# Information Collection Request Renewal for the Unregulated Contaminant Monitoring Rule (UCMR 3)

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## ACRONYMS

| | |
|---|---|
| ASDWA | Association of State Drinking Water Administrators |
| CCL | Contaminant Candidate List |
| CCR | Consumer Confidence Report |
| CFR | Code of Federal Regulations |
| CWS | Community Water System |
| DSMRT | Distribution System Maximum Residence Time |
| EPA | United States Environmental Protection Agency |
| EPTDS | Entry Point to the Distribution System |
| FR | Federal Register |
| FTE | Full-Time Equivalent |
| GS | General Schedule |
| GWUDI | Ground Water Under the Direct Influence of Surface Water |
| IC | Ion Chromatography |
| ICP | Inductively Coupled Plasma |
| ICR | Information Collection Request |
| LC | Liquid Chromatography |
| LCMRL | Lowest Concentration Minimum Reporting Level |
| MCL | Maximum Contaminant Level |
| MCLG | Maximum Contaminant Level Goal |
| MRL | Minimum Reporting Level |
| MS | Mass Spectrometry |
| NAICS | North American Industry Classification System |
| NCOD | National Drinking Water Contaminant Occurrence Database |
| NPDWR | National Primary Drinking Water Regulation |
| NTNCWS | Non-Transient Non-Community Water System |
| OMB | Office of Management and Budget |
| OW | Office of Water |
| PA | Partnership Agreement |
| PFC | Perfluorinated Chemicals |
| PT | Proficiency Testing |
| PWS | Public Water System |
| PWSID | Public Water System Identification |
| QA/QC | Quality Assurance/Quality Control |
| RFA | Regulatory Flexibility Act |
| SBA | Small Business Administration |
| SDWA | Safe Drinking Water Act |
| SRF | State Revolving Fund |
| TNCWS | Transient Non-Community Water System |
| UCMR | Unregulated Contaminant Monitoring Rule |
| UV | Ultraviolet |

| | |
|---|---|
| VIS | Visible Spectroscopic |
| VOCs | Voltile Organic Carbons |

# – PART A OF THE SUPPORTING STATEMENT –

# 1 IDENTIFICATION OF THE INFORMATION COLLECTION

## 1(a) Title and Number of the Information Collection

Title: Renewal Information Collection Request for UCMR 3

OMB Control Number: 2040-0270

EPA Tracking Number: 2192.06

## 1(b) Short Characterization

Section 1445(a)(2) of the Safe Drinking Water Act (SDWA) requires that once every five years, beginning in 1999, 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). Information collected under the program supports the Agency decision making regarding whether or not to regulate particular contaminants in drinking water. SDWA requires that EPA vary the frequency and schedule for the monitoring program based on the number of persons served, the source of supply, and the contaminants likely to be found. EPA is required by SDWA to only include a representative sample of PWSs serving 10,000 or fewer people. SDWA also requires EPA to enter the monitoring data into the National Drinking Water Contaminant Occurrence Database (NCOD).

EPA published the first Unregulated Contaminant Monitoring Rule (UCMR 1) for PWSs in the *Federal Register* (FR) on September 17, 1999 (64 FR 50556). In addition, EPA published several supplemental rules that established analytical methods, and provided clarifications and refinements to the initial rule. The second UCMR (UCMR 2) was published in the *Federal Register* on January 4, 2007, and built on the established structure of UCMR 1 while making some changes to the rule design. The third UCMR (UCMR 3) was published in the *Federal Register* on May 2, 2012 (77 FR 26071). It built on the established structure of UCMR 1 and UCMR 2, and made some changes to improve the rule design. EPA revised the contaminant list, analytical methods and sampling design for UCMR 3.

UCMR 3 monitoring began in 2013 and continues through 2015. The applicable three-year period for this particular Information Collection Request (ICR) is 2015-2017. The applicable

ICR period overlaps with the last two years of the five year UCMR 3 period. Estimates of implementation burden and cost over the entire five-year UCMR 3 period of 2012-2016 (including pre-monitoring activity and post-monitoring reporting) are attached as Appendix B to this ICR.

Assessment Monitoring (List 1), the largest tier of the three UCMR monitoring components, began in January 2013 and continues through December 2015 for 800 PWSs serving 10,000 or fewer (hereafter referred to as small PWSs), and by all PWSs serving more than 10,000 people. These PWSs monitor for 20 List 1 chemicals; total chromium is being monitored in conjunction with the List 1 chemicals.[1] Under Assessment Monitoring, contaminants for which standard analytical methods are available are monitored to assess national occurrence in drinking water.

Screening Survey (List 2) monitoring began in January 2013 and continues through December 2015 for all (413) very large PWSs serving more than 100,000 people, 320 large PWSs serving 10,000 to 100,000 people, and 480 small PWSs serving 10,000 or fewer people. Screening Survey monitoring is conducted for contaminants with analytical methods that have generally been more recently developed and employ technologies that are not as widely used or where laboratory capacity may be projected as insufficient to conduct the larger scale Assessment Monitoring. The UCMR 3 Screening Survey includes seven List 2 contaminants.

Pre-Screen Testing (List 3) for two contaminants and related pathogen indicators[2] also began in January 2013 and continues through December 2015. EPA selected 800 small, undisinfected ground water PWSs serving fewer than 1,000 customers that were determined to be vulnerable to contamination. This sample of small PWSs includes non-transient non-community water systems (NTNCWSs) and transient non-community water systems (TNCWSs). EPA pays for all sampling and analysis costs associated with virus and pathogen indicator monitoring at small PWSs. The indicator information is useful because the virus method is relatively expensive and complex, and routine monitoring may not be practical. If there is a correlation between virus and indicator presence, indicator monitoring (relatively simpler and less expensive) can be used to determine possible presence of viruses.

EPA expects that approximately one-third of PWSs will monitor during each of the three monitoring years (2013-2015). Thus, approximately one-third of PWSs will monitor during the second (renewal) UCMR 3 ICR period of 2015-2017.

No small PWSs were selected for more than one of the three monitoring lists.

[1] Transient non-community water systems and those systems that sell *all* of their water to another PWS are being excluded from Assessment Monitoring.

[2] Monitoring for pathogen indicators – in conjunction with UCMR 3 Pre-Screen Testing – is also required under the authority provided in Section 1445(a)(1)(A) of SDWA.

Respondents to UCMR 3 include 2,080 small PWSs (800 for Assessment Monitoring, 480 for Screening Survey, and 800 for the Pre-Screen Testing), 4,215 large and very large PWSs, and 56 states and primacy agents (referred to collectively as "states" for simplicity), for a total of 6,351 respondents. The frequency of response varies across respondents and years.

Small PWSs selected for UCMR 3 monitoring (Assessment Monitoring, Screening Survey, and Pre-Screen Testing) sample an average of 2.4 times per PWS (*i.e.*, number of responses per PWS) across the three-year ICR period. The estimated burden per response for small PWSs is 2.9 hours. Large PWSs and very large PWSs sample and report an average of 3.2 and 3.7 times per PWS, respectively, across the three-year ICR period. The estimated burden per response for large and very large PWSs, respectively, are 7.7 and 10.2 hours.

States incur only labor costs associated with UCMR 3 implementation. State activities were determined through individual Partnership Agreements (PAs) with EPA. EPA assumed that state participation levels would reflect the participation levels that occurred in UCMR 1 and UCMR 2. States incur 2.0 responses over the three-year ICR period related to coordination with EPA and PWSs, with an average burden per response of 109.9 hours. In aggregate, during the ICR period, the average response (*e.g.*, responses from PWSs and States) is associated with a burden of 8.4 hours, with a labor plus non-labor cost of $3,507 per response.

The annual average per respondent burden hours and costs for the ICR period are: small PWSs – 2.3 hours burden at $53 for labor; large PWSs – 8.3 hours at $259 for labor, and $3,928 for analytical costs; very large PWSs – 12.5 hours at $479 for labor, and $11,394 for analytical costs; and states – 73.3 hours at $8,437 for labor. Annual average burden and cost per respondent is 8.3 hours, with a labor plus non-labor cost of $3,458 per respondent.

The annual burden to EPA for UCMR 3 program activities during the ICR years is 3,813 hours, at an annual labor cost of $295,000. EPA's annual non-labor costs are $1.9 million. EPA's non-labor costs are primarily attributed to the cost of sample analysis for small PWSs (sample analysis represents approximately 95% of non-labor cost).

# 2 NEED FOR AND USE OF THE COLLECTION

## 2(a) Need/Authority for the Collection

The information collected under this action is required by EPA to carry out its regulatory development responsibilities under SDWA section 1445(a)(2), Monitoring Program for Unregulated Contaminants. This section, as amended in 1996, requires that once every 5 years, the Agency issue a new list of no more than 30 unregulated contaminants to be monitored by PWSs, and procedures for placement of the monitoring data in NCOD.

Section 1445(a)(1) of SDWA requires each PWS to "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 regulations, [or] ... in evaluating the health risks of unregulated contaminants ...." This section authorizes EPA to issue regulations requiring PWSs to monitor for regulated or unregulated contaminants, provide the Agency with the resulting data, and to maintain records of this information.

Section 1412(b)(1) and (b)(4) of SDWA, as amended in 1996, requires EPA to promulgate maximum contaminant level goals (MCLGs) and national primary drinking water regulations (NPDWRs) for contaminants that: may have adverse human health effects; are known to or anticipated to occur in PWSs; and, in the sole opinion of the Administrator, present an opportunity for reducing health risks. The NPDWRs specify maximum contaminant levels (MCLs) or treatment techniques for drinking water contaminants (42 USC 300g-1). An MCL must generally be set as close to the MCLG as possible. NPDWRs apply to PWSs (42 USC 300f(1)(A)). Section 1412(b)(1) of SDWA requires the Agency to develop a list of unregulated contaminants for regulatory consideration (*i.e.*, the candidate contaminant list (CCL)), and to issue a determination whether or not to issue drinking water standards for at least 5 contaminants on that list every 5 years. Section 1445(a)(2) requires EPA to issue regulations that establish criteria for a monitoring program for unregulated contaminants.

Section 1401(1)(d) of the SDWA 1996 Amendments defines NPDWRs to include "criteria and procedures to assure a supply of drinking water which dependably complies with such maximum contaminant levels; including accepted methods for quality control and testing procedures ...," This section authorizes EPA to require PWSs and laboratories to use Agency-approved methods and quality assurance criteria for collecting and analyzing water samples.

The sections from the SDWA, discussed in the previous paragraphs, are included as Appendix A of this document, in order by section number.

## 2(b) Practical Utility/Users of the Data

The UCMR 3 data supports: the development of the CCL; the Administrator's determination of whether to regulate a contaminant; and, as appropriate, regulation development. If the contaminant has significant occurrence and health effects, EPA uses the results to: support an exposure assessment; establish the baseline for health effects and economic analyses; analyze contaminant co-occurrence; and evaluate treatment technologies, including contaminant source management. The results can suggest that contaminant occurrence is significant enough to initiate research on health effects and treatment technologies. Finally, the data can guide future source water protection efforts.

Each PWS maintains records of the analytical results of this monitoring. EPA-approved laboratories report these results to EPA's electronic data reporting system. PWSs review the information posted by the laboratory and submit the approved data to the state and EPA, via the electronic reporting system. The data collected through the UCMR program are stored in the NCOD to facilitate analysis and review of contaminant occurrence.

The primary user of the information collected under this ICR is EPA's Office of Water (OW). Other users of this information could include the following:

- Primacy agencies, which include state regulators, Indian tribes, and, in some instances, EPA Regional Administrators
- PWS managers
- Staff from other EPA programs (such as the Office of Superfund Remediation and Technology Innovation; the Office of Resource Conservation and Recovery; and the Office of Enforcement and Compliance Assurance)
- Federal Emergency Management Administration
- Centers for Disease Control and Prevention
- Military bases
- Rural Development Administration/Farmers Home Administration
- Department of Interior
- Department of Housing and Urban Development
- United States Army Corps of Engineers
- White House Task Forces
- American Water Works Association
- Association of Metropolitan Water Agencies
- National Rural Water Association
- National Association of Water Companies
- Association of State Drinking Water Administrators (ASDWA)
- Natural Resources Defense Council
- Consumers Federation of America
- Small Business Administration (SBA)

- Other environmental and industry groups
- News organizations
- Private industries
- Individuals

# 3 NON-DUPLICATION, CONSULTATIONS AND OTHER COLLECTION CRITERIA

## 3(a) Non-duplication

The data required by UCMR are not available from any other source and are not duplicative of information otherwise accessible to EPA. EPA drew upon several different sources to develop the UCMR 3 contaminant list and used a stepwise prioritization process. As a first step, EPA reviewed the 2009 final Contaminant Candidate List (CCL 3) and the "pre-CCL" contaminants considered in the development of CCL 3. (Under the CCL 3 process, the Agency considered the best available data on health effects and occurrence, and evaluated 7,500 unregulated contaminants; the final CCL 3 was comprised of 104 chemicals or chemical groups and 12 microbiological contaminants.) EPA used CCL 3, along with additional sources of information about emerging contaminants of concern, to establish an initial list of approximately 150 potential UCMR 3 contaminants. EPA then narrowed that list by eliminating contaminants for which methods could not be ready in time for UCMR 3 monitoring. An EPA and state workgroup further considered this narrowed list and used health effects data and other critical endpoints to arrive at the proposed list of unregulated contaminants. After considering the comments received, EPA added chromium-6 to the list of unregulated contaminants to be monitored; and removed *sec*-butylbenzene and *n*-propylbenzene. The seven hormones were moved from Assessment Monitoring to the Screening Survey. In addition, UCMR 3 requires PWSs to monitor for total chromium concurrent with all chromium-6 monitoring. EPA requires the monitoring of total chromium under the authority provided in Section 1445 (a)(1)(A) of the SDWA.

