



Implementing the Third Cycle of the Unregulated Contaminant Monitoring Rule (UCMR 3)

**NEMC 2014 – Topics in Drinking Water
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UCMR Background

- Largest national drinking water monitoring program evaluating unregulated contaminant occurrence and exposure (knowing population served by water system)
- Contaminants do not have national health-based standards set under the Safe Drinking Water Act (SDWA)
- Data are critical to support NPDWS regulatory determinations (both positive and negative)
- History:
 - UCM (1988-1997), Round 1 and 2
 - 1996 SDWA Amendments***
 - UCMR 1 (2001 – 2005)
 - UCMR 2 (2007 – 2011)
 - UCMR 3 (2012 – 2016)



UCMR 3

- Final rule published May 2, 2012
<http://water.epa.gov/lawsregs/rulesregs/sdwa/ucmr/ucmr3/index.cfm>
- Monitoring Period: Jan 2013 – Dec 2015;
 - reporting through ~mid-2016
- 28 chemicals and 2 viruses
- Chemical contaminants include hormones, perfluorinated compounds (e.g., PFOS/PFOA), VOCs, metals (including Cr-6 and total Cr), 1,4-dioxane, chlorate



UCMR 3 System Applicability

Assessment Monitoring (List 1 Contaminants): perfluorinated compounds (e.g., PFOS/PFOA), VOCs, metals (including Cr-6 and total Cr), 1,4-dioxane, chlorate		
<i>System Type</i>	<i>Systems Serving > 10,000</i>	<i>Systems Serving ≤ 10,000</i>
CWS & NTNCWS	All systems (~4,200)	800 randomly selected systems
TNCWS	No requirements	No requirements
Screening Survey (List 2 Contaminants): hormones		
<i>System Type</i>	<i>Systems Serving > 10,000</i>	<i>Systems Serving ≤ 10,000</i>
CWS & NTNCWS	All systems (~410) serving more than 100,000, and 320 randomly selected systems serving 10,001 to 100,000	480 randomly selected systems
TNCWS	No requirements	No requirements
Pre-Screen Testing (List 3 Contaminants): viruses		
<i>System Type</i>	<i>Systems Serving > 1,000</i>	<i>Systems Serving ≤ 1,000</i>
CWS, TNCWS & NTNCWS	No requirements	800 randomly selected systems



Timeline of UCMR 3 Activities

2012	2013	2014	2015	2016
<p>Pre-monitoring Implementation</p> <ul style="list-style-type: none"> • Lab Approval Program • Establish State Partnership Agreements • PWS Notifications • SDWARS Registration <ul style="list-style-type: none"> • Inventory • Schedule 	<p align="center">Sampling and Reporting Period</p> <p>PWS monitor for one consecutive 12-month period between January 2013 - December 2015 (can span the calendar year, as long as conducted during a consecutive 12-month period).</p> <p align="center">On-going Implementation Activities</p> <ul style="list-style-type: none"> • Assisting/advising PWS with compliance • Engaging partnered States and EPA Regions • Providing lab oversight: audits, technical assistance, data QC review and follow-up • Reviewing completeness / tracking compliance • Quarterly posting of monitoring data to NCOD • Keeping entire program on track 			<p>Post-monitoring Phase</p> <ul style="list-style-type: none"> • Complete resampling • Conclude data reporting and review • Finalize NCOD • Enforcement



EPA UCMR Laboratory Approval Program

- What is EPA “Laboratory Approval?”
- Initial actions by laboratory
 - Register with EPA, complete application, pass PT
 - Complete process prior to monitoring period
 - Early engagement critical to lab success
- Maintaining EPA laboratory approval for UCMR
 - Timely and accurately post monitoring data to SDWARS
 - Respond to all inquires regarding posted data
 - Meet/exceed all program QA/QC requirements
 - Follow the approved methods!
 - Pass EPA audits addressing findings with corrective actions



Data Review

- Automated SDWARS review
 - Lab QC passing confirmation prompt and range checks
 - Only approved labs post data specific to method approval
- Suspect results and direct follow-up
 - Duplicate data - true duplicate or lab posting error?
 - Sample Event (SE) code inconsistency
 - Lab/PWS confusion with recollection or subcontract lab work
 - Potential outliers
 - Metals analysis field blank review/assessment
 - Ratio of Cr Total vs Cr VI results
- LFSM/LFSMD (i.e., MS/MSD) - frequency and concentration fortified review



UCMR 3 Data

- Quarterly posting of results to web (NCOD)
<http://water.epa.gov/lawsregs/rulesregs/sdwa/ucmr/data.cfm>
 - Nov 2013; Feb 2014; May 2014; etc...
 - Data represent majority of 2013 results + partial 2014 results
- UCMR 3 reporting limits (MRLs) are based on analytical method quantitation limits
 - comparably lower than UCMR 1 and UCMR 2 MRLs;
 - more frequent UCMR 3 contaminant detection
 - “reference concentrations” (RCs) established relative to health-based concentrations



