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40 CFR Parts 141 and 142
Revisions to the Unregulated Contaminant Monitoring Regulation (UCMR 3) for Public Water Systems; Final Rule

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Parts 141 and 142

[Docket No. EPA–HQ–OW–2009–0090; FRL–9660–4]

RIN 2040–AF10

Revisions to the Unregulated Contaminant Monitoring Regulation (UCMR 3) for Public Water Systems

AGENCY: Environmental Protection Agency (EPA).

ACTION: Final rule.

SUMMARY: The 1996 amendments to the Safe Drinking Water Act (SDWA) require that the United States Environmental Protection Agency (EPA or the agency) establish criteria for a program to monitor unregulated contaminants and publish a list of up to 30 contaminants to be monitored every five years. This final rule meets the SDWA requirement by publishing the third Unregulated Contaminant Monitoring Regulation (*i.e.,* UCMR 3), listing the unregulated contaminants to be monitored and addressing the requirements for such monitoring. This final rule describes analytical methods to monitor for 28 chemical contaminants and describes the monitoring for two viruses. UCMR 3 provides EPA and other interested parties with scientifically valid data on the occurrence of these contaminants in drinking water, permitting the assessment of the number of people potentially being exposed and the levels of that exposure. These data are one of the primary sources of occurrence and exposure information the agency uses to develop regulatory decisions for these contaminants. In addition, as part of an Expedited Methods Update, this rule finalizes amendatory language for a drinking water inorganic analysis table (''Inorganic chemical sampling and analytical requirements'') in the Code of Federal Regulations (CFR). This minor editorial correction to the table does not affect the UCMR program.

DATES: This final rule is effective on June 1, 2012. For purposes of judicial review, this rule is promulgated as of 1 p.m. Eastern time on May 16, 2012 as provided in 40 CFR 23.7. The incorporation by reference of certain publications listed in this rule is approved by the Director of the Federal Register as of June 1, 2012.

ADDRESSES: EPA has established a docket for this action under Docket ID No. EPA–HQ–OW–2009–0090. All documents in the docket are listed in the index at *www.regulations.gov.* Although listed in the index, some information is not publicly available, *e.g.,* confidential business information (CBI) or other information, the disclosure of which is restricted by statute. Certain other material, such as copyrighted material, is not placed on the Internet and will be publicly available only in hard copy form. Publicly available docket materials are available either electronically at *www.regulations.gov* or in hard copy at the Water Docket, EPA/DC, EPA West, Room 3334, 1301 Constitution Ave. NW., Washington, DC. This Public Reading Room is open from 8:30 a.m. to 4:30 p.m., Monday through Friday, excluding legal holidays. The telephone number for this Public Reading Room is (202) 566–1744, and the telephone number for the Water Docket is (202) 566–2426.

FOR FURTHER INFORMATION CONTACT: Brenda D. Parris, Technical Support Center, Standards and Risk Management Division, Office of Ground Water and Drinking Water, United States Environmental Protection Agency, Office of Water, 26 West Martin Luther King Drive (MS 140), Cincinnati, Ohio 45268; telephone (513) 569–7961; or email at *parris.brenda@epa.gov*. For general information, contact the Safe Drinking Water Hotline. Callers within the United States may reach the Hotline at (800) 426–4791. The Hotline is open Monday through Friday, excluding legal holidays, from 10:00 a.m. to 4:00 p.m., Eastern time. The Safe Drinking Water Hotline may also be found on the Internet at *http://water.epa.gov/drink/contact.cfm*.

SUPPLEMENTARY INFORMATION:

I. General Information

A. Does this action apply to me?

Entities regulated by this action are public water systems (PWSs). All large community and non-transient non-community water systems serving more than 10,000 people are required to monitor. A community water system (CWS) means a PWS, which has at least 15 service connections used by year-round residents or regularly serves an average of at least 25 year-round residents. A non-transient non-community water system (NTNCWS) means a PWS that is not a CWS and regularly serves at least 25 of the same people over six months per year. Only a nationally representative sample of ''small'' community and non-transient non-community systems serving 10,000 or fewer people are required to monitor for the chemical analytes (see USEPA, 2001 for a description of the statistical approach for the nationally representative sample). EPA will pay for the analysis of samples collected by these small systems. Transient non-community water systems (TNCWS) (*i.e.,* systems that do not regularly serve at least 25 of the same people over six months per year) are not required to monitor for the chemical analytes. However, transient ground water systems serving 1,000 or fewer people may be selected for virus monitoring. If selected, these systems are required to permit EPA to sample and analyze for List 3 contaminants and pathogen indicators. EPA will pay for all sampling and analysis costs associated with virus monitoring at these small systems. Exhibit 1 summarizes UCMR 3 applicability by system type and size.

EXHIBIT 1—APPLICABILITY OF UCMR 3 TO WATER UTILITIES BY SYSTEM TYPE AND SIZE

System type	System size [1]	
	Serving >10,000	Serving ≤10,000
UCMR 3 Assessment Monitoring		
CWS & NTNCWS	Requires all systems to monitor for List 1 chemicals	Requires 800 randomly selected systems to monitor for List 1 chemicals. EPA will pay for the analysis of samples.
TNCWS	No requirements	No requirements.

EXHIBIT 1—APPLICABILITY OF UCMR 3 TO WATER UTILITIES BY SYSTEM TYPE AND SIZE—Continued

System type	System size [1]	
	Serving >10,000	Serving ≤10,000
UCMR 3 Screening Survey		
CWS & NTNCWS	Requires all systems serving more than 100,000, and 320 randomly selected systems serving 10,001 to 100,000 to monitor for List 2 chemicals.	Requires 480 randomly selected systems to monitor for List 2 chemicals. EPA will pay for the analysis of samples.
TNCWS	No requirements	No requirements.
UCMR 3 Pre-Screen Testing		
CWS, TNCWS & NTNCWS	No requirements	Requires 800 randomly selected systems to permit EPA to sample and analyze List 3 microbes. The selected systems will be served by non-disinfecting ground water wells in vulnerable areas. EPA will pay for the analysis of samples.

[1] Based on the retail population, as indicated by SDWIS/Fed on December 31, 2010.

States, Territories, and Tribes with primary enforcement responsibility (primacy) to administer the regulatory program for PWSs under SDWA may participate in the implementation of UCMR 3 through Partnership Agreements (PAs). These primacy agencies may choose to perform the required analysis of samples collected for UCMR 3; however, the PWS remains responsible for compliance with this rule. Regulated categories and entities are identified in the following exhibit.

Category	Examples of potentially regulated entities	NAICS [a]
State, Local, & Tribal Governments.	States, local and Tribal governments that analyze water samples on behalf of public water systems required to conduct such analysis; States, local and Tribal governments that directly operate community, transient and non-transient non-community water systems required to monitor.	924110
Industry	Private operators of community and non-transient non-community water systems required to monitor	221310
Municipalities	Municipal operators of community and non-transient non-community water systems required to monitor	924110

[a] NAICS = North American Industry Classification System.

This exhibit is not exhaustive, but rather provides a guide for readers regarding entities that may be regulated by this action. This exhibit lists the types of entities that EPA is now aware may potentially be regulated by this action. Other types of entities not listed in the exhibit could also be regulated. To determine whether your facility is regulated by this action, you should carefully examine the definition of PWS in § 141.2 of Title 40 of the Code of Federal Regulations, and applicability criteria in § 141.40(a)(1) and (2) of this action. If you have questions regarding the applicability of this action to a particular entity, consult the persons listed in the preceding **FOR FURTHER INFORMATION CONTACT** Section.

B. Copies of This Document and Other Related Information

This document is available for download at: *www.regulations.gov*. For other related information, see preceding discussion on docket.

Abbreviations and Acronyms

μg/L Microgram(s) per Liter
ASDWA Association of State Drinking Water Administrators
ATSDR Agency for Toxic Substances and Disease Registry
AGI Acute Gastrointestinal Illness
CCL Contaminant Candidate List
CFR Code of Federal Regulations
CWS Community Water System
DQO Data Quality Objectives
DSMRT Distribution System Maximum Residence Time
EO Executive Order
ELISA Enzyme-linked Immunosorbent Assay
EPA United States Environmental Protection Agency
EPTDS Entry Point to the Distribution System
FR **Federal Register**
GC/MS Gas Chromatography/Mass Spectrometry
GWUDI Ground Water Under the Direct Influence of Surface Water
HCF–22 Chlorodifluoromethane
HPLC/MS/MS High-Performance Liquid Chromatography/Tandem Mass Spectrometry
HRL Health Reference Level
IC/MS Ion Chromatography/Mass Spectrometry
ICR Information Collection Request
IDC Initial Demonstration of Capability
IHS Indian Health Service
LCMRL Lowest Concentration Minimum Reporting Level
LC/MS/MS Liquid Chromatography/Tandem Mass Spectrometry
LFSM Laboratory Fortified Sample Matrix
LFSMD Laboratory Fortified Sample Matrix Duplicate
MDL Method Detection Limit
MRL Minimum Reporting Level
NAICS North American Industry Classification System
NCOD National Drinking Water Contaminant Occurrence Database
ND Not Detected
NTNCWS Non-Transient Non-Community Water System
NTTAA National Technology Transfer and Advancement Act
NWQL National Water Quality Laboratory
OMB Office of Management and Budget
PA Partnership Agreement
PFBS Perfluorobutanesulfonic Acid
PFC Perfluorinated Compounds
PFHpA Perfluoroheptanoic Acid
PFHxS Perfluorohexanesulfonic Acid
PFNA Perfluorononanoic Acid
PFOA Perfluorooctanoic Acid
PFOS Perfluorooctanesulfonic Acid
PT Proficiency Testing
PWS Public Water System
qPCR Quantitative Polymerase Chain Reaction
RFA Regulatory Flexibility Act
RfD Reference Dose
SDWARS Safe Drinking Water Accession and Review System
SM Standard Methods
SRF State Revolving Fund
SBA Small Business Administration

SDWA Safe Drinking Water Act
SDWIS/Fed Federal Safe Drinking Water Information System
TNCWS Transient Non-Community Water System
TTHM Total Trihalomethanes
UCMR Unregulated Contaminant Monitoring Regulation
UMRA Unfunded Mandates Reform Act of 1995
VOC Volatile Organic Compound

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II. Statutory Authority and Background

A. What is the statutory authority for UCMR?

Section 1445(a)(2) of SDWA, as amended in 1996, requires that once every five years, the United States Environmental Protection Agency (EPA) issue a new list of no more than 30 unregulated contaminants to be monitored by public water systems (PWSs). It also requires that EPA enter the monitoring data into the Agency's National Drinking Water Contaminant Occurrence Database (NCOD). EPA must ensure that only a nationally representative sample of PWSs serving 10,000 or fewer people is required to monitor. EPA must also vary the frequency and schedule for monitoring based on the number of persons served, the source of supply, and the contaminants likely to be found.

Section 1445(a)(1)(A) of SDWA, as amended in 1996, requires that every person who is subject to any SDWA requirements establish and maintain such records, make such reports, conduct such monitoring, and provide such information as the Administrator may reasonably require by regulation to assist the Administrator in establishing SDWA regulations. Pursuant to this authority, EPA is requiring the monitoring of total chromium under this final rule.

B. How does EPA meet these statutory requirements?

This final rule fulfills EPA's obligation under SDWA by identifying 29 unregulated contaminants for monitoring during the third UCMR, referred to as ''UCMR 3.'' These contaminants include: 27 chemicals measured using up to seven analytical methods and/or four equivalent consensus organization-developed methods, and two viruses measured using one sample collection and two detection methods. In conjunction with UCMR 3 Assessment Monitoring, monitoring for total chromium is also required. Total chromium monitoring is required under the authority provided in Section 1445(a)(1)(A) of SDWA. EPA has developed the contaminant list (Exhibit 2a and 2b) and sampling design for UCMR 3 (2012–2016) with input from both stakeholders and an EPA–State working group.

Exhibit 2a—UCMR 3 Final Contaminant Lists

List 1, Assessment Monitoring	
1,4-dioxane	vanadium.
molybdenum	strontium.
cobalt	chromium-6 (hexavalent chromium)[1].

1,2,3-trichloropropane	chlorate.
1,3-butadiene	perfluorooctanesulfonic acid (PFOS).
chloromethane (methyl chloride)	perfluorooctanoic acid (PFOA).
1,1-dichloroethane	perfluorononanoic acid (PFNA).
bromochloromethane (Halon 1011)	perfluorohexanesulfonic acid (PFHxS).
bromomethane (methyl bromide)	perfluoroheptanoic acid (PFHpA).
chlorodifluoromethane (HCFC–22)	perfluorobutanesulfonic acid (PFBS).
List 2, Screening Survey	
17-β-estradiol	estriol.
17-α-ethynylestradiol (ethinyl estradiol)	equilin.
estrone	testosterone.
4-androstene-3,17-dione.	
List 3, Pre-Screen Testing [2]	
enteroviruses	noroviruses.

Exhibit 2b—Total Chromium Monitoring [3]
total chromium

[1] Chromium-6 will be measured as soluble chromate (ion).
[2] Monitoring for microbial indicators—in conjunction with UCMR 3 Pre-Screen Testing—is also required. This monitoring includes sampling for pathogen indicators (*i.e.,* total coliforms, E. coli, bacteriophage, Enterococci and aerobic spores). It is not subject to the stipulation in Section 1445(a)(2)(B)(i) of SDWA that restricts UCMR contaminants to not more than 30. List 3 monitoring, including monitoring of microbial indicators, is only required at selected small systems. EPA will collect the samples from List 3 sampling locations, and will pay for all sampling and analysis costs associated with virus and indicator monitoring at these small systems.
[3] Monitoring for total chromium—in conjunction with UCMR 3 Assessment Monitoring—is required under the authority provided in Section 1445(a)(1)(A) of SDWA.

This list differs from that provided in the March 3, 2011, proposed rule (76 FR 11713, (USEPA, 2011a)) as follows: chromium-6 (hexavalent chromium) and total chromium have been added; *sec*-butylbenzene and *n*-propylbenzene have been deleted; and monitoring of hormones was moved from Assessment Monitoring (List 1) to Screening Survey (List 2).

III. Summary of This Rule

Public water systems (PWS) or EPA will conduct sampling and analysis for Assessment Monitoring (List 1), Screening Survey (List 2), and Pre-Screen Testing (List 3) contaminants, as applicable, at each PWS subject to this rule during a 12 month period within the 2013 to 2015 time frame. Preparations prior to 2013 include coordination of laboratory approval, selection of representative samples of small systems, development of State Monitoring Plans, establishment of monitoring schedules, and notification of participating PWSs. Exhibit 3 illustrates the major activities that will take place during implementation of UCMR 3.

Exhibit 3: Timeline of UCMR 3 Activities

2012	2013	2014	2015	2016
After proposed rule publication: Lab approval program begins *After applicability date:* EPA/State partnership agreements and State monitoring plans developed (inc. national representative sample) *After final rule publication*: Inform PWSs/establish monitoring plans	**Assessment Monitoring** List 1 Contaminants + Total Chromium All systems serving more than 10,000; 800 systems serving 10,000 or fewer			Complete reporting and analysis of data
	Screening Survey List 2 Contaminants All systems serving more than 100,000; 320 systems serving 10,001 through 100,000; 480 systems serving 10,000 or fewer			
	Pre-Screen Testing List 3 Contaminants + Indicator Organisms 800 non-disinfecting ground water systems in vulnerable areas serving 1,000 or fewer			

EPA generally divides unregulated contaminant monitoring into three types of monitoring, or ''lists.'' ''Assessment Monitoring'' is the largest in scope of the three UCMR monitoring lists or tiers. Under UCMR 3 Assessment Monitoring, 20 ''List 1'' contaminants will be monitored to assess national occurrence in drinking water; total chromium will be monitored in conjunction with Assessment Monitoring. These are the contaminants for which analytical method technologies are well established.

The second tier of UCMR is referred to as ''List 2'' or ''Screening Survey'' monitoring. List 2 contaminants are those with analytical methods that have generally been more recently developed and employ technologies that are not as widely used or laboratory capacity may be insufficient to conduct the larger scale Assessment Monitoring. Under the UCMR 3 Screening Survey, seven ''List 2'' contaminants will be monitored by certain systems (see Exhibit 3).

''Pre-Screen Testing,'' the third tier of UCMR monitoring is generally designed for ''List 3'' contaminants with very new or specialized analytical methods. Under UCMR 3, a selected set of 800 systems that serve fewer than 1,000 retail customers and that do not disinfect are required to assist EPA in sampling their system for two viruses on ''List 3'' and the associated pathogen indicators (*i.e.,* total coliforms, *E. coli,* bacteriophage, *Enterococci* and aerobic spores). This requirement includes community and non-transient, non-community water systems and transient systems.

EPA will pay for the sample kit preparation, sample shipping fees, and analysis costs to minimize the impact of the rule on small systems (those serving 10,000 or fewer people). In addition, no small system will be required to monitor for more than one ''List'' of contaminants. Large systems (those serving more than 10,000 people) will pay for the cost of shipping and laboratory testing for their List 1 and, as applicable, List 2 analyses.

