

Public Meeting and Webinar:

The Fourth Unregulated Contaminant Monitoring Rule (UCMR 4) Meeting Presentations

Held April 12, 2017
USEPA, Office of Ground Water and Drinking Water



The Fourth Unregulated Contaminant Monitoring Rule (UCMR 4)



Public Meeting and Webinar

April 12, 2017

10:00 a.m. ET

USEPA

Office of Ground Water and Drinking Water



Welcome

Gregory Carroll, USEPA



General Meeting Information

- Purpose
 - Describe the requirements of EPA's UCMR 4 and provide a forum for public questions and discussion
- Schedule
 - Break for lunch at noon ET
 - Resume at 1:30 p.m. ET
 - 10 minute break at approximately 2:30 p.m. ET
- Public questions and discussion at the end of the meeting

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Participating by Webinar

- Listen-only mode
- Click on "+" next to "Questions" in the control panel (Figure 1) to submit questions/comments
 - Type a question in the box; click send (Figure 2)
- Submit questions as soon as possible
 - Questions will be answered at the end of the presentations

Figure 1

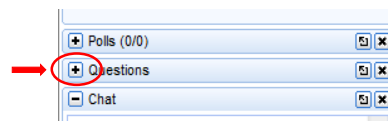
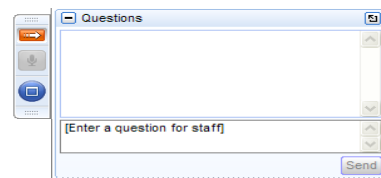


Figure 2



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Agenda		
10:00-10:10	Welcome, Introduction, Agenda	(10 minutes)
10:10-10:30	Overview of the UCMR Program	(20 minutes)
10:30-10:50	Overview of UCMR 4	(20 minutes)
10:50-11:40	UCMR 4 Sample Collection & Frequency	(50 minutes)
11:40-12:00	UCMR 4 Laboratory Approval Process and MRLs	(20 minutes)
	Q&A and Discussion – if presentations end early	(until lunch)
12:00-1:30	Lunch Break	(90 minutes)
1:30-2:30	SDWARS and Reporting Requirements	(60 minutes)
2:30-2:40	Risk Communication	(10 minutes)
2:40-2:50	Closing Remarks	(5 minutes)
2:50-3:00	Break	(10 minutes)
3:00-4:00	Q&A and Discussion	(60 minutes)

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Overview of the UCMR Program

Gregory Carroll, USEPA



Overview

- Regulatory background for UCMR
 - SDWA authority
 - Relationships to:
 - Contaminant Candidate List (CCL)
 - Regulatory Determination
 - Six-Year Review
- UCMR
 - Objectives
 - Approach
 - Implementation

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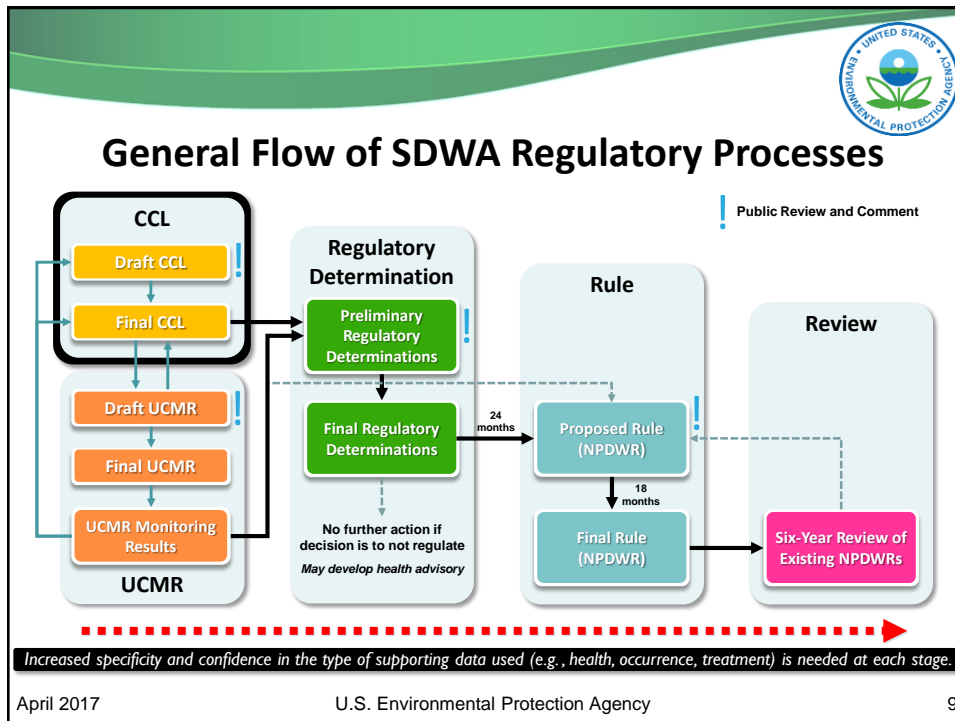
SDWA

- Passed in 1974, SDWA authorized EPA to set enforceable health standards for contaminants in drinking water
 - National Primary Drinking Water Regulations (NPDWRs)
- 1986 SDWA amendments were the basis for the original UCMR
 - State drinking water programs managed the original UCM program
 - PWSs serving > 500 people were required to monitor
- 1996 SDWA amendments changed the process of developing and reviewing NPDWRs
 - CCL
 - UCMR
 - Regulatory Determination
 - Six-Year Review

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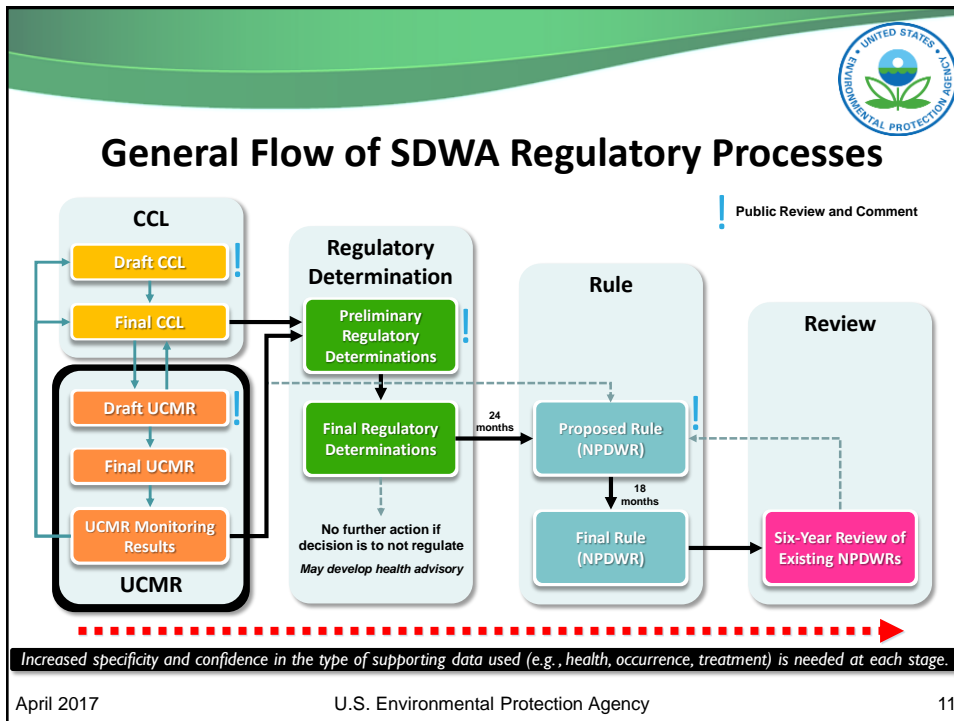


CCL

- List of priority unregulated contaminants
 - Published every five years
 - Known or anticipated to occur in public water systems (PWSs)
 - May require regulation under SDWA

The Final CCL 4 was published November 17, 2016 and included 97 chemicals or chemical groups and 12 microbes

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UCMR

- SDWA section 1445(a)(2), established requirements for the UCMR Program:
 - Issue list of no more than 30 unregulated contaminants, once every 5 years
 - Require PWSs serving population >10,000 people as well as a nationally representative sample of PWSs serving ≤10,000 people to monitor
 - Store analytical results in the National Contaminant Occurrence Database for Drinking Water (NCOD)
 - EPA funds shipping/analytical costs for small PWSs
- EPA manages program in partnership with states

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UCMR History

- UCMR 1 (2001-2005, 26 contaminants)
- UCMR 2 (2007-2011, 25 contaminants)
- UCMR 3 (2012-2016, 30 contaminants)
- UCMR 4 (2017-2021, 30 contaminants)
 - Published in the FR on December 20, 2016
 - PWSs monitor 2018-2020

Each new UCMR cycle is established via a revision to the rule for the ongoing/preceding cycle.

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Objective of UCMR Program

- Collect nationally representative occurrence data for unregulated contaminants that may require regulation under the SDWA
 - Consider data collected as part of future EPA decisions on actions to protect public health
 - Provide data to States, local governments and to the public for their use in decisions regarding public health protection.

National occurrence data publically available:

<http://www.epa.gov/dwucmr/occurrence-data-unregulated-contaminant-monitoring-rule>

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UCMR Approach

- UCMR approach relies on using one or more of 3 monitoring tiers
 - Assessment Monitoring (List 1)
 - Screening Survey (List 2)
 - Pre-Screen Testing (List 3)
- Based on:
 - Availability and complexity of analytical methods
 - Laboratory capacity
 - Sampling frequency
 - Relevant universe of PWSs
 - Other considerations (e.g., cost/burden)

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Typical UCMR System Applicability

	System Type	Systems Serving > 10,000	Systems Serving ≤ 10,000
Assessment Monitoring (List 1 Contaminants)	CWS & NTNCWS	All systems	800 randomly selected systems
Screening Survey (List 2 Contaminants)	CWS & NTNCWS	All systems serving more than 100,000, and 320 randomly selected systems serving 10,001 to 100,000	480 randomly selected systems
Pre-Screen Testing (List 3 Contaminants)	May be conducted by a limited number of PWSs		

NOTE: UCMR 4 only includes Assessment Monitoring for List 1 Contaminants

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General Process for Developing UCMR

- Early public stakeholder meetings
 - Discuss method development for emerging contaminants
 - Discuss anticipated elements of the proposal
- Agency development of the proposal
 - Includes a workgroup of multi-state and multi-office representatives, and tribal consultation
- Proposal publication in the Federal Register (FR)
 - Provides a 60-day public comment period
- Post-proposal public stakeholder meeting
- Final rule publication in the FR
- Post final-rule public stakeholder meeting
 - Review final rule and prepare for implementation

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EPA Implementation Roles

- Review, track and determine PWS applicability and monitor progress
- Coordinate Laboratory Approval Program
- Provide technical support to Regions, states, PWSs and laboratories
- Coordinate outreach
- Assist and support Regional compliance efforts

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EPA Implementation Roles

- Small PWS support:
 - Fund small system testing including: kits, sample analysis and shipping
 - Manage sample kit distribution
 - Maintain lab and implementation contracts to support UCMR
 - Conduct data review
- Large and small PWS support:
 - Manage SDWARS reporting system and support users
- Posts data to NCOD

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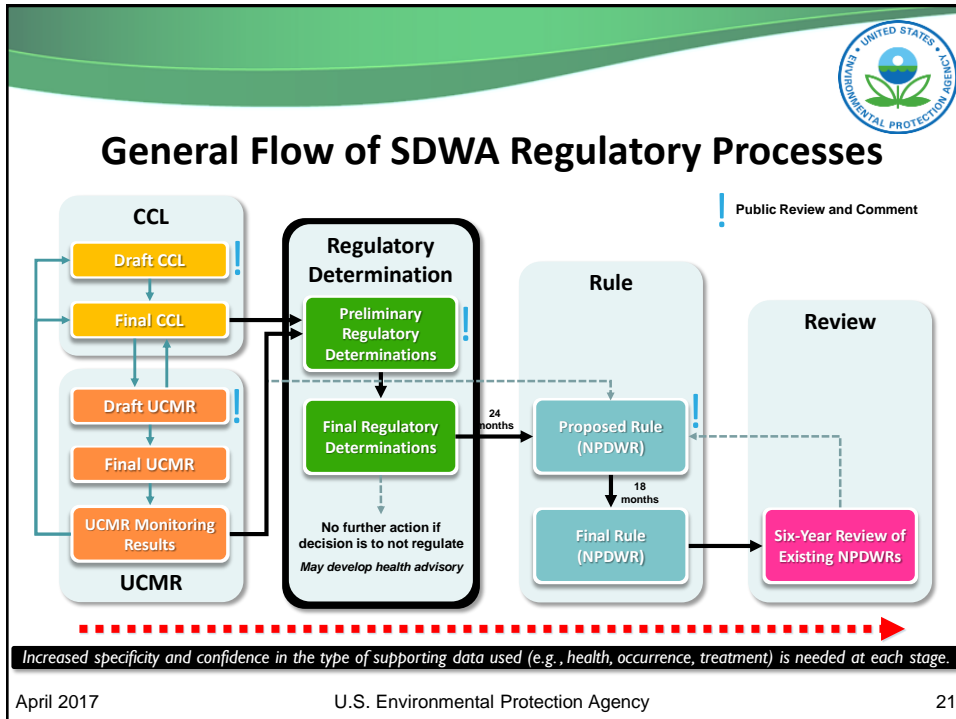
States' Role in the UCMR Program