UCMR 3 Preliminary Results

(as of 4/1/14)

- ~18,000 sample results from ~1800 PWSs for metals, chlorate
- ~3,500 sample results from ~370 PWSs for hormones (List 2 – Screening Survey)
- ~11,000 sample results from ~1800 PWSs for other chemicals
- ~1/3 of data that will ultimately be collected (297,648 sample results reported)



Summary Points re Preliminary Data (as of 4/1/14)

- Metals
 - Many measurements reported above the MRL, most significantly below reference concentration (RC)
 - Sr at 1% of PWSs above RC of 4 mg/L
 - V at 3.4% of PWSs above RC of 21 ug/L
- Chlorate
 - 35% of PWSs above RC of 210 ug/L
- 1,4-dioxane
 - 6.8% of PWSs above the 10^{-6} RC of 0.35 ug/L; none above the 10^{-4} RC of 35 ug/L



Summary Points re Preliminary Data (as of 4/1/14)

- VOCs
 - Relatively few VOC measurements above the RC
 - 1,2,3 trichloropropane at 1.4% of PWSs above the 10^{-4} RC of 0.04 ug/L; at 1.7% of PWS above the MRL of 0.03 ug/L (MRL > 10^{-6} RC)
- Perfluorinated Compounds (PFCs)
 - 3.4% of PWSs detected one or more PFCs
 - 2.7% of PWS detected PFOA and/or PFOS
 - PFOS at 0.3% of PWS above RC of 0.2 ug/L
 - RC currently only available for PFOA and PFOS



Summary Points re Preliminary Data (as of 4/1/14)

- Hormones
 - 7.8% of PWS detected one or more hormones
 - RC available for the 5 estrogenic hormones, not the 2 androgenic hormones
 - No estrogenic hormone measurements above RC



Challenges/Successes

- Labs posting data and later recognizing QC issues
 - Significant drain on strained resources
 - Data are removed from SDWARS and recollections ordered
- UCMR3 more complex than any prior cycle
 - Seven method/analyte combinations plus viruses
 - Despite challenges, seeing a high level of compliance
- Initial field blank failure concerns – not a chronic problem
- Furloughs/shutdowns did not significantly impact monitoring progress



What's next?...UCMR 4

- Stakeholder meeting held June 25, 2014
- Planning efforts continue focusing on contaminant selection and program implementation priorities
- Proposed Rule: mid-2015
- Final Rule: late-2016
- Planned monitoring start: January 2018



UCMR Contacts

- UCMR Questions?
 - UCMR Message Center: (800) 949-1581
 - Email: UCMR3@glec.com
- Safe Drinking Water Questions?
 - Safe Drinking Water Hotline: (800) 426-4791
- CDX/SDWARS Help?
 - CDX helpdesk: (888) 890-1995
 - Email:

To...	<input type="text" value="epacdx@csc.com"/>
Cc...	<input type="text"/>
Subject:	<input type="text" value="UCMR 3 SDWARS Help"/>



UCMR Contacts

UCMR Sampling Coordinator

To...	UCMR_Sampling_Coordinator@epa.gov
Cc...	
Subject:	UCMR 3 Sampling Schedule Question

UCMR Laboratory Approval Coordinator

To...	UCMR_Sampling_Coordinator@epa.gov
Cc...	
Subject:	UCMR 3 Laboratory Approval Question





More Information

UCMR 3 Web Pages:

<http://water.epa.gov/lawsregs/rulesregs/sdwa/ucmr/ucmr3/>

- Links to:
 - Basic Information
 - Methods & Contaminants
 - Laboratories
 - Reporting
 - Data

Unregulated Contaminant Monitoring Rule 3 (UCMR 3)

[UCMR 3 Home](#) [Basic Information](#) [Methods & Contaminants](#) [Laboratories](#) [Reporting](#)

The third Unregulated Contaminant Monitoring Rule (UCMR 3) was signed by EPA Administrator, Lisa P. Jackson on April 16, 2012. As finalized, UCMR 3 will require monitoring for 30 contaminants using EPA and/or consensus organization analytical methods during 2013–2015. Together EPA, States, laboratories and public water systems (PWSs) will participate in UCMR 3.

Federal Register Notice

[Final Revisions to the Unregulated Contaminant Monitoring Rule \(UCMR 3\) for Public Water Systems, May 2, 2012](#)

The UCMR design divides contaminants into three types of monitoring. UCMR 3 includes monitoring under each of the three lists, as follows:



Questions?