## 3(b) Public Notice Required Prior to ICR Submission to OMB

The first *Federal Register* notice of this ICR action, published on March 31, 2015 (80 FR 17042), requested public comment and proposed renewal of the currently approved UCMR 3 ICR (OMB Control No. 2040-0270), which covered the period 2012-2014. No public comments were received relating to the UCMR 3 ICR Renewal during this 60-day comment period. EPA is publishing a second *Federal Register* notice to allow for an additional 30 days for public comments.

## 3(c) Consultations

EPA published the proposed UCMR 3 on March 3, 2011 (76 FR 11713), and requested public comment on the rule design and content, as well as on the ICR. EPA received comments from 53

public commenters, addressing a variety of issues on the proposed regulation. 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. UCMR 3 requires PWSs to monitor for total chromium concurrent with all chromium-6 monitoring. EPA revised or clarified requirements pertaining to PWS applicability criteria, reporting, monitoring and quality control.

### 3(d) Effects of Less Frequent Collection

EPA considered a wide range of alternatives for frequency of collection that could still allow the Agency to meet its statutory requirements and overall objectives. Less frequent data collection would affect the integrity of the data and result in insufficient data to fulfill the needs envisioned by the 1996 SDWA Amendments, including the continued development of the CCL, support of the Administrator's regulatory determinations and drinking water regulation development.

Monitoring frequencies were determined based on statutory requirements, which specify that monitoring be varied based on the number of people served by a PWS, contaminants likely to be found and source of water supply. The monitoring frequency design also considers that the number of people served affects exposure to contaminants and considers resources available to undertake monitoring activity. The collection frequencies in this rule are discussed further in section 4(b), part A of this ICR document. Monitoring frequencies have been designed based on the following factors:

- data quality needed for a representative sample;
- precision and accuracy needed from the representative sample;
- number of people served by the PWS;
- source of the supply (*e.g.*, surface water or ground water);
- likelihood of finding contaminants; and
- temporal variability in occurrence.

The general timing of monitoring and the number of PWSs required to monitor for each component of the UCMR can be found in section 1(b) Part A of this ICR document. Samples are collected from entry points to the distribution system (EPTDSs) for all contaminants. Samples for the metals (including total chromium) and chlorate under Assessment Monitoring are collected from sampling locations that represent the distribution system maximum residence time (DSMRT). Ground water PWSs with multiple EPTDSs are only required to sample at representative sampling locations for each ground water source, as long as those sites have been approved. Systems were also permitted to select a representative intake from a wholesaler.

Sampling at locations[3] fed by ground water is conducted twice during the monitoring year (i.e., 12-month monitoring cycle), and locations fed by surface water or ground water under the direct influence of surface water (GWUDI) are sampled four times during the monitoring year. Multiple samples during a year account for potential temporal variability in contaminant occurrence to support an adequate characterization of potential exposure. The required sampling frequencies help provide statistically significant data that will support regulatory determinations. The Agency scheduled the year and months of PWS monitoring. PWSs had the option of changing their schedules by coordinating a new schedule with EPA.

EPA maintained the statistical design established under UCMR 1 for its UCMR 3 national representative sample of 800 small PWSs and a census of large PWSs for Assessment Monitoring. EPA determined that the combination of a nationally representative sample of small PWSs and a census of large PWSs provides a powerful tool for assessing contaminant occurrence in PWSs. A sample of 800 PWSs from the universe of over 63,000 small PWSs provides a confidence level of 99% with an allowable error of ±1%. The set of representative PWSs are distributed among different size categories, and weighted by population served, to ensure that the sample can provide estimates of exposure.

EPA selected this design to enhance the quality of the results. EPA considered larger sample frames because of the many uncertainties involved, but the sample size of 800 was deemed adequate to meet the needs for the national estimate. Smaller sample sizes (*i.e.*, fewer PWSs monitored) were also considered, but rejected. Some population surveys with continuous variables use a lower level of confidence (95%) and/or a larger allowable error. Examination and analysis of current occurrence data show that many contaminants that are currently regulated, or being considered for regulation occur in 1% or less of PWSs on a *national* basis. For many contaminants, a 1% occurrence nationally translates into a substantially larger occurrence regionally. Even a small percentage of PWSs with detections can translate into a significant population affected. With a greater margin of error, and the resultant smaller sample size, such occurrence could be missed entirely. EPA made some judgments about the occurrence of contaminants in relation to source waters and different PWS size categories. Many statutes and current regulations differentiate implementation requirements based on PWS size or water source. While combining sampling results from the representative sample of small PWSs with that from all large PWSs provides increased power in the total sample, EPA must be able to evaluate occurrence, and possible regulatory options, related to the small PWSs. SDWA and many current rules focus on burden reduction for small PWSs when feasible. There are many other uncertainties and sources of variability in such a sample program. For example, all contaminants have censored distributions (*i.e.*, "less than reporting level" analytical results) and there are a myriad of factors that affect variability and vulnerability of ground water PWSs. It

[3] Ground water PWSs are required to sample only two times per year because they generally show less seasonal fluctuation than surface water or GWUDI PWSs. Rule language regarding sampling schedule/frequency ensures that both surface and ground water PWSs collect at least one of their samples during the most vulnerable period, which the rule specifies as May - July.

remains unclear how normal sampling theory accommodates these factors. The high confidence level, low allowable error, and larger sample size helps to ensure adequate data to meet the objectives of the UCMR program.

The UCMR 3 Screening Survey approach is consistent with that for UCMR 2. Using a census of very large PWSs for the Screening Survey minimizes the possibility of missing contaminant occurrence at the PWSs that serve the largest portion of the population, while keeping the number of PWSs required to conduct the Screening Survey relatively small.

The objectives of the UCMR 3 Pre-Screen Testing for List 3 contaminants are to: obtain occurrence information for enterovirus and norovirus for further evaluation; and provide EPA with a better understanding of the co-occurrence of pathogen indicators and viruses. The PWSs selected to monitor for Pre-Screen Testing represent a targeted sample consisting of small ground water PWSs that EPA anticipates are most vulnerable to the List 3 contaminants. The ground water wells at these PWSs were selected from areas of karst or fractured bedrock. The sample includes community water systems (CWSs), NTNCWSs, and TNCWSs, which ensures that sample results are representative of different types of PWSs.

UCMR 3 includes a provision for waivers for large PWSs on a state-wide, chemical-specific basis because some contaminants may not occur in a particular state. Waivers were not considered for small PWSs because eliminating them from the nationally representative sample would compromise the data quality and consistency requirements of a representative sample. The representative sample must provide adequate information on the presence and absence of contaminants for the PWSs sampled. Since EPA pays for this testing, there is no significant burden on small PWSs.

### 3(e) General Guidelines

EPA took an approach that minimizes UCMR 3 burden on the respondents. This collection complies with all OMB guidelines for information collection activities. Specifically, the respondents are not required to:

- Report information to EPA more than quarterly.
- Prepare a written response to a collection of information in fewer than 30 days after receipt of a request.
- Submit more than an original and two copies of any document.
- Retain records, other than health, medical, government contract, grant-in-aid or tax records, for more than three years.
- Participate in a statistical survey that is not designed to produce data that can be generalized to the universe of the study.

- Use a statistical data classification that has not been reviewed and approved by OMB.
- Receive a pledge of confidentiality that is not supported by authority established in statute or regulation, that is not supported by disclosure and data security policies that are consistent with the pledge, or which unnecessarily impedes sharing of data with other agencies for compatible confidential use.
- Submit proprietary, trade secret, or other confidential information unless EPA can demonstrate that it has instituted procedures to protect the information's confidentiality to the extent permitted by law.

### 3(f) Confidentiality

This information collection does not require respondents to disclose confidential information.

### 3(g) Sensitive Questions

No questions of a sensitive nature are included in any of the information collection requirements outlined in this ICR.

# 4 RESPONDENTS AND THE INFORMATION

## 4(a) Respondents and NAICS/SIC Codes

Data associated with this ICR are collected and maintained by PWSs. States, territories, and tribes with primacy to administer the regulatory program for PWSs under SDWA may participate in UCMR 3 implementation through a PA with EPA. These primacy agencies may sometimes conduct monitoring and maintain records. The North American Industry Classification System (NAICS) code for PWSs is 221310. The NAICS code for state agencies that include drinking water programs, and municipal PWS operators are classified as 924110 (Administration of Air and Water Resources and Solid Waste Management Programs).

## 4(b) Information Requested

This ICR summarizes the data items and respondent activities associated with UCMR 3.

### *4(b)(i) Data Items, including recordkeeping requirements*

A discussion of data and information that are part of the reporting and record keeping requirements for PWSs is found in section 4(b)(i)(a), Part A of this ICR document. The requirements for states are discussed in section 4(b)(i)(b), Part A of this ICR document.

#### 4(b)(i)(a) Public Water System Reporting and Record Keeping

Section 141.35 of the *Code of Federal Regulations* (CFR) requires PWSs that are subject to the UCMR requirements to report monitoring results for the 30 contaminants listed in §141.40 to EPA (see Exhibit 1 for the contaminant list). The rule added codes for the disinfectant type that is required to be reported by all PWSs.

| **Exhibit 1a: UCMR 3 Final Contaminant Lists** | |
|---|---|
| **List 1, Assessment Monitoring** | |
| 1,4-dioxane | Vanadium |
| Molybdenum | strontium |
| Cobalt | chromium-6 (hexavalent chromium)[1] |

| Exhibit 1a: UCMR 3 Final Contaminant Lists | |
|---|---|
| **List 1, Assessment Monitoring** | |
| 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 1b: Total Chromium Monitoring[3]** | |
| total chromium | |

[1] Chromium-6 is measured as soluble chromate (ion).

[2] Monitoring for microbial indicators – in conjunction with UCMR 3 Pre-Screen Testing – is 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 PWSs.

[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 action modified the reporting requirements to make reported results more useful for sound scientific analyses of the occurrence of unregulated contaminants. The 15 required data elements are listed in Exhibit 2. All PWSs must electronically report all 15 data elements with their Assessment Monitoring, Screening Survey, and Pre-Screen Testing samples. All PWSs participating in UCMR monitoring must inform EPA of any changes to data elements 1 through 6, if applicable.

| Exhibit 2: UCMR 3 Reporting Requirements | |
|---|---|
| 1. Public Water System Identification (PWSID) Code | 9. Contaminant |
| 2. Public Water System Facility Identification Code | 10. Analytical Method Code |
| 3. Water Source Type | 11. Sample Analysis Type |
| 4. Sampling Point Identification Code | 12. Analytical Results – Sign |
| 5. Sampling Point Type Identification Code | 13. Analytical Result – Value |
| 6. Disinfectant Type | 14. Laboratory Identification Code |
| 7. Sample Collection Date | 15. Sample Event Code |
| 8. Sample Identification Code | |

4(b)(i)(b) State Reporting and Record Keeping

UCMR 3 is a direct implementation rule, and therefore states are not required to report to EPA. Implementation activities for each state were identified and determined through PAs with EPA. If participating in a PA, states review and revise Initial State Monitoring Plans, notify PWSs of their UCMR responsibilities, and provide EPA with a list of the PWSs notified. These state activities were completed prior to this ICR period. Because states have no specified reporting cycle, this analysis assumes that states have 1.0 response per year in 2015 and 2016, encompassing all communication and coordination activities with EPA and PWSs.

*4(b)(ii) Respondent Activities*

Respondents include both PWSs and states. PWS and state activities are discussed in sections 4(b)(ii)(a) and 4(b)(ii)(b), respectively (Part A of this ICR document).

4(b)(ii)(a) Public Water System Activities

To comply with the requirements in this regulation, PWSs conduct the following activities:

- read regulations and/or letter from state or EPA which outline requirements;
- monitor or provide monitoring assistance (*e.g.*, sample collection and shipping);
- report and maintain records; and
- report monitoring results to the public.

Each of these activities is discussed in more detail below.

*Read Regulations/State Letter*: All PWSs participating in UCMR monitoring read the UCMR regulations and/or a state-issued guidance letter during the year in which their monitoring occurs.

Small PWSs can rely on summarized information from the state or EPA for information pertaining to the regulation, rather than reading the regulation.

*Monitoring or Monitoring Assistance*: Monitoring activities that are considered in the PWS cost and burden estimates include receiving sampling kits from the laboratory, reading sampling instructions, traveling to the sampling location and collecting and shipping the sample.

As noted earlier, for Assessment Monitoring and the Screening survey, surface water (and GWUDI) sampling points are monitored four times during the applicable year of monitoring, and ground water sampling points are monitored twice during the applicable year of monitoring. Monitoring is conducted at EPTDSs. Large ground water PWSs with multiple EPTDSs are only required to sample at representative locations for each ground water source, as long as those sites have been approved by EPA or the state. In addition, Assessment Monitoring samples for the metals – cobalt, molybdenum, vanadium, strontium, total chromium, and chromium-6, – and chlorate are collected from the DSMRT.

