:
2. PWS must report one complete round of valid lead and copper tap samples.
3. Enter return to compliance date as the date of receipt of valid round.
4. Once steps 2-3 are completed, PWS has RTC.
[141.86(f)(4)]

Box 73

Did the PWS provide a Tier 3 Public Notice?
141.204

Box 74

No

PN Violation Code 75 Go to PN Rule Flowchart for RTC

66

Yes

Go to PN Rule Flowchart

78

Go to Box 12.

Box 79

Yes

Were the replacement samples collected within 20 days of notification by primacy agency of invalidation, or by the end of the monitoring period, whichever comes later? (Samples collected outside the monitoring period may not be used for compliance with subsequent monitoring periods.)
141.86(f)(4)

Box 77

No

Go to Box 12

Box 71

Yes

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Tab E – 90th Percentile Calc and Action Level Exceedances

CALCULATING LEAD AND COPPER 90th PERCENTILE VALUES (141.80(c)(3))

1. A 90th percentile is calculated separately for lead and copper.
2. All valid sample results taken during the monitoring period must be included in 90th percentile calculations unless a result has been invalidated.
3. If a sample is invalidated, its replacement sample must be included in the 90th percentile calculation, unless it is collected
more than 20 days after the primacy agency invalidates the sample or the sample was collected outside the monitoring period(whichever is later).
4. Late samples (regular or replacement samples) cannot be included in the calculation.
5. The procedure for determining the lead 90th percentile value is as follows:

If you are required to collect more than five samples
Step 1: Place lead results in ascending order (from lowest to highest value).
Step 2: Assign each sample a number, 1 for lowest value.
Step 3: Multiply the total number of samples by 0.9.
- If the outcome of multiplication is a whole number, the sample result with the same number is the 90th percentile value.
- If the outcome of multiplication is not a whole number, use either rounding or interpolation to determine the 90th percentile value as follows:
+ Rounding: EPA's policy is to:
1. Round down to the nearest whole number if the decimal is 0.4 or lower.
2. Round up to the nearest whole number if the decimal is 0.5 or higher.
+ Interpolation: To determine the 90th percentile level, using interpolation, you would:
1. Subtract the difference of the two samples between which your 90th percentile falls.
2. Subtract the difference between the 90th percentile level ranking and the lower of the two sample rankings between which the 90th percentile level falls.
3. Multiply the difference from Step 2 by the value from Step 1.
4. Add the product of Step 3 to the lower of the two sample results.
Step 4: Compare the 90th percentile level to the action level of 0.015 mg/L (can also be expressed as 15 parts per billion (ppb)). If your 90th percentile value is higher than 0.015 mg/L, you have an exceedance.

Repeat the above procedure for copper sample results, except compare the 90th percentile copper level against its action level of 1.3 mg/L. If your 90th percentile value is greater than 1.3 mg/L, you have an exceedance.

Example 1: 10 lead results

Sample	Rank	Sample Value
1		0.000
2		0.000
3		0.002
4		0.005
5		0.005
6		0.006
7		0.006
8		0.010
9	(90th)	0.015
10		0.020

Example 2: 12 lead results rounding

Sample	Rank	Sample Value
1		0.000
2		0.000
3		0.002
4		0.005
5		0.005
6		0.005
7		0.006
8		0.006
9		0.010
10		0.014
11	(90th)	0.018
12		0.020

Example 3: 12 lead results interpolation

Sample	Rank	Sample Value
1		0.000
2		0.000
3		0.002
4		0.005
5		0.005
6		0.005
7		0.006
8		0.006
9		0.010
10		0.014
11	(90th)	0.017
12		0.018
		0.020

If you are required to collect five samples
Step 1: Place lead or copper results in ascending order.
Step 2: Take the average of the 4th and 5th highest sample. This is your 90th percentile level.
Step 3: Compare the 90th percentile level against the lead or copper action level.

If you are allowed under the Short-Term Revisions to collect fewer than five samples
Step 1: Place lead or copper results in ascending order.
Step 2: Compare the highest sample value (this is considered to be your 90th percentile level) against the lead or copper action level.

Box 1

Tab E: 90th percentile calculations
Box 2

Did the primacy agency notify the PWS that it would calculate the 90th percentile levels for the PWS and specified a date before the end of the monitoring period by which the PWS must submit: all sampling results, including the location of sample sites selected from the sampling pool, identification of any current site that was not sampled in a previous round, with an explanation? 141.90(a)(1)(iv) 141.90(h)(1) 141.90(h)(2)(i)-(ii)
Box 3

Did the PWS conduct monitoring in addition to the minimum requirements? 141.86(e)
Box 4

Did the PWS use any invalidated results to calculate the 90th percentile values? 141.86(f)
Box 5

Were any sample results used in the calculation of 90th percentile not from its pool of targeted sampling sites? 141.86(a)(1)
Box 6

Were all 90th percentiles calculated as described in Box 1? 141.80(c)(3)
Box 7

PWS must deliver lead consumer notice to persons at tested taps. Go to Tab M Consumer Notice. 141.85(d)
Box 8

Did the 90th percentile value for lead or copper exceed the action level? 141.80(c)(1) 141.80(c)(2)
Box 9

Does PWS serve > 3,300 people?
Box 10

Did primacy agency calculate 90th percentile values? 142.15(c)(4)(iii)(A)
Box 18

Go to Box 35.
Box 19

Did PWS report all 90th percentile lead levels calculated during each monitoring period specified in §141.86 of this chapter, and the first and last day of the monitoring period? 142.15(c)(4)(iii)(A)
Box 29

Go to Box 15 (but do not proceed to box 15a.)
Box 32

Go to Box 35.
Box 32a

Did PWS report the lead and/or copper action levels (ALs), and the first and last day of the monitoring period? 142.15(c)(4)(iii)(B)-(C)
Box 17

Is the PWS conducting initial round monitoring? 141.86(d)(1)
Box 16

Reporting Violation 51. Go to Box 100
Box 15

Go to Box 26.
Box 15a

Reporting Violation 52. Go to Box 104
Box 16b

Did PWS have a waiver for this compliance period?
Box 26

Waiver is revoked. PWS must implement CCT in the next compliance period. If the PWS was deemed, they are no longer deemed. 141.81(e) 141.86(g)(6)(i)
Box 27

Go to Box 30.
Box 28

Does the PWS purchase 100% of its water?
Box 30

PWS is not required to comply with SOWT.
Box 31

Is the PWS required to comply with SOWT requirements based on previous compliance period (e.g., had an ALE or was determined to require source water treatment based on previous source water sampling results)? 141.83
Box 33

Go to Tab Z SOWT Intro
Box 34

PWS must meet source water treatment requirements in the next compliance period. 141.83 141.88
Box 43

Was PWS deemed? 141.81(b)
Box 51

PWS is no longer deemed.
Box 52

Has primacy agency designated OWQPs? 141.81(d)(6) 141.81(e)(5)
Box 61

PWS must continue monitoring OWQPs in the next compliance period.
Box 62

Go to Box 108.
Box 63

Has the primacy agency required the PWS to install OCCT?
Box 64

Once the primacy agency designates OWQP, the PWS must complete follow-up sampling within 36 months. 141.86(d)(2) 141.87(c)
Box 65

PWS coordinates with the primacy agency to determine next steps.
Box 65a

PWS has completed CCT study and had 2 rounds of 6-month monitoring without exceeding either AL. PWS is on annual monitoring.
Box 72

Any PWS triggered into corrosion control because it is no longer deemed to have optimized corrosion control shall implement corrosion control treatment in accordance with the deadlines in 141.81(a)(1) and (2), which are diagrammed on FCS - OCCT Compliance. If PWS is a large system, it shall adhere to the schedule specified for medium-size systems, with the time periods for completing each step being triggered by the date the system is no longer deemed to have optimized corrosion control. 141.81(a)(1)-(2) 141.81(b)(3)(v) 141.81(b)(3)(v) 141.81(c)
Box 53

Primacy agency should provide PWS with lead and copper 90th percentile values, in writing, before the end of the monitoring period. 141.90(h)(3)
Box 11

Did the PWS provide all information above to primacy agency by the specified deadline? 141.90(h)
Box 12

Were the additional monitoring results used in compliance determinations, including 90th percentile calculations? 141.86(e)
Box 13

Is the PWS conducting initial round monitoring? 141.86(d)(1)
Box 14

Reporting Violation 52. Go to Box 104
Box 22b

Go to Box 8
Box 25

Reporting Violation 51. Go to Box 100
Box 24

Go to Box 5
Box 23

Is the PWS conducting initial round monitoring? 141.86(d)(1)
Box 22

Reporting Violation 51. Go to Box 100
Box 21

Go to Box 4
Box 20

Reporting Violation 52. Go to Box 104
Box 22a

Is the PWS required to comply with SOWT requirements based on sample results from the previous compliance period (sampling or completing source water treatment steps)? 141.83
Box 35

Was PWS conducting public education (PE) tasks in response to a previous lead ALE? 141.85(b)(3)
Box 36

Was PWS on a 9-year waiver schedule? 141.86(g)
Box 37

Did PWS apply for a waiver in this compliance period after obtaining results from first initial 6-month tap samples? 141.86(g)
Box 38

Was PWS on a triennial reduced monitoring schedule? 141.81(b)(3)(ii) 141.86(d)(4)(iii) 141.86(d)(4)(v)
Box 39

Was PWS on an annual reduced monitoring schedule? 141.86(d)(4)(i) 141.86(d)(4)(ii)
Box 40

PWS is on a six-month monitoring schedule. 141.86(d)(1)-(3)
Box 41

PWS is on a six-month tap monitoring schedule in the next compliance period. Done with LCR requirements this compliance period. 141.86(d)(4)(i) 141.86(d)(4)(ii)
Box 42

Go to Tab Z SOWT Intro
Box 44

Is PWS a CWS?
Box 45

Go to Tab K Waiver Maint Box 11 to evaluate if PWS is eligible to remain on a waiver and set schedule for subsequent monitoring period.
Box 46

Go to Tab L 9-Year Waiver to evaluate if PWS is eligible for a waiver in subsequent monitoring period.
Box 47

PWS is on a triennial reduced monitoring schedule in the subsequent compliance period. Done with LCR requirements this compliance period. 141.86(d)(4)(ii) 141.86(d)(4)(v)
Box 57

Has the PWS completed three consecutive years of annual monitoring with no ALEs? 141.86(d)(4)(iii)
Box 48

Has the PWS maintained the range of values for the OWQPs specified by the primacy agency for three consecutive years of monitoring? 141.86(d)(4)(iii)
Box 58

PWS is on an annual reduced monitoring schedule in the subsequent compliance period. Done with LCR requirements this compliance period.
Box 68

With sample from this compliance period, has the PWS completed two consecutive six-month periods of monitoring with no ALEs? 141.86(d)(4)(i) 141.86(d)(4)(ii)
Box 49

Was PWS required to meet public education (PE) requirements this compliance period? 141.85
Box 50

PWS can discontinue PE requirements in the next compliance period. PWS is on a 6-month tap monitoring schedule in the next compliance period. Done with LCR requirements this compliance period. 141.85 141.86(d)(4)(i) 141.86(d)(4)(ii)
Box 59

Go to Tab P PE for NTNCWS
Box 55

Go to Tab O PE for CWS
Box 56

PWS is not required to conduct PE in the next compliance period.
Box 66

Go to Box 37
Box 67

Go to Tab P: PE for NTNCWSs
Box 80a

Go to Box 36
Box 54

Is PWS required to meet LSLR requirements? 141.84
Box 69

PWS can cease LSLR requirements in the next compliance period. 141.84(f)
Box 70

Go to Box 83
Box 71

Go to Tab Q Deem. After completing flows of Tab Q, come back to Tab E, Box 83.
Box 74

PWS must meet CCT requirements in the next compliance period.
Box 73

Is the ALE for Copper only? 141.80
Box 76

Does the PWS have corrosion control treatment and/or source water treatment installed? 141.81 141.83
Box 77

Is the PWS already conducting public education (PE) tasks? 141.85(b)(3)
Box 78

Has it been 60 days since the end of this compliance period? 141.85(b)(2)
Box 79

Is PWS a CWS?
Box 80

Go to Tab O: PE for CWSs
Box 81

PWS is on a six-month monitoring schedule in the next compliance period. Done with LCR requirements this compliance period.
Box 82

PWS must continue to conduct PE in the next compliance period. PWS is on a six-month monitoring schedule in the next compliance period. Done with LCR requirements this compliance period.
Box 78a

PWS has 60 days after the end of the monitoring period in which the ALE for lead occurred to begin PE. System must begin PE within 60 days of the next compliance period. PWS is on a six-month monitoring schedule in the next compliance period. Done with LCR requirements this compliance period.
Box 79a

PWS must meet LSLR requirements next compliance period. 141.84(a) Go to Box X
Box 77a

Go to Box 78
Box 77b

PWS is on a six-month monitoring schedule in the next compliance period. Done with LCR requirements this compliance period.
Box 75

Was PWS determined to be deemed for the next compliance period? 141.81(b)(3)
Box 83

Does the PWS have OCCT in place and OWQPs assigned? 141.81(e)(6)
Box 84

PWS is deemed to have optimized corrosion control treatment. PWS shall continue to operate and maintain optimal corrosion control treatment in place and meet any requirements that the primacy agency determines appropriate to ensure optimal corrosion control treatment is maintained. PWS is on annual reduced monitoring schedule in the next compliance period. Done with LCR requirements this compliance period. 141.81(b)(3)
Box 85

PWS can cease completing OCCT requirements in the next compliance period. PWS is on annual reduced monitoring schedule in the next compliance period. Done with LCR requirements this compliance period. 141.81(b)(3)
Box 86

Does the PWS serve ≤50,000 persons? 141.81(c)
Box 87

Has PWS been required to meet OCCT requirements? 141.81(a)(2)
Box 88

Does PWS have corrosion control treatment in place? 141.81(b)
Box 89

PWS is deemed to have optimized corrosion control treatment. PWS shall continue to operate and maintain optimal corrosion control treatment in place and meet any requirements that the primacy agency determines appropriate to ensure optimal corrosion control treatment is maintained. 141.81(b)
Box 90

Go to Box 94
Box 90a

PWS is deemed to have optimized corrosion control treatment and is not required to comply with OCCT requirements in the next compliance period. 141.81(b)(1)
Box 95

PWS can cease completing the treatment steps and is deemed to have optimized corrosion control treatment. 141.81(b)(1) 141.81(c)
Box 96

Go to Box 94
Box 99

In both six-month periods, was tap water lead level (computed as described in Box 1) less than or equal to 0.005 mg/L and the tap water copper level (computed as described in Box 1) less than or equal to 0.65 mg/L? 141.86(d)(4)(v)
Box 94

Does the PWS serve > 50,000 persons? 141.86(d)(4)(ii)
Box 93

Has the PWS maintained the range of values for the OWQPs specified by the primacy agency for three consecutive years of monitoring? 141.86(d)(4)(iii)
Box 92

PWS is on a six-month tap monitoring schedule in the next compliance period. Done with LCR requirements this compliance period. 141.86(d)(4)(i) 141.86(d)(4)(ii)
Box 91

PWS is on an annual monitoring schedule in the next compliance period. 141.86(d)(4)(i)
Box 97

PWS is on a triennial reduced monitoring schedule in the next compliance period. 141.86(d)(4)(iii)
Box 98

Did PWS retain on its premises original records of all sampling data and analyses, reports, letters, and any other information applicable to 90th percentile monitoring requirements for no fewer than 12 years? 141.91
Box 108

PWS is required to meet 90th percentile monitoring requirements in the next compliance period.
Box 109

Done with 90th percentile monitoring this compliance period.
Box 111

Other Code 09 (Ccode 5000) for a PWS that fails to retain on its premises original records of all sampling data and analyses, reports, surveys, letters, evaluations, schedules, primacy agency determinations, and any other information for no fewer than 12 years.

RTC for 09:
1. PWS achieves compliance when it reports that it has begun proper recordkeeping or primacy agency verifies that the PWS is maintaining records.
2. Enter return to compliance code with the date of when the PWS returned to compliance.
3. Once steps 1-2 are complete, PWS has RTC.

Box 110

Monitoring Violation 51 (Ccode 5000) for A system which fails to comply with initial tap monitoring requirements.