The data collected through the UCMR program are being stored in NCOD to facilitate analysis and review of contaminant occurrence, guide the conduct of the Contaminant Candidate List (CCL) process and support the Administrator in making regulatory decisions for contaminants in the interest of protecting public health, as required under SDWA Section 1412(b)(1). Results of UCMR 1 and 2 monitoring can be viewed by the public at EPA's UCMR Web site: *http://water.epa.gov/lawsregs/rulesregs/sdwa/ucmr/data.cfm.*

A. What are the major changes between the proposed and final UCMR 3 rule?

EPA published ''Revisions to the Unregulated Contaminant Monitoring Regulation (UCMR 3) for Public Water Systems;'' Proposed Rule, on March 3, 2011 (76 FR 11713, (USEPA, 2011a)). EPA received input from 53 public commenters. After considering the comments, EPA added chromium-6 to the list of unregulated contaminants to be monitored; removed *sec*-butylbenzene and *n*-propylbenzene; and moved monitoring of hormones from Assessment Monitoring to the Screening Survey. EPA is also requiring PWSs to monitor for total chromium concurrent with all chromium-6 monitoring. EPA revised or clarified requirements pertaining to UCMR applicability criteria, reporting, monitoring and quality control. Exhibit 4 provides a summary of these changes and a listing of the corresponding preamble section that provides a more detailed discussion of the revisions and related public comments. Sections III.B–G summarize the different aspects of this rule and the associated major comments received in response to the proposed rule. EPA has compiled a more detailed document containing all public comments and EPA's responses entitled: ''Response to Comments Document for the Unregulated Contaminant Monitoring Regulation (UCMR 3),'' (USEPA, 2012b), which can be obtained by going to *http://www.regulations.gov*, and searching for Docket ID No. EPA–HQ–OW–2009–0090.

EXHIBIT 4—CHANGES TO UCMR 3 BETWEEN PROPOSED AND FINAL RULE

Rule section		Description of change	Corresponding preamble section
Number	Title/description		
141.35(c)(1) and (d)(1)	Data elements	Revise zip code reporting to include only the zip codes for all customers served, rather than those associated with each sampling point.	III.G.2 Sample location and inventory information (zip codes).
141.35(c)(6)(ii) and 141.40(a)(5)(vi)	Reporting schedule	Change laboratory reporting time to 120 days, rather than 60 days; change PWS reporting time to 60 days after laboratory posting, rather than 30 days.	III.G.4 Reporting schedule.
141.40(a)(2)(i)(A) and (a)(2)(ii)(A); and 141.40(a)(3) Table 1.	Analytes to be monitored and related specifications.	Add chromium-6; remove requirement to monitor for *sec*-butylbenzene and *n*-propylbenzene; require total chromium monitoring under SDWA Section 1445 (a)(1)(A); move hormone monitoring to Screening Survey.	III.D.4 Chromium-6 and total chromium, and related methods. III.D.1 List compilation. III.D.2 Hormones and related methods.
141.35(c)(2)	Sample location and inventory information.	Large systems must provide sample location and inventory information to EPA by October 1, 2012.	III.G.4 Reporting schedule.
141.40(a)(3) Table 1, footnote c and 141.40 (a)(4)(i)(C).	Distribution system maximum residence time (DSMRT) sample location.	Revise definition of DSMRT sample required for specific List 1 contaminants.	III.C Where are samples collected? III.D.3 Metals, chlorate, and related methods.
141.35(c)(5)(i) and 141.40 (a)(4)(i)	General rescheduling notification	Large systems may independently change List 1 or List 2 monitoring schedule by October 1, 2012.	III.G.4 Reporting schedule.
141.35(c)(3)	Ground water representative sampling locations.	Large systems may submit representative sampling plan proposals or changes to existing plans by August 1, 2012.	III.C Where are samples collected? III.G.4 Reporting schedule.
141.40(a)(3) Table 1 footnote c	Representative intake	Systems that purchase water from the same wholesaler may sample from a representative intake.	III.C Where are samples collected?

B. Which Water Systems Must Monitor

1. Applicability Based on Population Served

a. This Rule

This rule requires that Assessment Monitoring (for List 1 contaminants) be conducted by all large community and non-transient non-community water systems serving more than 10,000 people, and a nationally representative sample of 800 small water systems serving 10,000 or fewer people; and that the Screening Survey (for List 2 contaminants) be conducted by all large community and non-transient non-community water systems serving more than 100,000 people, a nationally representative sample of 320 large systems serving 10,001 to 100,000 people, and a nationally representative sample of 480 small water systems serving 10,000 or fewer people (as indicated by Federal Safe Drinking Water Information System (SDWIS/Fed) on December 31, 2010). Transient non-community water systems are excluded from Assessment Monitoring and the Screening Survey. In contrast to implementation of UCMR 1 and 2 monitoring, those systems that purchase all of their finished water from another system are not excluded from the requirements of UCMR 3.

b. Summary of Major Comments

EPA received six (6) comments concerning UCMR monitoring based on retail population served. The commenters all agreed that applicability should be based on retail population, although some wanted to exclude those who purchase their water from that applicability. In UCMR 1 and 2, systems that purchased 100% of their water were excluded from monitoring, making estimates of exposure more difficult because many of these purchasing systems represented high-population areas. For UCMR 3, systems that purchase 100% of their water and serve greater than 10,000 people are subject to this rule. Wholesalers that serve a retail population of 10,000 or fewer customers are only required to monitor if they are selected as part of the nationally representative sample of small systems for any list of UCMR contaminants. This should greatly improve exposure estimates for UCMR 3 since exposure estimates will be based on the monitoring data collected from where the water is consumed rather than where it is sold. Between the wholesaler and the purchasing system, contaminant levels may increase (*e.g.,* DBPs or metals) or decrease (*e.g.,* through blending various sources or degradation/chemical reactions).

Some commenters also expressed concern that this applicability change could add an estimated 1,250 systems to the list of those that need to monitor and suggested that this would represent a substantial increase in burden to the drinking water industry. To help mitigate the burden, EPA is allowing those systems that purchase water with multiple connections from the same wholesaler to select a representative connection for sampling. See Section III.C.1.a for further discussion. In addition, EPA notes that approximately 450 wholesale systems will no longer be subject to monitoring; the net increase is approximately 800 systems.

2. Applicability for Transient Systems

a. This Rule

Under UCMR 1 and 2, transient non-community water systems were specifically exempted from monitoring. UCMR 3 now requires participation by transient systems that are selected for Pre-Screen Testing for List 3 contaminants. Under UCMR 3, EPA is conducting Pre-Screen Testing for enterovirus and norovirus, as well as related pathogen indicators, at selected undisinfected ground water systems that serve 1,000 or fewer customers. EPA is including transient systems among the candidate systems—and focusing on viruses at those systems—since viruses are acute pathogens and exposure through a one-time ingestion (*e.g.,* at a transient system) is of potential health concern.

Under 141.40(a)(1) and 141.40(a)(2)(ii)(C), if any system (including transient systems) is notified by EPA or its State that it has been selected for Pre-Screen Testing, the system must permit EPA (at EPA's expense) to sample and analyze for List 3 contaminants and pathogen indicators (*i.e.,* total coliforms, *E. coli,* bacteriophage, *Enterococci* and aerobic spores).

b. Summary of Major Comments

EPA received two (2) comments on including transient non-community systems for List 3 monitoring. One fully supported their inclusion, and the other expressed concern that EPA would not be able to adequately fund the collection and processing of these samples. EPA is confident that it has budgeted sufficient funds to support these activities. As the second commenter noted, transient systems represent a substantial number of the systems serving less than 1,000 customers; therefore, the sampling of these potentially vulnerable systems for these acute pathogens is considered important.

C. Where are samples collected?

1. Entry Point to the Distribution System

a. This Rule

As was the case under UCMR 2, UCMR 3 samples will be collected at entry points to the distribution system (EPTDS). PWSs may perform sampling at representative sampling locations in two cases:

- Demonstrating Representative Ground Water Sampling Locations: Under this rule, large systems that use ground water sources and have multiple EPTDSs can, with prior approval, conduct monitoring at representative sampling locations rather than at each EPTDS. To monitor at representative EPTDSs, large systems must meet the criteria specified in § 141.35(c)(3) and receive approval from EPA or the State. Changes to the rule language clarify that when identifying a representative well, the well must be representative of the highest producing (based on annual volume) and most consistently active wells. In addition, the representative well must be in use at the scheduled sampling time. An alternative location must be sampled if the representative EPTDS is not available at the time of scheduled sampling. This rule establishes a deadline of August 1, 2012 for submission of new proposals or updates to existing plans. See Section III.G.4 for further discussion.
- Representative Intakes from Wholesaler: As specified in § 141.40(a)(3) Table 1, footnote c, systems that purchase water with multiple connections from the same wholesaler may select one representative connection from that wholesaler for UCMR sampling. If a PWS chooses to select a representative intake, each representative intake must receive water from the same source. Additionally, if a PWS chooses to select a representative intake, it must choose a sampling location that represents the highest volume EPTDS connection and is in use at the time of scheduled sampling. If the connection initially selected as the representative EPTDS is not available at the time of scheduled sampling, an alternate representative connection must be sampled.

b. Summary of Major Comments

Five (5) commenters expressed support for EPA's proposal regarding representative sampling points, and representative intakes for PWSs with multiple connections from the same wholesaler; commenters cited cost savings as a benefit of this approach. One commenter also suggested that EPA's approach to representative sampling locations should provide additional flexibility in cases where multiple water systems are receiving water from the same wholesale provider. EPA acknowledges that there are many unique situations with the purchase and sale of drinking water at the wholesale level. In this final rule, EPA has provided clarifying language in § 141.40(a)(3) Table 1, footnote c, specifying that a PWS may select a representative intake from a given wholesaler. EPA is available to advise PWSs regarding choosing the most appropriate sampling site, based on their purchasing situation. However, EPA is requiring all systems that purchase 100% of their water to monitor, for the reasons described in Section III.B.1 of this preamble. Based on the experience of UCMR 1 and UCMR 2, EPA believes it is more appropriate to measure at each purchasing system to more accurately assess exposure. This approach relies on each purchasing system to monitor, thus ensuring the monitoring results reflect any potential water quality changes between the wholesaler and each purchasing system.

2. Distribution System Maximum Residence Time Location

a. This Rule

This rule requires systems that participate in Assessment Monitoring to also sample for total chromium, chromium-6, cobalt, molybdenum, strontium, vanadium, and chlorate both at EPTDSs and in the distribution system. This rule requires systems to collect the samples for these analytes at their distribution system maximum residence time (DSMRT) location(s), (§§ 141.40(a)(3) Table 1, footnote c and 141.40(a)(4)(i)(C)). For clarity, EPA deleted the UCMR reference to the DSMRT specifications under the Stage 1 Disinfection Byproducts Rule at § 141.132(b)(1)(i). EPA now defines DSMRT under UCMR as an active point (*i.e.,* a location that currently provides water to customers) in the distribution system where the water has been in the system the longest relative to the EPTDS. Systems that are subject to the Stage 2 Disinfection By-Products Rule should use their total trihalomethanes (TTHM) highest concentration sampling site(s) as their DSMRT sampling site(s) (USEPA, 2003).

b. Summary of Major Comments

As described in greater detail in Section III.D.3., ''Metals, chlorate, and related methods,'' several commenters suggested that EPA had provided insufficient rationale for requiring DSMRT sampling for cobalt, molybdenum, strontium, vanadium, and chlorate. As elements that may occur in water both naturally, or through industrial activities, cobalt, molybdenum, strontium, and vanadium are expected to be commonly detected in drinking water. EPA believes these metals may be incorporated into pipe deposits and subsequent erosion and/or dissolution may result in waterborne concentrations that differ between the DSMRT and the EPTDS. Regarding chlorate, the use of disinfectants, including use of hypochlorite, chloramines, chlorine dioxide, and ozone can result in chlorate formation. The presence of residual disinfectant in the distribution system and chlorine boosters within the distribution system may result in increases in chlorate concentrations at the DSMRT relative to the EPTDS.

D. What are the UCMR 3 contaminants and associated methods?

1. List Compilation

a. This Rule

EPA is maintaining the list of unregulated contaminants and methods proposed for monitoring with the exception of adding chromium-6, and removing *sec*-butylbenzene and *n*-propylbenzene (see Exhibit 5a). EPA is also requiring PWSs to monitor for total chromium concurrent with all chromium-6 monitoring (Exhibit 5b). The additional data generated by side-by-side measurements of chromium-6 and total chromium will provide valuable information on relative occurrence and the utility of monitoring for total chromium as a surrogate for chromium-6.

Exhibit 5a: 29 Unregulated Analytes and Associated Methods

Assessment Monitoring	
7 Volatile Organic Compounds (VOC) using EPA Method 524.3 (GC/MS): [1]	
1,2,3-trichloropropane	bromomethane (methyl bromide).
1,3-butadiene	bromochloromethane (Halon 1011).
chloromethane (methyl chloride)	chlorodifluoromethane (HCFC–22).
1,1-dichloroethane.	
Synthetic Organic Compound using EPA Method 522 (GC/MS): [2]	
1,4-dioxane.	
4 Metals using EPA Method 200.8 (ICP/MS) [3] **or alternate SM** [4] **or ASTM Methods:** [5]	
cobalt	strontium.
molybdenum	vanadium.
Oxyhalide Anion using EPA Method 300.1 (IC/Conductivity) [6] **or alternate SM** [7] **or ASTM Methods:** [8]	
chlorate.	
6 Perfluorinated Chemicals using EPA Method 537 (LC/MS/MS): [9]	
perfluorooctanesulfonic acid (PFOS)	perfluorohexanesulfonic acid (PFHxS).
perfluorooctanoic acid (PFOA)	perfluoroheptanoic acid (PFHpA).
perfluorononanoic acid (PFNA)	perfluorobutanesulfonic acid (PFBS).
Chromium-6 using EPA Method 218.7 (IC/UV–VIS): [10]	
chromium-6.	
Screening Survey	
7 Hormones using EPA Method 539 (LC/MS/MS): [11]	
17-β-estradiol	estrone.
17-α-ethynylestradiol (ethinyl estradiol)	testosterone.
estriol (16-α-hydroxy-17-β-estradiol)	4-androstene-3,17-dione.
equilin.	

Pre-Screen Testing	
2 Viruses (see Section III.D.5 for methods discussion): [12]	
enterovirus	norovirus.
Exhibit 5b—Total Chromium Monitoring	
Total Chromium using EPA Method 200.8 (ICP/MS) [4] **or alternate SM** [5] **or ASTM Methods:** [6]	
total chromium.	

[1] EPA Method 524.3 (GC/MS) (USEPA, 2009a).
[2] EPA Method 522 (GC/MS) (USEPA, 2008).
[3] EPA Method 200.8 (ICP/MS) (USEPA, 1994).
[4] SM 3125 (SM, 21st Ed., 2005).
[5] ASTM D5673–10 (ASTM, 2010).
[6] EPA Method 300.1 (IC/Conductivity) (USEPA, 1997).
[7] SM 4110D (SM, 21st Ed., 2005).
[8] ASTM D6581–08 (ASTM, 2008).
[9] EPA Method 537 (LC/MS/MS) (USEPA, 2009b).
[10] EPA Method 218.7 (IC/UV–VIS) (USEPA, 2011b).
[11] EPA Method 539 (LC/MS/MS) (USEPA, 2010e).
[12] Monitoring also includes sampling for pathogen indicators (*i.e.,* total coliforms, E. coli, bacteriophage, Enterococci and aerobic spores). EPA will pay for all sampling and analysis costs associated with monitoring at these small systems.

b. Summary of Major Comments

Commenters who expressed an opinion about the proposed UCMR 3 analytes were generally supportive. Several commenters suggested that cyanobacterial toxins be added to the list of analytes. EPA agrees that cyanobacterial toxins are of significant interest for future drinking water monitoring. However, EPA currently does not have an available drinking water method for analysis of cyanobacterial toxins. While enzyme-linked immunosorbent assays (ELISA) and high-performance liquid chromatography with UV detection (HPLC/UV) methods have been published (Howard and Boyer, 2007), they do not provide the level of specificity needed for UCMR monitoring. The high-performance liquid chromatography/tandem mass spectrometry (HPLC/MS/MS) methods for cyanobacterial toxins that have been published (Oehrle *et al.,* 2010), do not provide suitable accuracy and precision. EPA has conducted and will continue to conduct methods development research for cyanobacterial toxins both in-house and in cooperation with other laboratories.

2. Hormones and Related Methods

a. This Rule

EPA is revising the requirement for monitoring of the hormones (17-β-estradiol; 17-α-ethynylestradiol; estriol; equilin; estrone; testosterone; and, 4-androstene-3,17-dione), by moving the monitoring from Assessment Monitoring to the Screening Survey.

b. Summary of Major Comments

Three major issues concerning the hormones were raised by commenters. The first was a concern that other than 17-α-ethynylestradiol, the hormones all occur naturally. Based on the low minimum reporting levels (MRLs) specified in this rule, these commenters were concerned that there may be issues with false positives due to background levels of these compounds from samplers.

The ranges of blank results observed during the determination of MRLs are contained in Exhibit 6. In all cases the laboratories easily met the requirement that the concentration of the analytes observed in the blank must be less than one-third of the MRL. In the ''worst case'' the observed blank level equaled one-eighth the MRL. EPA is requiring the collection of field blank samples for UCMR 3 and, to minimize the potential issue of field blank and sample contamination, will provide instructions to both the samplers and the laboratory personnel to wear nitrile gloves when collecting or handling samples for the hormones. These details are specified in EPA's technical manual titled: ''UCMR 3 Laboratory Approval Requirements and Information Document'' (USEPA, 2012d).