For Pre-Screen Testing, two samples will be collected from EPTDSs from small ground water PWSs serving 1,000 or fewer customers during one 12-month monitoring period during 2013-2015.

*Reporting and Record Keeping*: Activities related to these reporting requirements include:

- *Reporting Prior to Monitoring*- All PWSs implemented the following "reporting prior to monitoring" during the previous ICR period (2012-2014).

  *Contact and zip code information:* Large PWSss were required to report contact information to EPA. This information included the name, affiliation, mailing address, phone number, and email address for the PWS Technical Contact and PWS Official (*i.e.*, the official spokesperson for a PWS's UCMR activities). Information was submitted to EPA's electronic data reporting system within a specified time frame after rule promulgation. Small PWSs provided this information in response to a specific written request that they received from EPA. As a one-time reporting requirement under UCMR 3, PWSs were required to report the U.S. Postal Service Zip Code(s) for all areas being served water by the PWS.

  *Sampling location and inventory information:* Prior to sampling, large PWSs were required to provide inventory information to EPA related to each applicable sampling location. For each sampling location or each approved representative sampling location, large PWSs were required to submit: PWS identification (PWSID) code; PWS facility identification code; sampling point identification code; sampling point type identification code; and sampling location water type.

*Representative sampling plan proposal:* Some PWSs that use ground water as a source and have multiple EPTDSs can monitor at representative sampling location(s), rather than at each EPTDS. To qualify, these ground water PWSs must have either the same treatment or no treatment at all of their well sources and they must have an EPTDS representative of each well within a well field (resulting in multiple EPTDSs from the same source, such as an aquifer). PWSs meeting these criteria were allowed to submit a proposal to EPA or the state. The proposal had to demonstrate that any EPTDS selected as representative of the ground water supplied from multiple wells was associated with an individual well that draws from the same aquifer as the multiple wells (*i.e.*, those being represented). The representative well must be one of the higher annual volume producing and more consistently active wells in the representative array. If that representative well is not in use at the scheduled sampling time, an alternative representative well must be sampled.

*Representative Intakes from Wholesaler:* PWSs that purchase water with multiple connections from the same wholesaler are permitted to monitor from one representative connection from that wholesaler. PWSs must choose a sampling location from among the higher annual volume EPTDS connections. If the connection selected as the representative EPTDS is not available for sampling, an alternate representative connection must be sampled.

- *Reporting Monitoring Results*

  *Small PWSs:* Small PWSs are only required to record PWS and sample location information on the sampling forms and bottles that are sent to them by the UCMR Sampling Coordinator. The schedule for submitting this information is specified in the instructions sent to the PWS.

  *Large PWSs:* Laboratories must post the analytical results and associated data elements to EPA's electronic data reporting system within 120 days of sample collection. Large PWSs must ensure that their laboratory meets this requirement, and those PWSs must review, approve, and submit the data to the state and EPA via the electronic reporting system within 60 days from when the laboratory posts the data. After 60 days from the laboratory's posting, if the PWS has not taken action, the data are considered approved and available for EPA review.

- *Record Keeping*

  Section 141.33 requires PWSs to maintain records of chemical monitoring data for 10 years. No changes were made to those record keeping requirements.

*Reporting to the Public*: SDWA section 1445(a)(2)(E) requires notification of the results of the UCMR program to be made available to those served by the PWS. CWSs are required to notify their users of the detection of any contaminants (including unregulated contaminants) in their Consumer Confidence Reports (CCRs), pursuant to §141.153(d)(3)(iv), published in the *Federal Register* (63 FR 44512, August 19, 1998). Monitoring and reporting violations for all PWSs (CWSs, NTNCWSs and TNCWSs) are reportable under the Public Notification Rule (64 FR 25964, May 13, 1999). No changes were made to these reporting requirements.

4(b)(ii)(b) State Activities

For UCMR 1, EPA estimated state burdens and costs using the 1993 State Resource Model (documented in the "Resource Analysis Computer Program for State Drinking Water Agencies"). That model was designed by EPA in coordination with ASDWA and required specific input for a list of activities and variables related to state operation of the UCMR drinking water program (*e.g.*, number of PWSs affected, estimates of violation rates, etc.). Since that time, EPA and ASDWA updated and improved the previous version of the resource model. EPA used the updated resource model (the "2001 ASDWA Drinking Water Program Resource Needs Self Assessment", as documented in: "Public Health Protection Threatened by Inadequate Resources for State Drinking Water Programs - An Analysis of State Drinking Water Program Resources, Needs, and Barriers"; ASDWA, April 2003) to estimate resources that states may need for the oversight and implementation of UCMR 3. Assumptions that were applied in using this resource assessment tool are described in section 6(b), Part A of this ICR document. EPA assumed that state participation would closely reflect that which occurred during UCMR 2. Therefore, model estimates were adjusted to account for actual levels of prior state participation.

Since UCMR is a direct implementation rule, specifics of each state's role were delineated in PAs between the states and EPA. State activities can include coordination, data management and support, program implementation and training/overhead. Though some states may choose to conduct sampling for their PWSs, this activity is not part of the PA agreement and is optional. Burden for sampling is currently attributed to PWSs. If states choose to conduct monitoring for PWSs, burden would be similar to that estimated for PWSs.

*State Coordination with EPA*: State activities that involve coordination with EPA include coordination and drafting of a PA, review of and response to EPA's proposed State Monitoring Plan, review of PWS proposals for representative ground water sampling locations, and general ongoing coordination.

Review of State Monitoring Plans was one of the first UCMR activities to take place at the state level. Each state received a proposed initial State Monitoring Plan from EPA, which listed all PWSs that would be required to conduct Assessment Monitoring, the Screening Survey, and Pre-Screen Testing, including small and large PWSs that were statistically selected as a sample, and those large PWSs subject to the rule by meeting applicability criteria. For PWSs that are part of the sample, EPA also generated a list to provide similar replacement PWSs for states to select from, for those PWSs that may not have been correctly specified in the initial plan. If a state identified PWSs on the original proposed State Monitoring Plan that it determined were not appropriate (*e.g.*, if PWSs are inactive, or sell all of their water and do not have their own retail customers), the state could propose other PWSs from EPA's alternate list to replace the ineligible PWSs. The State Monitoring Plans also specified the year and months during which PWSs would monitor. States were given the option to modify these schedules. These UCMR 3 activities were completed by states in the previous ICR period, so those activities are not applicable to the current ICR period.

EPA assumed that some PWSs that use ground water as a source of water would submit a proposal for monitoring at representative sample location(s), rather than monitoring at every EPTDS. State involvement in the review of these proposals was determined in the PA process.

EPA also recognized that it would be necessary for states to maintain ongoing communications with EPA regarding UCMR requirements. For example, states could need clarification and guidance on a specific requirement of the regulation. These ongoing communication activities are included in estimated burdens across the entire UCMR 3 period of 2012-2016.

*Data Management and Support*: Though there are no data management and support activities included in UCMR, EPA recognizes that many states update their databases to accommodate the revised UCMR data elements. Activities likely include data entry/downloading of data and general record keeping.

*Program Implementation*: Program implementation activities for each state can include notification and guidance letter to PWSs, data review, ongoing PWS support and enforcement.

Following review and finalization of State Monitoring Plans, participating states prepared a notification letter that described PWS monitoring schedules and requirements under the regulation. These states sent notification to each applicable PWS and sent the list of these notified PWSs to EPA. EPA assumed that PWSs would call states asking for clarification and guidance about UCMR requirements. States can elect to review monitoring results, in part, to determine whether a PWS has met its monitoring and reporting requirements.

*State Staff Training and Overhead*: EPA assumed that technical staff members would participate in rule-specific training designed to assist them in understanding the regulation, their roles and responsibilities, and to allow the state to better provide technical assistance to PWSs. General

overhead costs, such as clerical and managerial needs, are allocated to the UCMR staff requirements in the standard State Resource Model, which allocates support staff needs as a percentage of professional staff needs. See section 6(b), Part A of this ICR document, for further discussion of model assumptions.

# 5 INFORMATION COLLECTED–AGENCY ACTIVITIES, COLLECTION METHODOLOGY AND INFORMATION MANAGEMENT

## 5(a) Agency Activities

EPA Headquarters and Regional offices are responsible for oversight of state PWS programs and processing and analysis of UCMR data. EPA implementation activities are categorized into three major categories: regulatory support activities; program oversight and data analysis; and small PWS testing program, which are described in 5(a)(i)-(iii).

### *5(a)(i) Regulatory Support Activities*

Regulatory support activities include: laboratory approval and quality assurance/quality control (QA/QC); and technical support to PWSs, such as guidance documents.

*Laboratory Approval and QA/QC Activities*: EPA incurs various costs related to laboratory approvals and laboratory quality assurance and control, including the following activities:

- *Laboratory approvals/Proficiency Testing (PT) program* - EPA assessed whether laboratories met the required equipment, laboratory performance and data reporting criteria. EPA registered and evaluated laboratories based on the applications. Selected laboratories then participated in the UCMR 3 PT program. EPA conducted these laboratory assessments during 2012.

- *QC audits of contract laboratories* - EPA conducts QC audits at each of the approved laboratories not more than annually during each UCMR 3 monitoring year (January 2013 through December 2015).

- *Analytical standards provision and coordination* - EPA coordinates and distributes specialized analytical standards to participating laboratories.

*Technical Support/Guidance Document Development*: EPA developed and distributed guidance for laboratory calculations and background information about the health effects (*e.g.*, fact sheets) of UCMR 3 contaminants. EPA provides technical support throughout the monitoring years of 2013-2015.

*5(a)(ii) National and Regional Oversight/Data Analysis*

EPA's UCMR program activities include data analysis, management oversight and implementation assistance to states. These are key management and oversight activities that must be conducted by EPA Headquarters or its Regional offices. Exhibit 3 illustrates the timeline for UCMR implementation activities. EPA developed its PAs with states and the State Monitoring Plans prior to January 2013, when monitoring began.

**Exhibit 3: Timeline of UCMR 3 Activities**

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

*5(a)(iii) Costs for Small System Testing Program*

Implementation of the small PWS testing program is the largest portion of Agency costs for the UCMR program. Prior to monitoring, EPA activities for logistical support of the small PWS testing program included coordination of small PWS testing and provision of testing supplies.

During the ICR period, EPA pays for the analytical and shipping costs for small PWSs. EPA also collects all of the Pre-Screen Testing samples for all PWSs. EPA conducts some QC activities for small PWSs that are not required of the large PWSs. EPA sends duplicates of approximately 10% of small PWS samples to a separate laboratory for analysis. The quality control duplicates provide standard, real time, QC checks among the different contract laboratories.

## 5(b) Information Collection Methodology and Management

Laboratories must report analytical results and associated data elements to EPA's electronic data reporting system. Large PWSs must ensure that their laboratory posts the data in EPA's electronic data reporting system, and must review, approve, and submit the data to the state and EPA via the EPA electronic reporting system. Laboratories have 120 days from sample collection to report analytical results and required data elements. PWSs have 60 days from the laboratory's posting to review and approve the reported results. After this, if the PWS has not taken action, the data are considered approved and available for EPA review. Electronic reporting provides significant collection efficiencies, and reduces the possibility of data input error.

The UCMR data are maintained and analyzed through NCOD. The data collected under UCMR are used to support regulation development, to analyze the significance of occurrence and health effects, and to support the critical Agency function of program oversight. The public receives information regarding UCMR monitoring results through the CCRs, and will be able to access data through the NCOD. PWSs that fail to monitor for unregulated contaminants must notify the public of their failure to monitor.

EPA conducts ongoing data analysis, which includes checks for anomalies in the data that may be related to data entry or laboratory errors. Data quality review and analysis includes: continuous analysis of laboratory results, review of all program data, and NCOD review.

## 5(c) Small Entity Flexibility

Note: The following Small Business Regulatory Enforcement Fairness Act analysis summary is the same as that provided in the preamble to the rule. The Regulatory Flexibility Act analysis is based on the entire five-year UCMR implementation period of 2012-2016, rather than the three-year ICR period of 2015-2017.

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 SBA regulations at 13 Code of Federal Regulations (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 CCR 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/infrastructure/drinkingwater/pws/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 4.

**Exhibit 4: Number of Publicly- and Privately-Owned Small Systems Subject to UCMR 3**

| System Size (# of people served) | Publicly-Owned | Privately-Owned | Total |
|---|---|---|---|
| *Ground Water* | | | |
| 500 and under | 134 | 402 | 536 |
| 501 to 3,300 | 548 | 209 | 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 5 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 5: 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, the Screening Survey, and Pre-Screen Testing)* | | | | | | |
| | $0.00 | $5,407,232.66 | $5,407,232.66 | $5,407,232.66 | $0.00 | $16,221,697.97 |
| *Costs to Small Systems (including Assessment Monitoring, the Screening Survey, and Pre-Screen Testing):* | | | | | | |
| | $0.00 | $110,719.99 | $110,719.99 | $110,719.99 | $0.00 | $332,159.97 |
| *Total Costs to EPA and Small Systems for UCMR 3:* | | | | | | |
| | $0.00 | $5,517,952.65 | $5,517,952.65 | $5,517,952.65 | $0 | $16,553,857.94 |
| *System Monitoring Activity Timeline:*[1] | | | | | | |
| *Assessment Monitoring* | | 1/3 PWSs Sample | 1/3 PWSs Sample | 1/3 PWSs Sample | | 800 |
| *Screening Survey* | | 1/3 PWSs Sample | 1/3 PWSs Sample | 1/3 PWSs Sample | | 480 |
| *Pre-Screen Testing* | | 1/3 PWSs Sample | 1/3 PWSs Sample | 1/3 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. 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 6 and 7 present the estimated economic impacts in the form of a revenue test for publicly- and privately-owned systems.