1. PWS must provide Tier 3 public notice.

RTC:
2. PWS must collect the specified number of samples for two consecutive 6-month periods using appropriate sampling procedures; collects the required number of samples during the specified time frame.
3. Enter return to compliance date as the date of receipt of required number of samples.
4. Once steps 2-3 are completed, PWS has RTC.
141.86(a)-(c)
Box 100

Did the PWS provide a Tier 3 Public Notice? 141.204
Box 101

Go to PN Rule Flowchart 102

PN Violation Code 75 Go to PN Rule Flowchart for RTC 103

Monitoring Violation 52 (Ccode 5000) for failing to comply with follow-up tap monitoring requirements

1. PWS must provide Tier 3 public notice.

RTC:
2. PWS provides 1) sample information needed for primacy agency to perform the 90th percentile calculation as outlined in 141.90(h) and 2) all required monitoring information is submitted in accordance with 141.90(a).
3. Enter return to compliance date as the date of receipt of samples.
4. Once steps 2-3 are completed, PWS has RTC.
141.90(h)
Box 104

Did the PWS provide a Tier 3 Public Notice? 141.204
Box 105

Go to PN Rule Flowchart 106

PN Violation Code 75 Go to PN Rule Flowchart for RTC 107

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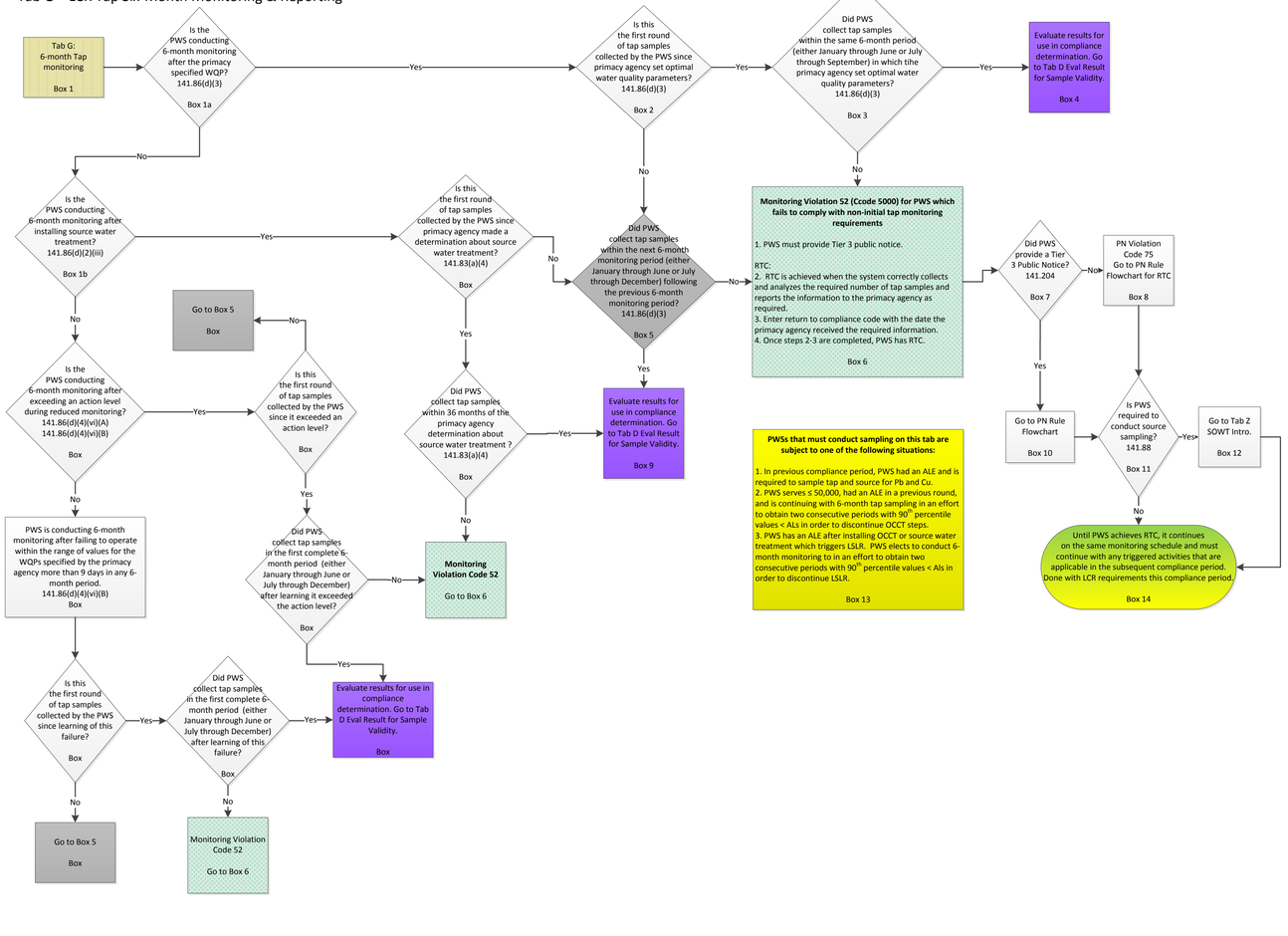
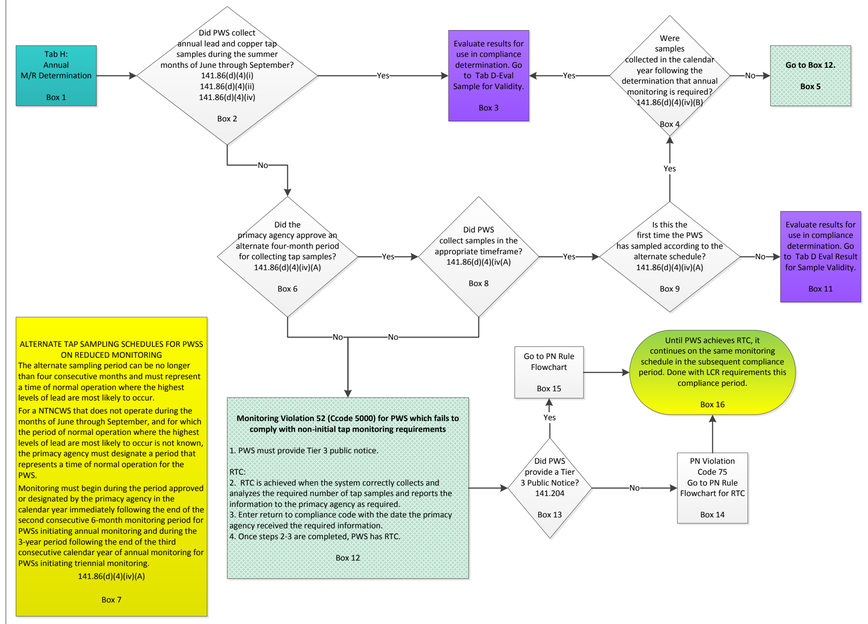
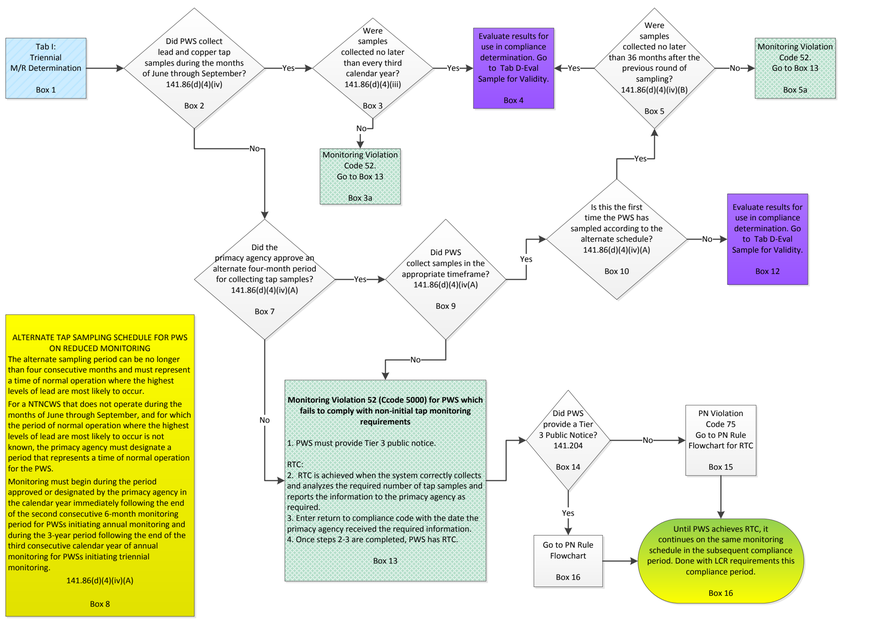
Tab G – LCR Tap Six-Month Monitoring & Reporting



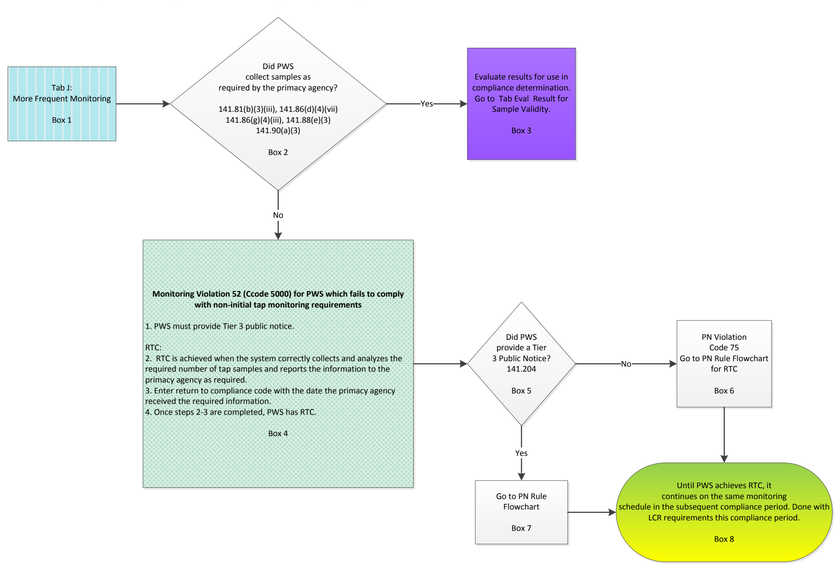
Tab H – LCR Tap Annual Monitoring & Reporting



Tab I – LCR Tap Triennial Monitoring & Reporting



Tab J – LCR Tap More Frequent Monitoring & Reporting



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Tab K – LCR Tap M&R Waiver Evaluation

Tab K: Evaluate PWS partial or full 9-year waiver status
Box 1

Did the PWS discover that it is no longer free of lead- or copper-containing materials (e.g., as a result of new construction or repairs)? 141.86(g)(4)(iv)
Box 2

Did PWS provide the materials certification and supporting documentation? (See description of materials criteria in Box 12 on Tab L 9-Year Waiver.) 141.86(g)(1) 141.86(g)(4)(i)
Box 3

Does PWS still satisfy the materials criteria? 141.86(g)(5)(i) 141.86(g)(7)(i)
Box 4

Did primacy agency require PWS to conduct additional monitoring, provide outreach to customers on avoiding installation of materials that would void waiver, or require PWS to meet any other special conditions? 141.86(g)(3)
Box 5

Does PWS have a small system waiver approved by the primacy agency in writing prior to April 11, 2000? 141.86(g)(7)
Box 6

Did PWS collect tap samples for lead and copper for the waived contaminant(s) and provide results to primacy agency no later than every ninth year? 141.86(g)(4)(i) 141.86(g)(4)(ii) 141.86(d)(4)(iv) 140.90(a)(4)(iii)
Box 7

Did PWS collect lead and/or copper tap samples during the summer months of June through September? 141.86(g)(4) 141.86(d)(4)(iv)
Box 8

For PWSs with a partial waiver, PWS must still collect tap samples for nonwaived contaminant in accordance with 141.86(d)(1) through (d)(4). (Flow for the nonwaived contaminant is addressed on Tab A Box X. 141.86(g)(4)(ii)
Box 9

Evaluate results for use in compliance determination. Go to Tab D Eval Result for Sample Validity.
Box 10

Has PWS had a 90th percentile lead level greater than 0.005 mg/L or 90th percentile copper level greater than 0.65 mg/L? 141.86(g)(5)(i-ii)
Box 11

Did primacy agency notify PWS, in writing, that waiver has been revoked and set forth the basis of its decision? 141.86(g)(5)(iii)
Box 12

PWS must monitor once every 9 years and continue to meet materials criteria. The waiver may be renewed automatically as long as the PWS meets the requirements of 141.86(g)(4)(i) through (iv), and 141.86(g)(5). No further LCR requirements until subsequent compliance period.
Box 13

Reporting Violation 52 (Ccode 5000) for failure to meet monitoring waiver conditions

1. Public notification not required.

RTC:
2. PWS must meet the waiver requirements of 141.86(g) and the reporting requirements of 141.90(a)(4).
3. Enter return to compliance code with the date the primacy agency received information.
4. Once steps 2-3 are completed, PWS has RTC. 141.86(g)
Box 16

Monitoring Violation 52 (Ccode 5000) for failure to monitor

1. PWS must provide Tier 3 public notice.

RTC:
2. RTC is achieved when the system correctly collects and analyzes the required number of tap samples and reports the information to the primacy agency as required.
3. Enter return to compliance code with the date the primacy agency received the required information.
4. Once steps 2-3 are completed, PWS has RTC.
Box 17

Did PWS comply with primacy agency request during the 9-year waiver period? 141.86(g)(3)
Box 18

Has PWS demonstrated that its 90th percentile lead level is < 0.005 mg/L and/or copper level is < 0.65 mg/L? 141.86(g)(7)(i)
Box 19

Go to Box 13.
Box 20

Go to Box 17.
Box 22

Did the primacy agency approve an alternate four-month period for collecting tap samples? 141.86(d)(4)(iv)(A)
Box 23

Did PWS collect samples in the approved alternate period? 141.86(d)(4)(iv)(A) 141.86(d)(4)(iv)(B)
Box 25

Go to Box 9
Box 26

Go to Box 28.
Box 27

Go to Box 17.
Box 35

Go to Box 17.
Box 36

Did PWS provide a Tier 3 Public Notice? 141.204
Box 30

PN Violation Code 75
Go to PN Rule Flowchart for RTC
Box 31

Go to PN Rule Flowchart
Box 39

Go to Box 28.
Box 40

Did PWS provide materials on time to the primacy agency, if relevant? 141.86(g)(3)
Box 32

Go to Box 6.
Box 41

Go to Box 16.
Box 33

Go to Box 28.
Box 34

Are the lead and copper 90th percentiles at or below action levels?
Box 28

Nine-year waiver may not be automatically renewed, and waiver is revoked. PWS must increase tap monitoring to once every three years in the next compliance period, and may re-apply for a waiver when it meets waiver criteria. No further LCR requirements until subsequent compliance period. 141.86(g)(5) 141.86(g)(7)(i)
Box 28a

Go to Box 28.
Box 29

Go to Tab E-90th Calc and AL Exceed, Box 17
Box 28b

ALTERNATE TAP SAMPLING SCHEDULES FOR PWSS ON REDUCED MONITORING

The alternate sampling period can be no longer than four consecutive months and must represent a time of normal operation where the highest levels of lead are most likely to occur.

For a NTNCWS that does not operate during the months of June through September, and for which the period of normal operation where the highest levels of lead are most likely to occur is not known, the primacy agency must designate a period that represents a time of normal operation for the PWS.

Monitoring must begin during the period approved or designated by the primacy agency in the calendar year immediately following the end of the second consecutive 6-month monitoring period for PWSs initiating annual monitoring and during the 3-year period following the end of the third consecutive calendar year of annual monitoring for PWSs initiating triennial monitoring.

141.86(d)(4)(iv)(A)
Box 24

PARTIAL OR FULL 9-YEAR LEAD AND/OR COPPER WAIVER MONITORING REQUIREMENTS [141.86(g)(4)]

A PWS serving ≤ 3,300 persons with a 9-year waiver must meet the following conditions:
Materials criteria. PWS must submit the materials certification for lead and copper along with tap sampling results. See Box 12 on Tab L: 9-Year Waiver for materials criteria. [141.86(g)(4)(i) and 141.86(g)(4)(ii)].

Monitoring criteria. The PWS must have conducted tap monitoring for the waived contaminant at least once during the 9-year waiver period, no later than every ninth calendar year, from the number of sites required in 141.86(c). PWSs with a partial waiver must also monitor for the non-waived contaminant in accordance with 141.86(d)(1) through (d)(4). [141.86(g)(4)(i) and 141.86(g)(4)(ii)]

Long-term change in treatment. PWS must notify primacy agency in writing of any long-term change in treatment or addition of a new source of water before PWS implements the change. Primacy agency must approve of the change or addition, and may change or modify waiver conditions if it deems the conditions necessary to address changes at the system [141.86(g)(4)(iii)]

Notification of lead- or copper-containing materials: PWS must notify primacy agency in writing within 60 days of learning that it is no longer free of lead- or copper- containing materials, as appropriate. [141.86(g)(4)(iv)]
Box 37

PARTIAL OR FULL 9-YEAR LEAD AND/OR COPPER TAP WAIVER CONTINUED ELIGIBILITY REQUIREMENTS [141.86(g)(5)]

A 9-year waiver may be automatically renewed if a PWS serving ≤ 3,300 persons meets the waiver monitoring requirements in 141.86(g)(4). [141.86(g)(5)]

A waiver may be revoked if a PWS no longer meets the materials criteria specified in 141.86(g)(1), has a lead level > 0.005 mg/L, or has a copper level > 0.65 mg/L. [141.86(g)(5)(i) and 141.86(g)(5)(ii)]

Primacy agency must notify PWS in writing that the waiver has been revoked, setting forth its decision in writing. [141.86(g)(5)(iii)]
Box 38

Tab L – Eligibility for LCR Tap M&R Waiver

Tab L: Evaluate PWS eligibility for partial or full 9-year waiver
Box 1

Did PWS submit an application to monitor every 9 years for one or both contaminants? 141.86(g)
Box 2

Did the PWS provide the required documentation that demonstrates it is free of lead and/or copper containing materials (i.e., met the materials criteria)? See Box 9. 141.86(g)(1)
Box 3

Did the PWS submit at least one six-month round of sample results that demonstrates its 90th percentile lead level is < 0.005 mg/L and/or copper level is < 0.65 mg/L? See Box 12. 141.86(g)(2)
Box 4

Did PWS provide the documentation and sample data described in Boxes 3 and 4 by the start of the first applicable monitoring period? 141.90(a)(4)(i)
Box 5

Did primacy agency grant a full monitoring waiver, providing the determination, in writing, setting forth the basis of its decision and any condition of the waiver? 141.86(g)(3)
Box 6

PWS must monitor once during the subsequent 9 year compliance period. (See box 15 for conditions of waiver.) The waiver may be renewed automatically as long as the PWS meets the requirements of 141.86(g)(4)(i) through 141.86(g)(4)(ii) and 141.86(g)(5). Done with LCR requirements this compliance period.
Box 7

PWS is not eligible for a waiver. Go to Box 9 on Tab C New Systems.
Box 8

Did primacy agency grant a partial monitoring waiver, providing the determination, in writing, setting forth the basis of its decision and any condition of the waiver? 141.86(g)(3)
Box 11

PWS must monitor once during the subsequent 9 year compliance period for waived contaminant. (See box 15 for conditions of waiver.) The waiver may be renewed automatically as long as the PWS meets the requirements of 141.86(g)(4)(i) through 141.86(g)(4)(ii) and 141.86(g)(5).
Box 12

Note: the PWS will be on a different schedule for the non-waived contaminant. Go to Tab E, Box 11.
Box 13

PWS is not eligible for a waiver. Return to Box 8 on Tab A: LCR Sample Schedule to determine sampling frequency prior to application submission.
Box 14

CONDITIONS FOR A PARTIAL OR FULL 9-YEAR LEAD AND/OR COPPER TAP MONITORING WAIVER [141.86(g)]

A PWS serving ≤ 3,300 persons can apply for a lead and copper tap monitoring waiver, which reduces sampling to once every nine years (a "full waiver") if it meets the materials criteria in 141.86(g)(1) and the monitoring criteria in 141.86(g)(2) . If primacy agency regulations allow, any PWS that meets the criteria in 141.86 (g)(1) for lead or the criteria in 141.86(g)(2) for copper, can apply for a 9-year waiver for lead OR copper (a "partial waiver"). 141.86(g)

Materials criteria. PWS must demonstrate that its distribution system and service lines and all drinking water supply plumbing, (including plumbing conveying drinking water within all residences and buildings connected to the system), are free of lead-and/or copper-containing materials (defined below) [141.86(g)(1)]:

- Lead. To qualify for a full waiver or a partial waiver for lead only, the PWS must provide certification and supporting documentation to the primacy agency that it is free of all lead-containing materials, including [141.86(g)(1)(i)]:
  - Plastic pipes that contain lead plasticizers, or plastic service lines that contain lead plasticizers [141.86(g)(1)(i)(A)]; and
  - Lead service lines, lead pipes, lead soldered pipe joints, and leaded brass or bronze alloy fittings and fixtures, unless the fittings and fixtures meet any standard established under 42 U.S.C. 300g-6(e) (SDWA section 1417(e)) [141.86(g)(1)(i)(B)].
- Copper. To qualify for a full waive or a partial waiver for copper only, the PWS must provide certification and supporting documentation to the Primacy Agency that it contains no copper pipes or copper service lines [141.86(g)(1)(ii)] .