EXHIBIT 6—OBSERVED BACKGROUND LEVELS DURING MRL DETERMINATION

Analyte	UCMR MRL (μg/L)	Laboratory 1 (μg/L)	Laboratory 2 (μg/L)	Laboratory 3 (μg/L)
17-β-estradiol	0.0004	ND—0.00006	ND	ND—0.00005
17-α-ethynylestradiol	0.0009	ND—0.00007	ND—0.00008	ND—0.0002
estriol	0.0008	ND—0.00007	ND	ND—0.00006
equilin	0.004	ND—0.00002	ND	ND—0.0005
estrone	0.002	ND—0.0001	0.00001—0.00003	0.02—0.0002
testosterone	0.0001	ND	ND	ND—0.00001
4-androstene-3,17-dione	0.0003	ND	ND	ND—0.000008

ND = Not Detected.

EPA also stipulated in the rule that it will evaluate the situation after six months of monitoring. If at that time, the data indicate that excessive resampling is occurring, EPA will establish alternative MRLs and will notify all affected PWSs and laboratories.

The second issue concerned whether all of the proposed hormones should be monitored (versus a subset of them). There was no consensus among the commenters as to what the ''subset'' should be. Some commenters suggested that monitoring be limited to the five (5)

proposed hormones that are also listed on the final CCL 3 (17-β-estradiol, 17-α-ethynylestradiol, estriol, equilin and estrone). EPA believes that monitoring for testosterone and 4-androstene-3,17-dione is also justified. A number of articles have been published that show the occurrence of testosterone and 4-androstene-3,17-dione in surface waters:

- National Surface Water Reconnaissance (1999–2000): detects of testosterone in 2 (2.8%) of 70 samples at a median concentration of 0.116 μg/L and a maximum concentration of 0.214 μg/L (Kolpin *et al.,* 2002).
- California, Rivers, Irrigation Canals, and Tile Drains (2003–2005): detects of testosterone in 2 (18%) of 11 river samples at a maximum concentration of 0.0006 μg/L; detects in 4 (27%) of 15 irrigation canal samples at a maximum concentration of 0.0019 μg/L; detects in 2 (33%) of 6 tile drain samples at a maximum concentration of <0.0003 μg/L (Kolodziej *et al.,* 2004).
- California Surface Waters (2005–2006): detects of 4-androstene-3,17-dione in 16 (18%) of 89 grazing rangeland surface water samples at a maximum concentration of 0.044 μg/L (Kolodziej and Sedlak, 2007).

In addition, testosterone and 4-androstene-3,17-dione have been shown to be relatively resistant to oxidation (Mash *et al.,* 2010).

The third issue concerned the potential for insufficient laboratory capacity for the monitoring of hormones. Since EPA has moved the hormone monitoring requirement from Assessment Monitoring (List 1) to Screening Survey (List 2), this will substantially reduce the number of PWSs required to monitor for hormones and mitigate any concerns regarding laboratory capacity.

3. Metals, Chlorate, and Related Methods

a. This Rule

This rule requires that samples for the metals—chromium-6, total chromium, cobalt, molybdenum, strontium, and vanadium—as well as chlorate, be collected at one distribution system sampling point per treatment plant (*i.e.,* at the DSMRT) in addition to sampling at the EPTDS. DSMRT samples must be collected at a location that represents the maximum residence time in the distribution system (§§ 141.40(a)(3) Table 1, footnote c and 141.40(a)(4)(i)(C)). (As noted in Section III.C.2.a of this preamble, EPA clarified the DSMRT specifications and deleted the direct DSMRT reference under the Stage 1 Disinfection Byproducts Rule at § 141.132(b)(1)(i).)

EPA is requiring that chlorate samples be collected at both the EPTDS and DSMRT locations to permit the agency to evaluate if chlorate occurs as an oxyhalide disinfection by-product.

b. Summary of Major Comments

Eight (8) commenters suggested that further justification was needed to support monitoring cobalt, molybdenum, strontium, and vanadium at the DSMRT. Three commenters also made similar comments regarding chlorate. Research indicates that vanadium can become incorporated in the corrosion products in iron pipes used for drinking water distribution. As a result, vanadium may be released via dissolution and/or erosion of the mineral deposits that form inside many iron distribution pipes. Gerke *et al.,* (2010) cite research that indicates that relatively minor scouring of these deposits can result in water concentrations of vanadium in excess of 15 μg/L. Similar findings were published by the Water Research Foundation (Friedman *et al.,* 2009). The authors reported vanadium in scaling from several different distribution systems. As a reference point, the Agency for Toxic Substances and Disease Registry (ATSDR) has established an Interim Minimal Risk Level of 0.003 mg/kg/day; a 70 kg adult drinking two liters of water per day would exceed the RfD through water consumption alone if the concentration in the water was greater than 21 μg/L (ATSDR, 2009).

Molybdenum has been identified as being among the heavy metals that can be mobilized from reservoir sediments containing iron and aluminum oxides and hydroxides. Fluctuations in pH of approximately 0.2 pH units were sufficient to considerably affect the release of previously adsorbed molybdenum (Friedman *et al.,* 2009).

Although such findings for cobalt and strontium are not available in the scientific literature, these two elements commonly occur in drinking water. As a result, EPA believes that incorporation of cobalt and/or strontium into pipe deposits within a distribution system could result in mobilization of these metals into drinking water within the distribution system via dissolution and/or erosion. Strontium has been found in greatest amounts in calcium-rich minerals and sediments due to similarities in atomic radii (Fairbridge, 1972). In addition, Friedman *et al.,* (2009) report calcium to be the fourth most concentrated element found in pipe deposit samples. Thus, erosion and/or dissolution of pipe deposits within the distribution system may affect human exposure levels for cobalt, molybdenum, strontium, and vanadium.

The presence of residual disinfectant in the distribution system may result in increases in chlorate concentrations at the DSMRT relative to the EPTDS. The following studies on chlorate formation have linked its presence in treated drinking water to the use of several disinfection processes:

- The generation of chlorine dioxide from chlorite and free chlorine (Gordon *et al.,* 1990; Bolyard *et al.,* 1993; Gallagher *et al.,* 1994);
- The generation of chlorine dioxide from chlorite and hypochlorite (Gallagher *et al.,* 1994);
- Chlorine dioxide oxidation by residual free chlorine (Gordon and Tachiyashiki, 1991; Bolyard *et al.,* 1993);
- Transition metal-catalyzed free chlorine decomposition during disinfection (Gordon *et al.,* 1995);
- Base-catalyzed disproportionation of chlorine dioxide (USEPA, 1999a; Gallagher *et al.,* 1994);
- Photodecomposition of chlorine dioxide (Rice and Gomez-Taylor, 1986; Bolyard *et al.,* 1993; Gallagher *et al.,* 1994; Bergmann and Koparal, 2005);
- Use of chlorate-contaminated hypochlorite solutions—chlorate can come from either the impurity of the original stock solution or decomposition during storage (Bolyard *et al.,* 1992; Bolyard *et al.,* 1993; Gordon *et al.,* 1993; Gordon *et al.,* 1995; Gordon *et al.,* 1997; USEPA, 1999a; WHO, 2005; Snyder *et al.,* 2009; Stanford *et al.,* 2011);
- Use of ozone with residual chlorine (Siddiqui, 1996; von Gunten, 2003); and
- Use of electrochemical disinfection processes (Czarnetzki and Janssen, 1992; Bergmann and Koparal, 2005).

4. Chromium-6 and Total Chromium, and Related Methods

a. This Rule

While EPA did not include chromium-6 in the proposed list of chemicals for UCMR 3 monitoring, EPA did request comment on whether the agency should include it in the final rule due to the concerns about its potential occurrence in public water supplies. EPA also requested comments on whether total chromium should be measured concurrent with chromium-6. Commenters strongly supported requiring monitoring for both chromium-6 and total chromium.

EPA agrees with these commenters and has added chromium-6 to the list of unregulated contaminants to be monitored. EPA is also requiring PWSs to monitor for total chromium concurrent with all chromium-6

monitoring. EPA completed the development and validation of a revised analytical method for the determination of chromium-6 in drinking water, *EPA Method 218.7: Determination of Hexavalent Chromium in Drinking Water by Ion Chromatography with Post-Column Derivatization and UV-Visible Spectroscopic Detection.* This revised method has been extensively studied both within EPA and ion chromatography manufacturers' laboratories as well as through external laboratory validation (USEPA, 2011b).

EPA is using the authority provided in SDWA Section 1445(a)(1)(A) to require monitoring for total chromium in conjunction with the UCMR 3 monitoring of chromium-6. EPA has removed *sec*-butylbenzene and *n*-propylbenzene from UCMR 3. More specifically, the agency has removed *sec*-butylbenzene and *n*-propylbenzene from the UCMR 3 Assessment Monitoring list.

b. Summary of Major Comments

EPA received 30 comments regarding the inclusion of chromium-6 in UCMR 3. Twenty-eight of the 30 commenters supported inclusion. The other two suggested that a health risk from drinking water exposure had not been conclusively established, that regional levels of total chromium in drinking water are very low and that speciation would not be beneficial. The agency believes that the ongoing studies of chromium-6 toxicity warrant UCMR monitoring at this time. EPA believes that collecting national occurrence data will provide beneficial information to the agency regarding how best to protect human health. EPA's second Six-Year Review of National Primary Drinking Water Regulations (USEPA, 2010d) indicated that the levels of total chromium warrant further investigation of chromium-6 occurrence. Chromium can enter the environment from both natural and industrial sources; thus the distribution of both total chromium and chromium-6 may vary based on regional geology and regional industrial activity. Part of the goal of UCMR is to assess the national distribution of the contaminants selected.

Commenters who supported the inclusion of chromium-6 cited two primary reasons for its inclusion in UCMR 3:

- Generating national occurrence data in UCMR 3 will avoid potential delays in any possible regulatory action;
- Monitoring for both total chromium and chromium-6 may allow for determining a relationship between the two species, allowing for possible use of total chromium monitoring, which is less costly and has better holding time requirements, as a surrogate for chromium-6 monitoring.

While generally supporting chromium-6 monitoring in UCMR 3, some commenters expressed concern about the current analytical method. The concerns included procedural issues (*e.g.,* field filtration, preservation and holding time compliance), interferences concerns (*e.g.,* sensitivity and species interconversion prior to sample analysis), the need for round-robin testing of the method laboratory capacity, and the need to determine a lowest concentration minimum reporting level (LCMRL) and MRL for chromium-6. Extensive research by EPA, with support from instrument manufacturers and commercial laboratories, addressed the issues of interferences, sensitivity and analyte preservation. EPA Method 218.7 has undergone peer review, and multi-laboratory LCMRL and MRL determinations have been completed (USEPA, 2011b; USEPA, 2006).

Because UCMR is limited by statute to 30 unregulated contaminants, commenters offered a variety of suggestions for which analyte to remove to accommodate chromium-6. Suggestions included dropping one of the metals, hormones, PFCs, or VOCs. Other suggestions included removing ''the contaminant with the least chance of being detected during monitoring.'' EPA selected *sec*-butylbenzene and *n*-propylbenzene, non-carcinogenic VOCs, for removal after considering data submitted by States that indicated very low occurrence rates. EPA also considered the fact that the currently available health reference levels, 10.3 μg/L and 5.83 μg/L, respectively, are well above the reported levels of occurrence in these data (USEPA, 2012c).

5. Viruses and Related Methods

a. This Rule

EPA is finalizing the requirement for monitoring of the viruses as proposed. This rule requires monitoring for enterovirus and norovirus in UCMR 3 via Pre-Screen Testing of selected undisinfected ground water systems located in karst or fractured bedrock. The monitoring will include 800 PWSs serving 1,000 or fewer customers, including CWSs, and non-transient and transient non-community water systems. Monitoring will also include sampling for pathogen indicators (*i.e.,* total coliforms, *E. coli,* bacteriophage, *Enterococci* and aerobic spores). This monitoring will obtain information concerning the occurrence of enterovirus and norovirus for further evaluation and provide EPA with a better understanding of the co-occurrence of pathogen indicators and viruses.

Enteroviruses will be monitored using one method that has two detection assays. The first is a cell culture assay also used in the Information Collection Rule survey conducted by EPA (61 FR 24353, May 14, 1996 (USEPA, 1996)), with one change; the Virosorb 1–MDS filter will be replaced by the NanoCeram® filter, which will significantly reduce sampling cost. The NanoCeram® filter has proven to be as effective as Virosorb 1–MDS filter for the recovery of enteroviruses (Karim *et al.,* 2009) and noroviruses (Gibbons *et al.,* 2010). The second assay is quantitative polymerase chain reaction (qPCR) based, and detects the viral nucleic acid. Noroviruses will only be monitored using qPCR, as there is no cell culture method available.

Both norovirus and enterovirus qPCR will be performed per the protocol in Lambertini *et al.,* (2008). The qPCR primers and probe for genogroup I norovirus will be as referenced in Jothikumar *et al.,* (2005), while genogroup II Norovirus primers and probe will be as referenced in Ando *et al.,* (1995). Primers and probe referenced in De Leon *et al.,* (1990) and Monpoeho *et al.,* (2000) will be used for enterovirus qPCR.

b. Summary of Major Comments

Several commenters expressed concern about using Method 1615 for monitoring viruses because it has not undergone multi-laboratory validation. EPA notes, however, that individual elements of the method have been used by many researchers worldwide, and the culture assay is, with the exception of a new filter, identical to the Information Collection Rule validated method (FR 24353, May 14, 1996 (USEPA, 1996)). The complete method is published and has undergone thorough peer review as per protocols established by EPA's National Exposure Research Laboratory and consistent with ''The Handbook for Preparing ORD Reports'' (USEPA, 1995). The method has undergone validation at EPA's laboratory, has built in quality controls for PCR inhibition and has positive and negative controls to identify false negative and positive assays. Results from the analysis of initial and ongoing positive and negative proficiency testing (PT) samples will ensure the ability of analysts to perform the method.

Several commenters questioned EPA's use of Borchardt's (2008) data as the basis for including viruses in UCMR 3,

since that work has not been published or undergone peer review. In his study, Borchardt sampled wells from 14 communities in Wisconsin for the presence of enteroviruses and noroviruses. The initial enteric virus RT-qPCR assay results are published in a peer reviewed journal (Hunt *et al.*, 2010). Borchardt's work showed a statistically significant correlation between viral qPCR and self-reported AGI (acute gastrointestinal illness) in the population served. Borchardt's work is also one of the very few studies to assess presence of enteric viruses in undisinfected ground water systems. EPA expects that complete results from Borchardt's work will be published in a peer reviewed journal in the near future. The study results have also been presented at numerous scientific conferences as well as in testimony to the Wisconsin State Senate. A project advisory committee comprised of epidemiologists from the University of California, Berkeley, Michigan State University and the University of Washington provided additional peer review comments during the study planning and data analysis stages.

A few commenters expressed concerns as to whether a survey of 800 undisinfected ground water systems in a sensitive hydrogeology would be nationally representative, noting that only specific geologic regions within the country would be included in the survey. While EPA acknowledges that the 800 undisinfected ground water systems are only a small subset of the total number of systems in the country, the selection of 800 PWSs was statistically derived to be nationally representative of those with sensitive hydrogeology.

EPA also received comments regarding how the agency would use data obtained from a focused and limited occurrence survey, at highly vulnerable and susceptible systems, to provide meaningful data to judge nationwide occurrence and to support regulatory determination. EPA notes that results will provide an understanding of the exposure risks in populations potentially served by a large number of undisinfected systems in karst aquifers nationally. Lastly, some comments addressed the current information on virus-indicator correlation, suggesting that the correlations are weak. EPA notes that most virus-indicator correlation studies have been performed in disinfected systems, not undisinfected ground water systems. EPA also notes that the use of multiple indicators in looking at the correlation will make this monitoring more useful.

6. Perfluorinated Compounds and Related Methods

a. This Rule

EPA is finalizing the requirement for monitoring the perfluorinated compounds (PFCs) as proposed: PFOS, PFOA, PFNA, PFHxS, PFHpA, and PFBS.

b. Summary of Major Comments

EPA received public comments related to several issues with EPA Method 537, used to measure PFCs. These included: The potential for laboratory contamination; concerns that the MRLs developed for the PFCs may be too low or too high; and concerns about the media used to extract the contaminants. EPA successfully tested this method via a multi-laboratory validation and conducted a thorough peer-review process prior to the UCMR 3 proposal. Since then, the method has also been effectively used at additional laboratories. Contamination was not an issue at these laboratories, and they were able to meet the proposed MRLs. While particular laboratories may be able to meet MRLs lower than those proposed, the selected MRLs reflect those achievable by the national array of laboratories that support the program. Regarding the extraction media, the method relies on a very common sorbent (styrene divinylbenzene) that is available from a number of vendors and yields high-quality data.

E. How are laboratories approved for UCMR 3 monitoring?

1. This Rule

All laboratories conducting analyses for UCMR 3 List 1 and List 2 contaminants must receive EPA approval to perform those analyses. Laboratories seeking approval are required to provide EPA with data that demonstrate their successful completion of an initial demonstration of capability (IDC) as outlined in each method, verify successful method performance at the MRLs as specified in this action, and successfully participate in an EPA Proficiency Testing (PT) program for the analytes of interest. On-site audits of candidate laboratories may be conducted. Details of the EPA laboratory approval program are contained in the technical manual titled: ''UCMR 3 Laboratory Approval Requirements and Information Document'' (USEPA, 2012d). This document will be available on the electronic docket at *www.regulations.gov* and will be provided to laboratories that register for the laboratory approval program. In addition, EPA may supply analytical reference standards of known concentrations for select analytes to participating/approved laboratories, where such standards are not readily available through commercial sources.