**Exhibit 6: UCMR 3 Relative Cost Analysis for Small Publicly-Owned Systems (2012-2016)**

| System Size (# 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, 2] |
|---|---|---|---|---|
| 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 | $39.74 | 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.
[2] Median revenue data from the 2006 Community Water System Survey Volume II: Detailed Tables and Survey Methodology (http://water.epa.gov/infrastructure/drinkingwater/pws/upload/cwssreportvolumeII2006.pdf) were used for public and private water systems.

**Exhibit 7: UCMR 3 Relative Cost Analysis for Small Privately-Owned Systems (2012-2016)**

| System Size (# 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, 2] |
|---|---|---|---|---|
| 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.

[2] Median revenue data from the 2006 Community Water System Survey Volume II: Detailed Tables and Survey Methodology (http://water.epa.gov/infrastructure/drinkingwater/pws/upload/cwssreportvolumeII2006.pdf) were used for public and private water systems.

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

### 5(d) Collection Schedule

For Assessment Monitoring and the Screening Survey, surface water or GWUDI PWSs collect four samples as follows: PWSs selected either the first, second, or third month of a quarter and then collect samples in that same month of each of four consecutive quarters to ensure that one of those sampling events occurs during the vulnerable time. Ground water PWSs collect samples two times in a year as follows: PWSs collect samples during one month of the vulnerable time (typically May through July) and during one month, five to seven months earlier or later. For Pre-Screen Testing, EPA collects two samples for small PWSs at selected undisinfected ground water EPTDS locations for enteroviruses and noroviruses on the same schedule as for ground water PWSs under Assessment Monitoring. Small PWSs must also allow the collection of samples for total coliform, *E. coli*, bacteriophage, *Enterococci* and aerobic spores. Small PWSs were selected for no more than one component of UCMR monitoring. UCMR activities that occur prior to 2015 are not included in this ICR analysis. Appendix B contains estimations for the five-year UCMR 3 program, 2012-2016. Exhibits 3 and 9 illustrate the timeline of general UCMR activities, and PWS monitoring activities, respectively.

# 6 ESTIMATING THE BURDEN AND COST OF THE COLLECTION

This section describes the respondent burden and cost for activities under UCMR 3. The burden and cost estimates for PWSs are shown in section 6(a), burden and costs to states are shown in section 6(b), and the Agency's burden and cost estimates are shown in section 6(c) (all in Part A of this ICR document).

This ICR focuses only on the cost of the UCMR data collection over the years 2015-2017. Cost tables that are presented in this section have analogous tables in Appendix B, which present costs for the entire monitoring cycle (2012-2016).

There are two primary categories of costs associated with UCMR: (1) labor costs, such as program implementation, sample collection, record keeping, reporting and data analysis; and (2) non-labor costs, such as laboratory fees for analyses of samples, shipping charges and contractor costs. The majority of costs are directly attributed to monitoring activities and the fees for laboratory analytical services. Assessment Monitoring addresses a list of 21 chemical contaminants (20 unregulated, plus total chromium); the Screening Survey addresses 7 unregulated chemical contaminants, and the Pre-Screen Testing targets 2 unregulated microbial contaminants. For consistency, the sources and assumptions that were used for the 2012-2014 UCMR 3 ICR period are also used for the 2015-2017 UCMR 3 ICR period.

EPA is committed to accurately characterizing the burden and costs of rules it promulgates. In the development of various drinking water program rule ICRs, EPA developed a consistent set of assumptions to use in calculations. These have been developed and utilized in other drinking water program evaluations. Pertinent to the UCMR ICR are the standard assumptions for labor rates, PWS inventory numbers (the number of PWSs in the various size categories by primary water source), the number of sampling points for each PWS and analytical services. The sources and assumptions used in estimating costs and burdens are described in this section.

## 6(a) Estimating Burden and Cost to Public Water Systems

Specific assumptions used in estimating PWS labor burden and cost, as well as non-labor costs are discussed in sections 6(a)(i) and 6(a)(ii), respectively (Part A of this ICR document). A summary of the cost estimates is provided in section 6(a)(iii), Part A of this ICR document.

EPA used the following sources of PWS information to develop cost and burden estimates:

- *Inventory Data*: CWS and NTNCWS inventory was based on a December 31, 2010, inventory extract from SDWIS/Fed.

- *EPTDS Data*: All EPTDS data were taken from the Community Water System Survey Volume II: Detailed Tables and Survey Methodology (http://water.epa.gov/infrastructure/drinkingwater/pws/upload/cwssreportvolumeII2006.pdf).

- *DSMRT Data*: The number of DSMRT samples per PWS was estimated by taking the average number of treatment plants per PWS from the 2006 CWSS. The average number of CWS treatment plants was used to represent the number of NTNCWS treatment plants. This provides a conservative estimate because NTNCWSs tend to have fewer treatment plants than CWSs.

*6(a)(i) Estimating Burden and Labor Costs*

The general timing of monitoring was discussed in section 1(b) Short Characterization of Part A of this document. The UCMR program affects approximately 6,295 PWSs, roughly one-third of which will conduct monitoring in 2015. Exhibit 8 presents the estimated numbers of regulated PWSs expected to participate. Exhibit 9 presents the timeline in which the PWS monitoring activities take place.

As noted in Section 3(b), some public commenters suggested that EPA underestimated PWS burden. In response to these comments, EPA reviewed the UCMR burden estimates against burden estimates used in recently published drinking water rules. In all aspects of burden assumptions (e.g., time allotted for reading rule requirements, sampling reporting, etc.), the UCMR estimates were on par with, or more conservative (higher) than estimates made for other drinking water regulations. All per PWS burden estimates represent average burden hours, which include surface water PWSs that may have very few sampling points, and thus lower sampling burden, as well as those PWSs s with higher numbers of sampling points that would therefore have greater sampling activity labor burden. A PWS's burden is primarily incurred during its one year of required UCMR monitoring. 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 ICR period. Small PWSs have the lowest burden because of the smaller size of their infrastructure, and because these PWSs receive a great deal of direct assistance from EPA and/or their state.

| **Exhibit 8: PWSs to Participate in UCMR 3 Monitoring** | | | | |
|---|---|---|---|---|
| PWS **Size** | **Assessment Monitoring for 21 List 1 Chemicals** *National Sample* | **Screening Survey for 7 List 2 Hormones** | **Pre-Screen Testing for 2 List 3 Microbials**[1] | **TOTAL**[2] |
| ***Small* PWS** | | | | |
| 25 – 10,000 | 800 randomly selected PWSs | 480 randomly selected PWSs | 800 selected undisinfected ground water wells at PWSs serving 1,000 or fewer | ~2,080 |
| ***Large* PWSs** | | | | |
| 10,001 and over | All (~4,215) | 320 large PWS s (serving 10,001 to 100,000)<br>413 very large PWSs (all serving over 100,000) | 0 | ~4,215[3] |
| **TOTAL** | **~5,015** | **1,213** | **800** | **~6,295** |

[1] Sampling for List 3 contaminants to be conducted at 800 undisinfected ground water PWSs serving 1,000 or fewer customers.
[2] Total for small PWSs is additive because these PWSs would only be selected for one component of UCMR 3 sampling.
[3] Total for large PWSs is not additive because some of the same PWSs will monitor for both List 1 and List 2 contaminants.

| **Exhibit 9: UCMR 3 Sampling Activity Timeline for Cost and Burden Estimations** | | | | |
|---|---|---|---|---|
| ***UCMR 3 – 2012 – 2016*** | | | | |
| *2012* | *2013* | *2014* | *2015* | *2016* |
| | | | *Designated ICR Years* | |
| No UCMR Monitoring Activity | Assessment Monitoring[1] | | | No UCMR Monitoring Activity |
| | ~ 1/3 of PWSs sample | ~ 1/3 of PWSs sample | ~ 1/3 of PWSs sample | |
| | Screening Survey | | | |
| | ~ 1/3 of PWSs sample | ~ 1/3 of PWSs sample | ~ 1/3 of PWSs sample | |
| | Pre-Screen Testing | | | |
| | ~ 1/3 of PWSs sample | ~ 1/3 of PWSs sample | ~ 1/3 of PWSs sample | |

[1] The following assumptions, based on the specifications in UCMR 3, were used to estimate cost and burden:

- All Assessment Monitoring, Screening Survey and Pre-Screen Testing PWSs will conduct sampling evenly across January 2013-December 2015 (i.e., one-third in each of the 3 consecutive 12-month periods).
- Approximately two-thirds of PWSs conducted monitoring in 2013 and 2014, and approximately one-third of PWSs conduct monitoring during the ICR years of 2015-2017.

The PWS labor burden consists of three primary activities: (1) reading the regulations or state guidance letter; (2) monitoring or monitoring assistance; and (3) reporting and record keeping. Hourly labor rates (including overhead) vary by PWS size and are taken from the 2006 CWSS. Estimated hourly rates range from $21 per hour for staff in PWSs serving 500 or fewer people to $38 per hour for PWSs serving more than 100,000 people (see Exhibit 10 for details).

| **Exhibit 10: Labor Rates Applied for Public Water Systems** | |
|---|---|
| **System Size** | **Labor Rate[1]** |
| 500 and under | $21.24 |
| 501 to 3,300 | $22.34 |
| 3,301 to 10,000 | $25.36 |
| 10,001 to 50,000 | $30.90 |
| 50,001 to 100,000 | $32.95 |
| 100,001 and over | $38.30 |

[1] PWS hourly labor rates (including overhead) were taken from the 2006 CWSS. Rates are for both ground water and surface water/GWUDI PWSs. Wages converted to 2010 dollars using the Employment Cost Index for wages and salaries in trade, transport, and utilities for 2006, and in utilities for December 2009; accessed http://www.bls.gov on April 14, 2010.

6(a)(i)(a) Reading the Regulations/Guidance Letter

For each required UCMR 3 tier (Assessment Monitoring, the Screening Survey or Pre-Screen Testing), EPA assumed that PWSs read the regulations and/or a state-issued guidance letter during the year in which PWSs monitor. Approximately one-third of PWSs are expected to read the regulations or a state-issued guidance letter in 2015. Small PWSs can rely on the state and EPA for information pertaining to their requirements, rather than reading the regulation; EPA assumed small PWSs would spend 1 hour, on average, reading the letter or guidance. EPA assumed that PWSs serving more than 10,000 people read the regulation and information from the state, requiring on average 4 hours. National costs are estimated by multiplying the average burden hours by the average PWS labor rate, times the number of PWSs affected. This reading burden is assumed for each UCMR component. Small PWSs were only selected for one component of UCMR monitoring, thus each small PWS selected to monitor was allotted 1 hour to read a letter or guidance. Some large and very large PWSs monitor for Assessment Monitoring and the Screening Survey, thus these PWSs were allotted 4 hours for each UCMR 3 component.

6(a)(i)(b) Monitoring Burden

Exhibit 9 provides an illustration of the timeline for PWS sampling activity. For both Assessment Monitoring and Pre-Screen Testing, EPA assumed that each PWS incurs an estimated burden of 0.5 hours per sampling point to collect samples for analysis. For the Screening Survey, EPA assumed that small PWSs incur an estimated burden of 0.5 hours per sampling point to collect samples for analysis. No additional sampling burden was assumed for the large and very large PWSs because EPA assumed these PWSs collect Assessment Monitoring and Screening Survey samples at the same time.

EPA estimated additional time for the Pre-Screen Testing systems because they may need to help EPA identify the location of sampling points and obtain access to sampling points that may be physically secured. EPA assumed that some PWS staff would want to accompany EPA when the samples are collected. This assumption overestimates the cost for some Pre-Screen Testing PWSs. The monitoring burden for Assessment Monitoring includes receipt of monitoring kit, reading laboratory instructions, travel time to collect samples and collection and shipping of samples. It is calculated by: (hour burden per sampling point) times (number of sampling points) times (number of PWSs) times (number of sample events per year). This estimate is an average. Some PWSs need less than 0.5 hours per sampling point to collect a sample, while other PWSs need more time. Many ground water PWSs realize savings in their sampling burden as a result of the allowance for representative sample points. Thus, sampling burden is calculated to account for the estimated reduction in entry points where these PWSs will sample (as described in section 6(a)(ii), Part A of this ICR document). Certain PWSs that purchase all of their water from a single wholesaler, and that have more than one connection to that wholesaler, may elect to

sample from only one entry point. This cost savings has not been factored into the cost estimates, so the sampling costs are conservative.

6(a)(i)(c) Reporting and Record Keeping

PWSs were required to report specific information prior to monitoring, and are required to report some information with their monitoring results.

- *Reporting Prior to Monitoring:* As with the reading burden (described above, in Section 6(a)(i)(a)), all initial reporting prior to UCMR 3 monitoring (including proposals for representative EPTDSs) is complete, and not part of the applicable ICR period. The initial reporting burden was accounted for in the first UCMR 3 ICR period of 2012-2014, and is included in Appendix B.