Monitoring criteria. The PWS must have completed at least one 6-month round of routine tap water monitoring for lead and copper at sites approved by the Primacy Agency, from the number of sites required in 141.86(c) and demonstrate that the 90th percentile levels for all rounds of monitoring conducted since the system became free of all lead-containing and/or copper-containing materials meet the following criteria [141.86(g)(2)].

- The 90th percentile lead level must be ≤ 0.005 mg/L [141.86(g)(2)(i)].
- The 90th percentile copper level must be ≤ 0.65 mg/L [141.86(g)(2)(ii)].

Waiver approval. The primacy agency must notify the PWS of its waiver determination in writing and include the basis of its decision and any condition of the waiver required to avoid the risk of lead or copper concentration of concern in tap water. The PWS cannot switch to a 9-year monitoring schedule until it receives written notification of waiver approval from the primacy agency. [141.86(g)(3)]
Box 9

Meeting Waiver Requirements in Subsequent Compliance Period:

1. Conditions for Full Waiver 141.86(g)(4)(i):
PWs must sample at the reduced number of sampling sites between months of June through September (per 141.86(d)(4)(iv)), unless primacy agency approves an alternate 4-month sampling period (per 141.86(d)(4)(iv)(A)). PWS must continue to provide materials certification.
2. Conditions for Partial Waiver 141.86(g)(4)(ii):
PWS must collect a reduced number of samples per 141.86(d)(4)(iv) between months of June through September, unless primacy agency approves an alternate 4-month sampling period. PWS must continue to provide materials certification. Note PWS must continue to monitor for the non-waived contaminant.
3. PWS with a full or partial waiver must monitor once during the next 9 years for waived contaminant.
4. The waiver may be renewed automatically as long as the PWS meets the requirements of 141.86(g)(4)(i) through 141.86(g)(4)(ii) and 141.86(g)(5).
5. Primacy agency may require PWS to perform specific activities to avoid the risk of increasing concentration of lead and copper in water.
Note: the PWS will be on a different schedule for the non-waived contaminant.
Box 15

Tab M – Lead Consumer Notice

Tab M: Consumer Notice This flow determines compliance with lead consumer notice requirements at 141.85(d) and 141.90(f)(3) that pertain to each lead and copper tap monitoring period required in 141.86.
Box 1

Did PWS provide a notice of individual tap results from lead tap monitoring carried out under the requirements of § 141.86 to the persons served by PWS at the specific sampling site from which the sample was taken (e.g., the occupants of the residence where the tap was tested)? 141.86(g) 141.85 141.85(d)(1)
Box 2

Did the lead consumer notice include all required elements in 141.85(d)(3) (See description in Box 10)? 141.85(d)(3)
Box 3

Was the lead consumer notice provided as soon as practical, but no later than 30 days after the PWS learned the tap monitoring results? 141.85(d)(2)
Box 4

Was lead consumer notice provided to persons served at the tap that was tested, either by mail or by another method approved by the primacy agency? (for other methods see Box 20) 141.85(d)(4)
Box 5

Has it been 3 months since the end of the monitoring period? 141.90(f)(3)
Box 6

Did the PWS mail a sample copy of the consumer notice to primacy agency along with a certification that the notification has been distributed in a manner consistent with the requirements? 141.90(f)(3)
Box 7

Did PWS retain on its premises original records of all sampling data and analyses, reports, letters, evaluations, State determinations, and any other information for no fewer than 12 years? 141.91
Box 8

PWS meets consumer notification requirements. Return to Tab E-90th Percentile Calc, Box 10.
Box 9

LEAD CONSUMER NOTICE CONTENT REQUIREMENT

The consumer notice must include:

- Results of lead tap water monitoring for the tap that was tested, ;
- An explanation of the health effects of lead;
- List of steps consumers can take to reduce exposure to lead in drinking water;
- Contact information for the PWS;
- The maximum contaminant level goal (MCLG) and the action level (AL) for lead; and
- The definitions for the MCLG and AL from 141.153(c). (MCLG is defined as the level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety., and AL is defined as the concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.)

141.85(d)(3)
Box 10

Reporting Violation Code 66 (Ccode 5000)

1. PWS must provide Tier 3 public notice.

RTC:
2. RTC is achieved once the system provides notice of lead results to all individuals served by taps used for lead and copper tap monitoring and the notification meets the content and delivery requirements, and the system certifies to the primacy agency that they have provided notice of lead results to all individuals served by taps used for lead and copper tap monitoring meeting the reporting and certification requirements, as applicable.
3. Enter return to compliance date as the date of receipt of consumer notice, certification, or correction.
4. Once steps 2-3 are completed, PWS has RTC.
Box 13

Within 3 months following the end of the monitoring period, the PWS must mail a sample copy of the consumer notice to primacy agency along with a certification that the notification has been distributed in a manner consistent with the requirements. 141.90(f)(3)
Box 14

Go to Box 7
Box 19

Reporting Violation Code 66 (Ccode 5000) for failure to provide notice of lead results to individual served by taps used for LCR tap monitoring, in accordance with the timing, content, delivery and reporting requirements for the notice; or failure to submit a sample notice and certification to the primacy agency on time.

1. None.

RTC:
2. RTC is achieved once the PWS provides notice of lead results and the PWS certifies to the primacy agency that they have provided notice of lead results to all individuals served by taps used for lead and copper tap monitoring meeting the reporting and certification requirements, as applicable.
3. Enter return to compliance date as the date of receipt of consumer notice, certification, or correction.
4. Once steps 2-3 are completed, PWS has RTC.
Box 15

Other Code 09 (Ccode 5000) for a PWS that fails to retain on its premises original records of all sampling data and analyses, reports, surveys, letters, evaluations, schedules, primacy agency determinations, and any other information for no fewer than 12 years.

1. PWS must self-report violation to primacy agency within 48 hours of violation.

RTC for 09:
2.RTC is achieved once the PWS provides the documented materials to the primacy agency.
3. Enter return to compliance code with the date of when the PWS returned to compliance.
4. Once steps 2-3 are complete, PWS has RTC.
Box 16

Go to box 9.
Box 21

Did the PWS provide a Tier 3 Public Notice? 141.204
Box 12

PN Violation Code 75
Go to PN Rule Flowchart for RTC 11

Go to PN Rule Flowchart
Box 18

Go to box 9.
Box 17

Alternate Distribution Methods (141.86(d)(4))
For example, upon approval by the State, a non-transient non-community water system could post the results on a bulletin board in the facility to allow users to review the information. The system must provide the notice to customers at sample taps tested, including consumers who do not receive water bills.
Box 20

Baseline Version, 06/23/2015

Tab N – Lead Service Line Replacement

Tab N:
This flow determines compliance with LSLR requirements for PWSs with LSLs.
141.84 and 141.90(e)

Box 1

Is PWS in violation for failing to install source water/corrosion control treatment (Ecode 5000, Vio 58)?
141.84(a)

Box 2

No → Go to Box 4

Box 27

Yes → Have at least 36 months elapsed since the primacy agency designated OCCT and did primacy agency require PWS to commence LSLR?
141.81(e)(6)
141.84(a)

Box 3

No → No action occurs until after 36 months has elapsed since the primacy agency designated OCCT. This time window would have allowed 24 months to install treatment and 12 months within which to conduct two rounds of follow-up monitoring. If both steps did not occur, or were not timely, the primacy agency may require LSLR.

Box 28

Yes → Is this the first year in which the PWS has been required to initiate LSLR activities?
141.84(b)

Box 4

No → Is the PWS resuming an LSLR program, after cessation of the program under 141.84(f)? Note PWSs can cease LSLR if they have met the lead action level in two consecutive monitoring period but must resume LSLR requirements if they have an ALE.
141.84(b)(2)

Box 29

No → Go to Box 7

Box 30

Yes → Did the PWS already complete a 15-year (or shorter if prescribed by the primacy agency) LSLR program?
141.84(b)(2)

Box 45

Yes → The PWS should be on a schedule determined by the primacy agency for replacing or retesting the lines that were replaced through testing. If a PWS exceeds the action level a second or more time, any LSLs deemed replaced through testing because they were 15 ppb or less must be added back into their pool.

Go to Box 62

Box 46

No → Did PWS update its inventory of LSLs to include those sites that were "replaced through testing", where the lead concentration in samples collected from the service line was ≤ 0.015 mg/L, as described in 141.84(c)?
141.84(b)(2)

Box 53

No → Go to Box 55.

Box 54

Yes → The PWS is required to calculate the annual percent replacement rate for the remaining years based on the updated inventory. To calculate this percentage, the PWS must divide the number of remaining LSL sites by the number of remaining years in the LSL replacement program.

Note that primacy agency may require a shorter replacement schedule than is calculated under 141.84(b)(2).
141.84(b)(2)
141.84(e)

Box 59

Did PWS submit written documentation to the primacy agency at the end of 12 month monitoring period that it: 1) replaced in the previous 12 months the required annual percentage of lead service lines (calculated by the PWS or determined by the primacy agency) by providing the number of LSLs scheduled to be replaced during the previous year and the number and location of each LSL replaced during the previous year, or 2) conducted sampling which demonstrated that individual LSL samples were ≤ 0.015 mg/L with the supporting water lead concentration results and location of each LSL sampled, the sampling method, and the date of sampling? Note: The rule states that PWSs must provide this information every 12 months and does not include a specified timeframe following the 12 month period.
141.90(e)(2)
141.90(e)(2)(i)
141.90(e)(2)(ii)
141.90(e)(3)

Box 62

No → Go to Box 55.

Box 67

Yes → The PWS is not required to replace an individual service line if the lead concentration in all service line samples from that individual line are ≤ 0.015 mg/L. (Note that this is commonly referred to as "replaced through testing.") PWS is not required to collect LSL samples prior to partial or full LSL replacement, but may voluntarily collect samples to determine if they may be replaced through testing.

If the PWS conducts this sampling, it would determine the percent replacement for the year by including the total number of LSLs replaced and the total number of LSLs replaced through testing in its calculation.
141.84(c)

Box 63

Is the PWS on a schedule determined by the primacy agency? Note this could be one of two scenarios:
1. The primacy agency requires a shorter schedule under 141.84(e); or
2. The primacy agency determines the schedule for systems that have already completed the LSLR program.
141.84(b)(2)
141.84(e)

Box 64

Yes → For scenario 1 in Box 64, if the primacy agency determines it is feasible, it can require the PWS to comply with a shorter schedule if it notifies the PWS of the shorter schedule in writing within six months after PWS was triggered into LSLR.
141.84(e)

Box 68

Did the PWS meet the required annual replacement minimum designated by the primacy agency by physically replacing LSLs or replacing LSLs through testing?
141.84(b)(2)
141.84(e)

Box 70

No → Yes → Go to Box 11

Box 66

No → Did the PWS meet the required annual replacement minimum calculated by the PWS by physically replacing LSLs or replacing LSLs through testing?
141.84(b)(2)

Box 65

No → Go to Box 55.

Box 69

Did PWS submit written documentation to the primacy agency no later than 12 months after the end of a monitoring period in which the lead action level was exceeded that included information regarding the material evaluation conducted as required when selecting samples sites for tap sampling (§ 141.86(a)); identification of the initial number of LSLs in its distribution system at the time the PWS exceeds the lead action level (including an identification of the portion(s) owned by the PWS); and the schedule for annually replacing at least 7 percent of the initial number of LSLs in its distribution system?
141.84(b)(1)
141.90(e)(1)

Box 6

No → Did the PWS provide a Tier 2 Public Notice?
141.203

Box 56

Yes → Go to PN Rule Flowchart

Box 57

No → PN Violation Code 75
Go to PN Rule Flowchart for RTC

Box 60

No further action.

Box 61

TT code 64 (Ccode 5000) for a PWS which exceeds the lead AL after implementation of applicable corrosion control and/or source water treatment requirements (whichever sampling occurs later) and fails to meet any of the following: 1) replace the required amount of lead service lines (LSLs) by the annual deadline; 2) report the required LSL information on time that demonstrates that the replacement rate was met; 3) where the system does not replace the entire LSL, provide notice and guidance to residents at least 45 days before LSLR begins (unless a shorter notification period is allowed), and collect a tap sample within 72 hours of completing the partial LSLR; 4) mail and/or post results of the analysis to the owner and residents within 3 days of receipt of the results; or 5) report information that you deem necessary to assess whether the system met its partial LSLR monitoring and notification requirements.

1: PWS must provide Tier 2 public notice.

RTC:
2. PWS must complete all lead service line replacement requirements by: 1) replacing the required amount of lead service lines (LSLs) in accordance with §§141.84(a) & (b); 2) reporting the required LSL information, in accordance with §141.90(e) that demonstrates that the replacement rate was met. 3) In cases of where the system does not replace the entire LSL (i.e., "partial LSLR replacement"), by providing notice and guidance to residents to minimize their exposure to lead, collecting a tap sample after completing the partial LSLR, mailing and/or post results of the analysis to the owner and residents; and 4) reporting information to the State that you deem necessary to assess whether the system met its partial LSLR monitoring and notification requirements. Note you can also RTC if you meet the lead AL for two consecutive monitoring periods even if you haven't replaced 7% of lead service lines that year.
3. Enter return to compliance date as the date the PWS met lead action levels for two consecutive monitoring periods, LSLs were replaced, the required information was reported, or if partial replacement was conducted, the date notice and guidance were provided, tap samples were collected, the results were mailed or posted, or report confirming partial LSLR was done properly.
4. Once steps 2-3 are completed, PWS has RTC.

141.84(a) & (b), 141.84(d)(1) & (2); & 141.90(e)

Box 55

First year of LSL replacement begins on the first day following the end of the monitoring period in which the action level was exceeded.

If tap monitoring is required annually or less frequently, the end of the monitoring period is September 30 of the calendar year in which the sampling occurs. If the primacy agency established an alternate monitoring period, the end of the monitoring period is that last day of that period.

141.84(b)(1)

Box 5

Did the PWS submit written documentation to the primacy agency by the end of the 12 month monitoring period that it: 1) replaced in the previous 12 months at least 7 percent of the initial lead service lines (or greater percentage if required by primacy agency) by providing number of LSLs scheduled to be replaced during the previous year and the number and location of each LSL replaced during the previous year, or 2) conducted sampling which demonstrated that individual LSL samples were ≤ 0.015 mg/L with the supporting water lead concentration results and location of each LSL sampled, the sampling method, and the date of sampling? Note: The rule states that PWSs must provide this information every 12 months and does not include a specified timeframe following the 12 month period.
141.90(e)(2)
141.90(e)(2)(i)
141.90(e)(2)(ii)
141.90(e)(3)

Box 7

No → Go to Box 55.

Box 47

Yes → The PWS is not required to replace an individual LSL if the lead concentration in all service line samples from that individual line are < 0.015 mg/L. (Note that this is commonly referred to as "replaced through testing.") PWS is not required to collect LSL samples prior to partial or full LSL replacement, but may voluntarily collect samples to determine if they may be replaced through testing.

If PWS conducts this sampling, it would determine the percent replacement for the year by including the total number of LSLs replaced and the total number of LSLs replaced through testing in its calculation.
141.84(c)

Box 8

Did primacy agency require that the PWS replace its LSLs on a shorter schedule than 7% (i.e., >7%) per year?
141.84(e)

Box 9

Yes → Primacy agency had 6 months after the PWS was triggered into LSLR to make this determination.

Box 31

No → Did PWS meet the required annual replacement minimum of 7% by physically replacing LSLs or replacing LSLs through testing?
141.84(b)(1)
141.84(b)(2)

Box 10

No → Go to Box 55.

Box 32

Yes → Was all of the replacement for this period replaced through testing?
141.84(c)?

Box 11

Yes → Go to Box 24

Box 33

No → Did the PWS replace LSLs for which it did not own the entire line?
141.84(d)

Box 12

Yes → Go to Box 13

Box 12a

Did primacy agency require that the PWS replace its LSLs on a shorter schedule than 7% (i.e., >7%) per year?
141.84(e)

Box 9

Yes → Primacy agency had 6 months after the PWS was triggered into LSLR to make this determination.

Box 31

Did PWS meet required annual replacement minimum designated by the primacy agency by physically replacing LSLs or replacing LSLs through testing?
141.84(b)(1)
141.84(b)(2)
141.84(e)

Box 48

No → Go to Box 55.

Box 32

Yes → Go to Box 11

Box 58

Did PWS notify the owner of the privately-owned portion of the LSL (or the owner's authorized agent), that the PWS would be replacing the portion of the LSL owned by the PWS?
141.84(d)

Box 13

Yes → Did the PWS offer to replace the privately-owned portion of the line.)
141.84(d)

Box 14

Yes → In all cases, did PWS replace the entire LSL including the privately-owned portion? Note: the next series of boxes up to box 23 include requirements for partial LSLRs. These requirements do not apply if PWS replaces entire LSL regardless of who owns it.
141.84(d)

Box 15

No → Did the PWS notify residents served by the LSL at least 45 days prior to the partial LSLR about the potential for a temporary increase in lead levels, provide guidance on measures to minimize lead exposure, and inform residents that the PWS will collect a sample from the LSL at the PWSs expense within 72 hours of completing the partial replacement?
141.84(d)(1)

Box 16

No → For each partial LSLR, did PWS collect LSL sample, as prescribed under 141.86(d)(3), that is representative of the water in the service line within 72 hours after completing the partial LSLR?
141.84(d)(1)

Box 17

Yes → Was LSL sample collected promptly?
141.86(d)(3)

Box 19

Yes → Go to Box 21

Box 19a

No → Go to Box 55.

Box 38

No → Did the primacy agency allow a shorter notification period because the LSLs were replaced in conjunction with emergency repairs?
141.84(d)(1)

Box 37

No → Go to Box 55.

Box 50

No → Go to Box 55.

Box 18

No → Go to Box 55.

Box 34

No → Are there state, local, or common laws that precluded the PWS from replacing the privately-owned portion of the LSL?
141.84(d)

Box 35

Yes → Go to Box 15

Box 49

Yes → Go to Box 24

Box 36

No → Did the PWS report this information in a time and manner specified by the primacy agency?
141.90(e)(4)

Box 41

No → Go to Box 55.