- Participation by states, tribes and territories (herein after referred to as "States") is voluntary
- State roles are documented via Partnership Agreements (PAs)
- States help EPA implement the UCMR program; help to ensure high data quality
- PA activities can include any/all of the following:
 - Review and revise state monitoring plans (SMPs)
 - Provide inventory for small and large systems
 - Review and approve proposed ground water representative monitoring plans (GWRMPs)
 - Provide compliance assistance
 - Notify and instruct systems
 - Collect samples
 - Other

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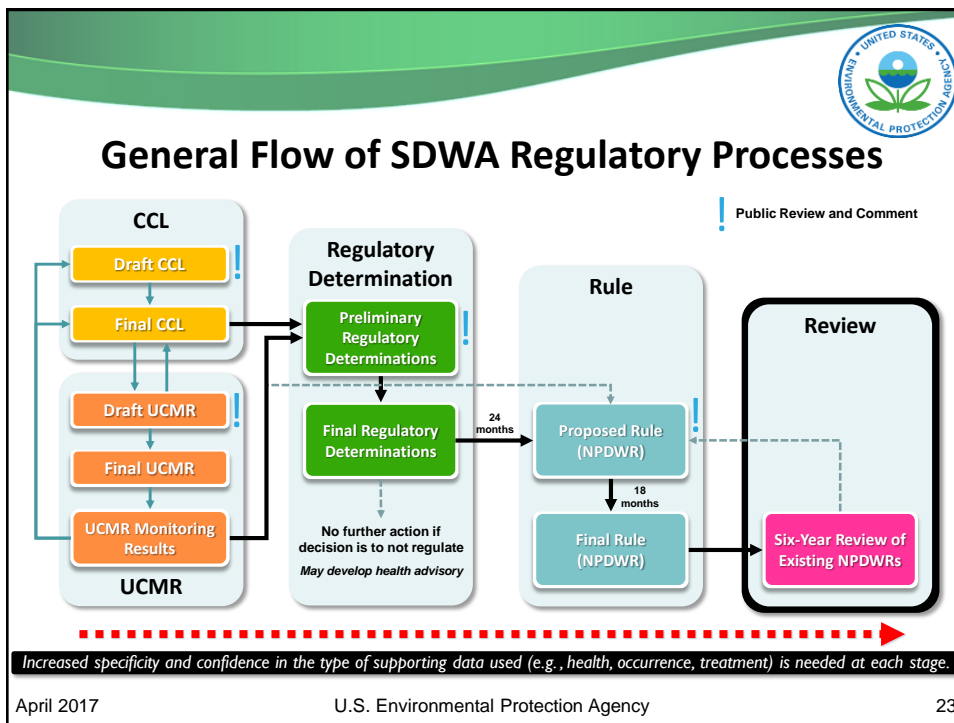
Regulatory Determinations

- Every five years, the Administrator shall, after notice of the preliminary determination and opportunity for public comment, for not fewer than five contaminants included on the CCL, make determinations on whether or not to regulate such contaminants.
- SDWA requires EPA to publish a maximum contaminant level goal (MCLG) and promulgate an NPDWR for a contaminant if the Administrator determines that:
 1. The contaminant may have an **adverse effect** on the health of persons;
 2. The contaminant is **known to occur or there is substantial likelihood** that the contaminant will occur in public water systems with a frequency and at levels of public health concern; **and**
 3. In the sole judgment of the Administrator, regulation of such contaminant presents a meaningful opportunity for health risk reduction for persons served by public water systems.



*SDWA Section 1412(b)(1)

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Six-Year Review

- Reviews existing NPDWRs and determines if a revision is appropriate
 - Includes the re-evaluation of exposure to regulated contaminants based on their health effects and occurrence in drinking water
 - Includes the evaluation of exposure to unregulated contaminants connected to regulated contaminants
- Any revisions to existing NPDWRs must maintain protection or provide for greater health protection
- Made every six years

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Overview of UCMR 4

Brenda Parris, USEPA



Overview

- Applicability
- Timeline
- Contaminants to be monitored, methods, MRLs, health information



General UCMR 4 Applicability

- All large CWSs and NTNCWSs serving more than 10,000
- Nationally representative sample of small CWSs and NTNCWSs
- TNCWSs are not required to monitor

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UCMR 4 Applicability to PWSs: Assessment Monitoring Design (List 1)

System Size (# of people served)	10 Cyanotoxins	20 Additional Chemicals*	Total # of Systems per Size Category
Small systems (25 – 10,000)	800 randomly selected SW or GWUDI systems	800 randomly selected SW, GWUDI and GW systems	1,600
Large systems** (10,001 and over)	All SW or GWUDI systems (1,987)	All SW, GWUDI and GW systems (4,292)	4,292
TOTAL	2,787	5,092	5,892

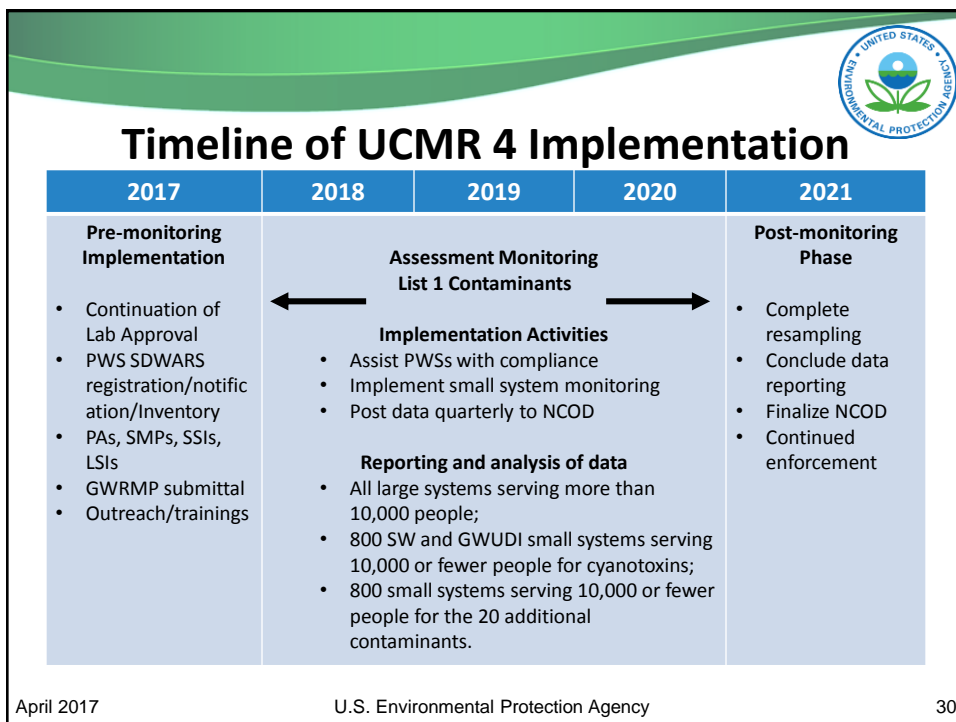
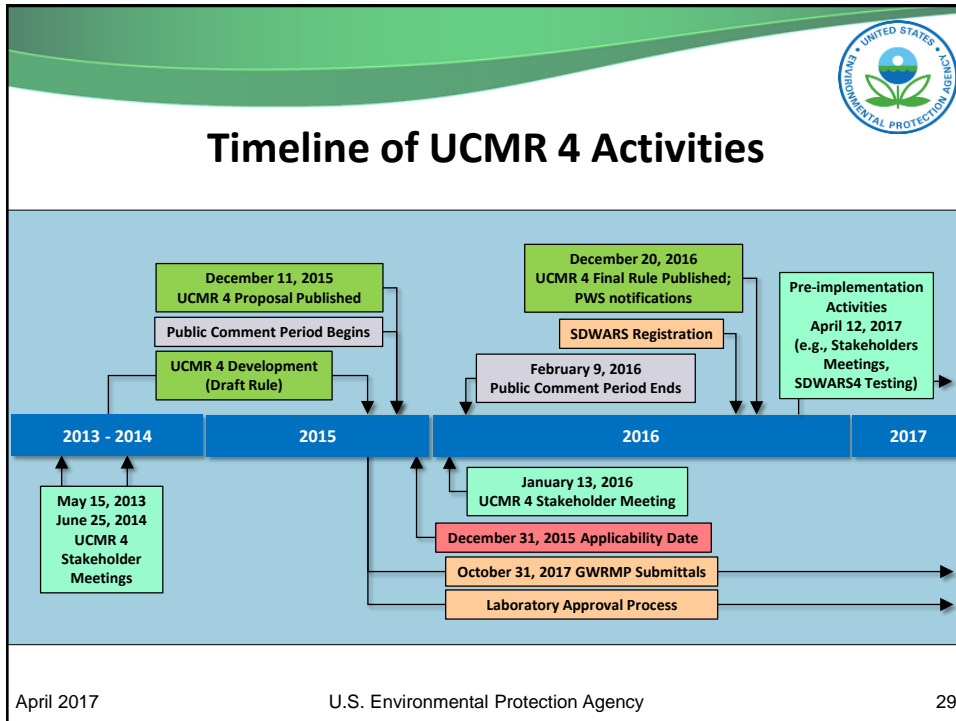
*Only systems subject to the Disinfectants and Disinfection Byproduct Rule (D/DBPR) need to monitor for the haloacetic acids (HAAs) and indicators

** Figures subject to change based on corrections to population served as of 12/31/15

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Contaminants to be Monitored



Cyanotoxins

EPA Method 544 (LC/MS/MS¹)

Analyte	CAS Registry Number	MRL ²	EPA HA ³
microcystin-LA	96180-79-9	0.008 µg/L	1.6 µg/L (ten-day HA for school-age children and adults); 0.3 µg/L (ten-day HA for bottle-fed infants and young children)
microcystin-LF	154037-70-4	0.006 µg/L	
microcystin-LR	101043-37-2	0.02 µg/L	
microcystin-LY	123304-10-9	0.009 µg/L	
microcystin-RR	111755-37-4	0.006 µg/L	
microcystin-YR	101064-48-6	0.02 µg/L	
nodularin	118399-22-7	0.005 µg/L	

EPA Method 546 (Adda-ELISA)⁴

Total Microcystins	N/A	0.3 µg/L	EPA HA applies
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¹Liquid Chromatography/Tandem Mass Spectrometry

² Minimum Reporting Level

³ Health Advisory from the Office of Water

⁴([2S,3S,8S,9S,4E,6E]-3-amino-9-methoxy-2,6,8-trimethyl-10-phenyl-4,6-decadienoic acid) enzyme-linked immunosorbent assay



Cyanotoxins

EPA Method 545 (LC/ESI-MS/MS¹)

Analyte	CAS Registry Number	MRL ²	EPA HA ³
anatoxin-a	64285-06-9	0.03 µg/L	
cylindrospermopsin	143545-90-8	0.09 µg/L	3 µg/L (ten-day HA for school-age children through adults); 0.7 µg/L (ten-day HA for bottle-fed infants and young children)

¹Liquid Chromatography Electrospray Ionization-Tandem Mass Spectrometry

²Minimum Reporting Level

³Health Advisory from the Office of Water

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Haloacetic Acids (HAAs)

EPA Method 552.3 (GC-ECD)¹ or EPA Method 557 (IC-ESI-MS/MS)²

Analyte	CAS Registry Number	MRL ³	MCLG ⁴	HAA5 Group	HAA6Br Group	HAA9 ⁷ Group
dichloroacetic acid (DCAA)	79-43-6	0.2 µg/L	0 µg/L	HAA5 Group MCL ^{5,6} = 60 µg/L		HAA9
monochloroacetic acid (MCAA)	79-11-8	2.0 µg/L	70 µg/L			
trichloroacetic acid (TCAA)	76-03-9	0.5 µg/L	20 µg/L			
monobromoacetic acid (MBAA)	79-08-3	0.3 µg/L	N/A			
dibromoacetic acid (DBAA)	631-64-1	0.3 µg/L	N/A			
bromochloroacetic acid (BCAA)	5589-96-8	0.3 µg/L	N/A		HAA6Br	
bromodichloroacetic acid (BDCAA)	71133-14-7	0.5 µg/L	N/A			
chlorodibromoacetic acid (CDBAA)	5278-95-5	0.3 µg/L	N/A			
tribromoacetic acid (TBAA)	75-96-7	2.0 µg/L	N/A			

¹Gas Chromatography with Electron Capture Detection

²Ion Chromatography Electrospray Ionization Tandem Mass Spectrometry

³Minimum Reporting Level

⁴Maximum Contaminant Level Goals (MCLGs) established under the D/DBPRs

⁵Disinfection Byproduct Information Collection Rule (DBP ICR) (1997-1998)

⁶The HAA5 group is currently regulated in drinking water at a MCL of 60 µg/L per D/DBPRs

⁷PWSs are required to monitor for the indicators total organic carbon (TOC) and bromide in their source water at the same time as their HAA samples. Consecutive connections are not required to take TOC and bromide samples.