  *Small PWSs*: EPA assumed that small PWSs only needed to confirm contact information prior to monitoring. EPA estimated this one-time reporting burden would take PWSs 2 hours.

  *Large surface water (and GWUDI) PWSs:* EPA assumed that large surface water/GWUDI PWSs would send contact and sampling point information, and were allotted a one-time reporting burden of 6 hours.

  *Large ground water PWSs*: EPA assumed that large ground water PWSs would send contact and sampling point information, which would require a one-time burden of 6 hours. An additional 8 hours were allotted to some ground water PWSs to account for compilation and submission of ground water representative sampling locations proposals. Since it was unlikely that all PWSs would submit these proposals, EPA conservatively assumed that half of ground water PWSs serving 10,001 to 100,000 people would compile and submit this proposal; EPA assumed that all ground water PWSs serving more than 100,000 people would do so.

- *Reporting with Monitoring Results*

  *Small PWSs*: Small PWSs can review their UCMR monitoring results, but are not required to review and approve their analytical results. Some PWSs may not review sample results at all, while others may review the sample results in detail. As a conservative assumption, EPA estimated that it would take each small PWSs 0.5 hours per sampling period for data review.

*Large PWSs:* Large PWSs must review, approve, and submit the data to the state and EPA via the EPA electronic reporting system. EPA assumed it would take these PWSs 2 hours per sampling period for data review.

6(a)(i)(d) Public Notification

PWSs are required to notify their users of the detection of any unregulated contaminants. CWSs must report UCMR monitoring results in CCRs (63 FR 44512 (August 19, 1998)). CWSs, NTNCWSs, and TNCWSs must report any failure to monitor for unregulated contaminants required through UCMR under the Public Notification Rule (64 FR 25964 (May 13, 1999)). No additional public notification burden is assumed under UCMR.

*6(a)(ii) Estimating Non-labor Costs*

Under UCMR, small PWSs only incur labor costs. By design of the rule, EPA assumed all laboratory and shipping costs for PWSs in the national representative sample of small PWS. Thus, the laboratory fee and shipping cost estimates described here are the basis for EPA and large PWS non-labor costs.

The most significant cost associated with the implementation of UCMR is the cost of laboratory services for sample analysis. Estimates of laboratory analytical costs associated with the analysis of each sample are presented in this section. UCMR 3 sampling and analysis does not coincide with other compliance monitoring. EPA estimates are based on consultations with national drinking water laboratories.

In addition to the required initial sample collection, UCMR 3 also specifies requirements for the collection and analysis of field blank samples for Methods 524.3 (VOCs), 537 (PFCs), and 539 (hormones). These field blank samples must be collected with every sample, and must be analyzed when a contaminant is detected in the primary sample, to provide an additional degree of QA/QC. Individual laboratories have different approaches to the cost and fees for handling field blanks. EPA conservatively assumed that laboratories would take certain analytical steps with all field blank samples to ensure field blanks would not exceed required holding times. The estimates assume that field blank samples for Methods 539 and 537 are always extracted, and that the field blank samples for Method 524.3 are always analyzed. In addition, average cost includes the additional cost to complete the analysis of field blank samples and report the results for a certain estimated percentage of these samples.

To estimate what percentage of samples could be “positive”, and thus require analysis and reporting for field blanks, EPA reviewed available drinking water contaminant occurrence data. Using average occurrence rates, EPA conservatively assumed that 30% of field blanks would be analyzed and reported for VOCs (Method 524.3) and perfluorinated chemicals (Method 537),

and 10% of field blanks would be analyzed for hormones (Method 539). More detailed information is provided on existing contaminant occurrence data in the document "UCMR 3 Contaminants - Information Compendium" (EPA 815-B-11-001), which can be found in the docket for the final UCMR 3 rule.

**Assessment Monitoring (List 1) Analytical Costs**

| Method Type | Average Analysis Cost per UCMR 3 Sample [1] |
|---|---|
| *Synthetic Organic Compound using EPA Method 522 (GC/MS)* | *$175.00* |
| *7 Volatile Organic Compounds (VOC) using EPA Method 524.3* | *$187.50* |
| *5 Metals using EPA Method 200.8 or alternate SM or ASTM Methods[2]* | *$103.75* |
| *Chromium-6 using EPA Method 218.7 ((Ion Chromatography /Ultraviolet-Visible Spectroscopic(IC/UV-VIS))* | *$100.00* |
| *Oxyhalide Anion using EPA Method 300.1 (IC/Conductivity) or alternate SM or ASTM Methods* | *$50.00* |
| *6 Perfluorinated Chemicals using EPA Method 537* | *$468.33* |
| **Total** | **$1,084.58** |

[1] Field blank samples are only required for EPA Methods 539 (LC/MS/MS), 524.3 (GC/MS) and 537 (liquid chromatography (LC/MS/MS)).
[2] The analytical cost for Method 200.8 (inductively coupled plasma – mass spectrometry (ICP/MS)) includes the cost of total chromium monitoring.

**Screening Survey (List 2) Analytical Costs**

| Method Type | Average Analysis Cost per UCMR 3 Sample [1] |
|---|---|
| *7 Hormones using EPA Method 539* | *$418.33* |
| **Total** | **$418.33** |

**Pre-Screen Testing (List 3) Analytical Costs**

| Method | Average Analysis Cost |
|---|---|
| *Enterovirus and norovirus* | *$1,500.00* |
| *Pathogen Indicators [2]* | *$380.00* |
| **Total** | **$1,880.00** |

[1] The average analytical cost for Pre-Screen Testing was determined by averaging estimates provided by three drinking water laboratories.
[2] Pathogen indicators include total coliform, *E. coli*, bacteriophage, *Enterococci* and aerobic spores.

In estimating the cost of samples for the Pre-Screen Testing (List 3) viruses and indicators, EPA increased the number of samples collected for QA purposes from the number in the proposed

preamble and rule. In addition to the 1,600 samples collected for each virus and indicator, EPA estimated that up to 1,000 QA samples would be collected and analyzed.

UCMR 3 specifies that samples be collected at EPTDSs. Some large PWSs that use ground water sources and have multiple EPTDSs may be able to realize significant savings by sampling representative sample point(s) rather than sampling each EPTDS. PWSs must meet certain PWS configuration criteria; submit a proposal regarding representative sample points; and receive approval from EPA or the state. Labor related to submission and coordination of these proposals is discussed in section 6(a)(i)(c), Part A of this ICR document. To account for the savings on laboratory fees that will be realized by large ground water PWSs, EPA assumed that large PWSs would sample approximately 75% of the current EPTDSs, and that very large PWSs would sample at 50% of the current EPTDS.

PWSs that purchase all of their water from a wholesale PWS, and that have more than one intake from that wholesaler may collect EPTDS samples from a representative intake. The representative site has to be one of the higher annual volume EPTDS connections. Because this is the first time this allowance has been made, EPA did not attempt to estimate the number of PWSs that would take advantage of this allowance. Thus, the cost estimates presented in this ICR are conservative.

PWSs that are required to conduct Assessment Monitoring are also required to collect samples for total chromium, chromium-6, cobalt, molybdenum, strontium, vanadium and chlorate at the DSMRT (Methods 200.8, 300.1, and 218.7).

Shipping fees were calculated per required sample. EPA assumed that, for each sampling point, a package of empty sample bottles is shipped via ground transportation to the PWS; estimated at $17 per package. Following sample collection, the PWS sends the package with full bottles via overnight air back to the laboratory. To estimate the cost of this overnight shipment, EPA applied the approximate cost of shipping a 25 pound package across an average number of shipping zones at $80. The shipping cost for a large PWS is $97 per sample. Shipping costs were estimated based on pricing information posted on: http://www.fedex.com/ and http://www.ups.com/.

Total laboratory and shipping fees were estimated per required sampling location (accounting for both the ground water representative sampling locations allowance, and the additional DSMRT samples, as described in the previous paragraphs), per sampling event, as follows: (number of PWSs) times (number of periods per year) times (number of sampling points per PWS) times (method and shipping costs).

### *6(a)(iii) Summary of Labor and Non-labor Costs to Public Water Systems*

Exhibit 11a displays a summary of labor and non-labor costs, by year, for the three-year ICR period. Analogous information presenting estimated costs over the five-year UCMR 3 implementation period is provided in Exhibit B-1a, in Appendix B. Small PWSs incur labor costs only. Large PWSs incur both labor and non-labor costs.

The nationwide cost to PWSs for implementing the total UCMR program over the three-year ICR period is $20.9 million. Large and very large PWSs incur about 99.5% of the total PWS cost, $20.8 million. Annual cost per small PWSs for UCMR implementation over the three-year ICR period is $53 per PWSs, all attributed to labor. Annual cost per large PWSs is $258 for labor plus $3,928 for analytical (non-labor) costs; with very large PWSs costs of $479 for labor plus $11,394 for analytical (non-labor) costs. Exhibits 8 and 9 illustrate numbers of PWSs participating and timing of monitoring. Per PWSs labor burdens and costs are presented in Exhibit 11b. This exhibit presents a summary of burden and cost per response. Analogous information for the five-year implementation period is provided in Exhibit B-1b, in Appendix B. "Response" is defined as each required reporting event for a PWS. All labor and non-labor costs associated with a reporting event (reading the regulations, monitoring and reporting) are included in the per response cost estimate.

**Exhibit 11a: Yearly Cost to Systems, by PWS Size and by Type of Cost (2015-2017)**
***(corresponds to Exhibit B-1a)***

| Cost Description | 2015 | 2016 | 2017 | Total |
|---|---|---|---|---|
| **SMALL PWSs (standard sample serving 10,000 or fewer people)** | | | | |
| Labor Costs | | | | |
| Reading and Initial Reporting | $46,459.22 | $0.00 | $0.00 | $46,459.22 |
| Monitoring | $44,811.37 | $0.00 | $0.00 | $44,811.37 |
| Reporting of Results | $19,449.40 | $0.00 | $0.00 | $19,449.40 |
| Non-Labor Costs (Laboratory Analysis and Shipping (paid for by EPA)) | | | | |
| | $0.00 | $0.00 | $0.00 | $0.00 |
| **Subtotal – Small PWSs** | **$110,719.99** | **$0.00** | **$0.00** | **$110,719.99** |
| **LARGE PWSs (serving 10,001 to 100,000 people)** | | | | |
| Labor Costs | | | | |
| Reading and Initial Reporting | $467,260.15 | $0.00 | $0.00 | $467,260.15 |
| Monitoring | $260,570.02 | $0.00 | $0.00 | $260,570.02 |
| Reporting of Results | $254,970.73 | $0.00 | $0.00 | $254,970.73 |
| Non-Labor Costs (Laboratory Analysis and Shipping) | | | | |
| | $14,935,269.58 | $0.00 | $0.00 | $14,935,269.58 |
| **Subtotal – Large PWSs** | **$15,918,070.47** | **$0.00** | **$0.00** | **$15,918,070.47** |
| **VERY LARGE PWSs (serving greater than 100,000 people)** | | | | |

| **Exhibit 11a: Yearly Cost to Systems, by PWS Size and by Type of Cost (2015-2017)** *(corresponds to Exhibit B-1a)* | | | | |
|---|---|---|---|---|
| **Cost Description** | **2015** | **2016** | **2017** | **Total** |
| Labor Costs | | | | |
| Reading and Initial Reporting | $74,890.17 | $0.00 | $0.00 | $74,890.17 |
| Monitoring | $84,294.07 | $0.00 | $0.00 | $84,294.07 |
| Reporting of Results | $38,708.94 | $0.00 | $0.00 | $38,708.94 |
| Non-Labor Costs (Laboratory Analysis and Shipping) | | | | |
| | $4,705,632.07 | $0.00 | $0.00 | $4,705,632.07 |
| **Subtotal – Very Large PWSs** | **$4,903,525.25** | **$0.00** | **$0.00** | **$4,903,525.25** |
| **ALL PWSs** | | | | |
| Total Labor for All Systems | $1,291,414.07 | $0.00 | $0.00 | $1,291,414.07 |
| Total Non-Labor for All Systems | $19,640,901.65 | $0.00 | $0.00 | $19,640,901.65 |
| **Total Labor and Non-Labor for All PWSs** | **$20,932,315.71** | **$0.00** | **$0.00** | **$20,932,315.71** |

| **Exhibit 11b: Per PWS (Respondent) and Per Response UCMR Costs (2015-2017)** *(corresponds with Exhibit B-1b)* | | | | | | |
|---|---|---|---|---|---|---|
| **Burden / Cost** | **Total over 2015-2017** | | | **Annual Average over 2015-2017** | | |
| | Small PWSs | Large PWSs | Very Large PWSs | Small PWSs | Large PWSs | Very Large PWSs |
| **PER RESPONDENT:** | | | | | | |
| Labor Cost | $159.69 | $775.49 | $1,437.48 | $53.23 | $258.50 | $479.16 |
| Non-Labor Cost | $0.00 | $11,784.80 | $34,181.35 | $0.00 | $3,928.27 | $11,393.78 |
| Burden (labor hours) | 6.88 | 24.83 | 37.53 | 2.29 | 8.28 | 12.51 |
| **PER RESPONSE:** | | | | | | |
| Number Responses per Respondent | 2.41 | 3.22 | 3.67 | 0.80 | 1.07 | 1.22 |
| Labor Cost per Response | $66.25 | $240.65 | $391.61 | $22.08 | $80.22 | $130.54 |
| Non-Labor Cost per Response | $0.00 | $3,657.02 | $9,311.94 | $0.00 | $1,219.01 | $3,103.98 |

| **Exhibit 11b: Per PWS (Respondent) and Per Response UCMR Costs (2015-2017)** *(corresponds with Exhibit B-1b)* | | | | | | |
|---|---|---|---|---|---|---|
| **Burden / Cost** | **Total over 2015-2017** | | | **Annual Average over 2015-2017** | | |
| | Small PWSs | Large PWSs | Very Large PWSs | Small PWSs | Large PWSs | Very Large PWSs |
| Burden (labor hours) per Response | 2.85 | 7.70 | 10.22 | 0.95 | 2.57 | 3.41 |

### 6(b) Estimating the Burden and Cost to States

Since UCMR is a direct implementation rule, individual state costs largely depend on the activities they choose to assist with, as defined in their PA. EPA assumed that states incur only labor costs, because no capital investments are expected for UCMR 3. Because states are involved in a variety of UCMR implementation and oversight activities but have few defined responses, burden estimates are based on yearly activities. Thus, for "per response" estimates, states have an average of 1.0 response per year.