Box 51

Yes → Did the primacy agency waive the requirement to report the sample results?
141.90(e)(4)

Box 40

No → Did the PWS report the results to the primacy agency within 10 days of the month following the month in which the PWS received the results from the laboratory (or as specified by the primacy agency)?
141.90(e)(4)

Box 22

No → Did the primacy agency require the PWS to report additional information (specified by the primacy agency) to verify that all partial LSLR activities have taken place?
141.90(e)(4)

Box 23

Yes → Did PWS report to its premises original records of all sampling data and analyses, reports, letters, and any other information applicable to LSLR requirements for no fewer than 12 years?
141.91

Box 24

No → **Other Code 09 (Ccode 5000) for a PWS that fails to retain on its premises original records of all sampling data and analyses, reports, surveys, letters, evaluations, schedules, primacy agency determinations, and any other information for no fewer than 12 years.**

RTC for 09:
1. PWS achieves compliance when it reports that it has begun proper recordkeeping or primacy agency verifies that the PWS is maintaining records.
2. Enter return to compliance code with the date of when the PWS returned to compliance.
3. Once steps 1-2 are complete, PWS has RTC.

Box 42

Yes → Go to Box 25

Box 36

Yes → Has PWS completed the LSLR program (i.e., physically replaced and/or replaced through testing all LSLs on the schedule required by the primacy agency?
141.84(b)

Box 25

Yes → Done with LSLR requirement. PWS no longer required to meet this provision unless subsequent first draw tap samples collected exceed the lead action level.
141.84(f)

Box 43

No → Done with LSLR requirement for this monitoring period. PWS will continue replacing LSLs or testing out of replacing LSLs next monitoring period unless first draw samples meet the lead action level in two consecutive monitoring periods.
141.84(b)(1)
141.84(f)

Box 26

LSLR Requirements

- LSLR commences if a PWS continues to exceed the lead AL after installing corrosion control treatment and/or source water treatment. 141.80(f), 141.84
- Primacy agency may also require LSLR if PWS is required to install corrosion control treatment and/or source water treatment and has not installed such treatment(s) by the deadline. 141.84(f)
- PWS must replace a minimum of 7 percent of its LSLs annually for as long as it continues to exceed the lead AL. 141.84(e)
- Partial LSLR occurs when PWS does not replace the entire line up to the building inlet (e.g., PWS does not replace the privately-owned portion due to legal restrictions or the owner's declining to have his/her portion replaced). PWS also must collect a sample that is representative of the water in the LSL that was partially replaced and have the sample analyzed for lead within 72 hours after partial replacement. 141.84(d)(1)
- PWS must offer to remove lead service lines that it does not own but is not required to pay for its removal.
- LSLR continues until all LSLs are replaced or PWS has two consecutive 6-month rounds where 90th percentile is below the AL.141.84(f)
- PWS must recommence LSLR if it has a lead ALE subsequently. 141.84(b)(2)

Box 26a

PWS LSLR Reporting Requirements to the Primacy Agency

PWS first triggered into LSLR must submit written documentation to primacy agency of the material evaluation conducted as required in §141.86(a), identify the initial number of lead service lines in its distribution system at the time they exceeds the lead AL, and its schedule for annually replacing at least 7 percent of the initial number of LSLs in the distribution system (141.84(e)(1)). (Note that primacy agency may require a shorter replacement schedule 141.84(e)).

Within 12 months after the end of a monitoring period in which a PWS is first triggered into LSLR and every 12 months thereafter, the PWS must submit an annual letter that:

Demonstrates in writing that it has either:
- Replaced in the previous 12 months at least 7 percent of the initial lead service lines (or a greater number of lines specified by the State under §141.84(e)) in its distribution system (141.84(e)(2)(i), or
- Conducted sampling which demonstrates that the lead concentration in all service line samples from an individual line(s) is ≤ 0.015 mg/L and that the total lines replaced (physically or through testing) equal at least 7 percent of the initial number of LSLs identified under paragraph (e)(1) of this section (or the percentage specified by the Primacy Agency under §141.84(e)).

141.90(e)(3) Each year the PWS is required to replace LSLs, it must submit an annual letter to primacy agency including:
- The number of LSLs scheduled to be replaced during the previous year of the system's replacement schedule (141.90(e)(3)(i)).
- The number and location of each LSL replaced during the previous year of the system's replacement schedule (unless this is the first year of LSLR) (141.90(e)(3)(ii)).
- If measured, the water lead concentration and location of each lead service line sampled, the sampling method, and the date of sampling (141.90(e)(3)(iii)).

Box 52

LSL Sampling Procedure

141.86(d)(3) Each service line sample shall be one liter in volume and have stood motionless in the lead service line for at least six hours. Lead service line samples shall be collected in one of the following three ways:
(i) At the tap after flushing the volume of water between the tap and the lead service line. The volume of water shall be calculated based on the interior diameter and length of the pipe between the tap and the lead service line;
(ii) Tapping directly into the lead service line; or
(iii) If the sampling site is a building constructed as a single-family residence, allowing the water to run until there is a significant change in temperature which would be indicative of water that has been standing in the lead service line.

Box 20

Lead and Copper Rule (LCR)
Logic Flowchart
Baseline Version
Tabs O to End
June 23, 2015
(File name: LCR Flowchart Baseline Tabs O on)
Note that letter R was not used for Tabs in this Flowchart

Tab O – Public Education for CWS

Tab O:
Initiate PE requirements. This flow determines compliance with the LCR Public Education requirements for CWSs with a lead ALE.
141.80(g)
141.85
Box 1

For PWSs that are required to conduct monitoring annually or less frequently, the end of the monitoring period is September 30 of the calendar year in which the sampling occurs, or, if the primacy agency has established an alternate monitoring period, the last day of that period.
141.85(b)(2)(vii)
Box 2

Is the PWS a
factory (such as a prison or a
hospital) where the population served
is not capable of or is prevented from making
improvements to plumbing or installing point of use-
treatment devices and the PWS provides water as
part of the cost of services provided and does
not separately charge for water
consumption?
141.85(b)(7)(i)
141.85(b)(7)(ii)
Box 3

Did PWS submit
all written public education
materials (see Content Requirements
in Box 78) to the primacy agency
prior to delivery?
141.85(a)(1)
141.85(a)(2)
Box 4

Does primacy
agency require PWS
to obtain approval of PE
content prior to delivery?
141.85(a)(1)
Box 5

Did PWS
deliver printed information
to all bill-paying customers, and include
all required content (see Content
Requirements in Box 78)?
141.85(b)(2)(i)
141.85(b)(3)(i)
Box 6

Did PWS conduct
with the primacy agency,
regarding "Additional Categories",
to determine which activities to implement
(see description of additional categories in
Box 48)
and the educational content
for those activities?
141.85(b)(2)(vi)
Box 7

Does PWS
serve 3,300 or fewer
people?
141.85(b)(8)
Box 8

Did the PWS
implement at least 3 of
the "Additional Categories"
activities listed in Box 48?
141.85(b)(2)(vi)
141.85(b)(3)(i)
Box 9

Did PWS meet
additional distribution
requirements to contact
customers most at risk, including
contacting local public health agencies
and other organizations (see
Distribution Requirements in Box 48)?
141.85(b)(2)(ii)
141.85(b)(3)(i)
Box 10

Did PWS submit
a press release to newspaper,
television, and radio stations based
on a schedule agreed upon with
the primacy agency?
141.(b)(2)(v)
141.85(b)(3)(iv)
Box 11

Go to Box 12

Box 11a

Yes
No

PWS has incurred a TT violation for PE. Continue to Box 8 to determine if PWS completed the remaining requirements.
Box 33

PWS has incurred a TT violation for PE. Continue to Box 10 to determine if PWS completed the remaining requirements.
Box 34

PWS has incurred a TT violation for PE. Continue to Box 11 to determine if PWS completed the remaining requirements.
Box 35

PWS has incurred a TT violation for PE. Continue to Box 12 to determine if PWS completed the remaining requirements.
Box 36

Go to Box 61 because PWS has incurred a TT violation.
Also continue to Box 5 to determine if PWS completed the remaining requirements.
Box 29

Did PWS obtain
approval from the primacy
agency prior to delivery?
141.85(a)(1)
Box 30

Go to Box 6.
Box 31

PWS has incurred a TT violation for PE. Continue to Box 6 to determine if PWS completed the remaining requirements.

Box 50

PWS has incurred a TT violation for PE. Continue to Box 7 to determine if PWS completed the remaining requirements.
Box 32

CWS Meeting NTNCWS Requirements

CWS may apply to primacy agency, in writing (unless the State has waived the requirement for prior primacy agency approval), to meet requirements for a NTNCWS if:

1) PWS is a facility, such as a prison or a hospital, where the population served is not capable of or is prevented from making improvements to plumbing or installing point of use treatment devices; and
2) PWS provides water as part of the cost of services provided and does not separately charge for water consumption.
141.85(b)(7)
Box 25

Does primacy
agency require the
PWS to apply in writing to
meet NTNCWS requirements
(discussed in Box 25)
instead of CWS
requirements?
141.85(b)(7)
Box 26

Did the CWS
opt to meet the NTNC
requirements only?
141.85(b)(7)
Box 27

Go to Box 4.
Box 28

Go to Tab P PE for
NTNCWSs.
Box 49

Did the PWS
apply to primacy agency, in
writing, to meet the NTNC
requirements only?
141.85(b)(7)
Box 64

Was application
approved by the primacy
agency?
141.85(b)(7)
Box 65

Go to Box 4.
Box 77

No

Distribution Requirements for PE Materials

Local public health agencies
CWS must contact customers most at risk by delivering education materials that meet the content requirements of Box 78, below, to local public health agencies even if they are not located within the water system's service area, along with an informational notice that encourages distribution to all the organization's potentially affected customers or CWS's users. CWS must contact local public health agencies directly by phone or in person. If local public health agencies provide a specific list of additional community based organizations serving target populations (including organizations outside the service area of the CWS) the CWS must deliver education materials that meet the content requirements of 141.85(a) to all organizations on the lists. (141.85(b)(2)(ii)(A))

Other organizations
CWS must also contact customers most at risk by delivering materials that meet the content requirements of Box 78, below, to the following locations located within the CWS' service area, along with an informational notice that encourages distribution to all of the organization's potentially affected customers or the CWS's users: public and private schools or school boards; Women Infants and Children (WIC) and Head Start programs; public and private hospitals and medical clinics; pediatricians; family planning clinics; and local welfare agencies. (141.85(b)(2)(ii)(B))

CWS must also make a good faith effort to locate licensed childcare centers, public and private preschools, and obstetricians-gynecologists and midwives within the service area and deliver the same materials as noted above to these organizations, along with an informational notice that encourages distribution to all potentially affected customers or users. This effort may involve requesting a list of these organizations from the local public health agencies contacted for the same purpose. (141.85(b)(2)(ii)(C))

Other Requirements
- CWS serving more than 3,300 customers must implement at least three of the following additional activities: Public Service Announcements (PSAs), paid advertisements, public area information displays, emails to customers, public meetings, household deliveries, targeted individual customer contact, direct material distribution to all multi-family homes and institutions, or other methods approved by the primacy agency.
- CWSs serving 3,300 or fewer customers must implement one of the additional activities listed above. 141.85(b)(8)
- The educational content and selection of the additional activities must be determined in consultation with the primacy agency.
- CWSs serving a population greater than 100,000 must post and retain material on a publicly accessible Web site. 141.85(c)(3)(ii)
- For as long as a CWS exceeds the action level for lead, it must provide required information on or in each water bill. 141.85(b)(2)(iii)

Box 48

i. Deliver to bill payers	within 60 days of end of monitoring period [1]	Every 12 months	No reduction	As long as PWS exceeds lead AL	If ALE recurs
ii. Deliver to organizations (see Box 41)	"	"	Reduced list of contacts[2]	"	"
iii. Bill inserts	"	No less than quarterly	No less than quarterly	"	"
iv. Post on web site (if serve >100K)	"	Post and retain on web site while have ALE	N/A	"	"
v. Press release	"	24/12 months[3]	Waived[4]	"	"
vi. 3 of Other Categories (see Box 41)	"	"	1 of Other Categories (see Box 41)	"	"

Note that for PWSs that sample annually or less frequently, the end of the monitoring period is not the last day of the calendar year, but September 30 of the calendar year in which the sampling occurred, or, if the primacy agency established an alternate monitoring period, the last day of that period.

[1] Facilities and organizations served by the PWS that are most likely to be visited regularly by pregnant women and children
[2] On schedule agreed to with primacy agency
[4] If PE is delivered directly to every household

141.85(b)(2) and 141.85(b)(3)
Box 76

Content Requirements for PE Materials

The following elements must be included in distributed PE materials, in the order listed below and must be included exactly as written below, except for bracketed text. Any additional information provided by the CWS must be consistent with the required information and must be in plain language:

IMPORTANT INFORMATION ABOUT LEAD IN YOUR DRINKING WATER. [INSERT NAME OF WATER SYSTEM] found elevated levels of lead in drinking water in some homes/buildings. Lead can cause serious health problems, especially for pregnant women and young children. Please read this information closely to see what you can do to reduce lead in your drinking water.

Health effects of lead. Lead can cause serious health problems if too much enters your body from drinking water or other sources. It can cause damage to the brain and kidneys, and can interfere with the production of red blood cells that carry oxygen to all parts of your body. The greatest risk of lead exposure is to infants, young children, and pregnant women. Scientists have linked the effects of lead on the brain with lowered IQ in children. Adults with kidney problems and high blood pressure can be affected by low levels of lead more than healthy adults. Lead is stored in the bones, and it can be released later in life. During pregnancy, the child receives lead from the mother's bones, which may affect brain development.

Sources of lead: explain what lead is; explain possible sources of lead in drinking water and how lead enters drinking water, including information on home/building plumbing materials and service lines that may contain lead; discuss other important sources of lead exposure in addition to drinking water (e.g., paint).

Discuss step that consumers can take to reduce their exposure to lead in drinking water: encourage running water to flush out the lead; explain concerns with using hot water from the tap and specifically caution against the use of hot water for preparing baby formula; explain that boiling water does not reduce lead levels; discuss other options consumers can take to reduce exposure to lead in drinking water, such as alternative sources or treatment of water; suggest that parents have their child's blood tested for lead.

Explain why there are elevated levels of lead in the system's drinking water (if known) and what the CWS is doing to reduce the lead levels in homes/buildings in this area.

For more information, call us at [INSERT YOUR NUMBER] [(IF APPLICABLE), or visit our Web site at [INSERT YOUR WEB SITE HERE]]. For more information on reducing lead exposure around your home/building and the health effects of lead, visit EPA's Web site at http://www.epa.gov/lead or contact your health care provider.

Tell consumers how to get their water tested and discuss lead in plumbing components and the difference between low lead and lead free.
141.85(a)(1)(i-vi) & 141.85(a)(2)(i-ii)

Box 78

Reporting Requirements for Proof of PE

A PWS required to provide Public Education shall, within ten days after the end of each period in which the PWS is required to perform public education send written documentation to the primacy agency that contains:

1) A demonstration that the PWS has delivered the public education materials that meet the content requirements in Box 78; 141.90(f)(1)(i) and
2) A list of all the newspapers, radio stations, television stations, and facilities and organizations to which the PWS delivered public education materials during the period in which the PWS was required to perform public education tasks. 141.90(f)(1)(ii)
-Unless required by the primacy agency, a PWS that previously has submitted the information required by 2), above, need not resubmit the information required in that section, as long as there have been no changes in the distribution list and the PWS certifies that the public education materials were distributed to the same list submitted previously.

141.90(f)(1)
141.90(f)(2)
Box 79

Does PWS
serve more than
100,000 people?
141.85(b)(2)(iv)
141.85(b)(3)(iii)
Box 12

Did PWS post
and retain the
material on its website?
141.85(b)(2)(iv)
141.85(b)(3)(iii)
Box 37

PWS has incurred a TT violation for PE. Continue to Box 13 to determine if PWS completed the remaining requirements.
Box 52

PWS is required to include specific text in each water bill no less often than quarterly, as long as it exceeds the lead action level. The message on the water bill must include the following statement exactly as written except for the text in brackets for which the water system must include system-specific information: [INSERT NAME OF WATER SYSTEM] found high levels of lead in drinking water in some homes. Lead can cause serious health problems. For more information please call [INSERT NAME OF WATER SYSTEM] [or visit [INSERT YOUR WEB SITE HERE]]. The message or delivery mechanism can be modified in consultation with the State; specifically, the State may allow a separate mailing of public education materials to customers if the water system cannot place the information on water bills.
141.85(b)(2)(iii)
Box 13

At least quarterly,
did PWS provide required
information listed in Box 13 on
or in each water bill or separately from
the water bill, with permission from
the primacy agency, if the PWS
cannot place the information
on bills?
141.85(b)(2)(iii)
141.85(b)(3)(ii)
Box 14

PWS has incurred a TT violation for PE. Continue to Box 15 to determine if PWS completed the remaining requirements.
Box 38

Did primacy agency
determine that PWS serves a
large proportion of non-
English speaking consumers?
141.85(b)(1)
Box 15

Did the PE materials
contain information in
the appropriate language(s)
regarding the importance of the notice or
contain a telephone number or address where
persons served may contact the PWS to obtain a
translated copy of the PE materials or to request
assistance in the appropriate language?
141.85(b)(1)
Box 54

PWS has incurred a TT violation for PE. Continue to Box 16 to determine if PWS completed the remaining requirements.
Box 53

Go to Box 16
Box 68

Is the PWS
already conducting PE
due to a previous ALE,
because it continues to
exceed the lead AL?
141.85(b)(2)
141.85(b)(3)
Box 16

PWS either:
1) Has an ALE for the first time; or
2) Has exceeded the AL again after having discontinued PE previously because it had at least six months without an ALE.
141.85(b)(2)
141.85(b)(6)
Box 39

Unless otherwise
noted in this FC, did
PWS conduct PE tasks,
within 60 days after the
end of the monitoring
period in which the
ALE occurred?
141.85 (b)(2)
Box 55

Go to Box 19
Box 69

Prior to the
60-day deadline, did
primacy agency approve
an extension to the
deadline in writing?
141.85(b)(3)(v)
Box 56

PWS has incurred a TT violation for PE. Continue to Box 19 to determine if PWS completed the remaining requirements.
Box 70

Did PWS
meet extension
deadline?
141.85(b)(3)(v)
Box 57

PWS has incurred a TT violation for PE. Continue to Box 19 to determine if PWS completed the remaining requirements.
Box 71

Go to Box 19
Box 58

Was press release
(discussed in Box 11)
conducted twice every 12
months?
141.85(b)(3)(iv)
Box 17

PWS has incurred a TT violation for PE. Continue to Box 18 to determine if PWS completed the remaining requirements.
Box 40

Unless otherwise
noted in this FC, did PWS
conduct PE tasks every
12 months?
141.85 (b)(3)
Box 18

PWS has incurred a TT violation for PE. Continue to Box 19 to determine if PWS completed the remaining requirements.
Box 41

Did PWS send
written documentation
that contains a demonstration
that the PWS delivered the PE
materials that meet the content and
delivery requirements (see Box 79) by the
10th day following the period in which
PWS was required to
perform PE (see Schedule
for PE in Box 76)?
141.90(f)
141.90(f)(i)
141.90(f)(ii)
Box 19

PWS has incurred a TT violation for PE. Continue to Box 20 to determine if PWS completed the remaining requirements.
Box 42

Did PWS send
written documentation
that contains a list of all
newspapers, radio stations, television
stations, and facilities and organizations to
which the PWS delivered PE materials (see Box
79) by the 10th day following the period in
which PWS was required to perform
PE (see Schedule for
PE in Box 76)?
141.90(f)
141.90(f)(ii)
Box 20

Did the PWS
previously submit
this information?
141.85(f)(2)
Box 43

PWS has incurred a TT violation for PE. Continue to Box 21 to determine if PWS completed the remaining requirements.
Box 44

Did the primacy
agency allow the PWS to
not resubmit the
information?
141.85(f)(2)
Box 59

PWS has incurred a TT violation for PE. Continue to Box 21 to determine if PWS completed the remaining requirements.
Box 60

Did PWS
certify that PE
materials were distributed to
the same distribution list submitted
previously and there had been no
changes
to the list?
141.85(f)(2)
Box 72

PWS has incurred a TT violation for PE. Continue to Box 21 to determine if PWS completed the remaining requirements.
Box 73

Go to Box 21
Box 82

Did PWS
offer to sample the tap
water of any customer who requests
it? (PWS is not required to pay for
collecting or analyzing the
sample, nor is PWS required
to collect and analyze
the sample itself.)
141.85(c)
Box 21

PWS has incurred a TT violation for PE. Continue to Box 22

Box 45

Did PWS incur
a TT violation for any
PE requirement in
this compliance
period?
141.85(a)
141.85(b)
Box 22

Under LCR, only one
65 violation can be
assigned even if
multiple instances of
the PE violations
occurred.
Box 46

TT code 65 (Code 5000) for failure to meet any of the following public education provisions:

- include all applicable content requirements;
- meet the delivery requirements; or
- report all required public education information to the primacy agency on time, within 10 days after the end of the period in which public education was required.