Sampling Locations – HAA Groups

- PWS HAA results will be reported for three groups (HAA5, HAA6Br and HAA9)
 - Resample only locations that did not produce valid results for all analytes
 - All HAAs must pass QC for summation

HAA Groups			
dichloroacetic acid (DCAA)	HAA5 (MCL 0.060 mg/L)		
monochloroacetic acid (MCAA)			
trichloroacetic acid (TCAA)			
monobromoacetic acid (MBAA)			
dibromoacetic acid (DBAA)	HAA6Br		HAA9
bromochloroacetic acid (BCAA)			
bromodichloroacetic acid (BDCAA)			
chlorodibromoacetic acid (CDBAA)			
tribromoacetic acid (TBAA)			

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HAA Indicators

- TOC, bromide measured in conjunction with HAA monitoring
- Use the following methods:
 - **TOC:** SM 5310B, SM 5310C, SM 5310D, SM 5310B–00, SM 5310C–00, SM, 5310D–00, EPA Method 415.3 (Rev. 1.1 or 1.2)
 - **Bromide:** EPA Methods 300.0 (Rev. 2.1), 300.1 (Rev. 1.0), 317.0 (Rev. 2.0), 326.0 (Rev. 1.0), ASTM D 6581–12

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Metals

EPA Method 200.8¹ (ICP-MS²)

Analyte	CAS Registry Number	MRL ³	CCL 4 HRL ⁴
germanium	7440-56-4	0.3 µg/L	
manganese	7439-96-5	0.4 µg/L	300 µg/L

¹ Metals can also be measured by alternate Standard Methods (SM) 3125 or SM 3125-09 or ASTM International D5673-10

² Inductively Coupled Plasma-Mass Spectrometry

³ Minimum Reporting Level

⁴ Health Reference Level

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Pesticides

EPA Method 525.3 (SPE GC/MS¹)

Analyte	CAS Registry Number	MRL ²	Health Effects
alpha-hexachlorocyclohexane	319-84-6	0.01 µg/L	CCL 4 HRL ³ : 0.006 µg/L
chlorpyrifos	2921-88-2	0.03 µg/L	EPA HA ⁴ : 2 µg/L
dimethipin	55290-64-7	0.2 µg/L	HHBP ⁵ : 140 µg/L
ethoprop	13194-48-4	0.03 µg/L	HHBP ⁵ : 1.14 µg/L
oxyfluorfen	42874-03-3	0.05 µg/L	HHBP ⁵ : 200 µg/L
profenofos	41198-08-7	0.3 µg/L	HHBP ⁵ : 0.3 µg/L ⁵
tebuconazole	107534-96-3	0.2 µg/L	HHBP ⁵ : 190 µg/L
total permethrin (cis- & trans-)	52645-53-1	0.04 µg/L	HHBP ⁵ : 3.34 µg/L
tribufos	78-48-8	0.07 µg/L	HHBP ⁵ : 0.6 µg/L

¹ Solid Phase Extraction and Capillary Column Gas Chromatography-Mass Spectrometry

² Minimum Reporting Level

³ Health Reference Level

⁴ Office of Water Health Advisory

⁵ Human Health Benchmark for Pesticides (HHBP)

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Alcohols

EPA Method 541 (GC/MS¹)

Analyte	CAS Registry Number	MRL ²	CCL 4 HRL ³
1-butanol	71-36-3	2.0 µg/L	700 µg/L
2-propen-1-ol	109-86-4	0.4 µg/L	35 µg/L
2-methoxyethanol	107-18-6	0.5 µg/L	

¹Gas Chromatography-Mass Spectrometry

²Minimum Reporting Level

³Health Reference Level

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Semivolatile Organic Chemicals

EPA Method 530 (GC/MS¹)

Analyte	CAS Registry Number	MRL	CCL 4 HRL ²
butylated hydroxyanisole	25013-16-5	0.03 µg/L	
o-toluidine	95-53-4	0.007 µg/L	0.194 µg/L
quinoline	91-22-5	0.02 µg/L	0.01 µg/L

¹Gas Chromatography-Mass Spectrometry

²Minimum Reporting Level

³Health Reference Level

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UCMR 4

Sample Collection & Frequency

Brenda Parris, USEPA



Overview

- Sampling frequency and timing
- Sampling locations, approach
 - Phased sample-analysis for microcystins
 - Haloacetic acid (HAA) groups
 - HAA indicators
- Representative sampling
 - Ground water representative monitoring plans (GWRMPs)
 - Schedules



Sampling Frequency and Timing

Contaminant Type	Water Source	Time Frame	Frequency
List 1 Contaminants - Cyanotoxins	SW or GWUDI	March – November*	Systems must monitor twice a month for 4 consecutive months (total of 8 sampling events) Sample events must occur two weeks apart
List 1 Contaminants – Additional Chemicals	SW or GWUDI	Year-Round	Systems must monitor 4 times during a consecutive 12-month monitoring period Sample events must occur 3 months apart
	GW		Systems must monitor 2 times during a consecutive 12-month monitoring period Sample events must occur 5-7 months apart

*Reflects the warmer months when harmful algal blooms are more likely to occur

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Example of Sampling Frequency – Cyanotoxins

Contaminant Type	Water Source	Time Frame	Frequency Examples
List 1 Contaminants - Cyanotoxins	SW or GWUDI	March – November*	1 st & 2 nd samples are collected in July (weeks 1 and 3) 3 rd & 4 th samples are collected in August (weeks 1 and 3) 5 th & 6 th samples are collected in September (weeks 1 and 3) 7 th & 8 th samples are collected in October (weeks 1 and 3)

- Reflects the warmer months when harmful algal blooms are more likely to occur
- The Safe Drinking Water Act Section 4 and Review System (SDWARS 4) will be prepopulated with the 1st & 3rd week or the 2nd & 4th week. No samples will be scheduled for the 5th week
- Because of the monitoring frequency, resampling may not be practical. Suggest collecting duplicate samples

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Example of Sampling Frequency – Additional Contaminants

Contaminant Type	Water Source	Time Frame	Frequency Examples
List 1 Contaminants – Additional Chemicals	SW or GWUDI	Year-Round	If the first sample is taken in January, the second must occur any time in April, the third any time in July and the fourth any time in October
	GW		If the first sample is taken in April, the second sample must occur anytime in September, October or November

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Sampling Locations

- HAA Groups and Indicators
 - HAAs: D/DBPR **TTHM/HAA5** distribution system(DS) locations
 - Indicators: source water (SR) influent locations representing untreated water
- Cyanotoxins & Remaining UCMR 4 contaminants
 - Entry point to the distribution system (EPTDS) after treatment is applied

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Sampling Locations – Cyanotoxins

Three samples collected at the EPTDS for cyanotoxins (two for potential microcystin analysis and one for cylindrospermopsin/anatoxin).

One sample analyzed for total microcystins by EPA Method 546 (Adda ELISA)

One sample analyzed for cylindrospermopsin and anatoxin-a using EPA Method 545

EPA Method 546 result evaluated (minimum reporting level for total microcystins = 0.3 µg/L)

ELISA result <0.3 µg/L

ELISA result ≥0.3 µg/L

EPTDS result reported to EPA and the 544 sample will not be analyzed for this particular sampling event

EPTDS result will be reported to EPA and the other microcystin sample must be analyzed using Method 544 to identify particular microcystin congeners

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Sampling Locations – HAA Groups

Contaminant/ Disinfectant	Coverage		Stage 2 DBPR
	Source Water	Population	Total Distribution System Monitoring Locations
TTHM/ HAAs	SW and GWUDI (Subpart H)	< 500	2
		500 - 3,300	2
		3,301 - 9,999	
		10,000 - 49,000	4
		50,000 - 249,999	8
		250,000 - 999,999	12
		1,000,000 - 4,999,999	16
		≥ 5,000,000	20
	Ground water	< 500	2
		500-9,999	
		10,000-99,999	4
		100,000-499,999	6
		≥ 500,000	8

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HAA Sampling Locations, Approach

- UCMR 4 HAA/indicator samples and D/DBPR compliance samples can be collected at the same time
- Input inventory into SDWARS based on current D/DBPR monitoring requirements and status (routine or reduced)
 - PWSs can change their sampling schedules in SDWARS or request a change after December 31, 2017 at UCMR_Sampling_Coordinator@epa.gov
- The inventory used for your first sampling event must be used for subsequent sampling events
- Systems on a reduced frequency D/DBPR monitoring status must comply with the UCMR 4 frequency requirements
- Need to send UCMR 4 and D/DBPR samples to different labs for analysis UNLESS:
 - A UCMR 4 approved laboratory is also certified to analyze compliance samples (using EPA Method 552.3 or 557) in your state

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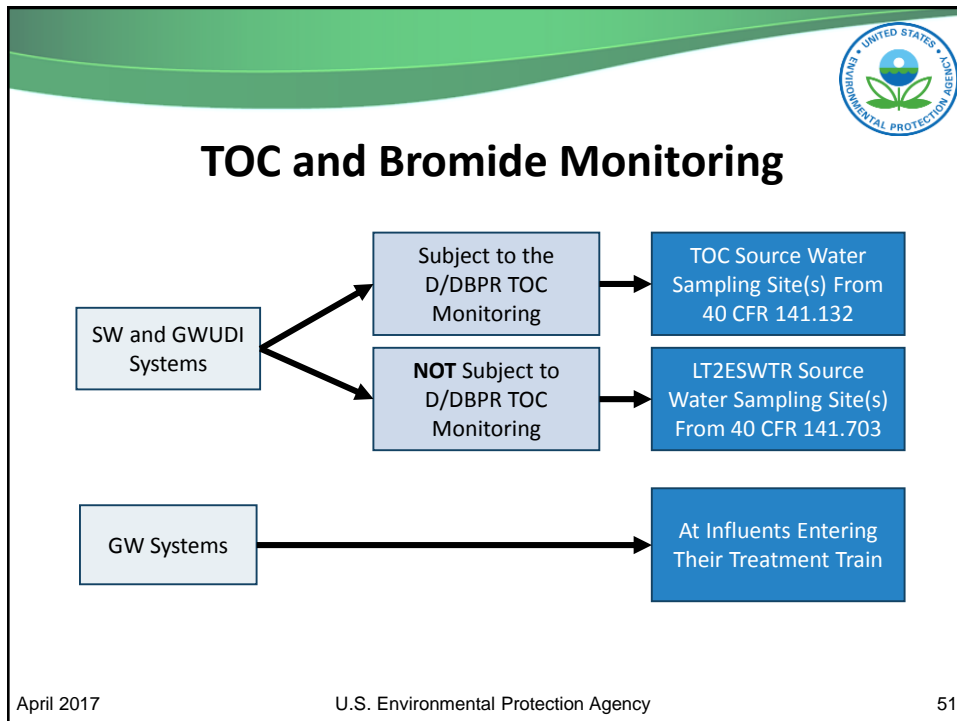
HAA Indicator Sampling Locations, Approach

- Sample for TOC and bromide at:
 - Source water influent locations representing untreated water entering the water treatment plant (i.e., a location prior to any treatment)
 - The same time as HAA samples (or as close as is feasible)
 - Entry points associated with 100% purchased water (consecutive connections) do not need to be sampled for TOC and bromide

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TOC and Bromide Sampling Locations

- SW and GWUDI (Subpart H systems) subject to D/DBPR TOC sampling requirements
 - Using conventional filtration
 - NOT using conventional filtration but taking TOC source samples to reduce their D/DBPR monitoring
- Take UCMR 4 indicator samples at D/DBPR source water TOC locations:
 - Prior to any treatment
 - 1 sample per surface water source

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TOC and Bromide Sampling Locations