EPA used the "2001 ASDWA Drinking Water Program Resource Needs Self Assessment" to estimate state burden and cost for the implementation and oversight of UCMR 3. ASDWA developed this assessment tool (or model) to assist states in estimating the resources needed to implement their statewide drinking water programs (in both full-time equivalent staff (FTEs) and dollars). In 2000, the United States General Accounting Office used a previous version of this model to estimate nationwide drinking water program needs for Congress. The tool was later updated and improved based on comments from 27 states. To make the model easier to use, ASDWA established suggested salary and benefit ranges (*i.e.*, default values), resource needs for the various NPDWRs, and other key variables.

EPA used the default values (or average values within a default range) that were provided in the model to estimate the national burden and cost for state UCMR 3 activities. Defaults included:

- one FTE is equivalent to 1,800 hours per year; overhead and holidays, sick leave, etc. are accounted for in default loading of base salaries;
- professional and support staff salaries vary for different sized states (very small, small, medium, large, very large); and
- suggested ranges of FTEs for the implementation of the Phase II/V, Arsenic, and UCMR programs (*i.e.*, the relevant subsection of the model).

The model bundled the state resource needs for Phase II/V, Arsenic and UCMR because of the inherent overlap and similarities in the programs. EPA needed to "extract" the UCMR costs from the aggregated costs. Based on professional judgment and consultations with staff from three state drinking water programs (California, Connecticut and Nebraska) regarding the relative magnitude of the UCMR program, EPA assumed that:

- during the first and last year of the five-year UCMR period (2012 and 2016), when there are no monitoring activities, UCMR represents 1% of the bundled program resource needs (although the costs for 2012 are not relevant to the current ICR estimations);
- during the three years when monitoring is conducted, UCMR represents 3% of the bundled program resource needs.

EPA ran the model for each of the state size categories that were based on the number of PWSs for which states have drinking water program oversight responsibilities. To estimate nationwide costs, the size-specific "per state" estimates that are generated by the model were then multiplied by the number of states in each size category, as shown in Exhibit 12.

EPA further refined the model estimates by taking the level of state participation under UCMR 2 into consideration. EPA reviewed key areas of state participation under UCMR 2, including: review and revision to the State Monitoring Plans; assisting EPA with updates to information for large PWSs; two separate sets of PWS notifications; and compliance assistance. Based on levels of involvement in each of these UCMR activities, states typically participated in 50 to 100% of their optional UCMR activities. However, some states chose not to participate at all. Burden estimates generated from the resource model were multiplied by this "percent participation in UCMR 2" to approximate state costs at expected participation levels under UCMR 3.

**Exhibit 12: Number of States in Each Size Category (State Resource Model Assumptions)**

| Size Category | Number of States |
|---|---|
| Very Small | 10 |
| Small | 11 |
| Medium | 23 |
| Large | 10 |
| Very Large | 2 |
| *Total* | 56 |

EPA estimates that the average annual burden over the 3 ICR years (2015-2017) for 56 states to implement UCMR is 4,103 hours (or 73 hours per state per year), with an average annual cost of $472,489 (or $8,437 per state per year). See Exhibits 13a and 13b for a summary of estimated state burdens and costs (analogous five-year information for 2012-2016 provided in Exhibits B-2a and B-2b, in Appendix B).

| **Exhibit 13a: Yearly Cost and Burden to States for Implementation of UCMR 3 (2015-2017)[1] *(corresponds with Exhibit B-2a)*** | | | | | |
|---|---|---|---|---|---|
| **Cost/Burden** | **2015** | **2016** | **2017** | **Total** | **Annual Average** |
| ***Costs to all states for labor related to UCMR implementation and oversight*** | | | | | |
| | $1,055,186 | $362,280 | $0.00 | $1,417,466 | $472,489 |
| ***Labor burden for all states for UCMR implementation and oversight (number of hours)*** | | | | | |
| | 6,202 | 6,108 | 0 | 12,310 | 4,103 |

[1] All costs are attributed to labor and are estimated over the period 2015-2017.

| **Exhibit 13b: Per State (Respondent) and Per Response UCMR 3 Costs (2015-2017) *(corresponds with Exhibit B-2b)*** | | |
|---|---|---|
| **Burden / Cost** | **Total over 2015-2017** | **Annual Average over 2015-2017** |
| **PER RESPONDENT:** | | |
| Labor Cost | $25,312 | $8,437 |
| Non-Labor Cost | $0.00 | $0.00 |
| Burden (labor hours) | 219.82 | 73.27 |
| **PER RESPONSE:** | | |
| Number Responses per Respondent[1] | 2.00 | 0.67 |
| Labor Cost per Response | $12,655.95 | $4,218.65 |
| Non-Labor Cost per Response | $0.00 | $0.00 |
| Burden (labor hours) per Response | 109.91 | 36.64 |

[1] States have 1 response per year, since there are no specific cyclical state reporting requirements under the UCMR program.

### 6(c) Estimating Agency Burden and Cost

EPA incurs burden and costs related to UCMR implementation activities, including: regulatory support activities; national and regional oversight and data analysis; and the small PWS testing program. These activities are described in detail in section 5(a), Part A of this ICR document. Labor and contractual costs are estimated using the federal government general schedule (GS) pay scale; assuming a labor level of GS 13, step 5, and taken from the Maryland/District of Columbia rate schedule during the first quarter of 2010 (see the U.S. Office of Personnel Management website: www.opm.gov). With these assumptions, labor and contractor rates were based on a 2,080 hour work year, with an $81,723 annual salary plus 60% overhead, or $62.86 per hour. Additional cost assumptions are described in sections 6(c)(i)-(iii), Part A of this ICR document. Cost and burden estimates are presented in Exhibits 14a and 14b, respectively.

*6(c)(i) Regulatory Support Activities*

Regulatory support activities include the labor and non-labor costs for laboratory approval process and QA/QC activities; and general technical support and guidance documents. Cost and burden assumptions for these activities are as follows:

*Laboratory Approvals and QA/QC Activities*: EPA incurs various labor or contractor costs related to the laboratory PT/approvals; laboratory QA/QC; and provision of analytical standards, as follows:

- The estimated laboratory approval (PT program) cost to EPA was $231,855 and was incurred prior to the beginning of monitoring, in 2012. Cost estimates were based on costs realized by the Agency for prior similar activities for UCMR 2. A 3% inflation rate was added to the costs of UCMR 2 to estimate the costs for UCMR 3. Though not relevant to the applicable ICR period of 2015-2017, these costs are included in Appendix B.

- QC audits of contract laboratories occur throughout active UCMR monitoring. Labor (hours) for each trip includes: a 3-day site inspection (for 2 individuals); 1 full-day travel for 2 individuals (assume 2 half days); and 3 days of report writing (for 1 individual), which includes review and response to laboratory comments. Travel cost estimates for 2 individuals include: $500 round trip flight, 3 nights hotel stay, 2 full day food per diem, and 2 days at the proportional meals rate from the 2010 federal rate for the Continental U.S. (from the U.S. Government Services Administration website: www.gsa.gov). Also included is $150 for rental of one car for both travelers. EPA estimated that these QC audits would take place 4 times each monitoring year, at an estimated cost of $8,699.68 per trip.

- EPA estimated that analytical standards provision and coordination would cost $253,354 total for three ICR years (or $84,452 per ICR year). Cost estimates are based on costs realized by the Agency for prior similar activities, and inflated by 3% each year.

*Technical Support/Guidance Document Development*: These activities cost EPA approximately $175,630 over the previous ICR period (2012-2014) including: costs for developing and distributing guidance for laboratories that will participate in UCMR 3 testing; fact sheets; and other pertinent guidance related to UCMR 3 implementation. These activities took place in 2012 and 2013, and thus are not applicable to the current ICR period. These costs are included in Appendix B, which presents costs for the entire UCMR 3 period. Cost estimates were based on costs realized by the Agency for prior similar activities. For UCMR 3, a 3% inflation rate was added to the costs of UCMR 2.

*6(c)(ii) National and Regional Oversight and Data Analysis*

EPA activities include data analysis, management oversight and support at both the regional and national level for assistance to states with UCMR implementation. During the core period of UCMR 3 activity, EPA estimated that it would dedicate 5.5 FTEs each year to program oversight and data analysis. These activities are estimated as labor cost and burden to the Agency (see the corresponding description of these activities in section 5(a)(ii), Part A of this ICR document). These activities will cost EPA $884,998 in total over the three-year ICR period.

*6(c)(iii) Costs for Small System Testing Program*

EPA provides logistical support for the small PWS testing program. This activity includes costs for contractual labor and sampling supplies, and costs EPA approximately $400 per sampling event per sampling site, based on actual costs incurred during UCMR 1 for this same activity. These activities cost EPA $1.2 million in total over the three ICR years.

EPA used the same cost assumptions described in section 6(a)(ii), Part A of this ICR for large PWSs to determine the cost of sample bottle shipping. Small PWS sampling includes the cost for one extra ground trip, for sending the empty bottles from the laboratory to the sampling coordinator, so that the sampling kit can be reused. Thus, shipping cost for a small PWS is estimated at $114 per sample.

These analytical and shipping fees cost EPA $5.4 million in total over the three ICR years for Assessment Monitoring, the Screening Survey, and Pre-Screen Testing. See section 6(a)(ii), Part A of this ICR document, for assumptions regarding applicable laboratory fees for individual methods. Total costs that EPA incurs for the small PWS testing program were calculated by multiplying the laboratory and shipping fees by: (number of PWSs) times (number of sampling periods per year (including an additional 10% QA samples)) times (number of sampling points per PWS).

*6(c)(iv) Estimated Agency Cost and Burden*

EPA estimates that the cost to the Agency for the UCMR 3 program during the ICR period of 2015-2017 is $6.6 million; (with annual average cost over the ICR period of $2.2 million). EPA costs for UCMR implementation are shown in Exhibit 14a; average annual labor and non-labor costs, as well as small PWS testing program costs are shown in Exhibit 14b. Appendix B, Exhibits B-3a and B-3b provide analogous information over the five-year UCMR 3 implementation period.

**Exhibit 14a: Yearly Cost to EPA for UCMR Implementation, by Type of Cost (2015-2017)[1]** ***(corresponds with Exhibit B-3a)***

| Cost Description | 2015 | 2016 | 2017 | Total | Annual Average |
|---|---|---|---|---|---|
| **Regulatory Support Activities**: laboratory proficiency testing; QC audits; analytical standards provision; and technical support, guidance document development | | | | | |
| Lab PT | $0.00 | $0.00 | $0.00 | $0.00 | $0.00 |
| QC Audits | $17,399.36 | $0.00 | $0.00 | $17,399.36 | $5,799.79 |
| Analytical Standards | $253,354.00 | $0.00 | $0.00 | $253,354.00 | $84,451.33 |
| Technical Support | $0.00 | $0.00 | $0.00 | $0.00 | $0.00 |
| **Subtotal – Regulatory Support** | **$270,753.36** | **$0.00** | **$0.00** | **$270,753.36** | **$90,251.12** |
| **National and Regional Oversight and Data Analysis**: UCMR management oversight; review and evaluation of data from all UCMR monitoring | | | | | |
| | **$884,998.40** | **$0.00** | **$0.00** | **$884,998.40** | **$294,999.47** |
| **Small PWS Testing**: implementation coordination; and analytical and shipping costs for small PWS testing for Assessment Monitoring, the Screening Survey, and Pre-Screen Testing | | | | | |
| Implementation Coordination | $1,219,832.00 | $0.00 | $0.00 | $1,219,832.00 | $406,610.67 |
| Fees for Analysis and shipping – standard sample | $4,187,400.66 | $0.00 | $0.00 | $4,187,400.66 | $1,395,800.22 |
| **Subtotal – Small PWS Testing** | **$5,407,232.66** | **$0.00** | **$0.00** | **$5,407,232.66** | **$1,802,410.89** |
| **TOTAL** | **$6,562,984.42** | **$0.00** | **$0.00** | **$6,562,984.42** | **$2,187,661.47** |

[1] Agency costs were estimated over the period 2015-2017.