1. PWS must provide Tier 2 public notice.

RTC:
2. PWS must complete the public education requirements and provide a letter to the primacy agency that the public education requirements are completed.
3. Enter return to compliance date as the date of receipt of required public education materials described in Boxes 48, 76, 78, and 79.
4. Once steps 2-3 are completed, PWS has RTC.

Note: EPA will consolidate TT Code 65 violations by PWS and period.

141.85(a)&(b).
Box 61

Did PWS exceed
the lead AL in this
compliance
period?
141.85(b)(3)
Box 23

PWS is done with Public Education Requirements for this compliance period. PWS is not required to conduct PE in the next compliance period.

Box 24

PWS is done with Public Education Requirements for this compliance period. PWS is required to continue to comply with PE requirements in the next compliance period.

Box 24

Did the PWS provide a
Tier 2 Public Notice?
141.203
Box 62

PN Violation Code 75
Go to PN Rule Flowchart for RTC.
Box 63

Go to PN Rule
Flowchart.
Box 74

Go to Box 23
Box 75

Go to Box 13.
Box 80

Did PWS submit
a press release to newspaper,
television, and radio stations based
on a schedule agreed upon with
the primacy agency?
141.(b)(2)(v)
141.85(b)(3)(iv)
Box 81

Did primacy agency
waive the requirement
to submit a press release to
newspaper, television, and radio
stations?
141.85(b)(8)(ii)
Box 83

PWS has incurred a TT violation for PE. Continue to Box 13 to determine if PWS completed the remaining requirements.
Box 84

Did PWS distribute
notices to every household
served by the PWS twice every 12
months, based on a schedule
agreed upon with the primacy
agency?
141.85(b)(3)(iv)
141.85(b)(8)(iii)
Box 85

PWS has incurred a TT violation for PE. Continue to Box 13 to determine if PWS completed the remaining requirements.
Box 86

Baseline Version, 06/23/2015

Tab P – Public Education for NTNCWS

Tab P:
Initiate PE requirements for NTNCWSs. This flow determines compliance with the LCR Public Education requirements for NTNCWSs with a lead ALE.
141.80(g)
141.85
Box 1

For PWSs that are required to conduct monitoring annually or less frequently, the end of the monitoring period is September 30 of the calendar year in which the sampling occurs, or, if the primacy agency has established an alternate monitoring period, the last day of that period.
141.85(b)(4)(iii)
Box 2

Did the PWS submit all written public education materials (see content list in Box 53) to the primacy agency prior to delivery?
141.85(a)(1)
Box 3

Yes

No

Go to Box 41 because PWS has incurred a TT violation for PE.
Also continue to Box 4 to determine if PWS completed the remaining requirements.
Box 16

Does primacy agency require PWS to obtain approval of PE content prior to delivery?
141.85(a)(1)
Box 4

No

Yes

Did PWS obtain approval from the primacy agency prior to delivery?
141.85(a)(1)
Box 17

Yes

Go to Box 5, Box 18

No

PWS has incurred a TT violation for PE. Continue to Box 5 to determine if PWS completed the remaining requirements.
Box 31

Did PWS post informational posters on lead in drinking water in a public place or common area of each building served by the PWS, meeting the Content Requirements in Box 53?
141.85(b)(4)(i)
Box 5

No

PWS has incurred a TT violation for PE. Continue to Box 6 to determine if PWS completed the remaining requirements.
Box 19

Did PWS distribute informational pamphlets and/or brochures on lead in drinking water to each person served by the PWS, meeting the Content Requirements in Box 53?
141.85(b)(5)(ii)
Box 6

No

Does primacy agency allow the use of electronic transmission of materials in lieu of or in combination with printed materials?
141.85(b)(4)(ii)
Box 32

No

PWS has incurred a TT violation for PE. Continue to Box 7 to determine if PWS completed the remaining requirements.
Box 33

Yes

Did PWS provide the materials electronically or in combination with printed materials and achieve the same coverage?
141.85(b)(4)(ii)
Box 44

Yes

Go to Box 7
Box 54

No

PWS has incurred a TT violation for PE. Continue to Box 7 to determine if PWS completed the remaining requirements.
Box 45

Did primacy agency determine that PWS serves a large proportion of non-English speaking consumers?
141.85(b)(1)
Box 7

Yes

Did the PE materials contain information in the appropriate language(s) regarding the importance of the notice or contain a telephone number or address where persons served may contact the PWS to obtain a translated copy of the PE materials or to request assistance in the appropriate language?
141.85(b)(1)
Box 21

No

PWS has incurred a TT violation for PE. Continue to Box 8 to determine if PWS completed the remaining requirements.
Box 20

Yes

Go to Box 8
Box 34

No

Is the PWS already conducting PE due to a previous ALE, because it because it continues to exceed the lead AL?
141.85(b)(4)
141.85(b)(5)
Box 8

No

PWS either:
1) Has an ALE for the first time; or
2) Has exceeded the AL again after having discontinued PE previously because it had at least six months without an ALE.
141.85(b)(4)
141.85(b)(6)
Box 22

Did PWS conduct PE tasks within 60 days after the end of the monitoring period in which the ALE occurred?
141.85 (b)(4)
Box 35

No

Prior to the 60-day deadline, did primacy agency approve an extension to the deadline in writing?
141.85(b)(5)
Box 36

Yes

Did PWS meet extension deadline?
141.85(b)(5)
Box 37

Yes

Go to Box 10
Box 38

No

PWS has incurred a TT violation for PE. Continue to Box 10 to determine if PWS completed the remaining requirements.
Box 48

No

PWS has incurred a TT violation for PE. Continue to Box 10 to determine if PWS completed the remaining requirements.
Box 47

Yes

Go to Box 10
Box 46

Did PWS conduct PE tasks at least once every calendar year?
141.85 (b)(5)
Box 9

Yes

Go to Box 10
Box 9a

No

PWS has incurred a TT violation for PE. Continue to Box 10 to determine if PWS completed the remaining requirements.
Box 23

NTNCWS Schedule for PE

NTNCWS must begin PE after a lead ALE and repeat delivery until it has met the lead AL during the most recent six-month monitoring period. NTNCWS would be required to resume PE if it subsequently exceeds the AL during a future monitoring period.

	Initial	Repeat	End	Resume
i. Post posters	within 60 days of end of monitoring period [1]	Once each calendar year	After six months without ALE	If ALE recurs
ii. Distribute pamphlets or brochures (see Box 41)	"	"	"	"

[1] Note that for PWSs that sample annually or less frequently, the end of the monitoring period is not the last day of the calendar year, but September 30 of the calendar year in which the sampling occurred, or, if the primacy agency established an alternate monitoring period, the last day of that period.

141.85(b)(4) and 141.85(b)(5)

Box 30

Content Requirements for PE Materials

The following elements must be included in distributed PE materials, in the order listed below. Language in bold must be included exactly as written except for bracketed text. Any additional information provided by the NTNCWS must be consistent with the required information and must be in plain language:

IMPORTANT INFORMATION ABOUT LEAD IN YOUR DRINKING WATER. [INSERT NAME OF WATER SYSTEM] found elevated levels of lead in drinking water in some homes/buildings. Lead can cause serious health problems, especially for pregnant women and young children. Please read this information closely to see what you can do to reduce lead in your drinking water.

Health effects of lead. Lead can cause serious health problems if too much enters your body from drinking water or other sources. It can cause damage to the brain and kidneys, and can interfere with the production of red blood cells that carry oxygen to all parts of your body. The greatest risk of lead exposure is to infants, young children, and pregnant women. Scientists have linked the effects of lead on the brain with lowered IQ in children. Adults with kidney problems and high blood pressure can be affected by low levels of lead more than healthy adults. Lead is stored in the bones, and it can be released later in life. During pregnancy, the child receives lead from the mother's bones, which may affect brain development.

Sources of lead: explain what lead is; explain possible sources of lead in drinking water and how lead enters drinking water, including information on home/building plumbing materials and service lines that may contain lead; discuss other important sources of lead exposure in addition to drinking water (e.g., paint).

Discuss step that consumers can take to reduce their exposure to lead in drinking water: encourage running water to flush out the lead; explain concerns with using hot water from the tap and specifically caution against the use of hot water for preparing baby formula; explain that boiling water does not reduce lead levels; discuss other options consumers can take to reduce exposure to lead in drinking water, such as alternative sources or treatment of water; suggest that parents have their child's blood tested for lead.

Explain why there are elevated levels of lead in the system's drinking water (if known) and what the NTNCWS is doing to reduce the lead levels in homes/buildings in this area.

For more information, call us at [INSERT YOUR NUMBER] [(IF APPLICABLE), or visit our Web site at [INSERT YOUR WEB SITE HERE]]. For more information on reducing lead exposure around your home/building and the health effects of lead, visit EPA's Web site at http://www.epa.gov/lead or contact your health care provider.

141.85(a)(1)(i-vi)

Box 53

Reporting Requirements for Proof of PE

A PWS required to provide Public Education shall, within ten days after the end of each period in which the PWS is required to perform public education send written documentation to the primacy agency that contains:

1) A demonstration that the PWS has delivered the public education materials that meet the content requirements in 141.85(a) and
2) A list of all the newspapers, radio stations, television stations, and facilities and organizations to which the PWS delivered public education materials during the period in which the PWS was required to perform public education tasks. 141.90(f)(1)(i) and 141.90(f)(1)(ii)
-Unless required by the primacy agency, a PWS that previously has submitted the information required by 2), above, need not resubmit the information required in that section, as long as there have been no changes in the distribution list and the PWS certifies that the public education materials were distributed to the same list submitted previously.

141.90(f)(1)
141.90(f)(2)
Box 56

Did PWS send written documentation that contains a demonstration that the PWS delivered the PE materials that meet the content and delivery requirements (see Box 56) by the 10th day following the period in which PWS was required to perform PE (see Schedule for PE in Box 30)?
141.90(f)
141.90(f)(i)
141.90(f)(i)
Box 10

No

PWS has incurred a TT violation for PE. Continue to Box 11 to determine if PWS completed the remaining requirements.
Box 24

Did PWS send written documentation that contains a list of all the newspapers, radio stations, television stations, and facilities and organizations to which the PWS delivered PE materials (see Box 56) by the 10th day following the period in which PWS was required to perform PE (see Schedule for PE in Box 30)?
141.90(f)
141.90(f)(ii)
Box 11

No

Did the PWS previously submit this information?
141.85(f)(2)
Box 25

No

PWS has incurred a TT violation for PE. Continue to Box 12 to determine if PWS completed the remaining requirements.
Box 26

Yes

Did the primacy agency allow the PWS to not resubmit the information?
141.85(f)(2)
Box 39

No

PWS has incurred a TT violation for PE. Continue to Box 12 to determine if PWS completed the remaining requirements.
Box 40

Yes

Did the PWS certify that the PE materials were distributed to the same distribution list submitted previously and there had been no changes to the list?
141.85(f)(2)
Box 49

Yes

Go to Box 12
Box 55

No

PWS has incurred a TT violation for PE. Continue to Box 12 to determine if PWS completed the remaining requirements.
Box 50

Did PWS offer to sample the tap water of any customer who requests it? (PWS is not required to pay for collecting or analyzing the sample, nor is PWS required to collect and analyze the sample itself.)
141.85(c)
Box 12

No

PWS has incurred a TT violation for PE. Continue to Box 13

Box 27

Did PWS incur a TT violation for any PE requirement in this compliance period?
141.85(a)
141.85(b)
Box 13

Yes

Under LCR, only one 65 violation can be assigned even if multiple 65 violations were recieved.
Box 28

TT code 65 (Ccode 5000) for failure to meet any of the following public education provisions:
- include all applicable content requirements;
- meet the delivery requirements; or
- report all required public education information to the primacy agency on time, within 10 days after the end of the period in which public education was required.

1. PWS must provide Tier 2 public notice.

RTC:
2. PWS must complete the public education requirements and provide a letter to the primacy agency that the public education requirements are completed.
3. Enter return to compliance date as the date of receipt of required public education materials described in Boxes 30, 53, and 56.
4. Once steps 2-3 are completed, PWS has RTC.

Note: EPA will consolidate TT Code 65 violations by PWS and period.

141.85(a)&(b).
Box 41

Did the PWS provide a Tier 2 Public Notice?
141.203
Box 42

No

PN Violation Code 75
Go to PN Rule Flowchart for RTC.
Box 43

Yes

Go to PN Rule Flowchart.
Box 51

Go to Box 14
Box 52

Did PWS exceed the lead AL in this compliance period?
141.85(b)(3)

Box 14

No

PWS is done with Public Education requirements for this compliance period. PWS is not required to conduct PE in the next compliance period.

Box 15

Yes

PWS is done with Public Education Requirements for this compliance period. PWS is required to continue to comply with PE requirements in the next compliance period.

Box 29

Baseline Version, 06/23/2015

Tab Q – DEEM Determination

Tab Q: Deem
This flow determines whether a PWS can be deemed optimized for corrosion control.
141.81(b)

Box 1

Has the PWS submitted results of tap water monitoring and source water monitoring that demonstrates for two consecutive 6-month monitoring periods that the difference between the 90th percentile tap water lead level and the highest source water lead concentration is less than the Practical Quantitation Level for lead of 0.005 mg/L?
141.81(b)(3)
141.90(c)(1)

Box 2

Yes → PWS is deemed to have optimized corrosion control as a "b3 system." Go to Tab E, Box 83.
141.81(b)(3)

Box 3

No

Has the PWS demonstrated that the highest source water lead level is below the Method Detection Limit and the 90th percentile tap water lead level is less than or equal to the Practical Quantitation Level for lead of 0.005 mg/L for two consecutive 6-month monitoring periods?
141.81(b)(3)(i)

Box 5

Yes → PWS is deemed to have optimized corrosion control as a "b1 system." Go to Tab E, Box 83.
141.81(b)(1)

Box 3a

No

Does the PWS serve fewer than 50,001?

Box 5a

Yes → Did the PWS meet the lead and copper ALs during each of two consecutive six-month monitoring periods?

Box 5b

No → PWS does not meet criteria to be deemed optimized. Go to Tab E, Box 83.

Box 6

Definition of "Deemed":
If a PWS is deemed to have optimized corrosion control, it is not required to complete the applicable corrosion control treatment steps for such system. To be deemed, it must satisfy one of the criteria specified in Boxes 2 or 5 (the qualifications required to be considered a "b3 system") or, if it serves fewer than 50,000, if it meets the lead and copper ALs during each of two consecutive six-month monitoring periods (the qualifications required to be considered a "b1 system". See Tab E: 90th Percentile Calc). If a PWS is deemed to have optimized corrosion control, and it has treatment in place, it shall continue to operate and maintain optimal corrosion control treatment and meet any requirements that the primacy agency determines appropriate to ensure optimal corrosion control treatment is maintained.

Note: PWSs that serve ≤ 3,300 people, which are approved for a 9-year waiver, will never be considered on this FC, as the ability to meet the waiver criteria is stricter than deemed. Note also that another category under the "deemed" criteria, which permitted a PWS to demonstrate that it had conducted activities equivalent to corrosion control (the "b2 system" criteria), is no longer relevant. These criteria applied to PWSs with treatment in place prior to promulgation of the LCR.

141.81(b)
141.81 (b)(2)

Box 4

Tab U – SOWT Compliance 1

SOWT Requirements – Step 1
141.83(a)(1)

Box 1

Did PWS make a treatment recommendation (using one of the options included in 141.83(b)(2)), to the primacy agency no later than 180 days after the end of the monitoring period in which the action level was exceeded? Note: PWS may recommend that no treatment be installed based on demonstration that source water treatment is not necessary to minimize lead and copper levels at users' taps (Step 1).
141.83(a)(1)
141.83(b)(1)
141.90(d)(1)

Box 2

Yes → Did PWS report source water sample results to the primacy agency within 10 days following the 6 month monitoring period where the lead and/or copper action level was exceeded?
141.88(b)
141.90(b)(1)

Box 3

Yes → Did PWS collect required source water sample(s) no later than six months after the end of the monitoring period during which the lead or copper action level was exceeded? (For monitoring periods that are annual or less frequent, the end of the monitoring period is September 30 of the calendar year in which the sampling occurs, or if the State has established an alternate monitoring period, the last day of that period.)
141.83(a)(1)
141.88(b)

Box 4

Yes → Go to Tab Y SOWT sample eval

Box 5

Done with SOWT this compliance period.