Pre-Screen Testing (List 3) analyses for viruses and related pathogen indicators (*i.e.,* total coliforms, *E. coli,* bacteriophage, *Enterococci,* and aerobic spores) are organized and paid for by EPA through direct contracts with microbial laboratories. These laboratories are not required to go through the same formal laboratory approval process as the Assessment Monitoring and Screening Survey laboratories; however, they are subject to an analogous laboratory approval process as part of their direct contracts with EPA.

a. Laboratory Approval Process for UCMR 3

The UCMR 3 laboratory approval program is similar to the approval program under UCMR 1 and 2. It is designed to assess and confirm the capability of laboratories to perform analyses using the methods listed in § 141.40(a)(3), Table 1, of this final rule. It will assess whether laboratories meet the required equipment, laboratory performance and data reporting criteria described in this action. This evaluation program is voluntary in that it only applies to laboratories intending to analyze UCMR 3 samples. However, EPA requires water systems to use UCMR 3 approved laboratories when conducting monitoring for those analytes listed in Table 1 of § 141.40(a)(3) of this final rule. A list of laboratories approved for UCMR 3 monitoring is posted to EPA's UCMR Web site: *http://water.epa.gov/lawsregs/rulesregs/sdwa/ucmr/ucmr3/laboratories.cfm.* Laboratories are encouraged to apply for UCMR 3 approvals as early as possible, as schedules for large PWS sampling will be completed soon after the final rule is promulgated. The steps for the laboratory approval process are listed in the following paragraphs, b through f.

b. Request To Participate

Laboratories must contact EPA and request to participate in the UCMR 3 laboratory approval program. Laboratories must send their request to: UCMR 3 Laboratory Approval Coordinator, USEPA, Technical Support Center, 26 West Martin Luther King Drive (MS 140), Cincinnati, OH 45268; or email at: *UCMR_Sampling_Coordinator@epa.gov.* EPA began accepting requests for registration for the List 1 (Assessment Monitoring) and List 2 (Screening Survey) methods on March 03, 2011.

The final opportunity for a laboratory to request the necessary registration forms is August 1, 2012.

c. Registration

Each laboratory that wishes to participate in UCMR 3 monitoring must complete a registration form. Registration information includes the following: laboratory name, mailing address, shipping address, contact name, phone number, email address and a list of the UCMR 3 methods for which the laboratory is seeking approval. The registration step provides EPA with the necessary contact information and ensures that each laboratory receives a customized application package of materials and instructions for the methods that it plans to use.

d. Application Package

When EPA receives the registration information, a customized application package will be emailed to the laboratory for completion. Information requested in the application includes the following: IDC data, including precision, accuracy and results of MRL studies; information regarding analytical equipment; proof of current drinking water laboratory certification (for any currently regulated chemical); and example chromatograms for each method under review.

The laboratory must post UCMR 3 monitoring results (on behalf of its PWS clients) to EPA's UCMR electronic data reporting system as a condition of maintaining EPA approval.

e. EPA Review of Application Package

EPA will review the application package and, if necessary, request follow-up information. The laboratory must satisfactorily complete this portion of the process before they can participate in the UCMR 3 PT program.

f. Proficiency Testing (PT)

A PT sample is a synthetic sample containing a concentration of an analyte that is known to EPA, but unknown to the laboratory being tested. To complete the initial laboratory approval process, a laboratory must meet specific acceptance criteria for the analysis of a UCMR 3 PT sample(s) for each method for which the laboratory is seeking approval. Initial laboratory approval is contingent upon successful completion of a PT study. EPA will offer two to four opportunities for a laboratory to successfully analyze UCMR 3 PT samples. Two of these studies were conducted prior to the publication of this final rule and at least one study will be conducted after publication of the final rule. Under this approach laboratories could complete their portion of the laboratory approval process prior to publication of this final rule, and therefore receive their approval immediately following the publication of this final rule. Alternatively, laboratories could wait until this final rule is published before completing the required laboratory approval analyses. A laboratory must pass one of the PT studies for each analytical method for which they are requesting approval. Laboratories applying for UCMR 3 approval and laboratories conducting UCMR 3 analyses may be subject to on-site laboratory audits. No PT studies will be conducted after the start of monitoring; however, laboratory audits will be ongoing throughout the entire monitoring period of 2013–2015. Continued laboratory approval is contingent upon successful participation in any audits conducted by EPA.

g. Written EPA Approval

After laboratories successfully complete steps ''b'' through ''f'' of the laboratory approval process, EPA will send the laboratory a letter listing the method(s) for which approval is granted.

2. Summary of Major Comments

Three (3) commenters suggested that EPA modify the requirements for PT samples in UCMR 3 by including a round of PT samples during the UCMR 3 monitoring period in addition to the initial round of PT samples conducted prior to monitoring. Instead of requiring laboratories to conduct ongoing PT samples, EPA will conduct ongoing laboratory audits similar to the process under UCMR 2. Ongoing laboratory audits will allow EPA to evaluate each laboratory's analytical processes for all aspects of sample receipt, storage, processing, analysis and reporting of routine samples. This will provide a better mechanism, compared to an additional PT study, for uncovering any potential data issues and ensuring that laboratories meet the quality requirements.

F. How were minimum reporting levels determined?

1. This Rule

Lowest Concentration Minimum Reporting Levels (LCMRLs) and Minimum Reporting Levels (MRLs) for each analyte were determined through an EPA LCMRL study assessing the data from multiple laboratories prior to publication of the UCMR 3 proposal. The LCMRL is defined as the lowest spiking concentration at which recovery of between 50 and 150% is expected 99% of the time by a single analyst.

The LCMRL is estimated using advanced statistical procedures that have been incorporated into an LCMRL calculator tool that is available on EPA's Web site (*http://water.epa.gov/scitech/drinkingwater/labcert/analyticalmethods_ogwdw.cfm*). The tool estimates a probability distribution for spike recovery as a function of spiking concentration.

MRL

EPA revised the definition of the MRL used in UCMR 2 (72 FR 367, January 4, 2007 (USEPA, 2007)). The revised definition reflects improvements in the statistical procedures for determining the LCMRL and MRL. These improvements were implemented by EPA to make the models more robust, *i.e.,* so that the models can accommodate a wider range of observed LCMRL data sets (USEPA, 2010f). The MRL for an analyte measured by a specified analytical method is designed to be an estimate of an LCMRL that is achievable, with 95% confidence, by a capable analyst/laboratory at least 75% of the time. Such a demonstration of ability to reliably make quality measurements at the MRL is intended to achieve high quality measurements across the nation's laboratories.

In UCMR 3, EPA estimated the MRL for an analyte/method by obtaining data from several laboratories performing corresponding LCMRL studies. These data were used to construct an approximation to the distribution that would result from picking at random a laboratory/analyst proficient in performing the analytical method and having them perform an LCMRL study and compute an LCMRL estimate. The strategy for computing the MRL is two-fold. First, for each LCMRL data set, a distribution for repeated LCMRL determinations by the same laboratory/analyst is estimated by generating a large number of simulated values. Second, these values are combined to create an estimated overall distribution. If a result from one of the laboratories is significantly higher than that of other laboratories, this value would be down-weighted using a robust weight function. The resulting weighted values are used to construct a probability distribution from which the MRL is computed as the 95th percentile.

2. Summary of Major Comments

Several commenters remarked on the complexity of the procedures for determining the LCMRL and the MRL. These commenters were concerned

about the amount of time and effort needed to calculate LCMRLs and MRLs. Some suggested that as an alternative, EPA use the procedure developed for consideration by the Clean Water Act as part of the Federal Advisory Committee on Detection and Quantitation. As a point of clarification, EPA notes that laboratories that participate in UCMR 3 do not need to use the LCMRL and MRL procedures. Instead, laboratories that participate in UCMR 3 will be required to demonstrate their ability to meet the already-established UCMR 3 analyte MRLs by analyzing reagent water samples spiked at or below the established UCMR 3 MRLs. This initial demonstration of capability (IDC) requirement, as described in EPA's ''UCMR 3 Laboratory Approval Requirements and Information Document,'' is no more complex than determining a Method Detection Limit (MDL) (USEPA, 2012d).

A diverse selection of laboratories representing different sizes, experience and business status were selected to participate in the EPA LCMRL studies (as described previously in this section). For transparency, EPA will provide summary tables showing all LCMRL results for UCMR 3 in the docket (USEPA, 2012d).

With regard to comments that the MRLs are being set well below health reference levels (HRLs) in certain cases, EPA believes that this is appropriate because new health effects data may become available in the future that result in lower HRLs.

G. What are the UCMR 3 reporting requirements?

1. General Reporting Requirements/ SDWARS

a. This Rule

Under this rule, EPA is committed to pre-populating the inventory and monitoring data in the reporting system (Safe Drinking Water Accession and Review System (SDWARS)), using data from UCMR 2 and SDWIS/Fed information. For PWSs subject to UCMR 3 that have data in SDWARS from UCMR 2, EPA will transfer data to ''SDWARS 3'' (*i.e.,* the SDWARS update associated with UCMR 3). For water systems that are new to UCMR, EPA will pull the available information from SDWIS/Fed and coordinate with States and EPA Regions for their input where possible. EPA has loaded the available information into SDWARS 3 prior to the publication of this final rule. PWSs will have until October 1, 2012, to update, edit, or change their information or monitoring schedule in SDWARS 3 (see Section III.G.4 for further discussion of reporting deadlines).

b. Summary of Major Comments

Several commenters expressed concern over possible inefficiencies related to data entry into SDWARS, including concern over duplication of past efforts (*e.g.,* having to re-enter information for each sample point for each sampling event) and time spent identifying representative sampling locations at both the EPTDS and DSMRT for UCMR 2. Commenters further noted it would be very helpful if elements that are duplicated for each sample would be automatically pre-filled in each field once the information was entered the first time. As noted, for UCMR 3, EPA plans to preload as much inventory to SDWARS as possible and is taking commenter suggestions into consideration in its design updates to SDWARS. The pre-loaded data will include representative sampling locations previously identified as the EPTDS and DSMRT locations. PWSs will be asked to verify their inventory in SDWARS and large systems may be required to revise this information once their ground water representative monitoring plan has been approved, depending on the level of their State's involvement. See Section III.G.4 for discussion of reporting deadlines.

2. Sample Location and Inventory Information (Zip Codes)

a. This Rule

This final rule establishes a requirement for reporting zip codes associated with all PWS customers. EPA had proposed the reporting of sampling point U.S. Postal Service Zip Codes and the zip codes of all customers served by a given sampling point (as part of the reporting associated with Data Element 4—Sampling Point Identification Code). Obtaining the zip code of the sampling point was intended to assist with future vulnerability assessments. Zip codes that tie populations served to each sampling point were intended to assist with future occurrence and exposure analyses. However, based on stakeholder concerns about the burden associated with reporting this information and concerns about the usefulness of having the zip code of the sampling point, EPA revised the rule language to establish a requirement of only reporting zip codes for customers served by the PWS. These reporting specifications are now established in §§ 141.35(c)(1) and (d)(1) for large and small systems, respectively. EPA believes that required reporting of customer zip codes will provide EPA with useful information for future occurrence analyses.

b. Summary of Major Comments

Eight (8) comments were received regarding the proposed zip code reporting requirements. Most commenters believed that reporting the zip code for each sampling point location would not provide EPA with the information necessary to make future correlations between water quality and the areas served by the water being distributed. After considering public comments, EPA has revised the reporting requirement to only include the zip codes served by the PWS.

3. Disinfectant Type Specifications

a. This Rule

EPA is changing Data Element 6, in Table 1 of 141.35(e). Under UCMR 2, this data element was established to provide information on ''Disinfectant Residual Type'' as it related to monitoring for nitrosamines (part of UCMR 2 Screening Survey monitoring). EPA is modifying the definition of this data element to account for changes to the analyte and monitoring specifications between UCMR 2 and UCMR 3. This revised definition lists additional disinfectant types to provide more specific information on the sources and types of disinfectant schemes that may lead to chlorate formation/occurrence in drinking water.

b. Summary of Major Comments

While commenters were supportive of the collection of these data, several commenters noted that the requirement for reporting this data element was unclear. Some commenters noted that PWSs frequently use multiple disinfectants and reporting only one of those would provide an inaccurate assessment of disinfectants being used. Others noted that EPA needed to make sure that PWSs indicate whether their hypochlorite solution was generated on or off site (onsite: Essentially no storage of stock solution will be needed; offsite: The storage of stock solution will be needed).

EPA agrees that the presentation of the requirements warranted clarification and has revised the list of disinfectants. EPA will clearly indicate in the data reporting system (SDWARS) that PWSs should identify all of the disinfectants used to treat the water.

4. Reporting Schedule

a. This Rule

To help ensure that monitoring and reporting are conducted as scheduled,

UCMR 3 specifies several deadlines related to initial reporting of inventory and scheduling information, as well as reporting of monitoring data. Several deadlines were newly proposed for UCMR 3 (*i.e.,* not used for UCMR 1 or UCMR 2) and finalized in this rule, and some are revised in this final rule to ensure that UCMR 3 is implemented as scheduled. These deadlines are being established to allow EPA enough time to review and process the information, and complete the planning process for UCMR 3 monitoring to begin on January 1, 2013. Changes in deadlines only affect large systems. There are no changes to small system reporting schedules. The schedule changes that are finalized in this rule include:

• Inventory and Scheduling: Large systems that are subject to UCMR 3 must report their inventory and sampling location information (141.35(c)(2)), and any proposed changes to their monitoring schedule (141.35(c)(5)(i) and 141.40(a)(4)(i)) no later than October 1, 2012. As noted, EPA has loaded existing information into SDWARS 3 prior to the publication of this final rule. PWSs will have until October 1, 2012, to update, edit or change their inventory and sample location information or monitoring schedule in SDWARS 3.

• Ground water representative monitoring plans: As described in 141.35(c)(3), large systems that use ground water sources and that have multiple EPTDSs can, with prior approval, conduct monitoring at representative sampling locations rather than at each EPTDS. For systems that have existing approved representative monitoring plans, their approved sampling location information will be pre-loaded into SDWARS and systems must review and confirm, or update this information by October 1, 2012. This rule establishes a deadline of August 1, 2012, for submitting a new ground water representative plan to be reviewed by the State or EPA.

• Monitoring data: This rule re-establishes two deadlines related to reporting of monitoring data: Large systems must require their laboratories to post data to SDWARS within 120 days of sample collection; and large systems must review, approve and submit the data to their State and EPA within 60 days of when the laboratory posts the data. These time frames are specified in 141.35(c)(6)(ii) and 141.40(a)(5)(vi).

b. Summary of Major Comments

Five (5) comments were received on the reduced laboratory reporting time frame. Most commenters did not support the 60-day proposed time frame for laboratories to post data to SDWARS and expressed several concerns: that laboratories may see increased workload due to additional monitoring; that UCMR 3 methods are not in common use and are very sensitive, so greater validation of results may be required; and that field blank analysis may be required for some methods, resulting in longer turnaround times for sampling results. Commenters did not believe that the reduced reporting time frame would increase compliance with monitoring schedules. Seven comments were also received regarding the 30-day proposed time frame for large PWSs to review and approve their data. The majority of the commenters requested the time frame be returned to the 60-day period used under UCMR 1 and 2. Commenters believe the shortened time frame would not give PWSs sufficient time to conduct a full data review and that schedule coordination among multiple staff would be difficult. After considering the public comments, EPA returned the laboratory reporting time frame to 120 days after sample collection (same as earlier UCMRs) and returned the PWS reporting time frame to 60 days after laboratory posting data (same as earlier UCMRs).

IV. State and Tribal Participation

A. Partnership Agreements

1. This Rule

Under UCMR 3, States may continue to have a role in rule implementation through Partnership Agreements (PAs). Because specific activities for individual States are identified and established through the PAs, not through rule language, this rule does not contain reference to PAs.

2. Summary of Major Comments

EPA received no comments regarding State participation in UCMR 3.

B. Governors' Petition and State-Wide Waivers

1. This Rule

This rule retains the UCMR 1 and 2 language that, consistent with SDWA, allows a minimum of seven State Governors to petition EPA to add contaminants to the UCMR Contaminant list. This rule also retains the UCMR 1 and 2 language that allows States to waive monitoring requirements with EPA approval and under very limited conditions.

2. Summary of Major Comments

EPA received no comments regarding the governor's petition or state-wide waiver allowances of UCMR 3.

V. Cost and Benefits of This Rule

In this rule, EPA finalizes a new set of contaminants for monitoring in the third five-year UCMR monitoring period. UCMR 3 also incorporates modifications to improve the rule design. UCMR 3 Assessment Monitoring (for List 1 contaminants) will be conducted from January 2013 through December 2015 by 800 systems serving 10,000 or fewer people, and by all systems serving more than 10,000 people. The 800 small systems will be randomly selected for List 1 monitoring. The UCMR 3 Screening Survey (for List 2 contaminants) will be conducted from January 2013 through December 2015 by all systems serving a population of greater than 100,000 people, a nationally representative set of 320 systems serving between 10,001 and 100,000 people, and a nationally representative set of 480 systems serving fewer than 10,000 people. The nationally representative sets of 320 and 480 systems will both be randomly selected for List 2 monitoring. The Pre-Screen Testing for List 3 contaminants will also be conducted from January 2013 through December 2015 in 800 undisinfected ground water systems serving 1,000 or fewer persons. No small system will be selected for more than one UCMR 3 monitoring list.

