



# Regulation Overview & Compliance Reminders

## Stage 2 Disinfection Byproduct (DBP) Rule, LT2 Rule, Lead & Copper Rule

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## Stage 2 Disinfectant and Disinfection Byproducts Rule

- Effective January 4, 2006
- Applies to all CWS and NTNC that deliver water treated with a primary disinfectant (not UV)
- EPA is the lead agency until CT regulations are revised
- Rule requires submittal of an Initial Distribution System Evaluation (IDSE)
- IDSE will be used to determine appropriate monitoring locations for Stage 2 compliance
- Many IDSE VSS waivers and 40/30 Certifications were issued
- All PWSs that received VSS waivers and 40/30 Certifications are required to submit a Compliance Monitoring Plan to the Department for review and approval.

# Stage 2 Disinfectant and Disinfection Byproducts Rule

- Maximum Contaminant Levels have not changed
  - TTHM MCL = 0.080 mg/L
  - HAA5 MCL = 0.060 mg/L
- Compliance will be based on a Locational Running Annual Average (LRAA)
- Schedules, Fact Sheets, Forms and links to additional information and guidance documents are available on the DWS website

## **Current Status:**

DWS is currently reviewing and approving Compliance Monitoring Plans. Schedule 1 and 2 PWSs have started compliance monitoring.



# Stage 2 Disinfectant and Disinfection Byproducts Rule

## Compliance Monitoring for the Stage 2 DBP Rule

|            |  |   |
|------------|--|---|
| Schedule 1 | Public water systems serving at least 100,000 people or part of a combined distribution system serving at least 100,000 people | Compliance Monitoring Begins:<br><b>April 1, 2012</b>   |
| Schedule 2 | Public water systems serving 50,000 to 99,999 people or part of a combined distribution system serving 50,000 to 99,999 people | Compliance Monitoring Begins:<br><b>October 1, 2012</b> |
| Schedule 3 | Public water systems serving 10,000 to 49,000 people or part of a combined distribution system serving 10,000 to 49,999 people | Compliance Monitoring Begins:<br><b>October 1, 2013</b> |
| Schedule 4 | Public water systems serving less than 10,000 people or part of a combined distribution system serving less than 10,000 people | Compliance Monitoring Begins:<br><b>October 1, 2013</b> |

# Stage 2 Disinfectant and Disinfection Byproducts Rule

- Public Waters Systems that have been granted either Very Small System (VSS) Waivers or 40/30 Certifications
  - Compliance Monitoring Plans are required to be submitted to the Department for review and approval prior to the Public Water Systems Schedules 1-4 compliance monitoring begin dates.
  - Public Water Systems can use the Compliance Monitoring Plan form that is available on our website:  
[http://www.ct.gov/dph/lib/dph/drinking\\_water/pdf/Stage\\_2\\_DPBR\\_Comp\\_Monitoring\\_Plan.pdf](http://www.ct.gov/dph/lib/dph/drinking_water/pdf/Stage_2_DPBR_Comp_Monitoring_Plan.pdf)  
Instructions for this form are also available on our website:  
[http://www.ct.gov/dph/lib/dph/drinking\\_water/pdf/Stage2\\_Comp\\_Mon\\_Instructions.pdf](http://www.ct.gov/dph/lib/dph/drinking_water/pdf/Stage2_Comp_Mon_Instructions.pdf)

# Stage 2 Compliance Calculations

## MCL - Locational RAA (LRAA)

- **Example:** A system begins monitoring and receives the following TTHM results (TTHM MCL = 0.080 mg/L) :
  - 4Q2012: 0.090 mg/L                      3Q2013: 0.110 mg/L
  - 1Q2013: No detect                        4Q2013: 0.090 mg/L
  - 2Q2013: 0.120 mg/L                      1Q2014: 0.090 mg/L
- **LRAA** are calculated at each Stage 2 DBPR sampling site for each quarter as follows:
  - 4Q2012:  $0.090 / 4 = 0.0225$  mg/L
  - 1Q2013:  $(0.090 + 0) / 4 = 0.0225$  mg/L
  - 2Q2013:  $(0.090 + 0 + 0.12) / 4 = 0.0525$  mg/L
  - 3Q2013:  $(0.090 + 0 + 0.12 + 0.11) / 4 = 0.080$  mg/L
  - 4Q2013:  $(0 + 0.12 + 0.11 + 0.09) / 4 = 0.080$  mg/L
  - 1Q2014:  $(0.12 + 0.11 + 0.09 + 0.09) / 4 = 0.1025$  mg/L