Box 7

No

TT Violation 57 (Ccode 5000) for failure to submit a SOWT recommendation on time

1. PWS must provide Tier 2 public notice.

RTC:
2. RTC is achieved when a PWS submits its SOWT recommendation in accordance with 141.83(a)(1) & 141.90(d)(1), even if the recommendation is no source water treatment is required.
3. Enter return to compliance date as the date of receipt of consumer notice, certification, or correction.
4. Once steps 2-3 are completed, PWS has RTC.

Box 8

Did the PWS provide a Tier 2 Public Notice?
141.204(a)
141.403(d)

Box 11

No → PN Violation Code 75 Go to PN Rule Flowchart for RTC

Box 12

Yes → Go to PN Rule Flowchart

Box 16

Go to Box 3

Box 17

No

Reporting Violation 56 (Ccode 5000) for failure to provide all the sampling information on time.

RTC:
1. PWS must provide all sampling information to the primacy agency.
2. Enter return to compliance date as the date of receipt of sampling information.
3. Once steps 2-3 are completed, PWS has RTC.

Box 9

Yes → Go to Box 4

Box 13

No

Monitoring Violation 56 (Ccode 5000) for failure to collect required samples

1. PWS must provide Tier 3 public notice.

RTC:
2. PWS must collect the required number of samples in accordance with 141.88(a)(1) - (e)(3); using appropriate sampling procedures in accordance with 141.88(a)(1) and samples are analyzed properly in accordance with 141.89(a) and reported to the primacy agency.
3. Enter return to compliance date as the date of receipt of samples.
4. Once steps 2-3 are completed, PWS has RTC.

Box 10

Did the PWS provide a Tier 3 Public Notice?
141.204(a)

Box 14

No → PN Violation Code 75 Go to PN Rule Flowchart for RTC

Box 15

Yes → Go to PN Rule Flowchart

Box 18

Go to Box 5

Box 19

Tab W – Follow-up Sampling after OCCT

Tab W: Follow-up Monitoring
This flow determines compliance with follow up monitoring after treatment has been installed, before primacy agency has set OWQPs.

Box 1

Have > 24 months elapsed since primacy agency designated OCCT?
141.81(e)(6)

Box 2

Yes → Has PWS conducted any follow-up sampling?
141.81(e)(6)

Box 3

No → No additional CCT requirements apply until 24 months after primacy agency designates OCCT, when PWS must begin 6-month follow-up monitoring.

Box 8

PWS must complete two consecutive 6-month rounds of sampling after installation of OCCT and within 36 months after the primacy agency designates OCCT. These rounds are called "follow-up sampling".
141.81(e)(6)

Box 7

No → **Monitoring Violation 52 (Ccode 5000) for PWS which fails to comply with follow-up tap monitoring requirements**

1. PWS must provide Tier 3 public notice.

RTC:
2. RTC is achieved when the system collects the required number of tap samples using correct sampling procedures, conducts analyses using the correct procedures and reports required information to the primacy agency.
3. Enter return to compliance code with the date of the primacy agency received the report.
4. Once steps 2-3 are completed, PWS has RTC.

Box 4

Did PWS provide a Tier 3 Public Notice?
141.204

Box 5

No → PN Violation Code 75 Go to PN Rule Flowchart for RTC

Box 6

Yes → Go to PN Rule Flowchart

Box 12

No additional CCT requirements apply until PWS collects follow-up samples. PWS is on six-month follow-up monitoring schedule for subsequent monitoring period.

Box 13

Yes → Is this the first round of follow-up samples collected since primacy agency designated OCCT?
141.86(d)(2)

Box 9

Yes → Have > 30 months elapsed since primacy agency designated OCCT?
141.81(e)(6)

Box 10

No → Go to Tab D: Eval Result for Sample Validity.

Box 11

Yes → M/R 52 violation. Go to Box 4

Box 16

No → This is the second round of follow-up samples.
141.86(d)(2)

Box 15

Have > 36 months elapsed since primacy agency designated OCCT?
141.81(e)(6)

Box 18

No → Were two rounds collected in consecutive 6-month sampling periods?
141.86(d)(2)

Box 19

Yes → Go to Tab D: Eval Result for Sample Validity.

Box 20

No → M/R 52 violation. Go to Box 4.

Box 21

Yes → M/R 52 violation. Go to Box 4.

Box 21

Tab X – Initial WQP Monitoring M&R

This flow determines compliance with initial water quality parameter monitoring for new PWSs >50K or PWS recently increased over 50K.
141.87(b)
1

Is it past deadline specified by the primacy agency to collect the second round of initial tap and WQPs samples?
141.86(d)(1)
141.87(b)
142.16K

Box 5

No → Is it past deadline specified by the primacy agency to collect the first round of initial tap and WQPs samples?
141.86(d)(1)
141.87(b)
142.16(k)

Box 6

No → Primacy agency may not have scheduled initial tap and WQPs samples for PWS yet. PWS should contact primacy agency to determine when to begin collecting initial samples.
142.16(k)

Box 4

Yes → Did PWS collect the first round of initial WQPs samples before the deadline specified by the primacy agency?
141.87(b)
142.16(k)

Box 9

Yes → Go to Tab V: WQPs Eval Result

Box 10

No → Monitoring vio 53. Go to Box 20.

Box 13

Yes → Did PWS sample at taps and at each entry point to the distribution system during each of the two consecutive six-month initial tap monitoring periods?
141.87(b)
141.87(b)(2)
4

Go to Tab V: WQPs Eval Result

Box 4a

No → **Monitoring violation code 53**

1. PWS must provide Tier 3 public notice.

RTC:
2. PWS must collect the required number of WQP samples using correct sampling procedures and conduct analyses using the correct procedures.
3. Enter return to compliance date as the date on which PWS collects correct number of samples using correct sampling procedures, and reported to the primacy agency.
4. Once steps 2-3 are completed, PWS has RTC.

20

Did the PWS provide a Tier 3 Public Notice?
141.204

30

Yes → Go to PN Rule Flowchart

31

No → PN Violation Code 75 Go to PN Rule Flowchart for RTC

29

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Tab S – OCCT Compliance

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Tab T – WQP Compliance

Tab T: WQPs.
This flow determines compliance with water quality parameter monitoring.
141.87
1

Does PWS serve > 50,000 persons?
141.87(b)
2

Requirements for WQP monitoring

- Initial Sampling: All new PWSs that serve > 50,000 or existing PWSs that have increased population above 50,000 must conduct WQP monitoring during two consecutive 6-month monitoring periods. 141.87(b)
- PWSs that serve ≤ 50,000 only conduct WQP monitoring during the monitoring period in which they exceed a lead or copper AL. 141.87(b)
- WQP monitoring after installation of CCT: PWSs that serve > 50,000 must conduct WQP monitoring during two consecutive 6-month monitoring periods after installation of corrosion control (or follow-up monitoring). PWSs that serve ≤ 50,000 only conduct WQP monitoring durig the follow-up monitoring period in which they exceed a lead or copper AL. 141.87(c)
- PWSs that serve > 50,000 must begin ongoing WQP monitoring in the first 6-month period after the primacy agency sets OWQPs. PWSs that serve ≤ 50,000 only conduct WQP monitoring durig the follow-up monitoring period in which they exceed a lead or copper AL. 141.87(d)
- Section 141.86(d)(4)(i) allows PWSs that serve ≤ 50,000 to proceed to annual monitoring at the reduced number of sites if they meet the lead and copper action levels during each of two consecutive 6-month monitoring periods. Section 141.86(d)(4)(ii) allows any PWS that meets the lead action level and OWQPs for two consecutive 6-month monitoring periods to monitor annually at the reduced number of sites.
- Annual WQP tap monitoring for qualifying systems must begin during the CY following the end of the monitoring period in which the third consecutive year of 6-month monitoring occurs. 141.87(e)(2)(i)
- Triennial monitoring must begin no later than 3 CYs after the PWS qualifies for triennial monitoring. 141.87(e)(2)(i)
- Triennial WQP monitoring must be conducted no later than every third CY. 141.87(e)(2)(ii)
- PWSs that serve ≤ 50,000 that exceed an AL during reduced lead and copper tap monitoring must conduct 6-month WQP monitoring period in the same monitoring period as the lead and copper tap monitoring period in which the ALE occurred. 141.87(d)

Is PWS new or has it recently increased over 50K in population?
141.87(b)
15

Is it past deadline specified by the primacy agency to collect the second round of initial tap and WQPs samples?
141.86(d)(1)
141.87(b)
142.16K
5

Is it past deadline specified by the primacy agency to collect the first round of initial tap and WQPs samples?
141.86(d)(1)
141.87(b)
142.16(k)
6

Primacy agency may not have scheduled initial tap and WQPs samples for PWS yet. PWS should contact primacy agency to determine when to begin collecting initial samples.
142.16(k)
4

Did PWS collect the first round of initial WQPs samples before the deadline specified by the primacy agency?
141.87(b)
142.16(k)
9

Monitoring vio 53.
Go to Box 16.
13

~~Go to Tab V: WQPs Eval Result~~
~~10~~

Did PWS exceed ALE?
3

Did PWS install optimal corrosion control treatment as a result of a past ALE?
141.87(c)
17

Go to Box 26a
18

WQP monitoring requirements do not apply.
No further action.
141.87(b)
27

During the 6 month monitoring period in which the AL was exceeded, did the PWS collect 2 samples at each entry point to the distribution system for each applicable WQP, including: pH, alkalinity, orthophosphate (if an inhibitor containing a phosphate compound is used), silica (if an inhibitor containing a silica compound is used), calcium, conductivity, and water temperature)?
141.87(a)(2)(ii)
141.87(b)(2)
4

M/R violation code 53 for failure to collect the required number of WQP samples using correct sampling procedures and conduct analyses using the correct procedures. 141.87(a) - (e)

1. PWS must provide Tier 3 public notice.

RTC
2. PWS must collect the required number of WQP samples using correct sampling procedures and conduct analyses using the correct procedures.
3. Enter return to compliance date as the date on which PWS collects correct number of samples using correct sampling procedures, and reported to the primacy agency.
4. Once steps 2-3 are completed, PWS has RTC.

25

Did the PWS provide a Tier 3 Public Notice?
141.204
13

Go to PN Rule Flowchart
14

PN Violation Code 75
Go to PN Rule Flowchart for RTC
12

Were samples collected from locations representative of each source after treatment (and collected during periods of normal operating conditions, if the PWS draws from more than one source and sources are combined prior to distribution)?
141.87(a)(1)(ii)
5

M/R violation code 53 for failure to collect the required number of WQP samples.
Go to Box 25
19

During 6-month monitoring period in which the AL was exceeded, did the PWS collect 2 tap samples for each applicable WQP including: pH, alkalinity, orthophosphate (if an inhibitor containing a phosphate compound is used), silica (if an inhibitor containing a silica compound is used), calcium, conductivity, and water temperature)?
141.87(a)(2)(i)
141.87(b)(1)
6

M/R violation code 53 for failure to collect the required number of WQP samples.
Go to Box 25
21

PWS is in compliance with WQP requirements for this monitoring period.
6a

Does PWS have corrosion control treatment installed?
141.87(c)
26

WQP monitoring requirements do not apply.
141.87(b)
27

No further action.
Box 27a

Go to Box 37
26a

Did PWS sample at taps and at each entry point to the distribution system during each of the two consecutive six-month initial tap monitoring periods?
141.87(b)
141.87(b)(2)
4

~~Go to Tab V: WQPs Eval Result~~
~~4a~~

M/R violation code 53 for a new system that serves > 50,000 (or a PWS that increases population to > 50,000) that fails to collect/report the required number of valid sample results for lead and copper tap sampling and Water Quality Parameter monitoring during two consecutive six-month monitoring periods, unless an action level was exceeded in the first 6 month period. [141.86(a)-(c), 141.86(d)(1)(i), & 141.90]

1. PWS must provide Tier 3 public notice.

RTC:
2. PWS must collect the required number of WQP samples using correct sampling procedures and conduct analyses using the correct procedures.
3. Enter return to compliance date as the date on which PWS collects correct number of samples using correct sampling procedures, and reported to the primacy agency.
4. Once steps 2-3 are completed, PWS has RTC.

20

Did the PWS provide a Tier 3 Public Notice?
141.204
30

Go to PN Rule Flowchart
31

PN Violation Code 75
Go to PN Rule Flowchart for RTC
29

PWS is in compliance with primacy agency-specified parameters if it has no excursions for any specified parameter on more than 9 days during a 6-month monitoring period. An excursion occurs when the daily value of one or more WQPs measured at a sampling location is below the minimum value or outside the primacy agency-designated range. Primacy agencies may delete results of obvious sampling errors for calculations, which should be performed as follows:

1. On days when more than one measurement for the WQP is collected at the sampling location, the daily value is the average of all results collected during the day regardless of whether they are collected through continuous monitoring, grab sampling, or a combination of both. If EPA has approved an alternative formula under 142.16, the primacy agency's formula must be used to aggregate multiple measurements taken at a sampling point for the WQP.
2. On days when only one measurement for the WQP is collected at the sampling location, the daily value is the result of that measurement.
3. On days when no measurement is collected for the water quality parameter at the sampling location, the daily value is the daily value calculated on the most recent day on which the WQP was measured at the sample site.

141.82(g)
52

Did PWS collect at least 1 biweekly sample at every entry point to the distribution system for: pH; alkalinity; if alkalinity is adjusted as part of optimal CCT, a reading of the dosage rate of the chemical used to adjust alkalinity and the alkalinity concentration; and, when a corrosion inhibitor is used as part of optimal CCT, a reading of the dosage rate of the inhibitor used and concentration of orthophosphate and silica (whichever is applicable)?
141.86(d)(2)(i)
141.87(c)(2)
35

M/R violation code 53 for failure to meet their primacy agency-approved sampling plan for collecting Water Quality Parameters at representative entry point locations. 141.87(c)(2) & (c)(3)

1. PWS must provide Tier 3 public notice.

RTC:
2. PWS must meet their primacy agency-approved sampling plan for collecting Water Quality Parameters at representative entry point locations in the subsequent compliance period.
3. Enter return to compliance date as the date on which PWS collects samples according to the sampling plan, and reported to the primacy agency.
4. Once steps 2-3 are completed, PWS has RTC.

20

Did the PWS provide a Tier 3 Public Notice?
141.204
30

PN Violation Code 75
Go to PN Rule Flowchart for RTC
29

Go to PN Rule Flowchart
31

Is PWS a ground water PWS?
141.87(c)(3)
47

Prior to commencement of monitoring, did PWS provide primacy agency with written information identifying a subset of representative entry points with and without treatment, including information on seasonal variability, sufficient to demonstrate that the sites are representative of water quality and treatment conditions throughout the system?
141.87(c)(3)
141.90(a)(5)
57

Go to Tab V WQPs Eval Result
58

Is treated water mixed with untreated water sources?
141.87(c)(3)
59

GW PWS must collect samples from both representative entry points receiving treatment and representative entry points receiving no treatment.
141.87(c)(3)
60

GW PWS may limit entry point sampling to those entry points that are representative of water quality and treatment conditions throughout the system.
141.87(c)(3)
69

Did PWS monitor for WQPs both at representative entry points receiving treatment and representative entry points receiving no treatment?
141.87(c)(3)
61

Monitoring Violation 53
Go to Box 25
70

Go to Tab V WQPs Eval Result
62

Did PWS collect a 2 tap samples for pH, alkalinity, orthophosphate (if an inhibitor containing phosphate is used), silica (if an inhibitor containing a silica compound is used), and calcium (if calcium carbonate stabilization is used as part of CCT)?
141.87(c)(1)
37

M/R violation code 53 for failure to collect the required number of WQP samples.
Go to Box 25
28

Number of Tap Sample Sites Required: Routine Monitoring (141.87(a)(2)(i))

>100,000: 25
10,001 – 100,000: 10
3,301-10,000: 3
501-3,300: 2
<501: 1

Number of Tap Sample Sites Required: Reduced Monitoring (141.87(e)(1)

>100,000: 10
10,001 – 100,000: 7
3,301-10,000: 3
501-3,300: 2
<501: 1

54

Did PWS collect more samples than required?
141.87(f)
40

Go to Box 51
50

Were these additional results considered by the PWS and primacy agency in making WQP and CCT determination?
141.87(f)
41

PWS continues monitoring on 6 month cycle or reduces monitoring as primacy agency specifies.
51

Did primacy agency specify values for applicable WQPs reflecting optimal CCT?
141.87(d)
42

Has PWS maintained the range of values for WQP reflecting optimal CCT during 2 consecutive 6-month monitoring periods?
141.87(e)(1)
43

PWS may reduce monitoring to two tap samples for WQPs at the reduced number of sites specified in 141.87(e)(1) (see box 46) and, if applicable, must continue biweekly entry point monitoring as required under 141.87(c)(2).
141.87(e)(1)
63

Has PWS maintained the range of values for WQPs reflecting optimal CCT during 3 consecutive years of monitoring?
141.87(e)(2)(i)
64

PWS is not eligible for reduced monitoring. Continue monitoring every 6 months (reduced sampling sites for tap monitoring).
71

Did PWS collect annual samples evenly throughout the year to reflect seasonal variability?
141.87(e)(3)
65

M/R violation code 53 (Code 5000) for failure to collect the required number of WQP samples.
Go to Box 25
72

PWS may collect WQP tap samples from the reduced number of sites specified in 141.87(e)(1) on an annual basis (EPTDS sampling biweekly).
66

Has PWS maintained the range of values for WQPs reflecting optimal CCT during 3 consecutive years of annual monitoring or, during 2 consecutive monitoring periods, has the PWS demonstrated that its tap water lead level at the 90th percentile is less than or equal to the PQL for lead, that its tap water copper level 90th percentile is at or below 0.65 mg/L, and that it has maintained the range of values for WQPs reflecting optimal CCT specified by the primacy agency?
141.87(e)(2)(ii) and (ii)
67

TT violation code 59
Go to Box 44
68

Did PWS collect annual samples evenly throughout the year to reflect seasonal variability?
141.87(e)(3)
73

M/R violation code 53 (Code 5000) for failure to collect the required number of WQP samples.
Go to Box 25
74

Has PWS failed to operate at or above the minimum value or within the range of values for WQPs specified by the primacy agency in 141.82(f) for more than 9 days in any 6 month period?
141.87(e)(4)
75

TT violation code 59
Go to Box 44
76

PWS may collect tap samples from the reduced number of sites specified in 141.87(e)(1) on a triennial basis (entry point to the distribution system sampling biweekly). (See box 46.)
141.87(e)(2)
77

