

# Drinking Water Program Update

## Region 4

Athens, GA  
October 2015

U.S. Environmental Protection Agency  
Office of Ground Water and Drinking Water  
Technical Support Center  
Cincinnati, OH

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## Office of Ground Water and Drinking Water (OGWDW)

- **Establishes drinking water regulations:**
  - Ensures availability of methods to support regulations.
  - Sets criteria for Water Supply (WS) Proficiency Testing (PT).
  - Develops technical and administrative certification criteria in support of regulations.
- **Oversees national drinking water laboratory certification program:**
  - Reviews EPA regional certification programs.
  - Conducts training of Certification Officers.
  - Revises Manual for the Certification of Laboratories Analyzing Drinking Water.
  - Provides Radiochemistry audit support for the Regions.
  - Attend The NELAC Institute (TNI) meetings and participate on the PT board.
- **Provides technical assistance to EPA Regions and States.**



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## Proficiency Testing (PT)

- EPA Guidance
  - USEPA National Standards for Water Proficiency Testing Studies Criteria Document
- TNI PT Provider Accreditors (PTPAs)
  - A2LA, ANAB/ACLASS
- PT Providers Acceptable to EPA or the State
  - Accredited by TNI PTPAs, or any acceptable to the State
- Laboratories
  - One PT per method/analyte per year for certification
- Certification Officers
  - Track PT studies for labs

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## Where can I find Water Supply (WS) PT criteria?

- Regulatory Acceptance Limits are in the CFR.
  - Called “Performance Evaluation” in the CFR.
    - Inorganic criteria: 40 CFR 141.23(k)(3)(ii)
    - VOC criteria: 40 CFR 141.24(f)(17)(i) and (ii) for vinyl chloride
    - SOC criteria: 40 CFR 141.24(f)(19)(i)(B)
    - Lead/copper criteria: 40 CFR 141.89(a)(1)(ii)(A) and (B)
    - DBP criteria: 40 CFR 141.131(b)(2)
- The NELAC Institute FoPT Tables.
  - <http://www.nelac-institute.org/>

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## Drinking Water Methods

Methods are approved through a Regulatory Approach or Expedited Method Approval Process.

- Many developed at EPA –TSC, ORD.
- Other government agencies – USGS.
- Some are available through vendors – Microbiology.
- Voluntary consensus method standards organizations (National Technology Transfer Act) - ASTM, Standard Methods, AOAC.
- Alternate Test Procedure (ATP) Program – 40 CFR 141.27  
Evaluates new or modified test method to determine if “equally effective” relative to a method already approved in regulations.



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## Drinking Water ATP Program

40 CFR 141.27

- ATP program evaluates modified or new testing methods (alternative testing procedures).
- ATP program does not have authority to approve alternate testing procedures.
- Methods must undergo sufficient validation to support their use at the national level (multi-lab/multi-DW matrices).
  - Single laboratory or Regional approvals are not allowed.

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## The Alternate Test Procedure (ATP) Program is Divided Between Drinking Water and Wastewater

	Drinking Water <sup>1</sup>	Wastewater <sup>2</sup>
Application Scope	National	National/Regional/ Laboratory
ATP Review	Any Change Not Allowed In The Method	Only Changes Not Covered by 136.6
Changes Generally Not Allowed	Preservation/ Extraction	Determinative Step

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## Method Approval

- Method approval can take two paths:
  - Promulgation through Notice-and-Comment Rulemaking
  - Expedited Method Approval Process

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## Regulatory Approach

- Proposal in Federal Register (FR)
  - Preamble & Rule
- Public Comment Period (60 – 90 days)
- Deliberative Period
- Response to Comment Document
- Publish Final Rule in FR
  - Incorporated into the Code of Federal Regulations

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## Expedited Method Approval Process

[http://water.epa.gov/scitech/drinkingwater/labcert/analyticalmethods\\_expedited.cfm](http://water.epa.gov/scitech/drinkingwater/labcert/analyticalmethods_expedited.cfm)

- SDWA allows addition of “equally effective” methods through publication of a FR notice after promulgation of approved methods.
  - “Equally effective” relative to methods already cited in the regulation.
- The Expedited Method Approval Process was proposed in April, 2007 (72 FR 17902) and the first action published June 3, 2008 (73 FR 31616).
- Expedited methods is an approval process whereby the signature authority of the Administrator is delegated to OW.
  - Non-regulatory process means faster approval (6 to 8 months versus 2 to 3 years).