It is assumed for this cost estimate that one-third of systems will monitor during each of the three monitoring years. Labor costs pertain to systems, States, and EPA. They include activities such as reading the regulation, notifying systems selected to participate, training water system staff on sample collection procedures, sample collection, including travel time to collect samples, data review, reporting, and record keeping. Non-labor costs will be incurred primarily by EPA and by large PWSs. They include the cost of shipping samples to laboratories for testing and the cost of the actual laboratory analyses.

In this rule, EPA specifies seven EPA-developed analytical methods and four equivalent consensus organization developed methods to monitor for 27 unregulated chemical contaminants, two viruses, and total chromium. While this preamble also describes the analytical methods that will be used for virus monitoring, the rule does not address these methods. Laboratory approval for virus monitoring is not addressed since all of the analyses for the two viruses will be conducted in laboratories under EPA contract and at EPA's expense. Estimated system and EPA costs are based on the analytical costs for all UCMR 3 methods. With the

exception of Methods 200.8 and 300.1, these methods are comparatively new and will not coincide with other compliance monitoring (*i.e.,* no cost savings for concurrent monitoring can be realized).

Laboratory analysis and shipping of samples account for approximately 82% of the total national cost for UCMR 3 implementation. These costs are calculated as follows: the number of systems, multiplied by the number of sampling locations, multiplied by the sampling frequency, multiplied by the unit cost of laboratory analysis. Under UCMR 3, for List 1 Assessment Monitoring and List 2 Screening Survey, surface water (and ground water under the direct influence of surface water (GWUDI)) sampling points will be monitored four times during the applicable year of monitoring, and ground water sample points will be monitored twice during the applicable year of monitoring. Systems will monitor for the metals—cobalt, molybdenum, vanadium, strontium, chromium-6, and total chromium—as well as chlorate, at their EPTDS sampling locations and at one distribution system sampling point per treatment plant (*i.e.,* at the DSMRT). Pre-Screen Testing systems will monitor two times during the three year monitoring period (2013 through 2015) at their EPTDS.

Following publication of the proposed rule and EPA's initial cost and burden estimates, EPA received several cost-related public comments. Several suggested that EPA's estimates of cost and burden (*e.g.,* laboratory and estimated labor burden) to PWSs were too low. EPA estimates of laboratory fees are based on consultations with commercial drinking water laboratories and a review of the costs of similar analytical methods. In response to comments, EPA revisited the analytical method cost estimates. EPA approached four commercial drinking water laboratories and requested pricing estimates for UCMR 3 methods, including the cost of field blanks for methods 524.3 (VOCs), 537 (PFCs), and 539 (hormones). EPA averaged the estimates from the four laboratories and updated the cost figures, which resulted in increased cost estimates for some methods.

With respect to per-system burden estimates, EPA notes that all estimates represent average burden hours, which include surface water systems that may have very few sampling points, and thus lower sampling burden, as well as those systems with higher numbers of sampling points that would have greater labor burden. Moreover, a system's burden is primarily incurred during its one year of required UCMR monitoring (between January 2013 and December 2015). However, in compliance with the requirements of the Paperwork Reduction Act (44 U.S.C. 3501 et seq.), these cost and burden estimates are presented as an average over the applicable three-year information collection request (ICR) period (2012–2014). Small systems (those serving 10,000 or fewer people) will have the lowest burden not only because they generally have fewer sampling locations, but also because these systems will receive substantial direct assistance from EPA and/or their State.

The total cost of Assessment Monitoring analyses is estimated at $1,085 per sample set. The total cost of the single Screening Survey method is estimated at $418 per sample set. Field blank analyses costs are further described in ''Information Collection Request for the Unregulated Contaminant Monitoring Regulation (UCMR 3)'' (USEPA, 2012a). The cost to EPA of the Pre-Screen analyses for viruses and related pathogen indicators (*i.e.,* total coliforms, *E. coli,* bacteriophage, *Enterococci,* and aerobic spores) is estimated at $1,880 per sample set. Shipping estimates are added to the calculated costs to derive the total direct analytical non-labor costs. Estimated shipping costs were based on the average cost of shipping a 25-pound package.

In preparing the UCMR 3 ICR, EPA relied on standard assumptions and data sources used in the preparation of other drinking water program ICRs. These include the PWS inventory, number of sampling points per system, and labor rates. EPA expects that States will incur only labor costs associated with voluntary assistance with UCMR 3 implementation. State costs were estimated using the relevant modules of the State Resource Model that was developed by the Association of State Drinking Water Administrators (ASDWA) in conjunction with EPA (ASDWA, 2003) to help States forecast resource needs. Model estimates were adjusted to account for actual levels of State participation under UCMR. Because State participation is voluntary, level of effort will vary across States and depend on their individual agreements with EPA.

Over the UCMR implementation period of 2012–2016, EPA estimates that nationwide, the annual cost of UCMR 3 is approximately $17.45 million, of which water systems and States will pay approximately $13.3 million; and EPA will pay $4.14 million (most of which is associated with small system monitoring). These total estimated annual costs (labor and non-labor) are incurred as follows:

Respondent	Avg. annual cost. all respondents (2012–2016)
Small Systems (25–10,000), including labor only, non-labor costs paid for by EPA	$0.066 m
Large Systems (10,001–100,000), including labor and non-labor costs	9.55 m
Very Large Systems (100,001 and greater), including labor and non-labor costs	2.94 m
States, including labor costs related to implementation coordination	0.75 m
EPA, including labor for implementation, non-labor for small system testing	4.14 m
Average Annual National Total [1]	17.45 m

[1] Average Annual National Total of $17.45 million is based on rounding.

Over the period of 2012–2016, EPA estimates that nationwide, the total cost of UCMR 3 is approximately $87 million, of which water systems and States will pay approximately $66 million and EPA will pay $21 million.

Additional details regarding EPA's cost assumptions and estimates can be found in the ICR amendment prepared for this final rule (Office of Management and Budget (OMB) number 2040—NEW), which presents estimated cost and burden for the 2012–2014 period (USEPA, 2012a). Estimates of costs over the entire five-year UCMR 3 period of 2012–2016 are attached as an appendix to the ICR. Copies of the ICR and its amendment may be obtained from the EPA public docket for this final rule

under Docket ID Number EPA–HQ–OW–2009–0090.

VI. Statutory and Executive Order Reviews

A. Executive Order 12866: Regulatory Planning and Review and Executive Order 13563: Improving Regulation and Regulatory Review

Under Executive Order 12866 (58 FR 51735, October 4, 1993) and Executive Order 13563 (76 FR. 3821, January 21, 2011, this action is a ''significant regulatory action.'' Accordingly, EPA submitted this action to the Office of Management and Budget (OMB) for review under Executive Orders 12866 and 13563 (76 FR 3821, January 21, 2011) and any changes made in response to OMB recommendations have been documented in the docket for this action.

In addition, EPA prepared an analysis of the potential costs and benefits associated with this action. This analysis is contained in the ''Information Collection Request for the Unregulated Contaminant Monitoring Regulation (UCMR 3)'' (USEPA, 2012a). A copy of the analysis is available in the docket for this action and the analysis is briefly summarized in Section V of the preamble of this final rule.

B. Paperwork Reduction Act

The information collection requirements in this rule have been submitted for approval to the Office of Management and Budget (OMB) under the *Paperwork Reduction Act,* 44 U.S.C. 3501 *et seq.* The information collection requirements are not enforceable until OMB approves them.

The information collected under this final rule fulfills the statutory requirements of Section 1445(a)(2) of SDWA, as amended in 1996. The data collected will describe the source of the water, location, and test results for samples taken from PWSs. The concentrations of any identified UCMR contaminants will be evaluated in conjunction with health effects information and will be considered for future regulation accordingly. Reporting is mandatory. The data are not subject to confidentiality protection.

The annual burden and cost estimates described in this section are for the implementation assumptions described in Section V. Cost and Benefits of the Rule. Respondents to the UCMR 3 will include 2,080 small water systems (800 for Assessment Monitoring, 480 for Screening Survey, and 800 for Pre-Screen Testing), the 4,215 large PWSs (those serving more than 10,000 people), and the 56 States and Primacy agencies (6,351 total respondents). The frequency of response varies across respondents and years. System costs (particularly laboratory analytical costs) vary depending on the number of sampling locations. For cost estimates, it is assumed that systems will conduct sampling evenly across January 2013 through December 2015 (*i.e.,* one-third of systems in each of the 3 consecutive 12-month periods). Because the applicable ICR period is 2012–2014, the third year of monitoring activity (*i.e.,* January through December of 2015) is not captured in the current ICR estimates.

The burden and cost estimates presented in this section represent average costs. In some cases, the costs are presented as an annual average. Average burden or cost per system was derived by calculating total costs, and dividing by the total number of systems expected to monitor during the ICR years of 2012–2014. Average annual burden or cost per system was derived by summing total costs (or burden), dividing by the number of systems expected to monitor during the ICR years of 2012–2014, and then dividing by three years. The total costs and the annual average costs over the ICR years of 2012–2014 are presented in Exhibit 7. Total and annual average costs for the entire 5-year UCMR 3 period can be found in the ICR for UCMR 3, available in the docket for this final rule.

Small systems (those serving 10,000 or fewer) that are selected for UCMR 3 monitoring will sample an average of 1.8 times per system (*i.e.,* number of responses per system) across the three-year ICR period of 2012–2014. The average burden per response for small systems is estimated to be 3.8 hours. Large systems (those serving 10,001 to 100,000 people) and very large systems (those serving more than 100,000 people) will sample and report an average of 2.7 and 3.7 times per system, respectively, across the three-year ICR period of 2012–2014. The average burden per response for large and very large systems is estimated to be 9.2 and 10.2 hours, respectively. States are assumed to have an average of 1.0 response per year (3.0 responses per State across the three-year ICR period of 2012–2014), related to coordination with EPA and systems, with an average burden per response of 233 hours. In aggregate, during the ICR period of 2012–2014, the average response (*e.g.,* responses from systems and States) is associated with a burden of 11.6 hours, with a labor plus non-labor cost of $4,218 per response. Exhibit 7 presents respondent burden and cost estimates for the ICR period of 2012–2014.

EXHIBIT 7—UCMR 3 PER RESPONDENT BURDEN AND COST SUMMARY FOR THE ICR PERIOD

[2012–2014]

Burden (hours)/cost (dollars)	Small systems	Large systems	Very large systems	States	National average
Three-Year Total per Respondent					
Total # of Responses per Respondent	1.8	2.7	3.7	3.0	2.5
Labor Cost per Respondent	$160	$775	$1,437	$41,975	$1,160
Non-Labor Cost per Respondent	$0	$11,785	$34,181	$0	$9,237
Total Cost (Labor plus Non-Labor)	$160	$12,560	$35,619	$41,975	$10,397
Total Cost per Response	$89	$4,677	$9,704	$13,992	$4,218
Total Burden per Respondent (hr)	6.9	24.8	37.5	700.1	28.7
Total Burden per Response (hr)	3.8	9.24	10.2	233.4	11.6
Average Annual per Respondent					
Avg. # of Responses per Respondent	0.6	0.9	1.2	1.0	0.8
Labor Cost per Respondent	$53	$258	$479	$13,992	$387
Non-Labor Cost per Respondent	$0	$3,928	$11,394	$0	$3,079
Avg. Cost (Labor plus Non-Labor)	$53	$4,187	$11,873	$13,992	$3,466
Avg. Cost per Response	$30	$1,559	$3,235	$4,664	$1,406
Avg. Burden per Respondent (hr)	2.3	8.3	12.5	233.4	9.6

EXHIBIT 7—UCMR 3 PER RESPONDENT BURDEN AND COST SUMMARY FOR THE ICR PERIOD—Continued

[2012–2014]

Burden (hours)/cost (dollars)	Small systems	Large systems	Very large systems	States	National average
Avg. Burden per Response (hr)	1.3	3.1	3.4	61.3	3.9

The average per respondent burden hours and costs per year for the ICR period of 2012–2014 are: small systems—2.3 hour burden at $53 for labor; large systems—8.3 hours at $258 for labor, and $3,928 for analytical costs; very large systems—12.5 hours at $479 for labor, and $11,394 for analytical costs; and States—233.4 hours at $13,992 for labor. Burden is defined at 5 CFR 1320.3(b).

Exhibit 8 shows the annual and total national cost and burden for UCMR 3 implementation over the ICR period of 2012–2014.

EXHIBIT 8—UCMR 3 ANNUAL NATIONAL COST AND BURDEN

[2012–2014]

Cost (in millions)	2012	2013	2014	Total
Small System Costs	$0	$0.11	$0.11	$0.22
Large System Costs	0	15.92	15.92	31.84
Very Large System Costs	0	4.90	4.90	9.81
State Costs	0.33	1.0	1.0	2.4
EPA Costs	0.92	6.63	6.57	14.12
Total Cost	1.26	28.55	28.53	58.34

Total Burden (thousands of hours) for All Responses	2012	2013	2014	Total
Small Systems	0	4.8	4.8	9.5
Large Systems	0	31.5	31.5	62.9
Very Large Systems	0	5.2	5.2	10.3
States	13.3	13.6	12.2	39.2
EPA	5.7	11.4	11.4	28.6
Total Burden	19.1	66.5	65.1	150.6

An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number. The OMB control numbers for EPA's regulations in 40 CFR are listed in 40 CFR part 9. When this ICR is approved by OMB, the agency will publish a technical amendment to 40 CFR part 9 in the **Federal Register** to display the OMB control number for the approved information collection requirements contained in this final rule.

C. Regulatory Flexibility Act

The Regulatory Flexibility Act (RFA) generally requires an agency to prepare a regulatory flexibility analysis of any rule subject to notice and comment rulemaking requirements under the Administrative Procedure Act or any other statute unless the agency certifies that the rule will not have a significant economic impact on a substantial number of small entities. Small entities include small businesses, small organizations, and small governmental jurisdictions.

The RFA provides default definitions for each type of small entity. Small entities are defined as: (1) A small business as defined by the Small Business Administration's (SBA) regulations at 13 CFR 121.201; (2) a small governmental jurisdiction that is a government of a city, county, town, school district or special district with a population of less than 50,000; and (3) a small organization that is any ''not-for-profit enterprise which is independently owned and operated and is not dominant in its field.'' However, the RFA also authorizes an agency to use alternative definitions for each category of small entity, ''which are appropriate to the activities of the agency'' after proposing the alternative definition(s) in the **Federal Register** and taking comment (5 U.S.C. 601(3)–(5)). In addition, to establish an alternative small business definition, agencies must consult with SBA's Chief Counsel for Advocacy.

For purposes of assessing the impacts of this rule on small entities, EPA considered small entities to be PWSs serving 10,000 or fewer people, because this is the system size specified in SDWA as requiring special consideration with respect to small system flexibility. As required by the RFA, EPA proposed using this alternative definition in the **Federal Register** (63 FR 7606, February 13, 1998 (USEPA, 1998a)), requested public comment, consulted with the SBA, and finalized the alternative definition in the Consumer Confidence Reports rulemaking (63 FR 44512, August 19, 1998 (USEPA, 1998b)). Consistent with that Final Rule, the alternative definition has been applied to this regulation.

After considering the economic impacts of this rule on small entities, I certify that this action will not have a significant economic impact on a substantial number of small entities. The small entities directly regulated by this rule are PWSs serving 10,000 or fewer people. EPA has determined that the small entities subject to the requirements of this rule are a subset of the small PWSs (those serving 10,000 or fewer people). The agency has determined that 2,080 small PWSs (across Assessment Monitoring, Screening Survey, and Pre-Screen

Testing), or approximately 3% of small systems, will experience an impact of no more than 0.4% of revenues; the remainder of small systems will not be impacted.

Although this final rule will not have a significant economic impact on a substantial number of small entities, EPA has tried to reduce the impact of this rule on small entities. To ensure that this rule will not have a significant economic impact on a substantial number of small entities, EPA will assume all costs for analyses of the samples and for shipping the samples from these systems to the laboratories contracted by EPA to analyze UCMR 3 samples. EPA has set aside $2.0 million each year from the State Revolving Fund (SRF) with its authority to use SRF monies for the purposes of implementing this provision of SDWA. Thus, the costs to these small systems will be limited to the labor hours associated with 2,080 small systems assisting EPA in collecting UCMR samples and preparing them for shipping.

The evaluation of the overall impact on small systems, summarized in the preceding discussion, is further described as follows. EPA analyzed the impacts for privately-owned and publicly-owned water systems separately due to the different economic characteristics of these ownership types, such as different rate structures and profit goals. For both publicly- and privately-owned systems, EPA used the ''revenue test,'' which compares annual system costs attributed to the rule to the system's annual revenues. Median revenue data from the 2006 Community Water System Survey Volume II: Detailed Tables and Survey Methodology (*http://water.epa.gov/aboutow/ogwdw/upload/cwssreportvolumeII2006.pdf*) were used for public and private water systems. EPA assumes that the distribution of the sample of participating small systems will reflect the proportions of publicly- and privately-owned systems in the national inventory. The estimated distribution of the representative sample, categorized by ownership type, source water, and system size, is presented in Exhibit 9.

EXHIBIT 9—NUMBER OF PUBLICLY- AND PRIVATELY-OWNED SMALL SYSTEMS SUBJECT TO UCMR 3

System size (number of people served)	Publicly-owned	Privately-owned	Total
Ground Water			
500 and under	134	402	536
501 to 3,300	548	208	757
3,301 to 10,000	286	66	352
Subtotal GW	968	677	1,645
Surface Water (and GWUDI)			
500 and under	7	9	16
501 to 3,300	98	35	133
3,301 to 10,000	222	64	286
Subtotal SW	327	108	435
Total of Small Water Systems	1,295	785	2,080

The basis for the UCMR 3 RFA certification for this final rule is as follows: for the 2,080 small water systems that will be affected, the average annual costs for complying with this rule represent 0.4% of system revenues (the highest estimated percentage is for ground water systems serving 500 or fewer people, at 0.40% of its median revenue). Exhibit 10 presents the annual costs to small systems and to EPA for the small system sampling program, along with an illustration of system participation for each year of the UCMR 3 program.