TT violation 59 (Code 5000) for failure to collect the required number of WQP samples using correct sampling procedures and conduct analyses using the correct procedures. 141.87(a) - (e)

1. PWS must provide Tier 2 public notice.

RTC:
2. PWS must maintain OWQP minimum or ranges in a subsequent monitoring period.
3. Enter return to compliance date as the date of receipt of sample results indicating compliance with OWQPs.
4. Once steps 2-3 are completed, PWS has RTC.
141.82(g)
44

Did the PWS provide a Tier 2 Public Notice?
141.204(a)
141.403(d)
45

PN Violation Code 75
Go to PN Rule Flowchart for RTC
55

Go to PN Rule Flowchart
46

PWS must continue monitoring in accordance with 141.82 during consecutive 6-month periods.
56

Tab V – WQP Eval Result

Tab V: WQPs.
This flow determines additional compliance with water quality parameter monitoring.
1

Were tap samples representative of water quality throughout the distribution system, taking into account number of people served, the different water sources, different treatment methods used, and seasonal variability?
141.87(a)(1)(i)
39

Tap sampling under this section is not required to be conducted at taps targeted for lead and copper sampling under § 141.86(a). [Note: Systems may find it convenient to conduct tap sampling for water quality parameters at sites used for coliform sampling under 40 CFR 141.21.]
141.87(a)(1)(i)
9a

Did PWS collect two tap samples for each applicable WQPs at the required number of sites?
(See Box 7)
141.87(a)(2)(i)
38a

M/R violation code 53 for failure to collect the required number of WQP samples.
Go to Box 25
48

PWS is required to collect tap samples at the following number of sites based on its population

>100,000	25
10,001-100,000	10
3,301 to 10,000	3
501 to 3,300	2
101 to 500	1
</=100	1

141.87(a)(2)(i)
7

Were entry point samples collected from locations representative of each source after treatment? (Note: if the PWS draws from more than one source and sources are combined prior to distribution, sample must be collected during periods of normal operating conditions, i.e., when water is representative of all sources being used).
141.87(a)(1)(ii)
36

M/R violation code 53 for failure to collect the required number of WQP samples.
Go to Box 25
48

Did PWS collect two entry point samples for each applicable WQP at each entry point to the distribution system?
141.87(a)(2)(ii)
38

M/R violation code 53 for failure to collect the required number of WQP samples.
Go to Box 25
48

Are these samples for initial monitoring?
36a

PWS is in compliance with WQP requirements for this monitoring period.
36b

Did PWS monitor for pH, alkalinity, orthophosphate (if an inhibitor containing a phosphate compound is used); silica (if an inhibitor containing a silicate compound is used); calcium; conductivity; and water temperature at taps and at each entry point to the distribution system?
141.87(b)(1)(i-vii)
5

M/R violation code 53 for failure to collect the required number of WQP samples.
Go to Box 25
48

Were sample results and all required documentation submitted within the first 10 days following the end of each applicable monitoring period? (For monitoring periods with a duration less than six months, the end of the monitoring period is the last date samples can be collected during that period.)
141.90(a)(1)
10

M/R violation code 53 for failure to report all required WQP results and information within 10 days from the end of the monitoring period, or earlier, if specified by the primacy agency.

1. PWS must provide Tier 3 public notice.

RTC:
2. PWS must submit all required monitoring information in accordance with 141.90(a)(vi)-(viii).
3. Enter return to compliance date as the date of receipt of consumer notice, certification, or correction.
4. Once steps 2-3 are completed, PWS has RTC.

Box 24

Did the PWS provide a Tier 3 Public Notice?
141.204
Box 33

PN Violation Code 75
Go to PN Rule Flowchart for RTC
32

Go to PN Rule Flowchart
34

PWS must make CCT recommendation.
Go to Tab 5 OCCT, Box 9
11

M/R violation code 53 for failure to collect the required number of WQP samples using correct sampling procedures and conduct analyses using the correct procedures. 141.87(a) - (e)

1. PWS must provide Tier 3 public notice.

RTC
2. PWS must collect the required number of WQP samples using correct sampling procedures and conduct analyses using the correct procedures.
3. Enter return to compliance date as the date on which PWS collects correct number of samples using correct sampling procedures, and reported to the primacy agency.
4. Once steps 2-3 are completed, PWS has RTC.

Box 25

Did the PWS provide a Tier 3 Public Notice?
141.204
Box 13

PN Violation Code 75
Go to PN Rule Flowchart for RTC
12

Go to PN Rule Flowchart
14

Baseline Version, 06/23/2015

Tab Z – SOW M&R and Treatment

Tab Z: Source Water Monitoring and Treatment (SOWT): This flow determines compliance with source water monitoring and treatment requirements for CWSs and NTNCWSs of all sizes.
141.80(e)
141.83
141.88

Box 1

Has PWS installed SOWT and has the primary agency/EPA designated MPLs for lead and copper in a previous compliance period?
141.83(a)

Box 2

Yes

Has the primary agency determined or the PWS, or other interested party, requested that the primary agency's determination of MPLs for the current treatment be modified?
141.83(b)(6)

Box 27

Yes

Did the modification request come from the PWS or an interested party?
141.83(b)(6)

Box 28

Yes

Was the request provided in writing, and did it explain why the modification was appropriate and include supporting documentation?
141.83(b)(6)

Box 29

No

In order for the primary agency to consider the request, the PWS or other interested party must provide, in writing, an explanation of why the modification is appropriate and supporting documentation.
141.83(b)(6)

Box 30

Go to Box 123

Box 31

No

Request came from primary agency. Did primary agency inform PWS in writing and explain the basis for the decision?
141.83(b)(6)

Box 61

No

Request for modification must be in writing. PWS does not need to modify MPLs.
Go to Box 16

Box 62

Yes

Did EPA review the suggested modification?
141.83(b)(7)

Box 84

No

When determining compliance for MPLs, the **primary agency/PWS** modified levels should be used in this compliance period.
Go to Box 16

Box 83

Yes

Did EPA agree with the suggested modification?
141.83(b)(7)

Box 95

No

Did EPA issue a federal determination that differed from the original MPLs?
141.83(b)(7)

Box 108

Yes

When determining compliance for MPLs, the **Federal** levels should be used in this compliance period.
Go to Box 16

Box 107

No

When determining compliance for MPLs, the **original** levels should be used in this compliance period.
Go to Box 16

Box 116

No

Has EPA determined that the MPLs for the current treatment be modified?
141.83(b)(6)
141.83(b)(7)

Box 106

Yes

No

Did the primary agency decide to modify the MPLs?
141.83(b)(6)

Box 85

No

Did the primary agency decide to modify their treatment?
141.83(b)(6)
141.83(b)(7)

Box 146

Yes

Did EPA review the suggested modification?
141.83(b)(7)

Box 145

Yes

Did EPA agree with the suggested modification?
141.83(b)(7)

Box 144

Yes

Go to Box 149

Box 143

No

Did EPA issue a federal determination to modify treatment?
141.83(b)(7)

Box 148

No

Go to Box 16

Box 147

Yes

Did the PWS modify their SOWT as instructed?
141.83(b)(6)
141.83(b)(7)

Box 149

No

Is PWS on a schedule approved by the primary agency/EPA to modify treatment?
141.83(b)(6)
141.83(b)(7)

Box 150

No

TT violation, code 63. Go to Box 77.

Box 151

Yes

PWS is required to meet SOWT requirements in the next compliance period.

Box 155

Done with SOWT this compliance period.

Box 161

Yes

Has the primary agency/EPA determined the new MPLs?
141.83(b)(6)
141.83(b)(7)

Box 154

No

PWS must wait until MPLs are determined to commence routine sampling. PWS is required to meet SOWT requirements in the next compliance period.

Box 152

Done with SOWT this compliance period.

Box 156

Yes

PWS is required to meet SOWT requirements in the next compliance period.

Box 164

Done with SOWT this compliance period.

Box 165

Was PWS notified of a lead and/or copper ALE in the previous compliance period?
141.83(a)(1)

Box 3

No

Was PWS in violation in the previous compliance period for not conducting source water monitoring after the end of the monitoring period in which the ALE occurred?
141.83(a)(1)

Box 3a

No

Has it been 6 months since the PWS submitted the source water monitoring results?
141.83(a)(2)

Box 4

No

The primary agency has 6 months after submission of the monitoring results to determine the type of treatment required, if any. PWS is required to meet SOWT requirements in the next compliance period.

Box 35

Done with SOWT this compliance period.

Box 65

Yes

Was this the first ALE the PWS has received?
141.83(a)(1)

Box 32

Yes

Has it been 6 months since the end of the monitoring period in which the ALE occurred?
141.83(a)(1)

Box 33

Yes

Go to Tab I3 (SOWT Treatment Step 1)

Box 34

No

PWS has 6 months (180 days) to complete Step 1 requirements. PWS is required to meet SOWT requirements in the next compliance period.

Box 64

Done with SOWT this compliance period.

Box 86

No

Go to Box 3a

Box 63

Did primary agency request any additional information to aid in its review of determining the SOWT?
141.83(b)(2)

Box 5

Yes

Did PWS provide the additional information by the primary agency in its request?
141.83(b)(2)

Box 36

Yes

Go to Box 6

Box 37

No

Reporting Violation 56 (Ccode 5000) for failure to provide all the sampling information on time.

RTC:
1. PWS must provide all sampling information to the primary agency.
2. Enter return to compliance date as the date of receipt of sampling information.
3. Once steps 1-2 are completed, PWS has RTC.
141.90(b)(1)&(2)

Box 66

Go to Box 6

Box 87

Did primary agency make a determination regarding source water treatment and notify the PWS in writing?
141.83(a)(2)
141.83(b)(2)

Box 6

No

Did EPA make a Federal treatment determination in lieu of the primary agency?
141.83(b)(7)(i)

Box 117

Yes

Go to Box 9

Box 118

No

No violation occurs if the primary agency or EPA doesn't make a determination. No further action for PWS until primary agency or EPA make a determination. If determination made, PWS is required to meet SOWT requirements in the compliance period following the determination.

Box 126

Done with SOWT this compliance period.

Box 133

Did PWS or an interested party request a modification to the primary agency-determined treatment?
141.83(b)(6)

Box 7

Yes

Was the request provided in writing, and did it explain why the modification was appropriate and include supporting documentation?
141.83(b)(6)

Box 88

No

In order for the primary agency to consider the request, the PWS or other interested party must provide, in writing, an explanation of why the modification is appropriate and supporting documentation.
141.83(b)(6)
Go to Box 8

Box 89

Yes

Did the primary agency decide to modify treatment from its original determination?
141.83(b)(6)

Box 96

No

If EPA reviews the determination, they will be reviewing the treatment determined by the primary agency.
Go to Box 8

Box 109

Yes

If EPA reviews the determination, they will be reviewing the treatment requested by the PWS and approved by the primary agency.
Go to Box 8

Box 97

No

Did EPA review the treatment determination?
141.83(b)(7)(ii)
141.83(b)(7)(iii)

Box 8

Yes

Did EPA issue a different treatment determination?
141.83(b)(7)(ii)
141.83(b)(7)(iii)

Box 38

Yes

The PWS is required to install the Federally determined treatment.
Go to Box 9

Box 39

No

The PWS is required to install treatment determined by the primary agency (or requested by the PWS).
Go to Box 9

Box 67

No

Was the PWS required to install treatment?
141.83(a)(2)
141.83(b)(2)

Box 9

Yes

Go to Box 16

Box 40

No

Has it been 24 months since the primary agency/EPA required the PWS to install treatment?
141.83(a)(2)
141.83(b)(3)

Box 10

Yes

The PWS has 24 months to install treatment upon being notified by the primary agency/EPA. PWS is required to meet SOWT requirements in the next compliance period.

Box 41

Done with SOWT this compliance period.

Box 68

No

Go to Tab X SOWT Step 3

Box 39a

Go to Box 11

Box 10b

Treatment decisions by EPA in lieu of the primacy agency may be made where EPA finds that:
(i) Primacy agency has failed to issue a treatment determination by the applicable deadlines contained in § 141.83(a),
(ii) Primacy agency has abused its discretion in a substantial number of cases or in cases affecting a substantial population, or
(iii) The technical aspects of a primacy agency's determination would be indefensible in an expected Federal enforcement action taken against a system.
141.83(b)(7)(i)-(iii)

Box 167

Standard Monitoring Frequency for PWSs with a specified maximum permissible limit (PML) or where treatment is not required

PWSs with a surface water source (including PWSs with combined surface and ground water sources) must conduct source monitoring once during each calendar year.

PWSs with a ground water source must conduct source water monitoring once every three years.

Box 168

The primacy agency or EPA must complete an evaluation of the results of all source water samples submitted by the water system to determine whether source water treatment is necessary to minimize lead or copper levels in water delivered to users' taps. If the primacy agency determines that treatment is needed, the primacy agency must either require installation and operation of the source water treatment recommended by the system (if any) or require the installation and operation of another source water treatment from among the following: ion exchange, reverse osmosis, lime softening or coagulation/filtration.
141.83(b)(2)

Box 169

The primacy agency or EPA must review the source water samples taken by the water system both before and after the PWS installs source water treatment, and determine whether the PWS has properly installed and operated the source water treatment designated by the primacy agency. Based upon its review, the primacy agency must designate the maximum permissible lead and copper concentrations for finished water entering the distribution system. These levels must reflect the contaminant removal capability of the treatment properly operated and maintained. The primacy agency must notify the PWS in writing and explain the basis for its decision.
141.83(b)(4)

Box 170

Has the primacy agency determined or the PWS, or other interested party requested that the primacy agency's determination on SOWT selection be modified?
141.83(b)(6)

Box 123

No

Has EPA determined that the SOWT be modified?
141.83(b)(6)
141.83(b)(7)
Box 124

Yes

Go to Box 149

Box 125

No

Go to Box 16

Box 132

Yes

Did the modification request come from the PWS or an interested party?
141.83(b)(6)

Box 137

Yes

Was the request provided in writing, and did it explain why the modification was appropriate and include supporting documentation?
141.83(b)(6)

Box 138

No

In order for the primacy agency to consider the request, the PWS or other interested party must provide, in writing, an explanation of why the modification is appropriate and supporting documentation.
141.83(b)(6)

Box 139

Go to Box 16

Box 140

No

Yes

Has it been 36 months since the primacy agency/EPA required the PWS to install treatment?
141.83(a)(4)

Box 11

No

Has it been 30 months since the primacy agency/EPA required the PWS to install treatment?
141.83(a)(4)

Box 69

No

PWS has 6 months to report first round of follow-up monitoring. PWS is required to meet SOWT requirements in the next compliance period.

Box 70

Done with SOWT requirements this compliance period.

Box 91

Yes

Go to Tab A8 SOWT Step 4 First Round

Box 90

Has it been 6 months since the PWS completed follow-up tap and source water monitoring?
141.83(a)(5)

Box 12

No

Go to Tab A7, SOWT Step 4 Second Round

Box 42

Yes

Has primacy agency reviewed the PWS's installation and operation of source water treatment and specified, in writing, the maximum permissible source water levels (MPLs) for lead and copper? (Step 5)
141.83(a)(5)

Box 13

No

Did EPA make a Federal treatment determination in lieu of the primacy agency (i.e., this case, review the results and establish MPLs)? (Step 5)
141.83(b)(7)(i)

Box 43

Yes

Go to Box 16

Box 44

No

No violation occurs if the primacy agency or EPA doesn't make a determination. No further action for PWS until primacy agency or EPA make a determination. If determination made, PWS is required to meet SOWT requirements in the compliance period following the determination.

Box 71

Done with SOWT this compliance period.

Box 92

Did PWS or an interested party request a modification to the primacy agency determining the SOWT?
141.83(b)(6)

Box 14

Yes

Was the request provided in writing, and did it explain why the modification was appropriate and include supporting documentation?
141.83(b)(6)

Box 93

No

In order for the primacy agency to consider the request, the PWS or other interested party must provide, in writing, an explanation of why the modification is appropriate and supporting documentation.
141.83(b)(6)
Go to Box 15

Box 94

Yes

Did the primacy agency decide to modify the MPLs from its original determination?
141.83(b)(6)

Box 98

Yes

If EPA reviews the determination, they will be reviewing the MPLs requested by the PWS and approved by the primacy agency.
Go to Box 15

Box 99

No

If EPA reviews the determination, they will be reviewing the MPLs determined by the primacy agency.
Go to Box 15

Box 110

Did EPA review the MPLs?
141.83(b)(7)

Box 15

Yes

Did EPA issue different MPLs?
141.83(b)(7)

Box 45

Yes

The PWS is required to use the federally determined MPLs for compliance.
Go to Box 16

Box 46

No

The PWS is required to use MPLs determined by the primacy agency (or requested by the PWS and approved by primacy agency).
Go to Box 16

Box 72

Did PWS meet the AL for lead and/or copper in tap samples (whichever specific contaminant triggered source water monitoring) in this compliance period?
141.88(d)(2)

Box 16

Yes

PWS is not required to conduct source water sampling in this compliance period and is not required to meet SOWT requirements in the next compliance period.
141.88(d)(2)

Box 46a

Done with SOWT requirements.

Box 73

No

Is PWS on reduced source water monitoring?
141.88(e)

Box 16a

Yes

Did the PWS report the source water sample results and any additional results to the primacy agency within 10 days following the nine-year compliance cycle?
141.90(b)(1)
141.90(g)

Box 47

Yes

Go to Box 19

Box 48

No

Note: PWSs that not on reduced monitoring, are not required to collect source water samples in the same compliance period where the tap samples are below the AL, as specified in 141.88(d)(2). EPA clarified in guidance that the exception was intended, as stated in the March 2010 *Lead and Copper Rule Monitoring and Reporting Guidance for Public Water Systems*, on page 78,"After the State has designated MPLs and/or determines that you are not required to install source water treatment, you are not required to collect any source water samples during any monitoring period in which your 90th percentile lead and copper levels of tap water samples are at or below their action levels for the entire source water monitoring period in effect. If your lead and copper tap and source water monitoring periods do not overlap, then source water monitoring is not required if your 90th percentile lead and copper levels from the last monitoring period were at or below their respective action levels." Therefore, this flow assumes that PWSs on reduced monitoring can also forego source sampling if the tab sample is below the ALE in the same compliance period.

Box 74

No

Reporting Violation 56 (Ccode 5000) for failure to provide all the sampling information on time.