**Exhibit 14b: Summary of EPA Burdens and Costs for UCMR Implementation (2015-2017)** ***(corresponds with Exhibit B-3b)***

| Burden / Cost | Annual Average Cost over Three-year ICR Period of 2015-2017 |
|---|---|
| Labor Cost | $294,999.46 |
| Non-Labor Cost | $1,892,662.01 |
| **Total Cost to EPA for UCMR Implementation** | **$2,187,661.47** |
| Burden (labor hours) | 3,813.33 |

### 6(d) Estimating the Respondent Universe and Total Burden and Costs

Section 1(b) of Part A of this ICR describes the general timing of monitoring. Exhibit 8 presents the estimated numbers of regulated PWSs affected by UCMR 3, and Exhibit 9 presents the timeline in which the PWS monitoring activities take place. The frequency of responses for PWSs is described in Section 4(b)(ii)(a).

Exhibit 15 summarizes national hours and costs for UCMR 3 during the ICR period. Analogous information for the entire five-year UCMR 3 period is presented in Exhibit B-4 in Appendix B. The total labor and non-labor costs are presented for each category of respondent. The total labor burden to the sample of small PWSs is 4,769 hours, with a cost of $110,720. The total labor burden to large PWSs is 31,462 hours, with a labor cost of $982,801, and non-labor costs for analysis and shipping of $14.9 million. Very large PWSs have a total labor burden for the ICR period of 5,167 hours, with labor and non-labor costs of $197,893 and $4.7 million, respectively. The total burden to states over the three-year ICR period is 12,238.02 hours, with a labor cost of $1.1 million. EPA anticipates that states will not incur any significant non-labor costs. EPA's total burden over the same time frame is 11,440 hours, with labor costs of $884,998, and non-labor costs of $5.7 million.

**Exhibit 15: UCMR 3 National Cost Summary for the ICR period (2015-2017)** ***(corresponds with Exhibit B-4)***

| Type of Cost | 2015 | 2016 | 2017 | TOTAL | Annual Average |
|---|---|---|---|---|---|
| **Small PWSs** | | | | | |
| Labor Cost | $110,719.99 | $0.00 | $0.00 | **$110,719.99** | $36,906.66 |
| Non-Labor Cost | $0.00 | $0.00 | $0.00 | **$0.00** | $0.00 |
| **Total Small PWS Cost** | $110,719.99 | $0.00 | $0.00 | **$110,719.99** | $36,906.66 |
| **Large PWS** | | | | | |
| Labor Cost | $982,800.90 | $0.00 | $0.00 | **$982,800.90** | $327,600.30 |
| Non-Labor Cost | $14,935,269.58 | $0.00 | $0.00 | **$**14,935,269.58 | $4,978,423.19 |
| **Total Large PWS Cost** | **$15,918,070.47** | **$0.00** | **$0.00** | **$15,918,070.47** | $5,306,023.49 |
| **Very Large PWSs** | | | | | |
| Labor Cost | $197,893.18 | $0.00 | $0.00 | **$197,893.18** | $65,964.39 |
| Non-Labor Cost | $4,705,632.07 | $0.00 | $0.00 | **$**4,705,632.07 | $1,568,544.02 |
| **Total Very Large PWS Cost** | **$4,903,525.25** | **$0.00** | **$0.00** | **$4,903,525.25** | $1,634,508.42 |
| **States** | | | | | |
| Labor Cost | $1,055,185.58 | $362,280.38 | $0.00 | **$1,417,465.96** | $472,488.65 |

**Exhibit 15: UCMR 3 National Cost Summary for the ICR period (2015-2017) *(corresponds with Exhibit B-4)***

| Type of Cost | 2015 | 2016 | 2017 | TOTAL | Annual Average |
|---|---|---|---|---|---|
| Non-Labor Cost | $0.00 | $0.00 | $0.00 | **$0.00** | $0.00 |
| **Total state Cost** | **$**1,055,185.58 | **$**362,280.38 | **$0.00** | **$1,417,465.96** | $472,488.65 |
| **EPA** | | | | | |
| Labor Cost | $884,998.40 | $0.00 | $0.00 | **$884,998.40** | $294,999.47 |
| Non-Labor Cost | $5,677,986.02 | $0.00 | $0.00 | **$**5,677,986.02 | $1,892,662.01 |
| **Total EPA Cost** | **$6,562,984.42** | **$0.00** | **$0.00** | **$6,562,984.42** | $2,187,661.47 |
| **National Total** | | | | | |
| **Total with EPA** | **$28,550,485.71** | **$362,280.38** | **$0.00** | **$28,912,766.09** | $9,637,588.70 |
| **Total without EPA** | **$21,987,501.29** | **$362,280.38** | **$0.00** | **$22,349,781.67** | $7,449,927.22 |
| **Total Burden (hours) for All Responses** [1] | | | | | |
| Small PWSs | 4,769.41 | 0 | 0 | 4,769.41 | 1,589.80 |
| Large PWSs | 31,461.90 | 0 | 0 | 31,461.90 | 10,487.30 |
| Very Large PWSs | 5,166.87 | 0 | 0 | 5,166.87 | 1,722.29 |
| States | 6,202.26 | 6,107.76 | 0 | 12,310.02 | 4,103.34 |
| EPA | 11,440.00 | 0 | 0 | 11,440.00 | 3,813.33 |
| **Total with EPA** | **59,040.44** | **6,107.76** | **0** | **65,148.20** | **21,716.07** |
| **Total without EPA** | **47,600.44** | **6,107.76** | **0** | **53,708.20** | **17,902.73** |

[1] Although EPA is not considered a respondent to the UCMR, Agency burdens are shown here to illustrate the national costs of the program. National totals are shown with and without the Agency costs.

### 6(e) Reasons for Change in Burden

The renewal of this ICR results in an overall decrease of 85,454 hours in the total estimated respondent and EPA burden identified in the currently approved ICR. The reasons that respondents to this renewal ICR incur a different burden than those responding to the original ICR include:

- Fewer PWSs participating during the current ICR period. Only one third of PWSs monitor for UCMR 3 contaminants in 2015-2017; two-thirds of PWS already monitored in 2012-2014.
- The schedule of activities for PWSs differs. Some initial activities were conducted by all PWSs prior to monitoring, including reporting prior to monitoring (contact and sampling location information, and representative EPTDS proposals). These activities do not take

place during the second ICR period. See Section 4(b)(ii)(a) Public Water System Activities for detailed explanations.

- The schedule of activities differs for participating states and EPA: Management and support activities for states and EPA vary with the UCMR 3 monitoring schedule. Both states and EPA have different burdens during this second UCMR 3 ICR period. See Section 4(b)(ii)(b) State Activities and Section 5(a) Agency Activities for details.

### 6(f) Burden Statement

Small PWSs that were selected for UCMR 3 monitoring sample an average of 2.4 times per PWS (*i.e.*, number of responses per PWS) across the three-year ICR period. The average burden per response for small PWSs is 2.9 hours. Large PWSs and very large PWSs sample and report an average of 3.2 and 3.7 times per PWS, respectively, across the three-year ICR period. The average burden per response for large and very large PWSs is 7.7 and 10.2 hours, respectively. States incur 2.0 responses over the three-year ICR period related to coordination with EPA and PWSss, with an average burden per response of 109.9 hours. In aggregate during the ICR period, the average response (*e.g.*, responses from PWS and states) is associated with a burden of 8.4 hours, with a labor plus non-labor cost of $3,507 per response.

The annual average per respondent burden hours and costs for the ICR period are: small PWSs – 2.3 hour burden at $53 for labor; large PWSs – 8.3 hours at $259 for labor, and $3,928 for analytical costs; very large PWSs –12.5 hours at $479 for labor, and $11,394 for analytical costs; and states – 73.3 hours at $8,437 for labor. Annual average burden and cost per respondent (including PWSs and states) is 8.3 hours, with a labor plus non-labor cost of $3,458 per respondent.

The annual average burden to EPA for UCMR 3 program activities during the ICR years is 3,813 hours, with an annual labor cost of $295,000. EPA's annual average non-labor costs are $1.9 million. Non-labor costs are primarily attributed to the cost of sample testing for small PWSs (testing is 95% of non-labor costs).

Exhibit 16 presents per respondent and per response burdens and costs over the UCMR ICR period of (analogous information for the 2012-2016 UCMR 3 implementation period is provided in Exhibit B-5, Appendix B). This Exhibit also presents average annual burdens and costs.

| **Exhibit 16: UCMR 3 Per Respondent Burden and Cost Summary for the ICR Period (2015-2017) (corresponds with Exhibit B-5)** | | | | | | | |
|---|---|---|---|---|---|---|---|
| Burden (hours)/ Cost (dollars) | Small PWSs | Large PWSs | Very Large PWSs | States | EPA | **National Average with EPA[1]** | **National Average without EPA** |
| ***Three-Year Total per Respondent*** | | | | | | | |
| Total # of Responses Per Respondent | 2.41 | 3.22 | 3.67 | 2.00 | n/a | **n/a** | **2.96** |
| Labor Cost Per Respondent | $159.69 | $775.49 | $1,437.48 | $25,311.89 | $884,998.40 | **$1,667.44** | **$1,257.41** |
| Non-Labor Cost Per Respondent | $0.00 | $11,784.80 | $34,181.35 | $0.00 | $5,677,986.02 | **$11,747.09** | **$9,116.93** |
| *Total Cost (Labor plus Non-Labor)* | *$159.69* | *$12,560.29* | *$35,618.83* | *$25,311.89* | *$6,562,984.42* | ***$13,414.52*** | ***$10,374.34*** |
| Total Cost Per Response | $66.25 | $3,897.67 | $9,703.55 | $12,655.95 | $0.00 | **$0.00** | **$3,507.17** |
| Total Burden Per Respondent (hr) | 6.88 | 24.83 | 37.53 | 219.82 | 11,440.00 | **30.23** | **24.93** |
| Total Burden Per Response (hr) | 2.85 | 7.70 | 10.22 | 109.91 | 0.00 | **0.00** | **8.43** |
| **Average Annual per Respondent** | | | | | | | |
| Ave. # of Responses Per Respondent | 0.80 | 1.07 | 1.22 | 0.67 | 0.00 | **0.00** | **0.99** |
| Labor Cost Per Respondent | $53.23 | $258.50 | $479.16 | $8,437.30 | $294,999.47 | **$555.81** | **$419.14** |
| Non-Labor Cost Per Respondent | $0.00 | $3,928.27 | $11,393.78 | $0.00 | $1,892,662.01 | **$3,915.70** | **$3,038.98** |
| *Ave. Cost (Labor plus Non-Labor)* | *$53.23* | *$4,186.76* | *$11,872.94* | *$8,437.30* | *$2,187,661.47* | ***$4,471.51*** | ***$3,458.11*** |
| Ave. Cost Per Response | $22.08 | $1,299.22 | $3,234.52 | $4,218.65 | $0.00 | **$0.00** | **$1,169.06** |
| Ave. Burden Per Respondent (hr) | 2.29 | 8.28 | 12.51 | 73.27 | 3813.33 | **10.08** | **8.31** |

| Exhibit 16: UCMR 3 Per Respondent Burden and Cost Summary for the ICR Period (2015-2017) (corresponds with Exhibit B-5) | | | | | | | |
|---|---|---|---|---|---|---|---|
| Burden (hours)/ Cost (dollars) | Small PWSs | Large PWSs | Very Large PWSs | States | EPA | **National Average with EPA[1]** | **National Average without EPA** |
| Ave. Burden Per Response (hr) | 0.95 | 2.57 | 3.41 | 36.64 | 0.00 | **0.00** | **2.81** |

[1] National average burdens and costs differ greatly between the state respondents and the various PWS respondents. This should be taken into consideration when looking at the national average with or without EPA.

Burden means the total time, effort, or financial resources expended by persons to generate, maintain, retain, or disclose or provide information to or for a federal Agency. This includes: the time needed to review instructions; develop, acquire, install, and utilize technology and systems for the purposes of collecting, validating, and verifying information, processing and maintaining information, and disclosing and providing information; adjust the existing ways to comply with any previously applicable instructions and requirements; train personnel to be able to respond to a collection of information; search data sources; complete and review the collection of information; and transmit or otherwise disclose the information. 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 are listed in 40 CFR part 9 and 48 CFR chapter 15.

To comment on EPA's need for this information, the accuracy of the provided burden estimates, and any suggested methods for minimizing respondent burden, including the use of automated collection techniques, EPA established a public docket for this ICR under Docket ID Number OW-2009-0090, which is available for public viewing at the Water Docket in the EPA Docket Center (EPA/DC), EPA West, Room 3334, 1301 Constitution Ave., NW, Washington, DC. This EPA Docket Center 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. An electronic version of the public docket is available at www.regulations.gov. This site can be used to submit or view public comments, access the index listing of the contents of the public docket, and to access those documents in the public docket that are available electronically. When in the system, select "search," then key in the Docket ID Number identified above. Also, you can send comments to the Office of Information and Regulatory Affairs, Office of Management and Budget, 725 17th Street, NW, Washington, D.C. 20503, Attention: Desk Officer for EPA. Please include the EPA Docket ID Number EPA-HQ- OW-2009-0090 and OMB Control Number 2040-0270 in any correspondence.

# – PART B OF THE SUPPORTING STATEMENT –

# 1 SURVEY OBJECTIVES, KEY VARIABLES, AND OTHER PRELIMINARIES

## 1(a) Survey Objectives

The primary objective of the statistical methods applied in this information collection is for EPA to identify and select a sample of PWSs that is representative of PWSs nationwide. The selected sample of PWSs monitors for contaminants identified by the UCMR program. The representativeness of this sample of PWSs is critical to the UCMR program because the drinking water contaminant occurrence data collected by the PWSs is used to: estimate national occurrence and exposure, establish a baseline for health effects and economic analyses, and provide information for regulatory determinations and, as appropriate, regulatory development.