- SW and GWUDI (Subpart H systems) not subject to D/DBPR TOC sampling requirements
 - Not using conventional filtration/or trying to reduce D/DBPR monitoring requirements
- Take UCMR 4 indicator samples at LT2 source water locations:
 - For each plant at a point prior to chemical treatment

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TOC and Bromide Sampling Locations

- GW Systems not subject to D/DBPR TOC sampling requirements
- Take UCMR 4 indicator samples at ALL influents entering treatment train
 - Can use combined taps prior to treatment
 - If have an approved GWRMP only need to take indicator samples representing those EPs
 - Only take indicator samples from active wells at time of collection
 - Add a comment in SDWARS for the non-active locations

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Sampling Reminders

- Follow the instructions in the kit
- Complete the sample tracking form for each kit
- Freeze ice packs ahead of time
- Sample Monday through Wednesday or when the laboratory designates
- Fill bottles completely but do not overfill
- Tightly secure the caps to the correct bottles
- Record the data elements for SDWARS

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Representative Monitoring

Ground Water Representative Monitoring Plans
(GWRMPs)

and

Representative Connections



Two Types of Representative Sampling

- Ground Water Representative Monitoring Plans (GWRMPs) - large ground water systems with multiple EPTDSs can sample at representative sampling locations rather than at each EPTDS if prior approval is received
 - Representative sampling plans approved under prior UCMRs will be recognized, a copy of the approval from their state or EPA must be submitted to the UCMR_Sampling_Coordinator@epa.gov
- Representative Connections - systems that purchase water with multiple connections from the same wholesaler may select one representative connection from that wholesaler

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GWRMPs

- Systems can submit a GWRMP if:
 - Ground water as a source
 - All of their well sources have either the same treatment or no treatment
 - Multiple EPTDSs from the same source
- Submit documentation to support your proposal that the specified wells are representative of other wells
- Must demonstrate that the representative EPTDS:
 - Draws from the same aquifer as the wells it will represent
 - Is representative of the highest annual volume producing and most consistently active wells in the representative array
 - Will be in use at the scheduled sampling time

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GWRMPs

- Must submit the following information for each proposed representative sampling location:
 - PWSID Code
 - PWS Name
 - PWS Facility Identification Code
 - PWS Facility Name
 - PWS Facility Type
 - Sampling Point Identification Code
 - Sampling Point Name

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Representative Sampling

- New or previously approved GWRMPs must be submitted to the [UCMR Sampling Coordinator@epa.gov](mailto:UCMR_Sampling_Coordinator@epa.gov) by:
 - October 31, 2017
 - Note: the original deadline of April 19, 2017 was extended
- All approved representative locations must be loaded into SDWARS by PWS no later than:
 - December 31, 2017

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UCMR 4 Laboratory Approval Process and MRLs

Brenda Parris, USEPA



UCMR 4 Laboratory Approval Program

- Laboratory Approval Program started on December 11, 2015 with the publication of the proposal
- Similar to the process used in all previous UCMR cycles
- Only UCMR 4 EPA-approved laboratories can analyze UCMR 4 samples collected at PWSs
 - Approval is by method and by individual laboratory locations
 - A laboratory may apply for approval for any method
- Laboratories need to meet:
 - UCMR 4 approval program criteria
 - Required equipment criteria
 - Laboratory performance criteria
 - Data reporting criteria



UCMR 4 Laboratory Approval Manual

- Procedures for obtaining UCMR 4 approval and procedures for revocation of approval
- Quality assurance (QA) and quality management requirements
- Initial demonstration of capability (IDC)
- Minimum reporting level (MRL) verification

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UCMR 4 Laboratory Approval Manual

- Quality control (QC) requirements:
 - Extraction/Analysis Batch
 - Initial calibration of analytical instruments
 - Continuing calibration checks (CCC)
 - Surrogate and internal standard
 - Laboratory reagent blanks (LRB) and laboratory fortified blanks (LFB)
 - Quality control samples (QCS)
 - Laboratory fortified sample matrix (LFSM)
- Sample handling requirements
- Uploading data to SDWARS

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Laboratory Approval General Procedure

- Step 1: Request to Participate
- Step 2: Registration
- Step 3: Application Package
- Step 4: EPA Review of Application Package
- Step 5: Proficiency Testing (PT)
- Step 6: Written EPA approval

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Step 1 – Request to Participate

- Interested laboratories submitted a written request to the UCMR_Sampling_Coordinator@epa.gov
- EPA then provided:
 - Registration material
 - Customized application package

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Step 2 – Registration

- Completed registration sheet included:
 - List of the UCMR 4 methods, for which the laboratory sought approval
 - Laboratory information
 - Mailing and shipping address
 - Contact information
- Registration closed **February 21, 2017** (except TOC and bromide)
 - Laboratories (including PWS labs) that only wish to analyze TOC and/or bromide may apply for approval through **December 1, 2017**
 - These PWS laboratories must complete registration and submit documentation that they are authorized by their primacy state to analyze TOC and/or bromide compliance monitoring samples under the Stage 2 Disinfectants and Disinfection Byproducts Rule by **December 15, 2017**.

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Step 3 – Application Package

- Separate application for each method
- Application must include:
 - Proof of current drinking water laboratory certification (for select compliance monitoring methods)
 - Personnel information
 - QA information
 - Information regarding analytical equipment and sample handling procedures
 - Data submission for each method (e.g., IDC study, QC sample results, quantification reports)
 - Confirmation on reporting to SDWARS
- Must complete and submit the general application materials by **April 19, 2017** (one week from today)

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Step 4 – Review of Application Package

- EPA reviews application package
 - If deficiencies are identified the lab will have an opportunity to make corrective actions and submit new application information
 - If all requested information is present and acceptable, EPA will notify the laboratory that they are eligible to participate in corresponding PT studies

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Step 5 – Proficiency Testing

- EPA provides method-specific PT samples
- Laboratories:
 - Analyze PT sample(s) for each analyte and method
 - One successful PT per method
 - No PT studies after monitoring begins but audits on-going during monitoring

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Step 6 – Written EPA Approval

- After successful participation in a PT study for a specific method, EPA will notify the laboratory in writing
- EPA will post a list of approved laboratories and associated methods at:
<https://www.epa.gov/dwucmr>

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Maintaining Approval

- Adhere to QA/QC measures in the methods, rule language and the UCMR 4 Laboratory Approval Manual
- Post analytical results and required QC data via SDWARS within 120 days of sample collection
- Successfully address audit findings (as needed) and meet all the other stated conditions

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MRL Background

- MRL is an estimate of the quantitation level, achievable with a 95% confidence, by at least 75% of laboratories nationwide
- Established by EPA with data from several laboratories performing LCMRL studies
- LCMRL – estimate of lowest concentration at which measurements of specified quality can be repeatedly made
 - Simultaneous application of precision and accuracy

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MRLs

- Established to achieve quality and consistency across laboratories, while allowing for reasonable national laboratory capacity
- MRLs are generally established as low as is feasible; typically lower than current HRLs and health advisories
- EPA will consider raising MRLs if there is evidence that an MRL is unattainable/impractical

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Lunch



12:00 to 1:30



**SDWARS & Reporting
Requirements**

Melissa Simic, EPA



Overview

- Central Data Exchange (CDX) account
 - Customer retrieval keys (CRKs)
- Large System Workflow
 - Notification letter and tracking
 - Update contact/inventory/schedule
- Reporting requirements and data elements

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CDX

- EPA will again be using an internet-based electronic reporting system that utilizes a secure access portal, the CDX, to gain access to SDWARS
 - <https://cdx.epa.gov/>
 - <https://www.epa.gov/dwucmr/reporting-requirements-fourth-unregulated-contaminant-monitoring-rule-ucmr-4>

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CDX

- To register to use the CDX:
 - Go to <http://cdx.epa.gov/preregistration/>
 - Enter the customer retrieval key (CRK) you received by mail
 - All large (that did not pre-register) and small systems should have received a CRK; if you lost/did not receive a CRK, please contact the [UCMR Sampling Coordinator@epa.gov](mailto:UCMR_Sampling_Coordinator@epa.gov)
 - Labs will receive CRKs upon UCMR 4 approval
 - Follow the directions to complete registration
- We recommend you do this as soon as possible

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SDWARS Large System Workflow

1. Log in to CDX UCMR 4 (applies to small systems)
2. Select SDWARS4 and accept notification letter (applies to small systems)
3. Add official and technical contacts
4. Add inventory
5. Review/edit inventory
6. Review sampling schedule
7. Add zip codes
8. Nominate user for your PWS (optional)

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Step 1: Log in to CDX UCMR 4

CDX: Central Data Exchange

Log in to CDX

User ID

Password

Log In

Forgot your Password?

Forgot your User ID?

Warning Notice and Privacy Policy

Welcome

Welcome to the Environmental Protection Agency (EPA) Central Data Exchange (CDX) - the Agency's electronic reporting site. The Central Data Exchange concept has been defined as a central point which implements EPA reporting systems by performing new and existing functions for receiving highly acceptable data in various formats, including consolidated and integrated data.

Warning Notice and Privacy Policy

In processing and accessing U.S. Government information and information systems, you acknowledge that you fully understand and consent to all of the following:

1. you are accessing U.S. Government information and information systems that are provided for official U.S. Government purposes only;
2. unauthorized access to or unauthorized use of U.S. Government information or information systems is subject to criminal, civil, administrative, or other lawful action;
3. the term U.S. Government information system includes systems operated on behalf of the U.S. Government;
4. you have no reasonable expectation of privacy regarding any communications or information used, transmitted, or stored on U.S. Government information systems;
5. at any time, the U.S. Government may for any lawful government purpose, without notice, monitor, intercept, search, and seize any authorized or unauthorized communication to or from U.S. Government information systems or information used or stored on U.S. Government information systems;
6. at any time, the U.S. Government may for any lawful government purpose, search and seize any authorized or unauthorized device, to include non-U.S. Government owned devices, that stores U.S. Government information;
7. any communications or information used, transmitted, or stored on U.S. Government information systems may be used or disclosed for any lawful government purpose, including but not limited to, administrative purposes, penetration testing, communication security monitoring, personnel recordkeeping measures, law enforcement, and counterintelligence inquiries; and
8. you may not process or store classified national security information on the computer system.

Privacy Statement

EPA will use the personal identifying information which you provide for the expressed purpose of registration to the Central Data Exchange site and for updating and correcting information in internal EPA databases as necessary. The Agency will not make this information available for other purposes unless required by law. EPA does not sell or otherwise transfer personal information to an outside third party. (Updated November 1999; March 2004; January 2011; December 2012; February 2013)

Log in to CDX

User ID

Password

Log In

Register with CDX

Forgot your Password?

Forgot your User ID?

Warning Notice and Privacy Policy

<https://cdx.epa.gov/>

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Step 2: Select SDWARS4 and Accept Notification Letter

- Applies to large and small systems
- To view and accept your notification letter you must log in to SDWARS4
- Status of acceptance of notification is tracked in SDWARS4

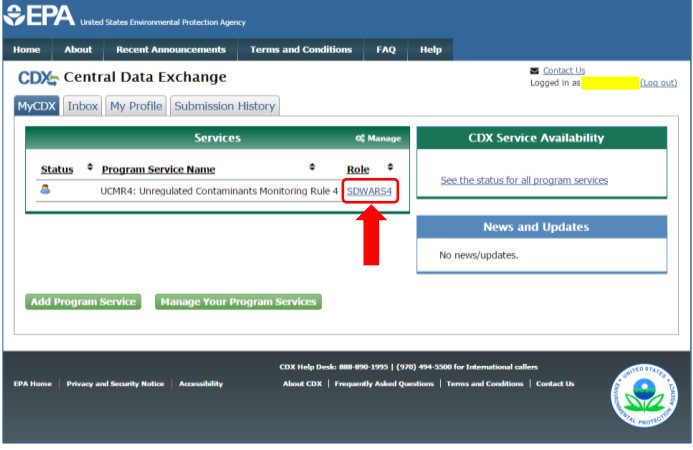
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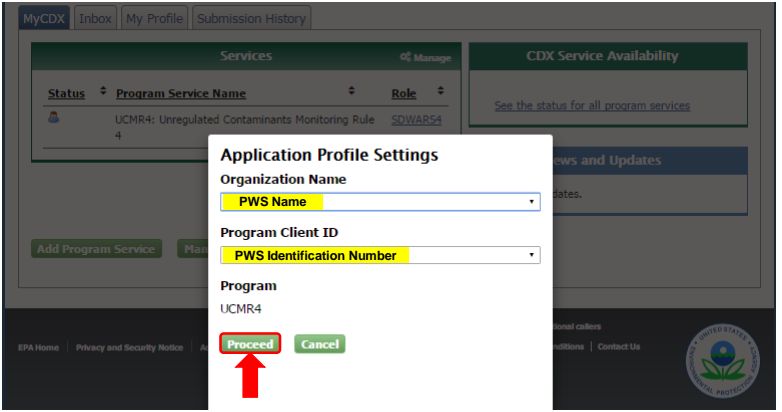
Step 2a: Select SDWARS4



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Step 2b: Application Profile Settings



Once logged-in your personal PWS ID and name will appear in those sections, which are marked in yellow above. Click "Proceed" to view Notification Letter.