1. PWS must provide Tier 3 public notice.

RTC:
2. PWS must provide all sampling information to the primacy agency.
3. Enter return to compliance date as the date of receipt of sampling information.
4. Once steps 2-3 are completed, PWS has RTC.
141.90(b)(1)&(2)
141.90(g)

Box 100

Go to Box 19

Box 111

Is this a surface water system (or combination of surface and ground sources)?
141.83(a)(6)
141.88(d)(1)(ii)

Box 17

No

Did the PWS report the source water sample results and any additional results to the primacy agency within 10 days following the three year compliance cycle?
141.88(d)(1)(i)
141.90(b)(1)
141.90(g)

Box 49

No

Reporting Violation
Go to Box 100

Box 75

Yes

Go to Box 19

Box 50

Yes

Did PWS report source water sample results and any additional results to the primacy agency within 10 days following the calendar year?
141.88(d)(1)(ii)
141.90(b)(1)
141.90(g)

Box 18

No

Reporting Violation
Go to Box 100

Box 51

Yes

Go to Box 19

Box 18a

Has PWS collected source water samples for the required timeframe to qualify for reduced monitoring? (Note: the required timeframes are as follows: PWSs with ground water source(s) -three consecutive compliance periods; surface source(s) – three consecutive years.)
141.88(e)(1)
141.88(e)(2)

Box 23

No

PWS does not qualify for reduced monitoring in the next compliance period.

Box 24

Yes

Does PWS treat the source water?
141.88(e)(1)(i)
141.88(e)(2)(i)

Box 56

No

Was lead ≤0.005 mg/L and copper ≤0.65 mg/L in all samples collected?
141.88(e)(1)(ii)

Box 57

Yes

PWS qualifies for reduced monitoring in the next compliance period. Begin reduced monitoring in next compliance period.
Go to Box 25

Box 58

No

PWS **does not** qualify for reduced monitoring in the next compliance period. Continue with standard monitoring unless the PWS meets the action level for both lead and copper tap samples in the next compliance period.
Go to Box 25

Box 82

Yes

Did PWS demonstrate that the finished drinking water entering the distribution system was maintained below the maximum permissible lead and copper concentrations?
141.88(e)(1)(i)

Box 81

No

Is PWS using a new source of water?
141.88(e)(3)

Box 103

No

PWS qualifies for reduced monitoring in the next compliance period. Begin reduced monitoring in next compliance period.
Go to Box 25

Box 104

Yes

For new sources, the PWS must continue source water monitoring under 141.88(d), or once every 3-year compliance period for ground water systems and annually for surface water systems, until concentrations in samples collected from the new source during 3 consecutive monitoring periods are below the maximum permissible lead and copper concentrations specified by the primacy agency.
141.88(e)(3)

Box 115

Did PWS demonstrate that the finished drinking water entering the distribution system was maintained below the maximum permissible lead and copper concentrations in three consecutive monitoring periods?
141.88(e)(3)

Box 121

No

PWS **does not** qualify for reduced monitoring in the next compliance period. Continue with standard monitoring unless the PWS meets the action level for both lead and copper tap samples in the next compliance period.
Go to 25

Box 122

Yes

PWS qualifies for reduced monitoring in the next compliance period. Begin reduced monitoring in next compliance period.
Go to Box 25

Box 131

Note: PWSs that are not on reduced monitoring are not required to collect source water samples in the same compliance period where the tap samples are below the AL, as specified in 141.88(d)(2). The same exception is not included for PWSs on reduced monitoring under 141.88(e). EPA clarified in guidance that the exception was intended, as stated in the March 2010 *Lead and Copper Rule Monitoring and Reporting Guidance for Public Water Systems* , on page 78,"After the State has designated MPLs and/or determines that you are not required to install source water treatment, you are not required to collect any source water samples during any monitoring period in which your 90th percentile lead and copper levels of tap water samples are at or below their action levels for the entire source water monitoring period in effect. If your lead and copper tap and source water monitoring periods do not overlap, then source water monitoring is not required if your 90th percentile lead and copper levels from the last monitoring period were at or below their respective action levels." However, because this language is not in the CFR, it is not modeled in this flow.

Box 105

Go to Tab Y SOWT sample eval

Box 19

Did results of source water monitoring indicate an exceedance of the maximum permissible source water levels for lead and/or copper?
141.83(b)(5)

Box 20

Yes

Note: In this circumstance, the primacy agency may require that one additional sample be collected as soon as possible after the initial sample was taken (but not to exceed two weeks) at the same sampling point. If a primacy agency-required confirmation sample is taken for lead or copper, then the results of the initial and confirmation sample must be averaged in determining compliance with the primacy agency-specified maximum permissible levels. Any sample value below the detection limit must be considered to be zero. Any value above the detection limit but below the PQL must either be considered as the measured value or be considered one-half the PQL.
141.88(a)(2)

Box 52

Did the primacy agency require additional samples?
141.88(a)(2)

Box 76

No

TT Violation 63 (Ccode 5000) for failure to meet either primacy agency-designated or approved MPL.

1. PWS must provide Tier 2 public notice.

RTC:
2. PWS must meet either primacy agency-designated or approved MPL in accordance with 141.83(b)(5) and collect samples from all locations during a subsequent compliance period. Note: A system is not required to meet State-designated MPLs when it is below both action levels during the entire source water monitoring periods in effect after incurring this violation, therefore the system can be considered RTC in the aforementioned scenario.
3. Enter return to compliance date as the date the PWS met the MPLs.
4. Once steps 2-3 are completed, PWS has RTC.
[141.83(b)(5)]

Box 77

Did the PWS provide a Tier 2 Public Notice?
141.204(a)
141.403(d)

Box 101

Yes

Go to PN Rule Flowchart

Box 102

No

PN Violation Code 75
Go to PN Rule Flowchart for RTC

Box 112

PWS is required to meet SOWT requirements in the next compliance period.

Box 113

Done with SOWT in this compliance period.

Box 114

Did PWS specify any site which was not sampled during previous monitoring periods (i.e., sampling point change)?
141.90(b)(2)

Box 21

Yes

Did PWS include an explanation of why the sampling point has changed?
141.90(b)(2)

Box 53

Yes

Go to Box 22

Box 54

No

Reporting Violation 56 (Ccode 5000) for failure to provide all the sampling information on time.

RTC:
1. PWS must provide all sampling information to the primacy agency.
2. Enter return to compliance date as the date of receipt of sampling information.
3. Once steps 1-2 are completed, PWS has RTC.
141.90(b)(2)

Box 78

Go to Box 22

Box 79

No

Is PWS on reduced monitoring?
141.88(e)

Box 23

Yes

PWS is required to meet SOWT requirements in the next compliance period.

Box 55

Done with SOWT this compliance period.

Box 80

No

Did PWS retain on its premises original records of all sampling data and analyses, reports, letters, and any other information applicable to SOWT requirements for no fewer than 12 years?
141.91

Box 25

No

Other Code 09 (Ccode 5000) for a PWS that fails to retain on its premises original records of all sampling data and analyses, reports, surveys, letters, evaluations, schedules, primacy agency determinations, and any other information for no fewer than 12 years.

RTC for 09:
1. PWS achieves compliance when it reports that it has begun proper recordkeeping or primacy agency verifies that the PWS is maintaining records.
2. Enter return to compliance code with the date of when the PWS returned to compliance.
3. Once steps 1-2 are complete, PWS has RTC.

Box 59

Yes

PWS is required to meet SOWT requirements in the next compliance period.

Box 26

Done with SOWT this compliance period.

Box 60

Source water treatment requirements:
Any PWS exceeding the ALE for lead or copper shall implement all applicable source water treatment requirements. If treatment is required, then all steps in this flow must be completed. Note that if the PWS thereafter exceeds the lead or copper AL during any monitoring period, the PWS (or the primacy agency, as the case may be) shall recommence completion of the applicable treatment steps, beginning with the first treatment step which was not previously completed in its entirety. The primacy agency may require a PWS to repeat treatment steps previously completed by the PWS where the primacy agency determines that this is necessary to implement properly the treatment requirements.
The steps in this flow include:
Step 1: PWS shall complete lead and copper source water monitoring (one source water sample from each entry point to the distribution system) no later than six months after the end of the monitoring period during which the lead or copper action level was exceeded (§141.88(i)) and make a treatment recommendation to the primacy agency (§141.83(b)(1)) no later than 180 days after the end of the monitoring period during which the lead or copper action level was exceeded.
Step 2: The primacy agency shall make a determination regarding source water treatment (§141.83(b)(2)) within 6 months after submission of monitoring results under step 1.
Step 3: If the primacy agency requires installation of source water treatment, the PWS shall install the treatment (§141.83(b)(3)) within 24 months after completion of step 2.
Step 4: The PWS shall complete follow-up tap water monitoring (§141.86(d)(2) and source water monitoring (§141.88(c)) within 36 months after completion of step 2.
Step 5: The primacy agency shall review the PWS's installation and operation of source water treatment and specify maximum permissible source water levels (MPLs) (§141.83(b)(4)) within 6 months after completion of step 4.
Step 6: The PWS shall operate in compliance with the primacy agency-specified MPLs (§141.83(b)(4)) and continue source water monitoring (§141.88(d)).
§141.83(a)(1)-(6)

BOX 166

Did PWS collect the sample within two weeks of when the initial sample was taken and average the confirmation sample with the initial result?
141.88(a)(2)

Box 119

No

Monitoring Violation 56 (Ccode 5000) for failure to collect the required number of source water samples using correct sampling procedures and conduct analyses using the correct procedures

1. PWS must provide Tier 3 public notice.

RTC:
2. PWS must collect the required number of samples in accordance with 141.88(a)(1) - (e)(3); using appropriate sampling procedures in accordance with 141.88(a)(1) and samples are analyzed properly in accordance with 141.89(a) and reported to the primacy agency.
3. Enter return to compliance date as the date of receipt of samples.
4. Once steps 2-3 are completed, PWS has RTC.
141.88(a)(1) - (e)(3) & 141.89(a)

Box 120

Did the PWS provide a Tier 3 Public Notice?
141.204(a)

Box 129

No

PN Violation Code 75
Go to PN Rule Flowchart for RTC

Box 130

Yes

Go to PN Rule Flowchart

Box 135

Go to Box 127

Box 136

Yes

Did the averaged result exceed the maximum permissible source water levels?
141.88(a)(2)

Box 127

No

Go to Box 21

Box 134

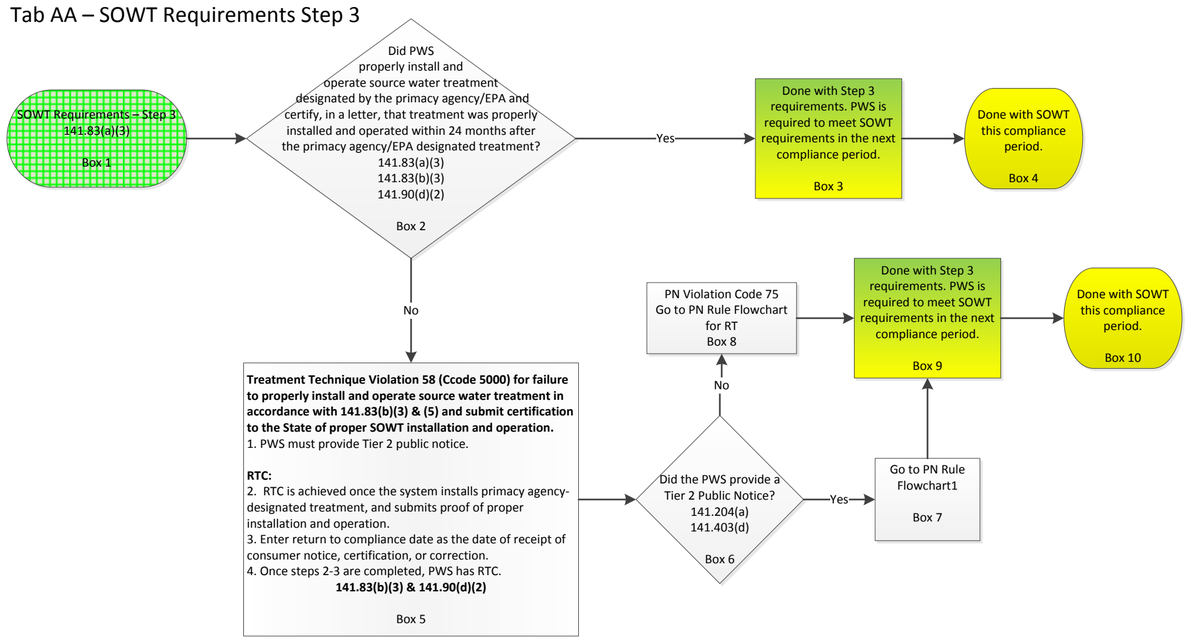
Yes

TT Violation
Go to Box 77

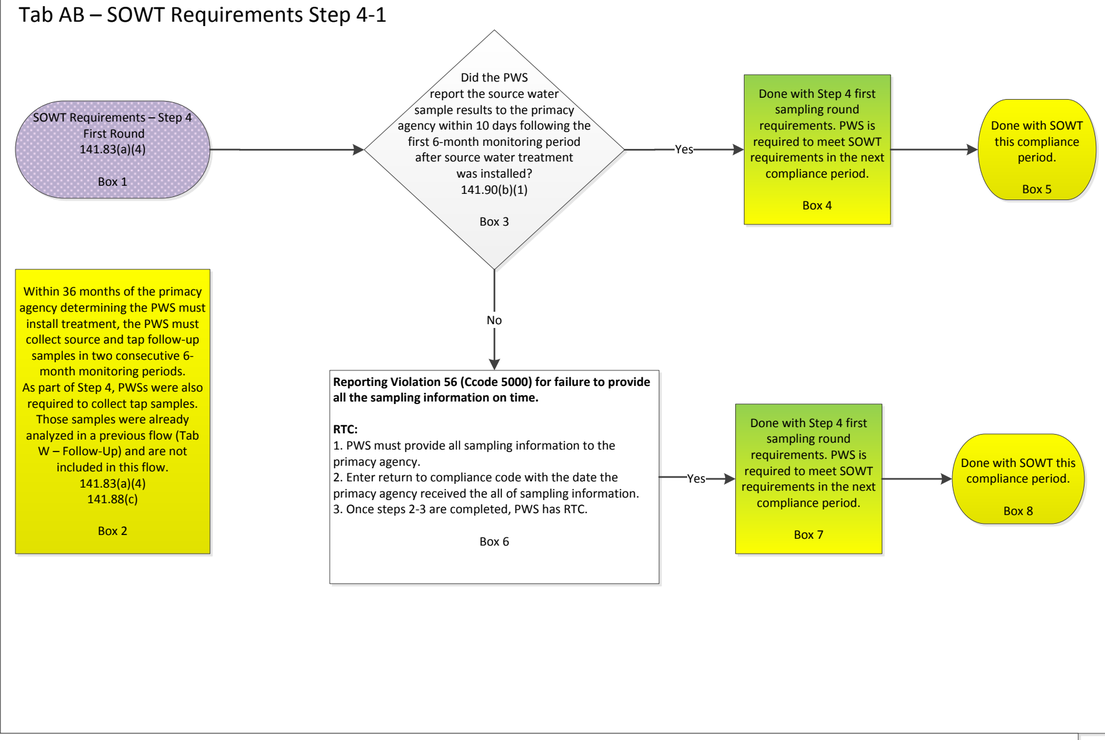
Box 128

Baseline Version, 06/23/2015

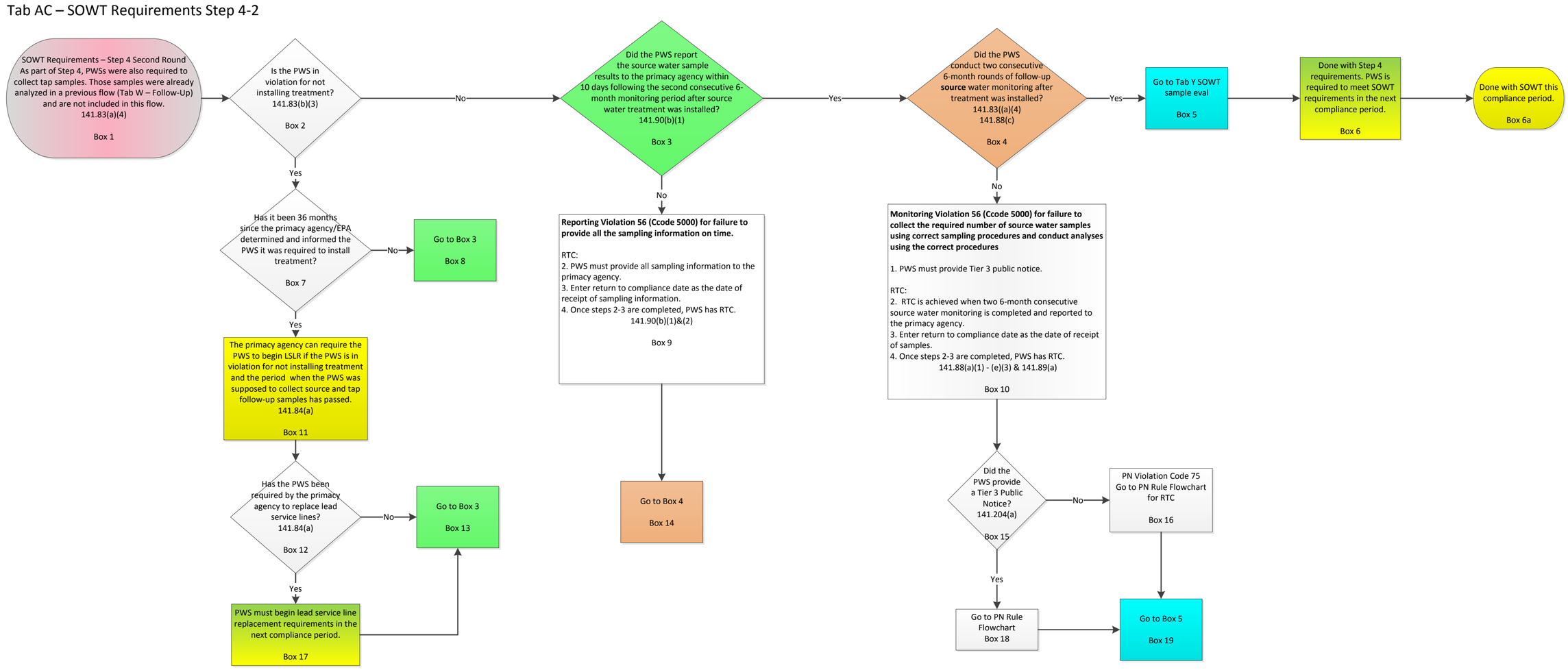
Tab AA – SOWT Requirements Step 3



Tab AB – SOWT Requirements Step 4-1



Tab AC – SOWT Requirements Step 4-2



Tab Y – Eval SOW Sample