EXHIBIT 10—EPA AND SYSTEMS COSTS FOR IMPLEMENTATION OF UCMR 3 AT SMALL SYSTEMS

Cost description	2012	2013	2014	2015	2016	Total
Costs to EPA for Small System Program (including Assessment Monitoring, Screening Survey, and Pre-Screen Testing).	$0	$5,407,233	$5,407,233	$5,407,233	$0	$16,221,698
Costs to Small Systems including Assessment Monitoring, Screening Survey, and Pre-Screen Testing.	0	$110,720	110,720	110,720	0	332,160
Total Costs to EPA and Small Systems for UCMR 3:.	0	$5,517,953	5,517,953	5,517,953	0	16,553,858
System Monitoring Activity Timeline: [1]						
Assessment Monitoring		⅓ PWSs Sample.	⅓ PWSs Sample.	⅓ PWSs Sample.		800
Screening Survey		⅓ PWSs Sample.	⅓ PWSs Sample.	⅓ PWSs Sample.		480

EXHIBIT 10—EPA AND SYSTEMS COSTS FOR IMPLEMENTATION OF UCMR 3 AT SMALL SYSTEMS—Continued

Cost description	2012	2013	2014	2015	2016	Total
Pre-Screen Testing		⅓ PWSs Sample.	⅓ PWSs Sample.	⅓ PWSs Sample.		800

[1] Total number of systems is 2,080. No small system conducts more than one type of monitoring study.

System costs are attributed to the labor required for reading about their requirements, training staff on requirements, monitoring, including travel time needed to collect samples, reporting, and record keeping. The estimated average annual burden across the five-year UCMR 3 implementation period of 2012–2016 is estimated to be 1.4 hours at $32 per small system. Average annual cost, in all cases, is less than or equal to 0.40% of system revenues. As required by SDWA, the agency specifically structured the rule to avoid significantly affecting small entities by assuming all costs for laboratory analyses, shipping, and quality control for small entities. As a result, EPA incurs the entirety of the non-labor costs associated with UCMR 3 small system monitoring, or 98% of total small system testing costs. Exhibits 11 and 12 present the estimated economic impacts in the form of a revenue test for publicly- and privately-owned systems.

EXHIBIT 11—UCMR 3 RELATIVE COST ANALYSIS FOR SMALL PUBLICLY-OWNED SYSTEMS (2012–2016)

System size (number of people served)	Annual number of systems impacted	Average annual hours per system (2012–2016)	Average annual cost per system (2012–2016)	Revenue test [1] (%)
Ground Water Systems				
500 and under	27	1.14	$24.16	0.08
501 to 3,300	110	1.24	27.67	0.02
3,301 to 10,000	57	1.57	39.71	0.01
Surface Water (and GWUDI) Systems				
500 and under	1	1.63	34.71	0.06
501 to 3,300	20	1.69	37.74	0.02
3,301 to 10,000	44	1.79	45.35	0.005

[1] The "Revenue Test" was used to evaluate the economic impact of an information collection on small government entities (*e.g.,* publicly-owned systems); costs are presented as a percentage of median annual revenue in each size category.

EXHIBIT 12—UCMR 3 RELATIVE COST ANALYSIS FOR SMALL PRIVATELY-OWNED SYSTEMS (2012–2016)

System size (number of people served)	Annual number of systems impacted	Average annual hours per system (2012–2016)	Average annual cost per system (2012–2016)	Revenue Test[1] (%)
Ground Water Systems				
500 and under	80	1.14	$24.16	0.40
501 to 3,300	42	1.24	27.67	0.02
3,301 to 10,000	13	1.57	39.74	0.004
Surface Water (and GWUDI) Systems				
500 and under	2	1.63	34.71	0.10
501 to 3,300	7	1.69	37.74	0.01
3,301 to 10,000	13	1.79	45.35	0.005

[1] The "Revenue Test" was used to evaluate the economic impact of an information collection on small private entities (*e.g.,* privately-owned systems); costs are presented as a percentage of median annual revenue in each size category.

EPA specifically solicited additional comment on the proposed action on small systems. No comments were received.

D. Unfunded Mandates Reform Act (UMRA)

This rule does not contain a Federal mandate that may result in expenditures of $100 million or more for State, local, and tribal governments, in the aggregate, or the private sector in any one year. Total annual costs of this final rule (across the implementation period of 2012–2016), for State, local, and Tribal governments and the private sector, are estimated to be $17.45 million, of which EPA will pay $4.14 million, or approximately 24%. Thus, this rule is not subject to the requirements of Sections 202 or 205 of UMRA.

This rule is also not subject to the requirements of Section 203 of UMRA because it contains no regulatory requirements that might significantly or uniquely affect small governments. As noted previously, the agency expects to pay for the reasonable costs of sample analysis for the small PWSs required to monitor for unregulated contaminants under this final rule, including those owned and operated by small governments. The only costs that small systems will incur are labor costs attributed to collecting the UCMR samples and packing them for shipment

to the laboratory (EPA will pay for shipping). These costs are minimal. They are not significant or unique. Thus, this rule is not subject to the requirements of UMRA Section 203.

E. Executive Order 13132: Federalism

This action does not have federalism implications. It will not have substantial direct effects on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government, as specified in Executive Order 13132. The cost to State and local governments is minimal and the rule does not preempt State law. Thus, Executive Order 13132 does not apply to this action. In the spirit of Executive Order 13132, and consistent with EPA policy to promote communications between EPA and State and local governments, EPA specifically solicited comment on the proposed action from State and local officials.

F. Executive Order 13175: Consultation and Coordination With Indian Tribal Governments

Subject to the Executive Order 13175 (65 FR 67249, November 9, 2000) EPA may not issue a regulation that has tribal implications, that imposes substantial direct compliance costs, and that is not required by statute, unless the Federal government provides the funds necessary to pay the direct compliance costs incurred by tribal governments, or EPA consults with tribal officials early in the process of developing the proposed regulation and develops a tribal summary impact statement.

EPA has concluded that this action will have tribal implications. However, it will neither impose substantial direct compliance costs on tribal governments, nor preempt Tribal law. As described previously, this final rule requires monitoring by all large systems (*i.e.,* those serving 10,001 to 100,000 people) and all very large systems (*i.e.,* those serving greater than 100,000 people); 17 Tribal water systems have been identified as large systems based on information in the SDWIS/Fed water system inventory. EPA estimates the average annual cost to each of these large systems, over the five-year rule period, to be less than $2,512 (total cost of about $12,560 per system during the five-year rule period). This cost is based on a labor component (associated with the collection of samples) and a non-labor component (associated with shipping and laboratory fees) and represents less than 0.09% of average revenue/sales for large systems. UCMR also requires monitoring by a nationally representative sample of small systems (*i.e.,* those serving 10,000 or fewer people). EPA estimates that approximately one percent of small Tribal systems will be selected as part of a nationally representative sample for Assessment Monitoring, Screening Survey or Pre-Screen Testing. EPA estimates the average annual cost to the small Tribal systems, over the five year rule period to be $32 (total cost of about $160 per system over the five-year rule period). Such cost is based on the labor associated with collecting a sample and preparing it for shipping and represents 0.4% or less of average revenue/sales for small systems. All other small system expenses (associated with shipping and laboratory fees) are paid by EPA.

EPA consulted with tribal officials early in the process of developing UCMR to permit them to have meaningful and timely input into its development. In developing the original UCMR rule, EPA held stakeholder meetings and prepared background information for stakeholder review. EPA sent requests for review of stakeholder documents to nearly 400 Tribes, Tribal organizations, and small systems organizations to obtain their input. Representatives from the Indian Health Service (IHS) Sanitary Deficiency System and Tribes were consulted regarding decisions on rule design, the design for the statistical selection of small systems, and potential costs. Tribes raised issues concerning the selection of the nationally representative sample of small systems, particularly the manner in which Tribal systems would be considered under the sample selection process. EPA developed the sample frame for Tribal systems and Alaska Native water systems in response to those concerns. EPA worked with the Tribes, Alaska Natives, the IHS, and the States to determine how to classify each Tribal system for consideration in the statistically-based selection of the nationally representative sample of small systems. As a result of those discussions, small PWSs located in Indian country in each of the EPA Regions containing Indian country were evaluated as part of a Tribal category that receives selection consideration comparable to that of small systems outside of Indian country. Thus, Tribal systems have the same probability of being selected as other water systems in the stratified selection process that weighs systems by water source and size class by population served. This final rule maintains the basic program design of UCMR 1 and 2, and continues to build upon the structure of this cyclical program. As part of the development of this rule, EPA held a public stakeholder meeting on April 7, 2010. This meeting was announced to the public in a **Federal Register** notice dated February 23, 2010 (75 FR 8063 (USEPA, 2010a)). Prior to the meeting, background materials and rule development information were sent to specific stakeholders, including representatives from the IHS and the Native American Water Association.

EPA specifically solicited additional comment on the proposed action from tribal officials. EPA received no comments.

G. Executive Order 13045: Protection of Children From Environmental Health Risks and Safety Risks

This action is not subject to EO 13045 because it is not an economically significant regulation pursuant to EO 12866.

H. Executive Order 13211: Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use

This action is not a ''significant energy action'' as defined in Executive Order 13211 (66 FR 28355 (May 22, 2001)), because it is not likely to have a significant adverse effect on the supply, distribution, or use of energy. None of the final UCMR requirements involve actions that use a significant amount of energy.

I. National Technology Transfer and Advancement Act

Section 12(d) of the National Technology Transfer and Advancement Act of 1995 (''NTTAA''), Public Law 104–113, 12(d) (15 U.S.C. 272 note) directs EPA to use voluntary consensus standards in its regulatory activities unless to do so would be inconsistent with applicable law or otherwise impractical. Voluntary consensus standards are technical standards (*e.g.,* materials specifications, test methods, sampling procedures, and business practices) that are developed or adopted by voluntary consensus standards bodies. NTTAA directs EPA to provide Congress, through OMB, explanations when the agency decides not to use available and applicable voluntary consensus standards.

This rulemaking involves technical standards. EPA has decided to use the methods developed by the agency as well as voluntary consensus standards for the analysis of UCMR 3 contaminants. The agency conducted a search of potentially applicable voluntary consensus standards and identified two major organizations

whose methods are acceptable for determinations under UCMR. These organizations are Standard Methods (SM) and ASTM International. For many of the parameters included in this final action, EPA was unable to identify methods from voluntary consensus method organizations that were appropriate for the monitoring required. However, EPA identified acceptable consensus method organization standards for the analysis of total chromium, vanadium, molybdenum, cobalt, strontium and chlorate. Therefore, EPA is approving analytical methods published by EPA, SM, and ASTM International for these analytes.

J. Executive Order 12898: Federal Actions To Address Environmental Justice in Minority Populations and Low-Income Populations

Executive Order (EO) 12898 (59 FR 7629 (Feb. 16, 1994)) establishes federal executive policy on environmental justice. Its main provision directs federal agencies, to the greatest extent practicable and permitted by law, to make environmental justice part of their mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of their programs, policies, and activities on minority populations and low-income populations in the United States.

EPA has determined that this final rule will not have disproportionately high and adverse human health or environmental effects on minority or low-income populations. By seeking to identify unregulated contaminants that may pose health risks via drinking water from all PWSs, UCMR furthers the protection of public health for all citizens, including minority and low-income populations using public water supplies. UCMR uses a statistically-derived set of systems for the nationally representative sample that is population-weighted within each system size and source water category so that any PWS within a category has an equivalent likelihood of selection. Additionally, EPA is requiring that PWSs report all U.S. Postal Service Zip Codes in their service area. This additional data element will be used in the evaluation of UCMR 3 occurrence data and could potentially identify areas that have disproportionately high and adverse human health or environmental effects on minority or low-income populations.

K. Congressional Review Act

The Congressional Review Act, 5 U.S.C. 801 et seq., as added by the Small Business Regulatory Enforcement Fairness Act of 1996, generally provides that before a rule may take effect, the agency promulgating the rule must submit a rule report, which includes a copy of the rule, to each House of the Congress and to the Comptroller General of the United States. EPA will submit a report containing this rule and other required information to the U.S. Senate, the U.S. House of Representatives, and the Comptroller General of the United States prior to publication of the rule in the **Federal Register**. A Major rule cannot take effect until 60 days after it is published in the **Federal Register**. This action is not a ''major rule'' as defined by 5 U.S.C. 804(2). This rule will be effective June 1, 2012.

VII. Public Involvement in Regulation Development

EPA's Office of Ground Water and Drinking Water routinely engages stakeholders in its regulatory activities for the purpose of providing early input to regulation development. When designing and developing the UCMR program in the late 1990s, EPA held meetings for developing the CCL, establishing the information requirements of the NCOD, and selecting priority contaminants for UCMR monitoring. During the initial development of the UCMR program, stakeholders including PWSs, States, industry, and other organizations attended meetings to discuss the UCMR. Seventeen other meetings were held specifically concerning UCMR development. For a description of public involvement activities related to the first UCMR (UCMR 1), please see the discussion in the September 17, 1999 UCMR Final Rule **Federal Register** at 64 FR 50556 (USEPA, 1999b).

Specific to the development of UCMR 3, a stakeholder meeting was held on April 7, 2010, in Washington, DC. There were 22 attendees, representing State agencies, laboratories, PWSs, environmental groups, and drinking water associations. The topics of presentations and discussions included: Status of UCMR 2; rationale for developing the new list of potential contaminants; analytical methods that could be used in measuring these contaminants; sampling design; procedure for determining LCMRLs; laboratory approval; and other potential revisions based on lessons learned during implementation of UCMR 1 and UCMR 2 (see USEPA, 2010b for presentation materials, and USEPA, 2010c for meeting notes).

EPA requested public comment on the proposed rule (76 FR 11713, March 3, 2011 (USEPA, 2011a)), and established a public docket, under Docket ID No. EPA–HQ–OW–2009–0090. Each set of comments received in response to this request was assigned an EPA Document ID (EPA–HQ–OW–2009–0090+unique four digit extension) and posted for public access on regulations.gov. To view comments, search for the docket ID on the regulations.gov homepage, then click the link to public submissions.

EPA received feedback on UCMR 3 from 53 commenters. Commenters included: private citizens; local and State governments as well as U.S. territories; industry and industry groups; drinking water systems and organizations; and, non-governmental organizations, such as environmental and health advocacy groups. An overview of key comments received is included in Section III of this rule, and the complete report of comments and full EPA responses can be found in the docket on regulations.gov (USEPA, 2012b).

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USEPA. 2012b. *Response to Comments Document for the Unregulated Contaminant Monitoring Regulation (UCMR 3).* EPA 815–R–11–004. January 2012.

USEPA. 2012c. *UCMR 3 Contaminants—Information Compendium.* EPA 815–B–11–001. January 2012.

USEPA. 2012d. *UCMR 3 Laboratory Approval Requirements and Information Document.* Version 2.0. EPA 815–R–11–003. January 2012.

von Gunten, U. 2003. Ozonation of drinking water: Part II. Disinfection and by-product formation in presence of bromide, iodide or chlorine. *Water Research.* 37:1469–1487.

World Health Organization (WHO). 2005. *Chlorite and Chlorate in Drinking-water, Background Document for Development of WHO Guidelines for Drinking-water Quality,* WHO/SDE/WSH/05.08/86.

List of Subjects

40 CFR Part 141

Environmental protection, Chemicals, Incorporation by reference, Indian-lands, Intergovernmental relations, Radiation protection, Reporting and recordkeeping requirements, Water supply.

40 CFR Part 142

Environmental protection, Administrative practices and procedures, Chemicals, Indian lands, Radiation protection, Reporting and recordkeeping requirements, Water supply.

Dated: April 16, 2012.

Lisa P. Jackson,

Administrator.

For the reasons set out in the preamble, Title 40, chapter I of the Code of Federal Regulations is amended as follows:

PART 141—NATIONAL PRIMARY DRINKING WATER REGULATIONS

■ 1. The authority citation for Part 141 continues to read as follows:

Authority: 42 U.S.C. 300f, 300g–1, 300g–2, 300g–3, 300g–4, 300g–5, 300g–6, 300j–4, 300j–9, and 300j–11.

Subpart C—Monitoring and Analytical Requirements

■ 2. Section 141.23 is amended in the table to paragraph (k)(1) by revising entries 18, 19, and 20; by revising footnotes 3, 4, 5, 6, 7, 8, 13, 19, and 22; and by removing footnote 23.

The revisions read as follows:

§ 141.23 Inorganic chemical sampling and analytical requirements.