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Notification Letter

NOTE: A PWS user must accept the notification letter.

RE: Unregulated Contaminant Monitoring for Surface Water (SW) and Ground Water Under the Direct Influence of Surface Water (GWUDI) Systems Serving over 10,000 Persons

Dear Public Water System:

The purpose of this letter is to notify your public water system (PWS) of its monitoring requirements under the revision to the Unregulated Contaminant Monitoring Rule (UCMR4). The U.S. Environmental Protection Agency (EPA) published the final rule detailing the upcoming monitoring of unregulated contaminants at PWSs on December 20, 2016, establishing a new list of contaminants to be monitored and the conditions for that monitoring. This rule benefits public health by providing EPA and other interested parties with scientifically valid data on the national occurrence of selected contaminants in drinking water. This dataset is one of the primary sources of information on occurrence, levels of exposure and population exposure EPA uses to develop regulatory decisions for contaminants in the public drinking water supply.

Under the UCMR4, all community water systems and non-transient, non-community water systems serving more than 10,000 persons must participate in Assessment Monitoring (AM). **Our records indicate that your surface water system must monitor for all List 1 contaminants: metals, pesticides, semi-volatile organic chemicals (SOCs), alcohols (AM 1), haloacetic acids (HAAs) (AM 2), and cyanotoxins (AM 3).**

What must your PWS complete in SDWARS before December 31, 2017?
 Similar to reporting under UCMR3, PWSs will use the Central Data Exchange (CDX) (<https://cdx.epa.gov/>) to access the updated version of the Safe Drinking Water Accession and Review System (SDWARS4). PWSs are required to:

- enter your official and technical contact information;
- review and, if necessary, update your sample location data by adding missing locations (e.g., Stage 1 and Stage 2 Disinfectants and Disinfection Byproduct Rules sampling locations for the HAAs), indicating ineligible locations or editing basic information about the locations; and
- review and, if you wish, revise your monitoring schedule assigned by the EPA.

What must your PWS do during UCMR4 monitoring?
 Your PWS must ensure that samples are properly collected, packaged and shipped to a UCMR4 EPA approved laboratory. Your PWS is also responsible for providing the data elements required for each sampling location (e.g., disinfection type, treatment type etc.) in SDWARS. Once data are posted to SDWARS by your laboratory, your PWS will have **60 days** to review and act upon these results. If you choose not to review these results in this time frame, they will be considered final. Additionally, community water systems are required to address their UCMR monitoring results in their annual Consumer Confidence Report (CCR) whenever unregulated contaminants are detected (<https://www.epa.gov/ccr>).

Where can I find more information about UCMR4?
 EPA recommends that you review the complete rule and supporting reference materials addressing UCMR4 at <https://www.epa.gov/dwucmr/fourth-unregulated-contaminant-monitoring-rule>.


- The "Revisions to the Unregulated Contaminant Monitoring Rule (UCMR4) for Public Water Systems and Announcement of Public Meeting" [EPA-HQ-OW-2015-0218; FRL-9956-71-OW];
- UCMR4 implementation fact sheets: Metals, Pesticides, SOCs, and Alcohols (AM 1), Haloacetic Acids (HAAs) (AM 2), Cyanotoxins (AM 3) and General Information;
- EPA approved laboratories for UCMR4 (the list will be updated as additional laboratories are approved);
- Outreach materials and announcements for stakeholder meetings and trainings.

Analytical results from UCMR are publicly available in the National Contaminant Occurrence Database (NCOD); for a summary of the NCOD results, tips for querying NCOD, and health effects information please refer to the UCMR Data Summary document.

This notification letter is being sent to you as the official representative of this PWS. If someone else at your PWS needs this information, such as the plant operator, please provide them with a copy of this letter. Your cooperation in meeting these requirements is appreciated.

For questions regarding SDWARS or CDX, please contact the CDX Help Desk at 1-888-890-1995. For implementation or general questions, please contact the UCMR Message Center at 1-800-949-1581 or UCMR4@nlrc.com. Thank you for your cooperation.


NOTIFICATION LETTER
January 3, 2017



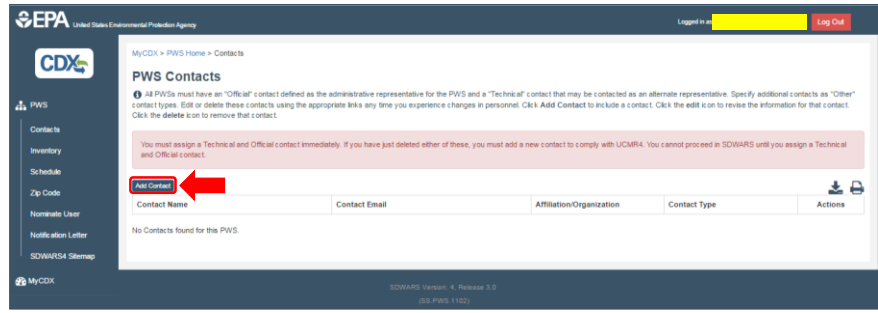
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Step 3: Add Contacts



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Step 3a: Add Official Contact

Add PWS Contact

You must complete every field marked with an *. All contact information is confidential and is only available to regulatory authorities. You must click **Save Changes** for the information to be added to the database. Use the **Receive Auto Email Notification(s)** checkbox(es) if you wish to receive email messages reminding you about certain critical tasks.

First Name*

Last Name*

Contact Type* Official

Affiliation / Organization*

Mailing Address 1

Mailing Address 2

City

State

Zip Code

Phone* ext.

Email*

Receive Auto Email Notification(s)

- ☒ Scheduling Reminders
- ☒ Lab Posted Data Notifications
- ☒ Any Missing Additional Data Notifications

(SS PWS 1102a)

Save Changes Close

Add PWS Contact

You must complete every field marked with an *. All contact information is confidential and is only available to regulatory authorities. You must click **Save Changes** for the information to be added to the database. Use the **Receive Auto Email Notification(s)** checkbox(es) if you wish to receive email messages reminding you about certain critical tasks.

First Name*

Last Name*

Contact Type* Official

Affiliation / Organization*

Mailing Address 1

Mailing Address 2

City

State

Zip Code

Phone* ext.

Email*


Receive Auto Email Notification(s)

- ☒ Scheduling Reminders
- ☒ Lab Posted Data Notifications
- ☒ Any Missing Additional Data Notifications

(SS PWS 1102a)

Save Changes Close

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Step 3b: Confirm Official Contact

✓
Contact has been added.

CDX

PWS

Contacts

Inventory

Schedule

Zip Code

Nominate User

Notification Letter

SDWARS4 Sitemap

MyCDX

MyCDX > PWS Home > Contacts

PWS Contacts

All PWSs must have an "Official" contact defined as the administrative representative for the PWS and a "Technical" contact that may be contacted as an alternate representative. Specify additional contacts as "Other" contact types. Edit or delete these contacts using the appropriate links any time you experience changes in personnel. Click **Add Contact** to include a contact. Click the **edit** icon to revise the information for that contact. Click the **delete** icon to remove that contact.

You must assign a Technical and Official contact immediately. If you have just deleted either of these, you must add a new contact to comply with UCMR4. You cannot proceed in SDWARS until you assign a Technical and Official contact.

Contact Name	Contact Email	Affiliation/Organization	Contact Type	Actions
Howard The Duck	howard.duck@marve.universe.org	Marvel Universe	Official	✎ ✖

SDWARS Version: 4, Release 3.0
(SS PWS 1102)

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Step 3c: Add Technical Contact

Add PWS Contact

i You must complete every field marked with an *. All contact information is confidential and is only available to regulatory authorities. You must click **Save Changes** for the information to be added to the database. Use the **Receive Auto Email Notification(s)** checkbox(es) if you wish to receive email messages reminding you about certain critical tasks.

First Name*

Last Name*

Contact Type* Technical

Affiliation / Organization*

Mailing Address 1

Mailing Address 2

City

State Florida

Zip Code


Phone* ext.

Email*


Receive Auto Email Notification(s) → ☐ Scheduling Reminders
→ ☐ Lab Posted Data Notifications
→ ☐ Any Missing Additional Data Notifications

(SS.PWS.1102a)

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Step 4: Add Inventory


United States Environmental Protection Agency

Logged in as

CDX

MyCDX > PWS Home > PWS Inventory


Designate and Review Your Inventory

i If you wish to load your inventory from SDWARS3, click Upload/Import Inventory drop-down and select Import Inventory from SDWARS3. You will be able to select which locations will get loaded. Select the "Yes" under Sampling Required to identify applicable sample locations for UCMR4 monitoring. If you select "No" under Sampling Required, you will be required to provide a reason. Click either the Facility ID or Sample Point ID to edit the inventory you specified. Click Add Facility or Add SP to Existing Facility to add inventory. You must click **Save Changes** for the information to be added to the database. (more...)

Note: Please ensure all required sample locations for UCMR4 are included in your inventory below. This includes all entry points to the distribution system and for those PWSs monitoring HAA5, their Stage 2 Disinfectants and Disinfection Byproducts Rule distribution system sites and intake(s) prior to treatment. An intake sample is not required for a consecutive connection (100% purchased).

No facilities or sample points have been added.

Upload Facilities & Sample Points
 Import Inventory from SDWARS3



PWS
 Contacts
Inventory
 Schedule
 Zip Code
 Nominate User
 Notification Letter
 SDWARS4 Sitemap
 MyCDX

MyCDX > PWS Home > PWS Inventory

Designate and Review Your Inventory

i If you wish to load your inventory from SDWARS3, click Upload/Import Inventory drop-down and select Import Inventory from SDWARS3. You will be able to select which locations will get loaded. Select the "Yes" under Sampling Required to identify applicable sample locations for UCMR4 monitoring. If you select "No" under Sampling Required, you will be required to provide a reason. Click either the Facility ID or Sample Point ID to edit the inventory you specified. Click Add Facility or Add SP to Existing Facility to add inventory. You must click **Save Changes** for the information to be added to the database. (more...)

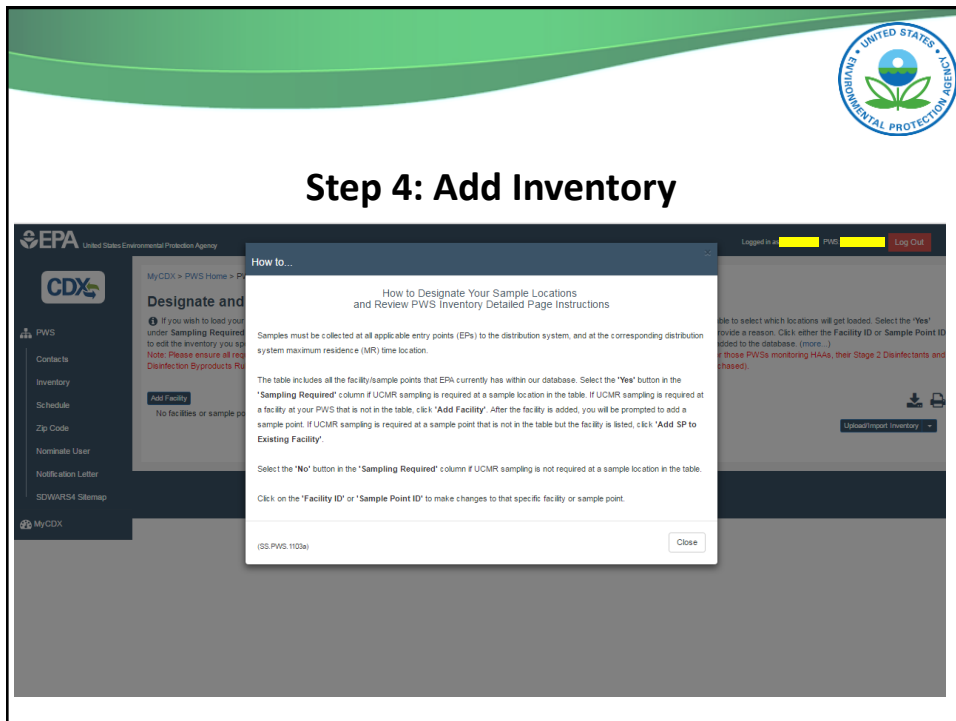
Note: Please ensure all required sample locations for UCMR4 are included in your inventory below. This includes all entry points to the distribution system and for those PWSs monitoring HAA5, their Stage 2 Disinfectants and Disinfection Byproducts Rule distribution system sites and intake(s) prior to treatment. An intake sample is not required for a consecutive connection (100% purchased).