# Operational Evaluation Levels

- A PWS has exceeded the Operational Evaluation Level at any monitoring location where the sum of the two previous quarters' TTHM results plus twice the current quarter's TTHM result, divided by 4 to determine an average, exceeds 0.080 mg/L, or where the sum of the two previous quarters' HAA5 results plus twice the current quarter's HAA5 result, divided by 4 to determine an average, exceeds 0.060 mg/L.
- Operational Evaluation Levels must be calculated by the PWS each quarter for each sampling location
- If an Operation Evaluation Level at a sampling location is exceeded, the public water system must conduct an Operational Evaluation and a written report must be submitted to the Department within 90 days after being notified of the analytical result that caused the exceedance.

# Operational Evaluation Levels

- Operational Evaluations must include an examination of system treatment and distribution operational practices, including storage tank operations, excess storage capacity, distribution system flushing, changes in sources or source water quality, and treatment changes or problems that may contribute to TTHM & HAA5 formation and what steps could be considered to minimize future exceedances.
- The Operational Evaluation Level Guidance Manual is available on EPA's website at:  
[http://www.epa.gov/safewater/disinfection/stage2/pdfs/draft\\_guide\\_stage2\\_operationalevaluation.pdf](http://www.epa.gov/safewater/disinfection/stage2/pdfs/draft_guide_stage2_operationalevaluation.pdf)

# OEL Exceedance Formula

- For both TTHM and HAA5 and for each compliance monitoring location, calculate the following:

$$[ A + B + ( 2 \times C ) ] / 4 = D$$

Where:

- A = TTHM or HAA5 result for the quarter before the previous quarter (mg/L)
- B = TTHM or HAA5 result for the previous quarter (mg/L)
- C = TTHM or HAA5 result for the current quarter (mg/L)
- D = your Operational Evaluation Value (mg/L)

If D for TTHM is > 0.080 mg/L, you have an OEL Exceedance

If D for HAA5 is > 0.060 mg/L, you have an OEL Exceedance

# TTTHM OEL Calculations

| TTTHM Data             | March 2013 Results | June 2013 Results | September 2013 Results | Operational Evaluation Value For 3Q2013 |
|------------------------|--------------------|-------------------|------------------------|---|
| TTTHM OEL (0.080 mg/L) | A (mg/L)           | B (mg/L)          | C (mg/L)               | D = $[A+B+(2 \times C)]/4$              |
| Sampling Location #1   | 0.065              | 0.074             | 0.087                  | 0.078 mg/L                              |
| Sampling Location #2   | 0.064              | 0.072             | 0.084                  | 0.076 mg/L                              |
| Sampling Location #3   | 0.068              | 0.075             | 0.093                  | 0.082 mg/L                              |
| Sampling Location #4   | 0.066              | 0.070             | 0.082                  | 0.075 mg/L                              |

# HAA5 OEL Calculations

| HAA5 Data             | March 2013 Results | June 2013 Results | September 2013 Results | Operational Evaluation Value For 3Q2013 |
|-----------------------|--------------------|-------------------|------------------------|---|
| HAA5 OEL (0.060 mg/L) | A (mg/L)           | B (mg/L)          | C (mg/L)               | D = $[A+B+(2 \times C)]/4$              |
| Sampling Location #1  | 0.033              | 0.041             | 0.050                  | 0.044 mg/L                              |
| Sampling Location #2  | 0.042              | 0.048             | 0.055                  | 0.050 mg/L                              |
| Sampling Location #3  | 0.037              | 0.043             | 0.046                  | 0.043 mg/L                              |
| Sampling Location #4  | 0.083              | 0.075             | 0.072                  | <b>0.076 mg/L</b>                       |



# DBP Precursors Reporting (TOC & Alkalinity Results)

- Disinfection Byproduct (DBP) Precursors are now required to be submitted to the Department via Electronic Data Interchange (EDI)
- Public Water Systems are required to report all results for TOC, Alkalinity, Bromate, and Bromide electronically by the 9<sup>th</sup> of the month after the required monitoring period