* * * * *

(k) * * *

(1) * * *

Contaminant	Methodology [13]	EPA method	ASTM [3]	SM [4] (18th, 19th ed.)	SM [4] (20th ed.)	SM online [22]	Other
*	*	*	*	*	*	*	
18. Nitrate	Ion Chromatography	300.0 [6], 300.1 [19]	D4327–97, 03	4110 B	4110 B	4110 B–00	B–1011 [8]
	Automated Cadmium Reduction	353.2 [6]	D3867–90 A	4500–NO_3 F	4500–NO_3 F	4500–NO_3 F–00	
	Ion Selective Electrode			4500–NO_3 D	4500–NO_3 D	4500–NO_3 D–00	601 [7]
	Manual Cadmium Reduction		D3867–90 B	4500–NO_3 E	4500–NO_3 E	4500–NO_3 E–00	
	Capillary Ion Electrophoresis		D6508–00.				
19. Nitrite	Ion Chromatography	300.0 [6], 300.1 [19]	D4327–97, 03	4110 B	4110 B	4110 B–00	B–1011 [8]
	Automated Cadmium Reduction	353.2 [6]	D3867–90 A	4500–NO_3 F	4500–NO_3 F	4500–NO_3 F–00	
	Manual Cadmium Reduction		D3867–90 B	4500–NO_3 E	4500–NO_3 E	4500–NO_3 E–00	
	Spectrophotometric			4500–NO_2 B	4500–NO_2 B	4500–NO_2 B–00	
	Capillary Ion Electrophoresis		D6508–00				

Contaminant	Methodology [13]	EPA method	ASTM [3]	SM [4] (18th, 19th ed.)	SM [4] (20th ed.)	SM online [22]	Other
20. Ortho-phosphate	Colorimetric, Automated, Ascorbic Acid	365.1 [6]		4500–P F	4500–P F		
	Colorimetric, ascorbic acid, single reagent.		D515–88 A	4500–P E	4500–P E		
	Colorimetric Phosphomolybdate; Automated-segmented flow; Automated Discrete.						I–1601–85 [5] I–2601–90 [5] I–2598–85 [5]
	Ion Chromatography	300.0 [6], 300.1 [19]	D4327–97, 03	4110 B	4110 B	4110 B–00	
	Capillary Ion Electrophoresis		D6508–00				
*	*	*	*	*	*	*	

* * * * *

[3] *Annual Book of ASTM Standards,* ASTM International, 100 Barr Harbor Drive, West Conshohocken, PA 19428, *http://www.astm.org.;* Annual Book of ASTM Standards 1994, Vols. 11.01 and 11.02; Annual Book of ASTM Standards 1996, Vols. 11.01 and 11.02; Annual Book of ASTM Standards 1999, Vols. 11.01 and 11.02; Annual Book of ASTM Standards 2003, Vols. 11.01 and 11.02.

[4] *Standard Methods for the Examination of Water and Wastewater,* American Public Health Association, 800 I Street NW., Washington, DC 20001–3710; *Standard Methods for the Examination of Water and Wastewater,* 18th edition (1992); *Standard Methods for the Examination of Water and Wastewater,* 19th edition (1995); *Standard Methods for the Examination of Water and Wastewater,* 20th edition (1998).The following methods from this edition cannot be used: 3111 B, 3111 D, 3113 B, and 3114 B.

[4] *Standard Methods for the Examination of Water and Wastewater,* American Public Health Association, 800 I Street NW., Washington, DC 20001–3710; *Standard Methods for the Examination of Water and Wastewater,* 18th edition (1992); *Standard Methods for the Examination of Water and Wastewater,* 19th edition (1995); *Standard Methods for the Examination of Water and Wastewater,* 20th edition (1998).The following methods from this edition cannot be used: 3111 B, 3111 D, 3113 B, and 3114 B.

[5] U.S. Geological Survey, Federal Center, Box 25286, Denver, CO 80225–0425; Methods for Analysis by the U.S. Geological Survey National Water Quality Laboratory—Determination of Inorganic and Organic Constituents in Water and Fluvial Sediment, Open File Report 93–125, 1993; Techniques of Water Resources Investigation of the U.S. Geological Survey, Book 5, Chapter A–1, 3rd edition, 1989.

[6] ''Methods for the Determination of Inorganic Substances in Environmental Samples,'' EPA/600/R–93/100, August 1993. Available as Technical Report PB94–120821 at National Technical Information Service (NTIS), 5301 Shawnee Road, Alexandria, VA 22312. *http://www.ntis.gov.*

[7] The procedure shall be done in accordance with the Technical Bulletin 601 ''Standard Method of Test for Nitrate in Drinking Water,'' July 1994, PN 221890–001, Analytical Technology, Inc. Copies may be obtained from ATI Orion, 529 Main Street, Boston, MA 02129.

[8] Method B–1011. ''Waters Test Method for Determination of Nitrite/Nitrate in Water Using Single Column Ion Chromatography,'' August, 1987. Copies may be obtained from Waters Corporation, Technical Services Division, 34 Maple Street, Milford, MA 01757, Telephone: 508/482–2963, Fax: 508/482–4056.

* * * * *

[13] Because MDLs reported in EPA Methods 200.7 and 200.9 were determined using a 2x preconcentration step during sample digestion, MDLs determined when samples are analyzed by direct analysis (*i.e.,* no sample digestion) will be higher. For direct analysis of cadmium and arsenic by Method 200.7, and arsenic by Method 3120 B, sample preconcentration using pneumatic nebulization may be required to achieve lower detection limits. Preconcentration may also be required for direct analysis of antimony, lead, and thallium by Method 200.9; antimony and lead by Method 3113 B; and lead by Method D3559–90D, unless multiple in-furnace depositions are made.

* * * * *

[19] ''Methods for the Determination of Organic and Inorganic Compounds in Drinking Water,'' Vol. 1, EPA 815–R–00–014, August 2000. Available as Technical Report PB2000–106981 at National Technical Information Service (NTIS), 5301 Shawnee Road, Alexandria, VA 22312. *http://www.ntis.gov.*

* * * * *

[22] Standard Methods Online, American Public Health Association, 800 I Street NW., Washington, DC 20001, available at *http://www.standardmethods.org.* The year in which each method was approved by the Standard Methods Committee is designated by the last two digits in the method number. The methods listed are the only online versions that may be used.

■ 3. Section 141.35 is amended as follows:

■ a. In paragraph (a) by revising the third sentence,

■ b. By revising paragraph (b) introductory text,

■ c. By revising paragraph (b)(1),

■ d. In paragraph (b)(2) by revising the first sentence,

■ e. By revising paragraph (c)(1),

■ f. By revising paragraph (c)(2),

■ g. In paragraph (c)(3)(i) by removing ''May 4, 2007'' and adding in its place, ''August 1, 2012,''

■ h. In paragraph (c)(3)(ii) by adding a new second and third sentence,

■ i. In paragraph (c)(4) by removing ''June 4, 2007'' and adding in its place, ''October 1, 2012,''

■ j. By revising paragraph (c)(5)(i),

■ k. By revising paragraph (c)(6) introductory text,

■ l. By revising paragraph (c)(6)(ii),

■ m. By revising paragraph (d)(1),

■ n. By revising paragraph (d)(2), and

■ o. In the table to paragraph (e) by revising entry 6.

The revisions and additions read as follows:

§ 141.35 Reporting for unregulated contaminant monitoring results.

(a) * * * For the purposes of this section, PWS ''population served'' is the retail population served directly by the PWS as reported to the Federal Safe Drinking Water Information System (SDWIS/Fed); wholesale or consecutive populations are not included. * * *

(b) *Reporting by all systems.* You must meet the reporting requirements of this paragraph if you meet the applicability criteria in § 141.40(a)(1) and (2).

(1) *Where to submit UCMR reporting requirement information.* Some of your reporting requirements are to be fulfilled electronically and others by mail. Information that must be submitted using EPA's electronic data reporting system must be submitted through: *http://water.epa.gov/lawsregs/rulesregs/sdwa/ucmr/ucmr3/reporting.cfm.* Documentation that is required to be mailed can be submitted either: To UCMR Sampling Coordinator, USEPA, Technical Support Center, 26 West Martin Luther King Drive (MS 140), Cincinnati, OH 45268; or by email at *UCMR_Sampling_Coordinator@epa.gov.* In addition, you must notify the public of the availability of unregulated contaminant monitoring data as provided in Subpart Q (Public Notification) of this part (40 CFR 141.207). Community Water Systems that detect unregulated contaminants under this monitoring must also address such detections as part of their Consumer Confidence Reports, as provided in Subpart O of this part (40 CFR 141.151).

(2) * * * If you have received a letter from EPA concerning your required monitoring and your system does not meet the applicability criteria for UCMR established in § 141.40(a)(1) or (2), or if a change occurs at your system that may affect your requirements under UCMR as defined in § 141.40(a)(3) through (5), you must mail or email a letter to EPA, as specified in paragraph (b)(1) of this section. * * *

* * * * *

(c) * * *

(1) *Contact and zip code information.* You must provide contact information by October 1, 2012, and provide updates within 30 days if this information changes. The contact information must be submitted using EPA's electronic data reporting system, as specified in paragraph (b)(1) of this section, and include the name, affiliation, mailing address, phone number, and email address for your PWS Technical Contact and your PWS Official. In addition, as a one-time reporting requirement, you must report the U.S. Postal Service Zip Code(s) for all areas being served water by your PWS.

(2) *Sampling location and inventory information.* You must provide your sampling location and inventory information by October 1, 2012, using EPA's electronic data reporting system. You must submit, verify or update the following information for each sampling location, or for each approved representative sampling location (as specified in paragraph (c)(3) of this section regarding representative sampling locations): PWS identification (PWSID) code; PWS facility identification code; water source type, sampling point identification code; and

sampling point type code; (as defined in Table 1 of paragraph (e) of this section). If this information changes, you must report updates, including new sources and sampling locations that are put in use before or during the PWS' UCMR sampling period, to EPA's electronic data reporting system within 30 days of the change.

* * * * *

(3) * * *

(ii) * * * The proposed well must be representative of the highest annual volume producing and most consistently active wells in the representative array. If that representative well is not in use at the scheduled sampling time, you must select and sample an alternative representative well. * * *

* * * * *

(5) * * *

(i) *General rescheduling notification requirements.* Large systems may change their Assessment Monitoring (List 1) or Screening Survey (List 2) schedules up to October 1, 2012, using EPA's electronic data reporting system, as specified in paragraph (b)(1) of this section. After these dates have passed, if your PWS cannot sample according to your assigned sampling schedule (*e.g.,* because of budget constraints, or if a sampling location will be closed during the scheduled month of monitoring), you must mail or email a letter to EPA, as specified in paragraph (b)(1) of this section, prior to the scheduled sampling date. You must include an explanation of why the samples cannot be taken according to the assigned schedule, and you must provide the alternative schedule you are requesting. You are subject to your assigned UCMR sampling schedule or the schedule that you revised on or before October 1, 2012, unless and until you receive a letter from EPA specifying a new schedule.

* * * * *

(6) *Reporting monitoring results.* For each sample, you must report all data elements specified in Table 1 of paragraph (e) of this section, using EPA's electronic data reporting system. You also must report any changes, relative to what is currently posted, made to data elements 1 through 6 to EPA, in writing, explaining the nature and purpose of the proposed change, as specified in paragraph (b)(1) of this section.

* * * * *

(ii) *Reporting schedule.* You must ensure that your laboratory posts the data to EPA's electronic data reporting system within 120 days from the sample collection date (sample collection must occur as specified in § 141.40(a)(4)). You have 60 days from when the laboratory posts the data in EPA's electronic data reporting system to review, approve, and submit the data to the State and EPA, at the Web address specified in paragraph (b)(1) of this section. If you do not electronically approve and submit the laboratory data to EPA within 60 days of the laboratory's posting data to EPA's electronic reporting system, the data will be considered approved by you and available for State and EPA review.

* * * * *

(d) * * *

(1) *Contact and zip code information.* EPA will send you a notice requesting contact information for key individuals at your system, including name, affiliation, mailing address, phone number and email address. These individuals include your PWS Technical Contact and your PWS Official. You are required to provide this contact information within 90 days of receiving the notice from EPA as specified in paragraph (b)(1) of this section. If this contact information changes, you also must provide updates within 30 days of the change, as specified in paragraph (b)(1) of this section. In addition, as a one-time reporting requirement, you must report the U.S. Postal Service Zip Code(s) for all areas being served water by your PWS.

(2) *Reporting sampling information.* You must record all data elements listed in Table 1 of paragraph (e) of this section on each sample form and sample bottle provided to you by the UCMR Sampling Coordinator. You must send this information as specified in the instructions of your sampling kit, which will include the due date and return address. You must report any changes made in data elements 1 through 6 by mailing or emailing an explanation of the nature and purpose of the proposed change to EPA, as specified in paragraph (b)(1) of this section.

(e) * * *

TABLE 1—UNREGULATED CONTAMINANT MONITORING REPORTING REQUIREMENTS

Data Element	Definition
*	* * * * * *
6. Disinfectant Type	All of the disinfectants that have been added to the water being sampled. To be reported by systems for each sampling point, with possible choices being: CLGA= Gaseous chlorine. CLOF = Offsite Generated Hypochlorite (stored as a liquid form). CLON = Onsite Generated Hypochlorite (no storage). CAGC = Chloramine (formed from gaseous chlorine). CAOF = Chloramine (formed from offsite hypochlorite). CAON = Chloramine (formed from onsite hypochlorite). CLDO = Chlorine dioxide. OZON = Ozone. ULVL = Ultraviolet Light. OTHD = All Other Types of Disinfectant. NODU = No Disinfectant Used.
*	* * * * * *

Subpart E—Special Regulations, Including Monitoring Regulations and Prohibition on Lead Use

■ 4. Section 141.40 is amended as follows:
■ a. By revising paragraph (a) introductory text,
■ b. By revising paragraph (a)(1),
■ c. By revising paragraph (a)(2)(i) introductory text,
■ d. By revising the first sentence of paragraph (a)(2)(i)(A),
■ e. By revising paragraph (a)(2)(ii) introductory text,
■ f. By revising paragraph (a)(2)(ii)(A),
■ g. By revising paragraph (a)(2)(ii)(C),
■ h. By revising paragraph (a)(3),
■ i. In paragraph (a)(4)(i) introductory text by removing ''August 2, 2007'' and adding in its place, ''October 1, 2012'',
■ j. By revising paragraph (a)(4)(i)(B),
■ k. By revising paragraph (a)(4)(i)(C),
■ l. In paragraph (a)(4)(i)(D) by removing the last sentence,
■ m. By revising paragraph (a)(4)(ii)(G),
■ n. In paragraph (a)(5)(ii) by removing ''April 4, 2007'' and adding in its place, ''August 1, 2012'' and by revising the last sentence,
■ o. By revising paragraph (a)(5)(iii) introductory text,
■ p. By revising paragraph (a)(5)(iii)(A)(*1*),
■ q. By revising paragraph (a)(5)(iv),
■ r. By revising paragraph (a)(5)(vi), and
■ s. By adding paragraph (c).

The revisions and addition read as follows:

§ 141.40 Monitoring requirements for unregulated contaminants.

(a) *General applicability.* This section specifies the monitoring and quality control requirements that must be followed if you own or operate a public water system (PWS) that is subject to the Unregulated Contaminant Monitoring Regulation (UCMR), as specified in paragraphs (a)(1) and (2) of this section. In addition, this section specifies the UCMR requirements for State and Tribal participation. For the purposes of this section, PWS ''population served,'' ''State,'' '' PWS Official,'' ''PWS Technical Contact,'' and ''finished water'' apply as defined in § 141.35(a). The determination of whether a PWS is required to monitor under this rule is based on the type of system (*e.g.,* community water system, non-transient non-community water system, etc.), and its retail population, as indicated by SDWIS/Fed on December 31, 2010.

(1) *Applicability to transient non-community systems.* If you own or operate a transient non-community water system, and you are notified by your State or EPA, you must permit the State, EPA or their contractors to collect samples for the contaminants specified on List 3 of Table 1, in paragraph (a)(3) of this section.

(2) * * *

(i) *Large systems.* If you own or operate a retail PWS (other than a transient non-community system) that serves more than 10,000 people, you must monitor according to the specifications in this paragraph (a)(2)(i). If you believe that your applicability status is different than EPA has specified in the notification letter that you received, or if you are subject to UCMR requirements and you have not been notified by either EPA or your State, you must report to EPA, as specified in § 141.35(b)(2) or (c)(4).

(A) * * * You must monitor for the unregulated contaminants on List 1 and Total Chromium per Table 1, UCMR Contaminant List, in paragraph (a)(3) of this section. * * *

* * * * *

(ii) *Small systems.* Small PWSs, as defined in this paragraph, will not be selected to monitor for any more than one of the three monitoring lists provided in Table 1, UCMR Contaminant List, in paragraph (a)(3) of this section. EPA will provide sample containers, provide pre-paid air bills for shipping the sampling materials, conduct the laboratory analysis, and report and review monitoring results for all small systems selected to conduct monitoring under paragraphs (a)(2)(ii)(A) through (C) of this section. If you own or operate a PWS that serves 10,000 or fewer people you must monitor as follows:

(A) *Assessment Monitoring.* You must monitor for the unregulated contaminants on List 1 and Total Chromium per Table 1, in paragraph (a)(3) of this section, if you are notified by your State or EPA that you are part of the State Monitoring Plan for Assessment Monitoring.

* * * * *

(C) *Pre-Screen Testing.* You must allow EPA or its representative to collect samples to support monitoring for the unregulated contaminants on List 3 of Table 1, in paragraph (a)(3) of this section, if you are notified by your State or EPA that you are part of the State Monitoring plan for Pre-Screen Testing. In addition, you must permit the collection of samples as necessary for EPA to perform analysis for total coliforms, *E. coli,* bacteriophage, *Enterococci* and aerobic spores.