No facilities or sample points have been added.

Upload Facilities & Sample Points
 Import Inventory from SDWARS3

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Step 4: Add Inventory

- Inventory can be:
 - Typed in manually (Figure 1)
 - OR
 - Uploaded by creating a text file (Figure 2)

Figure 1

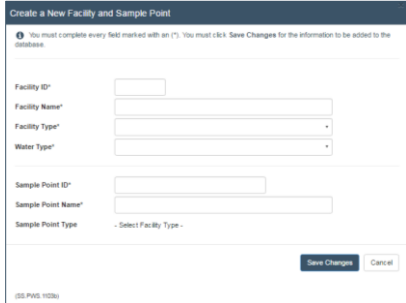
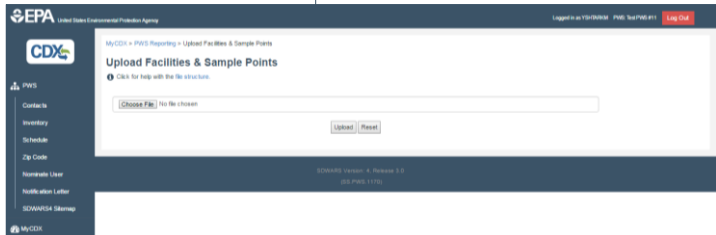


Figure 2



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Step 4: Add Inventory

- Create a file for a bulk upload using the following format
- If subject to the D/DBPRs include your D/DBPR distribution and source water locations for the HAA monitoring

File Structure For: Add Facility with Sample Point

The Add Facility with Sample Point upload file:

- Must be a tab delimited text file
- Must contain a header row with the exact column names listed below
- Columns must be in the exact order shown below

Column Name	Data Type	Required	Notes
FacilityId	Numeric (5)	Yes	Must be exactly 5 numeric digits
FacilityName	String (50)	Yes	
FacilityType	String (2)	Yes	Use 2-digit codes only: CC (Consecutive Connection) DS (Distribution System) IN (Intake (Source Water)) OT (Other) SS (Sampling Station) TP (Treatment Plant)
WaterType	String (2)	Yes	Use 2-digit codes only: GU (Groundwater UDI Surface Water) GW (Groundwater) MX (Mixed) SW (Surface Water)
SamplePointId	String (25)	Yes	
SamplePointName	String (50)	Yes	

(SS.PWS.1170e) Close

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Step 4: Add Inventory

- Use inventory (only includes entry points) from the previous SDWARS3 system
- Select those Facilities that are valid and import
- If subject to the D/DBPRs, manually add your D/DBPR distribution and source water locations for the HAA monitoring

Import Facilities and Sample Points from SDWARS3

Select the sample locations from SDWARS3 which need to be loaded into SDWARS4. You must click **Next >** button to review your inventory before it is added to the database.

Select All	Facility ID	Facility Name	Facility Type	Water Type	Sample Point ID	Sample Point Name	Sample Point Type
<input checked="" type="checkbox"/>	00001	Treatment Plant #1	TP	GW	EP001	EP from TP #1	EP
<input checked="" type="checkbox"/>	00002	Treatment Plant #2	TP	GW	EP002	EP from TP #2	EP

SS.PWS.1103f Next > Cancel

Import Facilities and Sample Points from SDWARS3

Select the **Import** button to add the inventory to the database.


Facility ID	Facility Name	Facility Type	Water Type	Sample Point ID	Sample Point Name	Sample Point Type
00001	Treatment Plant #1	TP	GW	EP001	EP from TP #1	EP
00002	Treatment Plant #2	TP	GW	EP002	EP from TP #2	EP

SS.PWS.1103g Back Import Cancel

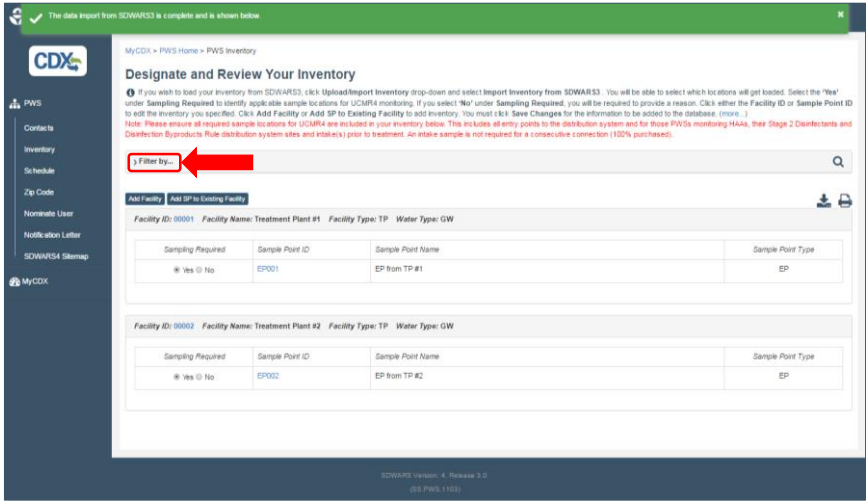
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Step 5: Review/Edit Inventory



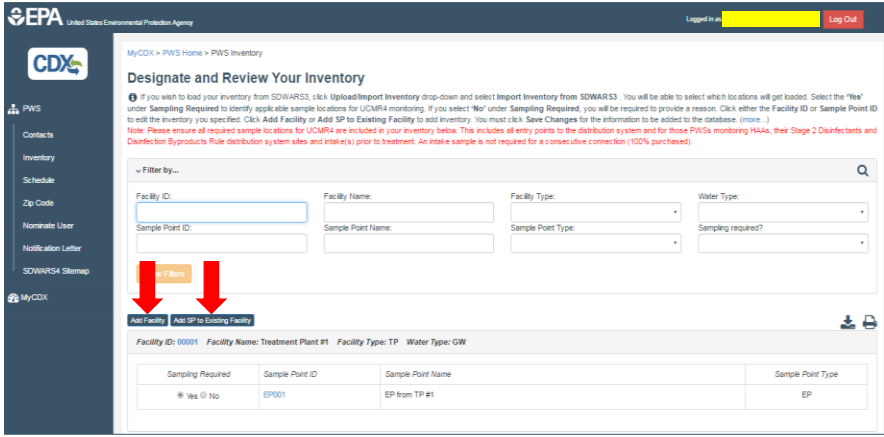
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Step 5: Review/Edit Inventory



To add new Facilities and Sample Points: use the comprehensive search function to locate necessary inventory

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Step 5: Review/Edit Inventory

- Create a new Facility and Sample Point
- Add a Sample Point to an existing Facility

Create a New Facility and Sample Point

You must complete every field marked with an (*). You must click Save Changes for the information to be added to the database.

Facility ID*

Facility Name*

Facility Type*

Water Type*

Sample Point ID*

Sample Point Name*

Sample Point Type

[Save Changes](#) [Cancel](#)

(SS.PWS.1103a)

Add Sample Point to Your Facility

You must complete every field marked with an (*).

Select an existing Facility to which the sample point (SP) will be added. If the facility you are looking for is not listed, you must create it by clicking Add Facility link on the previous page.

You must click Save Changes for the information to be added to the database.

Facility*

Sample Point ID*

Sample Point Name*

Sample Point Type

[Save Changes](#) [Cancel](#)

(SS.PWS.1103a)

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Step 5: Review/Edit Inventory

- Review or edit inventory by clicking on either Facility ID or Sample Point ID

EPA United States Environmental Protection Agency

CDX

MyCDX

Inventory

St/Module

Zip Code

Homebrew User

Notification Letter

SCADA/MSI Screenshot

MyCDX

Designate and Review Your Inventory

If you wish to load your inventory from SCADA/MSI, click Signload/Import Inventory drop-down and select Import Inventory from SCADA/MSI. You will be able to select which locations will get loaded. Select the "Yes" under Sampling Required to identify applicable sample locations for UCMR4 monitoring. If you select "No" under Sampling Required, you will be required to provide a reason. Click either the Facility ID or Sample Point ID to add the inventory you specified. Click Add Facility or Add SP to Existing Facility to add inventory. You must click Save Changes for the information to be added to the database. (more...)

Note: Please ensure all required sample locations for UCMR4 are included in your inventory below. This includes all entry points to the distribution system and the those PWSs monitoring PWSs, their Stage 2 Disinfection and Distribution Byproducts Rule distribution system sites and intakes prior to treatment. An intake sample is not required for a consecutive connection (100% purchased).

Filter by:

Facility ID: Facility Name: Facility Type: Water Type:

Sample Point ID: Sample Point Name: Sample Point Type: Sampling required?:

[Clear Filter](#)

[Add Facility](#) [Add SP to Existing Facility](#)


Facility ID	Facility Name	Treatment Plant #1	Facility Type	TP	Water Type	OW
1	Required	Sample Point ID	Sample Point Name	Sample Point Type		
1-1	No	EP001	SP from TP #1	EP		

Functional Links

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Step 5: Review/Edit Inventory

- Once Facility information is complete, save changes
 - A green bar will appear at the top of the page

Edit Facility

You must complete every field marked with an (*).
Make appropriate changes to your facility. You must click Save Changes to add the information to the database.

PWS: 990000011 / Test PWS #11

Facility ID: 00001


Facility Name*:

Facility Type*:

Water Type*:


(SS PWS.1103d)

✓ Facility 00001 has been updated.



MyCDX > PWS Home > PWS Inventory
Designate and Review Your Inventory

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Step 5: Review/Edit Inventory

- Once Sample Point information is complete, save changes
 - A green bar will appear at the top of the page

Edit Sample Point

You must complete every field marked with an (*).
**The name can be anything up to 50 characters.
You must click Save Changes for the information to be added to the database.

PWS: 990000011 / Test PWS #11
Facility: 00001 - Treatment Plant #1


Sample Point ID: EP001

Sample Point Name*:

Sample Point Type: EP

(SS PWS.1103e)

✓ Sample Point EP001 has been updated.



MyCDX > PWS Home > PWS Inventory
Designate and Review Your Inventory

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Step 6: Schedules

- Large system schedules
 - EPA initially drafts schedule
 - Partnered state has opportunity to review and modify
 - PWS has opportunity to review and modify
 - Systems must NOT modify their schedules to avoid a suspected vulnerable period
- Small system schedules
 - EPA initially drafts schedule
 - Partnered state has opportunity to review and modify

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Step 6: Review Sampling Schedule

- Select Monitoring Type to review sampling schedules for each Sampling Point


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Step 6: Review Sampling Schedule



MyCDX > PWS Home > PWS Schedule > AM1

Review Your Schedule

Click the date specified for Sample Event 1 (SE1) if you wish to edit the sample schedule for the corresponding location. (For groundwater sample points, the second sampling may occur within 5-7 months from the original sampling. Surface water systems must sample every 3 months.)

Logged in as [redacted] [Log Out](#)

PWS

- Contacts
- Inventory
- Schedule**
- Zip Code
- Homestate User
- Notification Letter
- SDWA/MS4 Sitemap

MyCDX

Filter by...

Facility ID:

Facility Name:

Facility Type:

Water Type:

Sample Point ID:

Sample Point Name:

[Clear Filters](#)

Monitoring Requirement: AM1


Facility ID: 00001 Facility Name: Treatment Plant #1 Facility Type: TP Water Type: GW			
Sample Point ID	Sample Point Name	Sample Point Type	SE1 SE2 SE3 SE4
EP001	EP from TP #1	EP	Jan 2018 Jul 2018

Review Schedule ↑

Facility ID: 00002 Facility Name: Treatment Plant #2 Facility Type: TP Water Type: GW			
Sample Point ID	Sample Point Name	Sample Point Type	SE1 SE2 SE3 SE4
EP002	EP from TP #2	EP	Jan 2018 Jul 2018

Review Schedule ↑

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Step 6: Review Sampling Schedule

- If you change SE1 month and year, the schedule for SE2 is automatically updated

Edit Sample Point Schedule

Select a date from the drop-down menu to revise your initial sampling event. (This will automatically define your remaining sample events.)

You must click **Save** for the updates to be added to the database.

Facility: 00001 / Treatment Plant #1

Sample Point: EP001 / EP from TP #1

Facility Type: TP

Water Type: GW

Sample Point Type: EP

Monitoring Requirement: AM1

Sampling Event	Date
Sampling Event 1	Jan 2018
Sampling Event 2	Jul 2018

SE1 date changed →

Edit Sample Point Schedule

Select a date from the drop-down menu to revise your initial sampling event. (This will automatically define your remaining sample events.)