# Long Term 2 Enhance Surface Water Treatment Rule

- Effective January 5, 2006
- Applies to all public water systems that use surface water or ground water under the direct influence of surface water
- EPA is the lead agency until CT regulations are revised
- Rule initially requires systems to conduct two years of source water *Cryptosporidium* monitoring
- Results of the monitoring will be used to determine if treatment upgrades are required
- Systems may propose previously collected *Cryptosporidium* monitoring data for grandfathering
- A second round of source water monitoring will be required starting in 2015
- Schedules, Fact Sheets, Forms and links to additional information and guidance documents are available on the DWS website

**Current Status:** All systems have completed initial monitoring. Only one system was required to obtain attain additional treatment credit.

# Lead and Copper Rule Short Term Revisions

- Minimum # of Samples Required (CFR141.80c3v)
  - 5 samples/monitoring period @ PWS' serving 100 people or less. Allows qualifying PWS' to collect <5 samples/monitoring period, if <5 taps, with State permission.
  - Qualifying PWS would be those with fewer than 5 taps for human consumption, and have been granted permission in writing from the State.
- Definition Clarifications (CFR 141.2)
  - Compliance Period means a three-year calendar year period within a compliance cycle. (January 1, 2008 to December 31, 2010).
  - Monitoring Period means the specific period in which water systems must conduct the required monitoring. (CP 1/1/2008 to December 31, 2008; MP June, July, August, September of 2008)



# CFR 141.85 - Public Education Requirements

- Public Education Requirements (CFR 141.85)
  - Revisions to message content, delivery requirements, and Consumer Confidence Report.
    - Delivery requirements revised to deliver materials to new organizations, engage in new outreach activities, post lead info on water bills, and issue two press releases during periods of lead action level exceedances.
    - Modify the CCR such that all systems would have to include info regarding the risks of lead in drinking water in their CCRs on a regular basis.

# CFR 141.85 (d) – Consumer Notice Requirements to provide a consumer notice of Lead tap water monitoring results to consumers who occupy homes or buildings that are tested for Lead.

- Consumer Notice (CFR 141.85 (d))
  - Systems must provide written notification to household occupants within 30 days after PWS learns of the results collected at those locations, and post or otherwise notify occupants of non-residential buildings of the results of lead testing.
  - Notification must include an explanation of lead health effects, steps consumers can take to reduce exposure, utility contact info, and the Lead Action Level.
  - Within 3 months following the end of the monitoring period, systems must submit a sample copy of the notification and a certification that the system met the delivery requirements to the State.

# CFR 141.84 (b)(2) – Reevaluation of lead service lines deemed replaced through testing

- Reevaluation of lead service lines deemed replaced through testing (CFR 141.84 (b)(2))
  - Reevaluation of lead service lines classified as “replaced through testing” if resuming Lead Service Line Replacement Program (LSLR).
  - Applies to Public Water Systems that had initiated LSLR, discontinued the program, and then resumed the program.

## **CFR 141.81 – Advanced Notification and Approval Requirements for Systems that intend to make any long-term change in water treatment or add a new source.**

- Advanced Notification & Approval Requirements for Public Water Systems that intend to make long-term change in treatment or add a new source. (CFR 141.81)
  - Mainly revised to prevent water systems from notifying the State and requesting approval for changes that are operational in nature or are made on a daily basis.
  - See CFR 141.90(a)(3) for EPA examples of long-term changes.



# Helpful Information

- DPH website: [www.ct.gov/dph](http://www.ct.gov/dph)
- DWS website: [www.ct.gov/dph/publicdrinkingwater](http://www.ct.gov/dph/publicdrinkingwater)
- DWS Phone: (860) 509-7333 (during business hours: M-F 8:30 am – 4:30 pm)
- DPH Main/Emergency phone: (860) 509-8000 (outside of business hours)
- US EPA website: <http://water.epa.gov/drink/index.cfm>
- EPA Small system info (including STEP, Quick Reference, Best Practices guides, & CUPSS): <http://water.epa.gov/type/drink/pws/smallsystems/index.cfm>



# Questions?

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