(3) *Analytes to be monitored.* Lists 1, 2, and 3 of unregulated contaminants and total chromium monitoring are provided in the following table:

TABLE 1—UCMR CONTAMINANT LIST

1-Contaminant	2-CAS Registry No.	3-Analytical methods [a]	4-Minimum reporting level [b]	5-Sampling location [c]	6-Period during which monitoring to be completed
List 1: Assessment Monitoring Chemical Contaminants					
Volatile Organic Compounds					
1,2,3-trichloropropane	96–18–4	EPA 524.3	0.03 µg/L	EPTDS	1/1/2013–12/31/2015
1,3-butadiene	106–99–0	EPA 524.3	0.1 µg/L	EPTDS	1/1/2013–12/31/2015
chloromethane	74–87–3	EPA 524.3	0.2 µg/L	EPTDS	1/1/2013–12/31/2015
1,1-dichloroethane	75–34–3	EPA 524.3	0.03 µg/L	EPTDS	1/1/2013–12/31/2015
bromomethane	74–83–9	EPA 524.3	0.2 µg/L	EPTDS	1/1/2013–12/31/2015
chlorodifluoromethane (HCFC–22).	75–45–6	EPA 524.3	0.08 µg/L	EPTDS	1/1/2013–12/31/2015
bromochloromethane (Halon 1011).	74–97–5	EPA 524.3	0.06 µg/L	EPTDS	1/1/2013–12/31/2015

TABLE 1—UCMR CONTAMINANT LIST—Continued

1-Contaminant	2-CAS Registry No.	3-Analytical methods [a]	4-Minimum reporting level [b]	5-Sampling location [c]	6-Period during which monitoring to be completed
Synthetic Organic Compound					
1,4-dioxane	123–91–1	EPA 522	0.07 μg/L	EPTDS	1/1/2013–12/31/2015
Metals					
vanadium	7440–62–2	EPA 200.8, ASTM D5673–10, SM 3125.	0.2 μg/L	EPTDS and DSMRT.	1/1/2013–12/31/2015
molybdenum	7439–98–7	EPA 200.8, ASTM D5673–10, SM 3125.	1. μg/L	EPTDS and DSMRT.	1/1/2013–12/31/2015
cobalt	7440–48–4	EPA 200.8, ASTM D5673–10, SM 3125.	1. μg/L	EPTDS and DSMRT.	1/1/2013–12/31/2015
strontium	7440–24–6	EPA 200.8, ASTM D5673–10, SM 3125.	0.3 μg/L	EPTDS and DSMRT.	1/1/2013–12/31/2015
Chromium-6					
chromium-6 [d]	18540–29–9	EPA 218.7	0.03 μg/L	EPTDS and DSMRT.	1/1/2013–12/31/2015
Oxyhalide Anion					
chlorate	14866–68–3	EPA 300.1, ASTM D 6581–08, SM 4110D.	20 μg/L	EPTDS and DSMRT.	1/1/2013–12/31/2015
Perfluorinated Compounds					
perfluorooctanesulfonic acid (PFOS).	1763–23–1	EPA 537	0.04 μg/L	EPTDS	1/1/2013–12/31/2015
perfluorooctanoic acid (PFOA).	335–67–1	EPA 537	0.02 μg/L	EPTDS	1/1/2013–12/31/2015
perfluorononanoic acid (PFNA).	375–95–1	EPA 537	0.02 μg/L	EPTDS	1/1/2013–12/31/2015
perfluorohexanesulfonic acid (PFHxS).	355–46–4	EPA 537	0.03 μg/L	EPTDS	1/1/2013–12/31/2015
perfluoroheptanoic acid (PFHpA).	375–85–9	EPA 537	0.01 μg/L	EPTDS	1/1/2013–12/31/2015
perfluorobutanesulfonic acid (PFBS).	375–73–5	EPA 537	0.09 μg/L	EPTDS	1/1/2013–12/31/2015
List 2: Screening Survey					
Hormones					
17-β-estradiol	50–28–2	EPA 539	0.0004 μg/L	EPTDS	1/1/2013–12/31/2015
17-α-ethynylestradiol	57–63–6	EPA 539	0.0009 μg/L	EPTDS	1/1/2013–12/31/2015
estriol	50–27–1	EPA 539	0.0008 μg/L	EPTDS	1/1/2013–12/31/2015
equilin	474–86–2	EPA 539	0.004 μg/L	EPTDS	1/1/2013–12/31/2015
estrone	53–16–7	EPA 539	0.002 μg/L	EPTDS	1/1/2013–12/31/2015
testosterone	58–22–0	EPA 539	0.0001 μg/L	EPTDS	1/1/2013–12/31/2015
4-androstene-3,17-dione	63–05–8	EPA 539	0.0003 μg/L	EPTDS	1/1/2013–12/31/2015
List 3: Pre-Screen Testing [e] Microbiological Contaminants					
enteroviruses	N/A	N/A	N/A	EPTDS	1/1/2013–12/31/2015
noroviruses	N/A	N/A	N/A	EPTDS	1/1/2013–12/31/2015
Total Chromium Monitoring					
total chromium	N/A	EPA 200.8, ASTM D5673–10, SM 3125.	0.2 μg/L	EPTDS and DSMRT.	1/1/2013–12/31/2015

Column headings are:

1—Contaminant: The name of the contaminant to be analyzed.

2—CAS (Chemical Abstract Service) Registry Number or Identification Number: A unique number identifying the chemical contaminants.

3—Analytical Methods: Method numbers identifying the methods that must be used to test the contaminants. For List 3, analyses will only be performed by laboratories under contract to EPA.

4—Minimum Reporting Level: The value and unit of measure at or above which the concentration of the contaminant must be measured using the approved analytical methods. If EPA determines, after the first six months of monitoring, that the MRLs specified in UCMR 3 result in excessive resampling, EPA will establish alternate MRLs and will notify affected PWSs and laboratories of the new MRLs. For List 3, minimum reporting level is based on volume of water filtered and PCR amplification level.

5—Sampling Location: The locations within a PWS at which samples must be collected.
6—Period During Which Monitoring to be Completed: The time period during which the sampling and testing will occur for the indicated contaminant.
[a] The analytical procedures shall be performed in accordance with the documents associated with each method, see paragraph (c) of this section.
[b] The minimum reporting level (MRL) is the minimum concentration of each analyte that must be reported to EPA.
[c] Sampling must occur at entry points to the distribution system (EPTDSs) after treatment is applied that represent each non-emergency water source in routine use over the 12-month period of monitoring. Systems that purchase water with multiple connections from the same wholesaler may select one representative connection from that wholesaler. This EPTDS sampling location must be representative of the highest annual volume connections. If the connection selected as the representative EPTDS is not available for sampling, an alternate highest volume representative connection must be sampled. See 40 CFR 141.35(c)(3) for an explanation of the requirements related to use of representative ground water EPTDSs. Sampling for total chromium, chromium-6, cobalt, molybdenum, strontium, vanadium, and chlorate must be conducted at distribution system maximum residence time (DSMRT) sampling locations. DSMRT is defined as an active point (*i.e.,* a location that currently provides water to customers) in the distribution system where the water has been in the system the longest relative to the EPTDS.
[d] Chromium-6 will be measured as soluble chromate ion (CAS Registry Number 13907–45–4).
[e] EPA will collect the samples from List 3 Pre-Screen Testing sampling locations.

* * * * *

(4) * * *

(i) * * *

(B) *Frequency.* You must collect the samples within the time frame and according to the frequency specified by contaminant type and water source type for each sampling location, as specified in Table 2, in this paragraph. For the second or subsequent round of sampling, if a sample location is non-operational for more than one month before and one month after the scheduled sampling month (*i.e.,* it is not possible for you to sample within the window specified in Table 2, in this paragraph), you must notify EPA as specified in § 141.35(c)(5) to reschedule your sampling.

TABLE 2—MONITORING FREQUENCY BY CONTAMINANT AND WATER SOURCE TYPES

Contaminant type	Water source type	Time frame	Frequency
Chemical	Surface water or ground water under the direct influence of surface water (GWUDI) (includes all sampling locations for which some or all of the water comes from a surface water or GWUDI source at any time during the 12 month monitoring period).	12 months	You must monitor for 4 consecutive quarters. Sample events must occur 3 months apart. (Example: If first monitoring is in January, the second monitoring must occur any time in April, the third any time in July and the fourth any time in October.)
	Ground water	12 months	You must monitor twice in a consecutive 12-month period. Sample events must occur 5–7 months apart.
Microbiological	Ground water	12 months	You must monitor twice in a consecutive 12-month period. Sample events must occur 5–7 months apart.

(C) *Location.* You must collect samples for each List 1 Assessment Monitoring contaminant, and, if applicable, for each List 2 Screening Survey, or List 3 Pre-Screen Testing contaminant, as specified in Table 1, in paragraph (a)(3) of this section. Samples must be collected at each sample point that is specified in column 5 and footnote c of Table 1, in paragraph (a)(3) of this section. If you are a ground water system with multiple EPTDSs, and you request and receive approval from EPA or the State for sampling at representative EPTDS(s), as specified in § 141.35(c)(3), you must collect your samples from the approved representative sampling location(s). Systems conducting Assessment Monitoring must also sample for total chromium, chromium-6, cobalt, molybdenum, strontium, vanadium, and chlorate at the location that represents the maximum residence time in the distribution system (DSMRT). DSMRT is defined as an active point (*i.e.,* a location that currently provides water to customers) in the distribution system where the water has been in the system the longest relative to the EPTDS.

(ii) * * *

(G) *Sampling forms.* You must completely fill out each of the sampling forms and bottles sent to you by the UCMR Sampling Coordinator, including data elements listed in § 141.35(e) for each sample, as specified in § 141.35(d)(2). You must sign and date the sampling forms.

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(5) * * *

(ii) * * * Correspondence must be addressed to: UCMR Laboratory Approval Coordinator, USEPA, Technical Support Center, 26 West Martin Luther King Drive, (MS 140), Cincinnati, OH 45268; or emailed to EPA at: *UCMR_Sampling_Coordinator@epa.gov*.

(iii) *Minimum Reporting Level.* The MRL is an estimate of the quantitation limit. Assuming good instrumentation and experienced analysts, an MRL is achievable, with 95% confidence, by 75% of laboratories nationwide.

(A) * * *

(*1*) All laboratories performing analysis under UCMR must demonstrate that they are capable of meeting data quality objectives at or below the MRL listed in Table 1, column 4, in paragraph (a)(3) of this section.

* * * * *

(iv) *Laboratory fortified sample matrix and laboratory fortified sample matrix duplicate.* You must ensure that your laboratory prepares and analyzes the Laboratory Fortified Sample Matrix (LFSM) sample for accuracy and Laboratory Fortified Sample Matrix Duplicate (LFSMD) samples for precision to determine method accuracy and precision for all contaminants in Table 1, in paragraph (a)(3) of this section. LFSM/LFSMD samples must be prepared using a sample collected and analyzed in accordance with UCMR requirements and analyzed at a frequency of 5% (or 1 LFSM/LFSMD set per every 20 samples) or with each sample batch, whichever is more frequent. In addition, the LFSM/LFSMD fortification concentrations must be alternated between a low-level fortification and mid-level fortification

approximately 50% of the time. (For example: A set of 40 samples will require preparation and analysis of 2 LFSM/LFSMD paired samples. The first LFSM/LFSMD paired sample set must be fortified at either the low-level or mid-level, and the second LFSM/LFSMD paired sample set must be fortified with the other standard, either the low-level or mid-level, whichever was not used for the initial LFSM/LFSMD paired sample set.) The low-level LFSM/LFSMD fortification concentration must be within ±50% of the MRL for each contaminant (*e.g.,* for an MRL of 1 µg/L the acceptable fortification levels must be between 0.5 µg/L and 1.5 µg/L). The mid-level LFSM/LFSMD fortification concentration must be within ±20% of the mid-level calibration standard for each contaminant, and is to represent, where possible and where the laboratory has data from previously analyzed samples, an approximate average concentration observed in previous analyses of that analyte. There are no UCMR contaminant recovery acceptance criteria specified for LFSM/LFSMD analyses. All LFSM/LFSMD data are to be reported.

* * * * *

(vi) *Reporting.* You must require your laboratory to submit these data electronically to the State and EPA using EPA's electronic data reporting system, accessible at (*http://water.epa.gov/lawsregs/rulesregs/sdwa/ucmr/ucmr3/reporting.cfm*), within 120 days from the sample collection date. You then have 60 days from when the laboratory posts the data to review, approve and submit the data to the State and EPA, via EPA's electronic data reporting system. If you do not electronically approve and submit the laboratory data to EPA within 60 days of the laboratory posting data to EPA's electronic reporting system, the data will be considered approved and available for State and EPA review.

* * * * *

(c) *Incorporation by reference.* These standards are incorporated by reference into this section with the approval of the Director of the Federal Register under 5 U.S.C. 552(a) and 1 CFR part 51. All approved material is available for inspection either electronically at *www.regulations.gov*, in hard copy at the Water Docket, EPA/DC, and from the sources below. The Public Reading Room (EPA West, Room 3334, 1301 Constitution Ave. NW., Washington, DC) is open from 8:30 a.m. to 4:30 p.m., Monday through Friday, excluding legal holidays. The telephone number for this Public Reading Room is (202) 566–1744, and the telephone number for the Water Docket is (202) 566–2426. The material is also available for inspection at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call (202) 741–6030 or go to *http://www.archives.gov/federal_register/code_0f_federal_regulations/ibr_locations.html*.

(1) The following methods from the U.S. Environmental Protection Agency, Water Docket, EPA/DC, EPA West, Room 3334, 1301 Constitution Ave. NW., Washington, DC 20004.

(i) EPA Method 200.8 ''Determination of Trace Elements in Waters and Wastes by Inductively Coupled Plasma—Mass Spectrometry,'' Revision 5.4, 1994, available at *https://www.NEMI.gov*.

(ii) EPA Method 218.7 ''Determination of Hexavalent Chromium in Drinking Water by Ion Chromatography with Post-Column Derivatization and UV-Visible Spectroscopic Detection,'' Version 1.0, November 2011, EPA 815–R–11–005, available at *http://water.epa.gov/scitech/drinkingwater/labcert/analyticalmethods_ogwdw.cfm*.

(iii) EPA Method 300.1 ''Determination of Inorganic Anions in Drinking Water by Ion Chromatography,'' Revision 1.0, 1997, available at *http://water.epa.gov/scitech/drinkingwater/labcert/analyticalmethods_ogwdw.cfm*.

(iv) EPA Method 522 ''Determination of 1,4-Dioxane in Drinking Water by Solid Phase Extraction (SPE) and Gas Chromatography/Mass Spectrometry (GC/MS) with Selected Ion Monitoring (SIM),'' Version 1.0, September 2008, EPA/600/R–08/101, available at *http://www.epa.gov/nerlcwww/ordmeth.htm*.

(v) EPA Method 524.3 ''Measurement of Purgeable Organic Compounds in Water by Capillary Column Gas Chromatography/Mass Spectrometry,'' Version 1.0, June 2009, EPA 815–B–09–009, available at *http://water.epa.gov/scitech/drinkingwater/labcert/analyticalmethods_ogwdw.cfm*.

(vi) EPA Method 537 ''Determination of Selected Perfluorinated Alkyl Acids in Drinking Water by Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS),'' Version 1.1, September 2009, EPA/600/R–08/092, available at *http://www.epa.gov/nerlcwww/ordmeth.htm*.

(vii) EPA Method 539 ''Determination of Hormones in Drinking Water by Solid Phase Extraction (SPE) and Liquid Chromatography Electrospray Ionization Tandem Mass Spectrometry (LC–ESI–MS/MS),'' Version 1.0, November 2010, EPA 815–B–10–001, available at *http://water.epa.gov/scitech/drinkingwater/labcert/analyticalmethods_ogwdw.cfm*.

(2) The following methods from ''ASTM International,'' 100 Barr Harbor Drive, West Conshohocken, PA 19428.

(i) ASTM D5673–10 ''Standard Test Method for Elements in Water by Inductively Coupled Plasma-Mass Spectrometry,'' approved August 1, 2010. Available for purchase at *http://www.astm.org/Standards/D5673.htm*.

(ii) ASTM D6581–08 ''Standard Test Methods for Bromate, Bromide, Chlorate, and Chlorite in Drinking Water by Suppressed Ion Chromatography,'' approved August 15, 2008. Available for purchase at *http://www.astm.org/Standards/D6581.htm*.

(3) The following methods from ''Standard Methods for the Examination of Water & Wastewater,'' 21st edition (2005), American Public Health Association, 800 I Street NW., Washington, DC 20001–3710.

(i) SM 3125 ''Metals by Inductively Coupled Plasma/Mass Spectrometry.''

(ii) SM 4110D ''Determination of Anions by Ion Chromatography, Part D, Ion Chromatography Determination of Oxyhalides and Bromide.''

PART 142—NATIONAL PRIMARY DRINKING WATER REGULATIONS IMPLEMENTATION

■ 5. The authority citation for part 142 continues to read as follows:

Authority: 42 U.S.C. 300f, 300g–1, 300g–2, 300g–3, 300g–4, 300g–5, 300g–6, 300j–4, 300j–9, and 300j–11.

Subpart B—Primary Enforcement Responsibility

■ 6. Section 142.16 is amended as follows:

■ a. In paragraph (j) introductory text by removing ''141.40,''.

■ b. In paragraph (j)(1) by revising the first sentence.

§ 142.16 Special primacy requirements.

* * * * *

(j) * * *

(1) If a State chooses to issue waivers from the monitoring requirements in §§ 141.23 and 141.24, the State shall describe the procedures and criteria, that it will use to review waiver applications and issue waiver determinations. * * *

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