You must click **Save** for the updates to be added to the database.

Facility: 00001 / Treatment Plant #1

Sample Point: EP001 / EP from TP #1

Facility Type: TP

Water Type: GW


Sample Point Type: EP

Monitoring Requirement: AM1

Sampling Event	Date
Sampling Event 1	May 2018
Sampling Event 2	Nov 2018

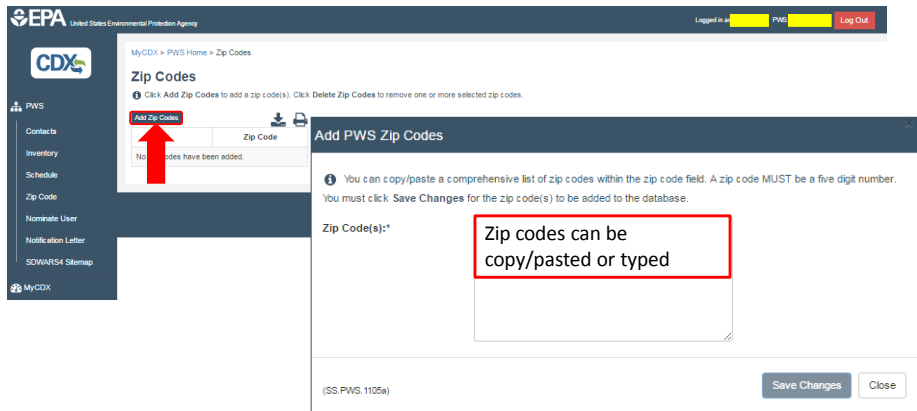
SE2 date recalculated →

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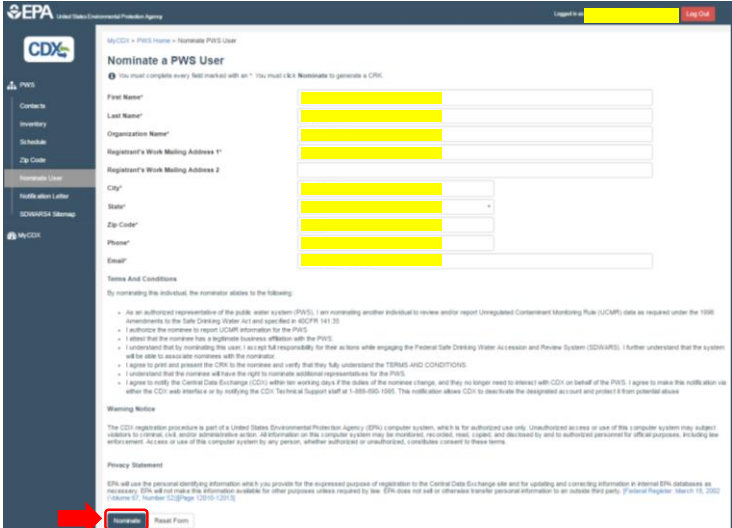
Step 7: Zip Codes

- Click “Add Zip Codes” button
- Pop-up window lets you add zip codes



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Step 8: Nominate User for Your PWS



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Step 8: Nominate User for Your PWS

MyCDX > PWS Reporting > Nominate PWS User > Nomination Created

You have nominated a representative for your PWS.

Please provide this letter containing the CDX to your nominee.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
(TO BE PROVIDED TO NOMINATED CDX USER ONLY)
SENSITIVE

NOMINATEE:
February 16, 2017

Contact's Name
Department: PWSO
Address
City, State, Zip

Dear Contact's Name:

Mrs. Brenda D. Parris and U.S. Environmental Protection Agency (EPA) are providing you with the opportunity to report Unregulated Contaminant Monitoring Rule (UCMR) information for SDWA/TSC and further nominate other individuals.

To obtain access to register on Central Data Exchange (CDX), you will need to enter the following unique customer retrieval key at the CDX registration site:

80F33W

By using this customer retrieval key above, you agree to abide by all the CDX terms and conditions as displayed during registration.

INSTRUCTIONS: To register to the CDX, please enter the key exactly as it appears above at the following website: <https://cdx.epa.gov/registration> using a supported web browser. For further information you may refer to <https://cdx.epa.gov/FAG>.

Once inside the CDX registration area, select a user name and password and follow the instructions on the screens. The user name and password you select serve as your identity. Do not share this information with anyone. If you wish to nominate additional representatives for SDWA/TSC you may do so by going into your SDWARS PWS Home Page and selecting Nominate User. If you believe that your information has been altered in any way or made available to others, please immediately contact the CDX Help Desk at 888-885-1565 (TDD) 404-550 for callers from Puerto Rico and Guam or helpdesk@epa.gov.

After completing registration, you can log into CDX at any time at <https://cdx.epa.gov/>. If you are having difficulty registering on CDX, the CDX Help Desk is available Monday through Friday from 9:00 am to 5:00 pm EST/EDT. Also, feel free to contact the Safe Drinking Water Hotline at 1-800-425-4791 with any program related questions.

Warning Notice

EPA's Central Data Exchange Registration procedure is part of a United States Environmental Protection Agency (EPA) computer system, which is for authorized use only. Unauthorized access or use of this computer system may subject violators to criminal, civil, and/or administrative action. All information on this computer system may be monitored, recorded, used, copied, and disclosed to and by authorized personnel for official purposes, including law enforcement. Access or use of the computer system by any person, whether authorized or unauthorized, constitutes consent to these terms.

Privacy Statement

EPA will use the personal identifying information which you provide for the expressed purpose of registration to the CDX site and for updating and correcting information in internal EPA databases as necessary. EPA will not make this information available for other purposes unless required by law. EPA does not sell or allow others to transfer personal information to an outside third party. (Federal Register: March 16, 2000 [Volume 67, Number 102]Page 18719-18719)

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SDWARS Large Systems Workflow: Review

- **Step 1: Log in to CDX and select SDWARS4**
 - That should automatically open your systems notification letter
- **Step 2: Read and accept the Notification Letter**
 - It can be printed and viewed at any time
- **Step 3: Error in red will indicate that you need to add official and technical contacts**
 - Make sure you check boxes to receive SDWARS notifications
- **Step 4: Once both contacts are in the system, add inventory**
 - Manually type in, bulk upload, import from SDWARS3
 - Add D/DBPR distribution and source water locations
 - Use filter to search through multiple entries

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SDWARS Large Systems Workflow: Review

- **Step 5: Option of editing, deleting or adding new Facilities/Sample Points**
 - To review/edit click on actual Facility ID or Sample Point ID
- **Step 6: Review sampling schedules**
 - By changing the SE1 month and year, schedule for the SE2, SE3 etc. will automatically update
- **Step 7: Add zip codes**
 - Type zip codes or copy and paste
- **Step 8: Nominate a user for your PWS (optional)**
 - Read the terms and conditions and provide CRK to nominee

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Remember

- All notifications and nominations can be printed into PDF and saved for your records
- Every page with data has a download and print icon on the top right

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Reporting Requirements and Data Elements



Large System Reporting

- Sampling location information
 - PWS enter via SDWARS by December 31, 2017
 - Some partnered states will provide this information to EPA for you (LSI)
 - Changes after deadline must be submitted (with reason) and approved by EPA's UCMR_Sampling_Coordinator@epa.gov



Large System Reporting

- Change schedule
 - Enter via SDWARS by December 31, 2017
 - Basis for change includes:
 - Update to most vulnerable months for cyanotoxin monitoring
 - Sync with compliance monitoring for the UCMR 4 HAA monitoring
 - Budget/planning considerations
 - Other

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Large System Reporting

- Samples
 - PWSs must input all data elements specified in §141.35(e) Table 1 (e.g., disinfectant type, treatment information and disinfectant residual) into SDWARS
- Monitoring results
 - Entered by UCMR 4 approved laboratory to SDWARS
 - Reviewed and submitted by PWS (default approval after 60 days)

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Small System Reporting

- Provide the most up-to-date contact and inventory information for your PWS on the monitoring review sheet (MRS)
 - Will be mailed to you by an EPA contractor
- Some partnered states will provide this information to EPA for you (SSI)
- An EPA contractor will input the data into SDWARS (e.g., inventory, zip codes and schedule) and send the PWSs the supplies necessary for the sample collection

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Small System Reporting

- Why is SDWARS 4 important to small systems?
 - Notification Letter
 - View sampling locations
 - View schedule
 - **MOST IMPORTANTLY** view your analytical results in "real-time"

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Small System Reporting

- **Samples**
 - PWSs must report all data elements specified in §141.35(e) Table 1 on each sample tracking form (STF) as appropriate (e.g., disinfectant type, treatment information and disinfectant residual)
- **Monitoring results**
 - Entered by EPA-contracted laboratory into SDWARS
 - Reviewed data from contracted laboratory by EPA
 - Viewed by PWS
 - Contact EPA if there are any concerns with the data

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Large and Small Systems – Reporting Data Elements §141.35(e)

1. Public Water System Identification (PWSID) Code	16. Analytical Method Code
2. Public Water System Name	17. Extraction Batch Identification Code
3. Public Water System Facility Identification Code	18. Extraction Date
4. Public Water System Facility Name	19. Analysis Batch Identification Code
5. Public Water System Facility Type	20. Analysis Date
6. Water Source Type	21. Sample Analysis Type (more details)
7. Sampling Point Identification Code	22. Analytical Results—Sign
8. Sampling Point Name	23. Analytical Result—Measured Value
9. Sampling Point Type Code	24. Additional Value
10. Disinfectant Type (more details)	25. Laboratory Identification Code
11. Treatment Information (more details)	26. Sample Event Code
12. Disinfectant Residual Type	27. Bloom Occurrence
13. Sample Collection Date	28. Cyanotoxin Occurrence
14. Sample Identification Code	29. Indicator of Possible Bloom - Treatment
15. Contaminant	30. Indicator of Possible Boom – Source Water Quality Parameters

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Disinfectant Type – Data Element 10

- **PEMB** = permanganate (applied before SR sample location)
- **HPXB** = hydrogen peroxide (applied before SR sample location)
- **CLGA** = gaseous chlorine
- **CLOF** = offsite generated hypochlorite (stored as a liquid form)
- **CLON** = onsite generated hypochlorite
- **CAGC** = chloramine (formed from gaseous chlorine)
- **CAOF** = chloramine (formed from offsite hypochlorite)
- **CAON** = chloramine (formed from onsite hypochlorite)
- **CLDB** = chlorine dioxide (applied before SR sample location)
- **OZON** = ozone
- **ULVL** = ultraviolet light
- **OTH** = all other types of disinfectant/oxidant
- **NODU** = no disinfectant/oxidant used

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Treatment Information – Data Element 11

- **CON** = conventional (non-softening)
- **SFN** = softening conventional
- **RBF** = river bank filtration
- **PSD** = pre-sedimentation
- **INF** = in-line filtration
- **DFL** = direct filtration
- **SSF** = slow sand filtration
- **BIO** = biological filtration
- **UTR** = unfiltered treatment
- **PAC** = application of powder activated carbon
- **GAC** = granular activated carbon (not part of filters in CON, SCO, INF, DFL or SSF)
- **AIR** = air stripping (packed towers, diffused gas contactors)
- **POB** = pre-oxidation/disinfection with chlorine (applied before SR sample location)
- **MFL** = membrane filtration
- **IEX** = ionic exchange
- **DAF** = dissolved air floatation
- **CWL** = clear well/finished water storage without aeration
- **CWA** = clear well/finished water storage with aeration
- **ADS** = aeration in distribution system (localized treatment)
- **OTH** = all other types of treatment
- **NTU** = no treatment used
- **DKN** = Do not know

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Disinfectant Residual Type – Data Element 12

- **CL2** = Chlorine (i.e., originating from addition of free chlorine only)
- **CLO2** = chlorine dioxide
- **CLM** = Chloramines (originating from with addition of chlorine and ammonia or pre-formed chloramines)
- **CAC** = Chlorine and chloramines (if being mixed from chlorinated and chloraminated water)
- **NOD** = No disinfectant residual

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Sample Analysis Type – Data Element 21

- **CF** = concentration fortified; the concentration of a known contaminant added to a field sample reported with sample analysis types LFSM, LFSMD, LFB, CCC and QCS.
- **CCC** = continuing calibration check; a calibration standard containing the contaminant, the internal standard, and surrogate analyzed to verify the existing calibration for those contaminants.
- **FS** = field sample; sample collected and submitted for analysis under this rule.
- **IS** = internal standard; a standard that measures the relative response of contaminants.
- **LFB** = laboratory fortified blank; an aliquot of reagent water fortified with known quantities of the contaminants and all preservation compounds.
- **LRB** = laboratory reagent blank; an aliquot of reagent water treated exactly as a field sample, including the addition of preservatives, internal standards, and surrogates to determine if interferences are present in the laboratory, reagents, or other equipment.
- **LFSM** = laboratory fortified sample matrix; a UCMR field sample with a known amount of the contaminant of interest and all preservation compounds added.
- **LFSMD** = laboratory fortified sample matrix duplicate; duplicate of the laboratory fortified sample matrix.
- **QCS** = quality control sample; a sample prepared with a source external to the one used for initial calibration and CCC. The QCS is used to check calibration standard integrity.
- **QHS** = quality HAA; HAA sample collected and submitted for quality control purposes.
- **SUR** = surrogate standard; a standard that assesses method performance for each extraction.