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## Expedited Method Approval Process

[http://water.epa.gov/scitech/drinkingwater/labcert/analyticalmethods\\_expedited.cfm](http://water.epa.gov/scitech/drinkingwater/labcert/analyticalmethods_expedited.cfm)

- Frequency of approvals.
  - Anticipate publishing FR notices on an annual basis
- Listed in Appendix A to Subpart C of Part 141.
  - State adoption of alternative test methods is optional; however, if these methods are used, laboratory certification requirements extend to the use of methods approved through the expedited process.
- Expedited Method Approvals include:
  - Methods evaluated through the drinking water ATP program;
  - Voluntary Consensus Standard Body methods (Standard Methods and ASTM); and
  - New or revised EPA methods.

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## Expedited Method Approvals

- Expedited method approval *Federal Register* notices published since June 2008:
  - 73 FR 31616 (June 3, 2008)
  - 74 FR 38348 (August 3, 2009)
  - 74 FR 57908 (November 10, 2009)
  - 75 FR 32295 (June 8, 2010)
  - 76 FR 37014 (June 24, 2011)
  - 77 FR 38523 (June 28, 2012)
  - 78 FR 32558 (May 31, 2013)
  - 79 FR 35081 (June 19, 2014)
- Over 100 optional, alternative methods have been approved.

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## Where can I find Approved Methods?

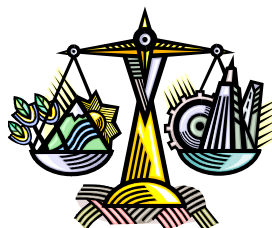
- Approved methods are listed on OGWDW's web site.
  - <http://water.epa.gov/scitech/drinkingwater/labcert/analyticalmethods.cfm>
  - PDF tables of approved methods now available.
    - Grouped by regulation/monitoring requirement, sorted by contaminant.
  - Some EPA methods are available in PDF format.
- National Environmental Methods Index (NEMI).
  - <https://www.nemi.gov/home/>

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## How does EPA/OGWDW decide what to Regulate?

- 1996 SDWA amendments changed the process:
  - Contaminant Candidate List (CCL)
  - Unregulated Contaminant Monitoring (UCMR)
  - Regulatory Determination
  - Regulatory Promulgation
  - Regulatory Implementation
  - Six Year Review



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## Contaminant Candidate List (CCL)

- The Safe Drinking Water Act (SDWA) requires EPA to list unregulated contaminants which are known or anticipated to occur in public water systems and which may require a national drinking water regulation in the future.
- Every five years, EPA must publish a list of contaminants called the Contaminant Candidate List (CCL).
- EPA uses the CCL to prioritize research and data collection efforts to inform the Agency's decision on whether we should regulate a specific contaminant.

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## Unregulated Contaminant Monitoring (UCM) Program

- Direct implementation with State partnerships.
- Collect data for suspected drinking water contaminants that do not have health-based standards set under SDWA.
- Review the list of contaminants, largely based on the CCL, every 5 years.
- Monitor no more than 30 contaminants per 5-year cycle.
- Monitor all large PWSs and a representative sample of PWSs serving < 10,000 people.

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## UCMR 3



### List 1 Assessment Monitoring

#### **VOCs**

1,2,3-trichloropropane  
1,3-butadiene  
Chloromethane (methyl chloride)  
1,1-dichloroethane  
Bromomethane (methyl bromide)  
Chlorodifluoromethane (HCFC-22)  
Bromochloromethane (halon 1011)

#### **SOCs**

1,4-dioxane

#### **Oxyhalide Anions**

Chlorate

#### **Perfluorinated Compounds**

perfluorooctane sulfonate (PFOS)  
perfluorooctanoic acid (PFOA)  
perfluorononanoic acid (PFNA)  
perfluorohexane sulfonic acid (PFHxS)  
perfluoroheptanoic acid (PFHpA)  
perfluorobutane sulfonic acid (PFBS)

#### **Metals**

Vanadium  
Molybdenum  
Cobalt  
Strontium  
Chromium  
Chromium-6

### List 2 Screening Survey

#### **Hormones**

17- $\beta$ -estradiol  
17- $\alpha$ -ethynylestradiol (ethinyl estradiol)  
16- $\alpha$ -hydroxyestradiol (estriol)  
Equilin  
Estrone  
Testosterone  
4-androstene-3,17-dione

### List 3 Pre-Screening

Enterovirus  
Norovirus

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## Regulatory Determination

- EPA makes regulatory determinations on at least 5 contaminants every 5 years
- Contaminants evaluated based on:
  - Adverse health effects
  - Known (or likely) to occur in PWSs at levels of public concern
  - Meaningful opportunity for health risk reduction

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## Regulatory Promulgation

- EPA proposes a regulation:  
[www.regulations.gov](http://www.regulations.gov)
- EPA considers comments and issues a final rule.
- The Regulation is codified in the Code of Federal Regulations.