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Bloom Occurrence – Data Element 27

Preceding the finished water sample collection, did you observe an algal bloom in your source waters near the intake?

- **YES** = if yes, select all the YESs that apply:
 - **YD** = yes, on the day the UCMR cyanotoxin sample was collected
 - **YW** = yes, between the day the sample was taken and the past week
 - **YM** = yes, between the past week and past month
 - **YY** = yes, between the past month and past year
 - **YP** = yes, prior to the past year
- **NO** = have never seen a bloom
- **NA** = purchased consecutive connection and no source water

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Cyanotoxin Occurrence – Data Element 28

Preceding the finished water sample collection, were cyanotoxins ever detected in your source waters near the intake and prior to any treatment (based on sampling by you or another party)?

- **YES** = if yes, select all the YESs that apply:
 - **YD** = yes, on the day the UCMR cyanotoxin sample was collected
 - **YW** = yes, between the day the sample was taken and the past week
 - **YM** = yes, between the past week and past month
 - **YY** = yes, between the past month and past year
 - **YP** = yes, prior to the past year
- **NO** = have never detected cyanotoxins in source water
- **NS** = unaware of any source water cyanotoxin sampling
- Select all that apply (i.e., all that were detected) if you answered YES to detecting cyanotoxins in source water:
 - **MIC** = Microcystins
 - **CYL** = Cylindrospermopsin
 - **ANA** = Anatoxin-A
 - **SAX** = Saxitoxins
 - **OTH** = Other
 - **DK** = Do not know

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Indicator of Possible Bloom – Treatment Data Element 29

Preceding the finished water sample collection, did you notice any changes in your treatment system operation and/or treated water quality that may indicate a bloom in the source water?

- **YES** = if yes, select all that apply:
 - **DFR** = Decrease in filter runtimes
 - **ITF** = Increase in turbidity in filtered water
 - **ICD** = Need for increased coagulant dose
 - **TOI** = Increase in taste and odor issues in finished water
 - **IOD** = Need for increase in oxidant/disinfectant dose
 - **IDB** = Increase in TTHM/HAA5 in finished water
 - **OTH** = Describe other changes
- **NO** = no changes

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Indicator of Possible Bloom – Source Water Quality Parameters – Data Element 30

Preceding the finished water sample collection, did you observe any notable changes in source water quality parameters (if measured)?

- **YES** = if yes, select all that apply to the source water:
 - **ITP** = Increase in water temperature
 - **ITU** = Increase in turbidity
 - **IAL** = Increase in alkalinity
 - **ITO** = Increase in total organic carbon
 - **ICD** = Increase in chlorine demand
 - **IPH** = Increase in pH
 - **ICA** = Increase in chlorophyll a
 - **IPY** = Increase in phycocyanin
 - **INU** = Increase in nutrients (example: nitrogen or phosphorus)
 - **OTH** = Describe other changes
- **NO** = no changes observed

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Timing of Reporting Results

- Large systems
 - Laboratory posts results to SDWARS within 120 days of sample collection
 - Systems review, approve and submit to state and EPA within 60 days of laboratory's post
- Small systems
 - EPA will still manage laboratory contracts for small water systems
 - Laboratory posts results to SDWARS within 120 days of sample collection (shorter for contracts)
 - Systems access their data in SDWARS

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SDWARS4 Development

- File formats for laboratories will be made available this summer/fall
 - Text files
 - XML
- Training
 - Webinar for laboratories
 - Webinar for water systems
- Laboratory beta-testing of SDWARS4
 - Improvements to user interface
 - Practice uploading data

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Risk Communication

Melissa Simic, USEPA



Overview

- Reference Concentrations
- Consumer Confidence Reports
- Public Notification requirements



Risk Communication

- UCMR reference concentrations are compiled from publically available EPA sources
- Review the supporting documentation referenced in the UCMR Data Summary (updated quarterly)
 - Examples of secondary sources
 - [Drinking Water Standards and Health Advisories](#)
 - [CCL 4 Contaminant Information Sheets](#)
 - [Human Health Benchmark for Pesticides \(HHBPs\)](#)
 - Examples of sources where you can find additional information on the critical study, other health effects, chemical properties, sources, exposure etc.
 - [Integrated Risk Information System \(IRIS\)](#)
 - [Office of Pesticides Program \(OPP\)](#)
 - [Office of Water – Drinking Water Contaminant Human Health Information](#)
 - [Agency for Toxic Substances & Disease Registry \(ATSDR\)](#)
- UCMR 4 Compendium

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Risk Communication

- The reference concentration does not represent an “action level” (EPA requires no particular action based simply on the fact that UCMR monitoring results exceed draft reference concentrations)
- The reference concentration should not be interpreted as any indication of agency intent to establish a future drinking water regulation at this or any other level
- Decisions whether or not to regulate the contaminant in drinking water will continue to be made following the agency’s Regulatory Determination process

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Risk Communication

- The intent of the UCMR reference concentrations is to provide, where possible, context around the detection of a particular UCMR contaminant above the MRL
- EPA will continue to look for ways to improve the UCMR Data Summary to make sure we are connecting you to the most appropriate information and messaging materials
- Follow state, Consumer Confidence Report and Public Notification requirements



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Public Access to UCMR Results

- UCMR results can be viewed by the public:
 - At <https://www.epa.gov/dwucmr>
 - In annual Consumer Confidence Reports (CCRs)
 - Required by §141.153(d)(7) Community water systems (CWSs)
 - **Detected unregulated contaminants**, for which monitoring is required (except *Cryptosporidium*), the table(s) must contain the average and range at which the contaminant was detected. The report may include a brief explanation of the reasons for monitoring for unregulated contaminants.
 - **Example language:** unregulated contaminants are those, for which EPA has not established drinking water standards. The purpose of unregulated contaminant monitoring is to assist EPA in determining the occurrence of unregulated contaminants in drinking water and whether future regulation is warranted.
 - For additional information: <https://www.epa.gov/ccr>

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Public Access to UCMR Results

- In Public Notification
 - Required by §141.207 for CWS and NTNCWS
 - PWSs must notify persons served of the availability of the results no later than 12-months after monitoring results are known
 - Follows Tier 3 public notice §141.204(c), (d)(1) and (d)(3)
 - Special requirement– notice must identify a person and the telephone number to contact for information on monitoring results
 - CWSs may include their public notice within their CCRs
 - For additional information:
<https://www.epa.gov/dwreginfo/public-notification-rule>

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Closing Remarks

Melissa Simic, USEPA



Webinar Participant Questions

- Click on “+” next to “Questions” in the control panel (Figure 1) to submit questions/comments
 - You may need to unhide the control panel to ask a question (Figure 2)
- Type a question in the box; click send (Figure 3)

Figure 1

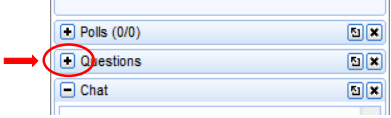


Figure 2

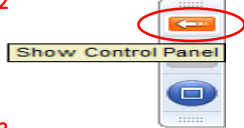
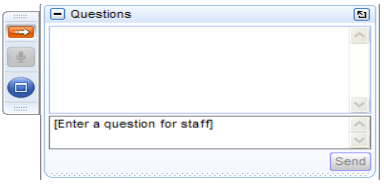



Figure 3



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If You Have Questions Following This Meeting/Webinar

- UCMR Homepage:
 - <https://www.epa.gov/dwucmr>
- UCMR 4:
 - <https://www.epa.gov/dwucmr/fourth-unregulated-contaminant-monitoring-rule>
 - Go to UCMR 4 Docket (EPA-HQ-OW-2015-0218) at <http://www.regulations.gov> for federal register notice and supporting documents
- Occurrence Data:
 - <https://www.epa.gov/dwucmr/occurrence-data-unregulated-contaminant-monitoring-rule>

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UCMR Contacts

- UCMR Questions/SDWARS Data Entry?
 - UCMR Message Center: (800) 949-1581
 - UCMR4@glec.com
 - UCMR_Sampling_Coordinator@epa.gov
- CDX Help?
 - SDWARS registration and technical issues
 - Provide details and screen shots
 - CDX Help Desk: (888) 890-1995
 - helpdesk@epacdx.net
- Lab Approval Program:
 - UCMR_Lab_Approval@epa.gov
- Safe Drinking Water Questions?
 - Safe Drinking Water Hotline: (800) 426-4791

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Break

2:50 to 3:00



Questions and Discussion



Abbreviations and Acronyms

- **CCC** – Continuing Calibration Check
- **CCL** – Contaminant Candidate List
- **CDX** – Central Data Exchange
- **CWS** – Community Water System
- **CRKs** – Customer Retrieval Keys
- **D/DBPRs** – Disinfectants and Disinfection Byproduct Rules (including Stage 1 and Stage 2 D/DBPRs)
- **DS** – Distribution System
- **ELISA** – Enzyme-linked Immunosorbent Assay
- **EPTDS** – Entry Point to Distribution System



Abbreviations and Acronyms

- **FR** – Federal Register
- **GC** – Gas Chromatography
- **GC-ECD** – Gas Chromatography with Electron Capture Detection
- **GC/MS** – Gas Chromatography/Mass Spectrometry
- **GW** – Ground Water
- **GWRMPs** – Ground Water Representative Monitoring Plans
- **GWUDI** – Ground Water Under the Direct Influence of Surface Water

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Abbreviations and Acronyms

- **HAAs** – haloacetic acids
- **HAA5** –dichloroacetic acid, monochloroacetic acid, tribromoacetic acid, monobromoacetic acid, dibromoacetic acid
- **HAA6Br** - monobromoacetic acid, dibromoacetic acid, bromochloroacetic acid, bromodichloroacetic acid, chlorodibromoacetic acid, tribromoacetic acid
- **HAA9** – dichloroacetic acid, monochloroacetic acid, trichloroacetic acid, monobromoacetic acid, dibromoacetic acid, bromochloroacetic acid, bromodichloroacetic acid, chlorodibromoacetic acid, tribromoacetic acid,
- **ICR** – Information Collection Request
- **IC-ESI-MS/MS** – Ion Chromatography Electrospray Ionization Tandem Mass Spectrometry

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Abbreviations and Acronyms

- **IDC** – Initial Demonstration of Capability
- **IS** – Internal Standard
- **LC/ESI-MS/MS** – Liquid Chromatography/Electrospray Ionization/Tandem Mass Spectroscopy
- **LC-MS/MS** – Liquid Chromatography/Tandem Mass Spectrometry
- **LFB** – Laboratory Fortified Blank
- **LFSM** – Laboratory Fortified Sample Matrix
- **LRB** – Laboratory Reagent Blank
- **LSI** – Large System Inventory
- **LT2** – Long Term 2 Enhanced Surface Water Treatment Rule

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Abbreviations and Acronyms

- **MCLG** – Maximum Contaminant Level Goal
- **MRL** – Minimum Reporting Level
- **MRS** – Monitoring Review Sheet
- **NCOD** – National Contaminant Occurrence Database
- **NPDWRs** – National Primary Drinking Water Regulations
- **NTNCWS** – Non-transient Non-community Water System
- **PA** – Partnership Agreement
- **PT** – Proficiency Testing
- **PWS** – Public Water System
- **PWSID** – Public Water System Identification

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Abbreviations and Acronyms

- **QA** – Quality Assurance
- **QC** – Quality Control
- **QCS** – Quality Control Sample
- **QHS** – Quality HAA Sample
- **SDWA** – Safe Drinking Water Act
- **SM** – Standard Methods for the Examination of Water and Wastewater
- **SMP** – State Monitoring Plan

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Abbreviations and Acronyms

- **SPE** – Solid Phase Extraction Phase
- **SR** – Source water
- **SSI** – Small System Inventory
- **SUR** – Surrogate Standard
- **SW** – Surface Water
- **TNCWS** – Transient Non-community Water System
- **TTHM** – Trihalomethanes
- **TOC** – Total Organic Carbon
- **UCMR** – Unregulated Contaminant Monitoring Rule

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