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## Regulation Implementation

- State Primacy
  - State regulation at least as stringent as federal regulation
  - Direct oversight of public water systems within the State's jurisdiction
- EPA
  - Guidance & technical assistance
  - Drinking Water State Revolving Fund
  - Direct implementation/enforcement

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## Six Year Review of Drinking Water Standards

- SDWA requires EPA to review each NPDWR at least once every six years and revise if appropriate.
  - Unregulated contaminants, such as those being evaluated by the Contaminant Candidate List (CCL), are not covered by this review.
- Any change must maintain or increase public health protection.
  - MCLs can be lowered, but not raised because it might adversely affect public health.

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## Six Year Review of Drinking Water Standards

- The Technical Review Process Includes:
  - Health Effects Data
  - Current Technology
  - Other Regulatory Revisions
  - Occurrence/Exposure
- Potential Types of Regulatory Changes Include:
  - Changes to MCLGs/MRDLGs
  - Changes to MCLs/MRDLS
  - Changes to Treatment Technique Requirements
  - Changes to Other Technology
    - Best Available Technology
    - Compliance and Variance Technology
  - Changes to Monitoring Requirements
  - Changes to Other Regulatory Provisions
  - Dropping a Contaminant from Regulation

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## Regulation Development

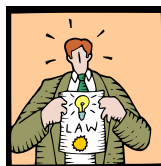
- Maximum Contaminant Level Goal (MCLG)
  - Microbial = zero
  - Chemical carcinogens usually zero
  - Non-carcinogens
    - Reference Dose (RfD)
    - Drinking Water Equivalent Level (DWEL)
- Maximum Contaminant Level (MCL) or Treatment Technique
  - Best Available Technology (BAT)
  - Analytical Method Availability
  - Health Risk Reduction and Cost Analysis

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## Recently Promulgated Regulations

- Revised Total Coliform Rule



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## Total Coliform Rule (TCR): Background

- Published in 1989, effective in 1990.
- The only microbial drinking water regulation that applies to all public water systems (PWSs).
- Rule objectives:
  - Ensure integrity of the distribution system.
  - Indicate effectiveness of treatment.
  - Indicate possible fecal contamination.
- Rule sets health goals (MCLG) and legal limits (MCL) for total coliforms (TC).
  - **Regular monitoring for microbial indicators is used to determine PWS success in meeting water quality goals.**
- Presence of fecal coliforms or *E. coli* with TC (+) samples determines acute MCL violations.

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## Revised Total Coliform Rule (RTCR)

78 FR 10270 February 13, 2013

<http://water.epa.gov/lawsregs/rulesregs/sdwa/tcr/regulation.cfm>

- Rule Proposal: 75FR40926, July 14, 2010.
- Final rule published 78FR10270, February 13, 2013.
- Final rule consistent with proposed rule with some changes made to ease implementation.

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## Resources



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## Radiochemistry Training

<http://www.epa.gov/safewater/radionuclides/training/index.html>

- Enhancing Radiological Laboratory Testing for Radionuclides in Drinking Water Training.
- Developed by EPA ORIA and TSC.
- Seven modules, a valuable resource for those auditing radiochemistry labs.

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## Code of Federal Regulations (CFR)

<http://www.gpo.gov/fdsys/>

- Codification of Federal Rules.
  - Rule language (no preamble).
- 50 titles - **Drinking Water is Title 40.**
- Published volumes are updated annually.
  - Title 40 is updated on July 1.
  - Incorporates all changes from previous year.
  - Available online.
- e-CFR updated frequently (not official version).



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## Websites

- OGWDW Website  
<http://water.epa.gov/drink/>
- Drinking Water Regulations  
<http://water.epa.gov/lawsregs/rulesregs/sdwa/currentregulations.cfm>
- Laboratory Certification  
<http://water.epa.gov/scitech/drinkingwater/labcert/index.cfm>
- Drinking Water Methods  
<http://water.epa.gov/scitech/drinkingwater/labcert/analyticalmethods.cfm>
- Federal Register Notices  
<https://www.federalregister.gov/>

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## Websites

- A2LA PT Providers  
<http://a2la.org/dirsearchnew/nelacptproviders.cfm>
- ANAB/ACCLASS PT Providers  
<http://www.aiclasscorp.com/search-accredited-companies.aspx?>
- EPA OIG hotline <http://www.epa.gov/oig/hotline/what2report.htm>
- OECA form to report suspected laboratory fraud  
<http://www.epa.gov/compliance/criminal/investigations/environmentalcrime.html>
- To report an environmental violation  
<http://www.epa.gov/compliance/complaints/index.html>

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