## 1(b) Key Variables

Key variables associated with selecting a nationally representative sample of PWSs include: PWS size, source water type and geographical location.

## 1(c) Statistical Approach

Section 1445(a)(2) of SDWA (as amended in 1996) requires that the UCMR program include only a representative sample of PWSs serving 10,000 or fewer people. In addition to satisfying statutory requirements, selection of a sample of PWSs for participation in UCMR allows for significant national costs savings, as compared to monitoring by all PWSs. To estimate national occurrence and exposure, the primary UCMR program objective, the representative sample of PWSs must allow EPA to collect high quality data about contaminant occurrence.

## 1(d) Feasibility

EPA anticipates that the survey (the statistical sample) objectives are achievable given the existing time and resource constraints.

- High PWS response/participation rates (>95%) during UCMR 1 and 2 give EPA confidence that equivalent or better participation rates can be achieved during UCMR 3.

- The statistical approach to this data collection requires only a fraction of small PWSs to conduct monitoring, resulting in much smaller cost and burden at the national level than would be incurred if all PWSs monitored. Small PWSs that are selected for UCMR 3 monitoring incur only a few hours of labor burden. EPA pays for all laboratory fees and shipping costs related to small PWS testing.
- The survey results will inform future CCL regulatory determinations.

# 2 SURVEY DESIGN

## 2(a) Target Population and Coverage

PWSs are the target population for UCMR monitoring. All PWSs that serve more than 10,000 retail customers are subject to the Assessment Monitoring component of UCMR 3 monitoring. Eligible small PWSs (serving 10,000 or fewer people) are only required to conduct UCMR 3 monitoring if they are part of the statistical selection for Assessment Monitoring, the Screening Survey, or if they have been selected to monitor for Pre-Screen Testing. Small PWSs were only selected to monitor for one component of UCMR 3.

## 2(b) Sample Design

### *2(b)(i) Sampling Frame*

EPA developed the sample frame for the statistical selection of UCMR PWSs, including the system PWSID, name, source water category, and population-served data for each UCMR-eligible PWS. Initial data were pulled from EPA's Safe Drinking Water Information System (SDWIS/FED) inventory database and were adjusted to account for known anomalies in population and inventory reporting (for example, how wholesalers report their population data).

### *2(b)(ii) Sample Size*

UCMR 3 monitoring includes: Assessment Monitoring conducted by all PWSs serving more than 10,000 people (“large” PWSs), and 800 representative PWSs serving 10,000 or fewer people (“small” PWSs); the Screening survey conducted by all 413 PWSs serving more than 100,000 people (“very large” PWSs), 320 large PWSs, and 480 small PWSs; and Pre-Screen Testing conducted by 800 undisinfected ground water PWSs serving 1,000 or fewer people. The Pre-Screen Testing PWSs are located in areas with sensitive aquifers associated with karst topography or fractured bedrock.

*2(b)(iii) Stratification Variables*

In developing the representative sample, EPA considered factors such as population served, water source and geographic location. The sample PWSs were stratified by population served (PWS size), allocating samples proportionately to each state by PWS size and then by water source type. (Other provisions, presented below, ensure broad geographic coverage.)

*2(b)(iv) Sampling Method*

To satisfy the specifications of SDWA section 1445(a)(2)(A), the representative sample of PWSs accounts for different PWS sizes, sources of water supply and geographic location (e.g., states). The sample was stratified by water source type (i.e., ground or surface water) and by PWS size category (i.e., serves 25 to 500 people, 501 to 3,300 people, etc.). This stratification allowed EPA to account for different exposure risks of contaminant occurrence that could be related to the vulnerability differences between surface and ground water sources and differing management and financial capacity that can vary across PWS sizes.

With contaminant exposure assessment as a primary goal, PWSs were selected in proportion to the population served. This population-weighted allocation leads to statistically valid estimates of national exposure. To ensure the sample provides equity across states for involvement in the UCMR, EPA included at least two PWSs from each state. This additional PWS selection requirement provides allocation across all the states and territories to account for differences in spatial vulnerability and contaminant occurrence, and to ensure equity in participation. Small tribal PWSs across the EPA regions were grouped into a single category (equivalent to a “state”) for the representative sample.

*2(b)(v) Multi-Stage Sampling*

Because PWS status can change over time, EPA also selected “alternate” PWSs that fit the size/source water strata of the originally selected PWS. Through an interactive review process with the states, PWSs that no longer meet eligibility criteria (for example, if they are in a different size category than when originally selected, have become inactive, or do not have a retail customer base) will be replaced by an alternate PWS that meets the stratification criteria.

### 2(c) Precision Requirements

*2(c)(i) Precision Targets*

The representative sample of PWSs must be selected so that the data collected yield accurate and precise estimates of national contaminant occurrence (the fraction of PWSs in which a contaminant occurs) and exposure (the fraction of people exposed to a contaminant). For estimates of exposure fractions, EPA allows a margin of error of ± 1% with 99% confidence, when the estimated exposure fraction is 1%. That is, if the estimated exposure fraction is 1%, EPA will be able to state with 99% confidence that the true exposure fraction is between 0% and 2%. Because there are uncertainties and sources of variation in this and other such sampling programs, statistical sampling theory used to derive levels of accuracy and precision may not account for all of these sources of variation. Hence, the high confidence level, low allowable error, and consequent large sample size should help ensure adequate data to meet the objectives of the UCMR program.

*2(c)(ii) Non-sampling error*

For those PWSs required to conduct UCMR monitoring, response is a requirement. As with any regulation, some non-compliance can be expected. However, high compliance levels (>95%) during UCMR 1 and 2 (attributable to extensive outreach and compliance assistance) give EPA confidence that the same or better compliance levels can be achieved during UCMR 3. EPA plans to continue outreach and compliance assistance efforts as needed.

### 2(d) Questionnaire Design

No questionnaires will be used for the UCMR. Analytical results for contaminant occurrence will be electronically reported directly by the laboratories to EPA's electronic reporting system.

## 3 PRETESTS AND PILOT TESTS

For UCMR 3, EPA applied the same basic statistical methods that were used for the UCMR 1 and UCMR 2 national representative sample of small PWSs. Following sample adjustments made through communications with states, >99% of the final sample of small PWSs (and >95% of large PWSs) completed their required monitoring and reporting.

# 4 COLLECTION METHODS AND FOLLOW-UP

## 4(a) Collection Methods

Large PWSs are required to submit their data through EPA's electronic data reporting system. Small PWSs work directly with an EPA-appointed UCMR Sampling Coordinator, and monitoring data from the small PWSs are submitted directly to EPA's electronic reporting system by the laboratories conducting the analyses.

## 4(b) Survey Response and Follow-up

High compliance levels (>95%) during UCMR 1 and 2 give EPA confidence that equivalent or better levels can be achieved during UCMR 3. EPA continues outreach and compliance assistance efforts as needed. Each small PWS works with a UCMR Sampling Coordinator, and has minimal reporting requirements and one-on-one compliance assistance.

Lessons learned during UCMR 1 and UCMR 2 helped refine UCMR 3 requirements.

- Sampling schedule specifications were refined, and EPA clarified that sampling schedules should be adjusted based on sample point availability.
- UCMR 3 also modified rule applicability, i.e., determining the PWSs that are required to monitor. In UCMR 1 and 2, PWSs that purchased 100% of their water were excluded from monitoring, making estimates of exposure more difficult because many of these purchasing PWSs represented high-population areas. Wholesalers that have a retail population of 10,000 or below are only required to monitor if they are selected as part of the nationally representative sample of small PWSs 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.

EPA revised the rule language to establish a requirement of reporting zip codes for customers served by the PWS. These reporting specifications are established in §§141.35(c)(1) and (d)(1) for large and small PWSs, respectively. Required reporting of customer zip codes provides EPA with useful information for future occurrence analyses.

# 5 ANALYZING AND REPORTING SURVEY RESULTS

## 5(a) Data Preparation

After PWSs or their laboratories post their UCMR 3 monitoring results and required data elements to EPA's electronic reporting system, EPA allows a specified time for quality control review by the PWSs, states, and the Agency before placing the data in the NCOD for public access.

Data problems may occur, but EPA takes the following efforts to reduce problems and increase the dependability and quality of the occurrence data. The UCMR electronic data reporting system and EPA QA/QC assessments screen for the use of inappropriate measurement units and other improper data. Additional automated QC functions are in place to identify possible data quality issues such as duplicate data submissions and data completeness. All Assessment Monitoring and Screening Survey samples are collected by trained PWS staff (Pre-Screen Testing samples are collected by EPA) and analytical results are generated by laboratories that are approved for UCMR 3 drinking water analysis. Electronic data submission also avoids potential re-keying errors. As part of the data QA/QC procedures, all edits or changes made to the data are documented.

## 5(b) Analysis

For UCMR 1 and UCMR 2, EPA developed a two-stage analytical approach for the evaluation of the national occurrence of contaminants. EPA will use the same 2-tier approach to analyzing the data for UCMR 3.

The first stage of analysis, Stage 1, provides a straightforward evaluation of occurrence for simple and conservative assessments of contaminant occurrence. The Stage 1 analysis of the UCMR data consists of non-parametric, unweighted counts and simple descriptive statistics of analytical results for each of the contaminants. These occurrence analyses are conducted at the sample level, PWS level and population-served level. For each contaminant, occurrence measures include the number and percent of samples with analytical detections and the minimum, median, maximum, and 99th percentile values of those detections. PWS-level occurrence measures include the number and percent of PWSs with one or more analytical detections and the number and percent of PWSs with two or more analytical detections of a given contaminant. Population-served occurrence measures include: the number and percent of population served by PWSs with one or more analytical detections, and the number and percent of population served by PWSs with two or more analytical detections of a given contaminant. Similar measures may also be conducted for each EPTDS for each PWS. Since these

contaminant and PWS- level occurrence measures are based on raw occurrence data (that have not been adjusted for population-weighting and sampling), they are less accurate representations of national occurrence than occurrence measures based on adjusted occurrence data.

Based on the findings of the Stage 1 analysis, EPA can select contaminant(s) for which more detailed and sophisticated statistical evaluations – the Stage 2 analysis – may be warranted as a next step to generate national probability estimates of contaminant occurrence and exposure. Specifically, the modeling and estimation of PWS mean contaminant concentrations may be desired. The Stage 2 analysis uses a Bayesian-based hierarchical model to estimate the percent (and number) of PWSs with a mean contaminant concentration above any specified concentration threshold. The Bayesian-based Hierarchical Model also provides quantified error of estimation, and enables estimates of mean contaminant concentrations below the MRL. This statistical model was used to generate the contaminant occurrence estimates for 60 regulated contaminants for the first Six-Year Review of NPDWRs, for which it underwent a peer review.

### 5(c) Reporting Results

After final review and formatting the data collected through this ICR, the data will be made available to the public through the NCOD, as was done with the data collected for UCMR 1 and UCMR 2. The analytical results from UCMR 3 monitoring will support the development of the CCL; regulatory determinations; and, as appropriate, regulation development. For contaminants with significant occurrence and health effects, EPA will use the results: to support an exposure assessment; to establish the baseline for health effects and economic analyses; to analyze contaminant co-occurrence; and to evaluate treatment technology, including contaminant source management. Further, the results may suggest that the occurrence of certain contaminants may be significant enough to initiate research on health effects and treatment technology. Finally, the data may guide future source water protection efforts.

# APPENDICES

# APPENDIX A: Relevant Authorities in the SDWA 1996 Amendments

Section 1401 For purposes of this title:

(1) The term "primary drinking water regulation" means a regulation which-

(A) applies to public water systems;

(B) specifies contaminants which, in the judgment of the Administrator, may have any adverse effect on the health of persons;

(C) specifies for each such contaminant either–

(i) a maximum contaminant level, if, in the judgment of the Administrator, it is economically and technologically feasible to ascertain the level of such contaminant in water in public water systems, or

(ii) if, in the judgment of the Administrator, it is not economically or technologically feasible to so ascertain the level of such contaminant, each treatment technique known to the Administrator which leads to a reduction in the level of such contaminant sufficient to satisfy the requirements of section 1412; and

(D) contains criteria and procedures to assure a supply of drinking water which dependably complies with such maximum contaminant levels; including accepted methods for quality control and testing procedures to insure compliance with such levels and to insure proper operation and maintenance of the system, and requirements as to (i) the minimum quality of water which may be taken into the system and (ii) siting for new facilities for public water systems. At any time after promulgation of a regulation referred to in this paragraph, the Administrator may add equally effective quality control and testing procedures by guidance published in the *Federal Register*. Such procedures shall be treated as an alternative for public water systems to the quality control and testing procedures listed in the regulation.

Section 1412(b)(1) Identification of contaminants for listing:

(A) General authority – The Administrator shall, in accordance with the procedures established by this subsection, publish a maximum contaminant level goal and promulgate a national primary drinking water regulation for a contaminant (other than a contaminant referred to in paragraph (2) for which a national primary drinking water regulation has been promulgated as of the date of enactment of the Safe Drinking Water Act Amendments of 1996) if the Administrator determines that

(i) the contaminant may have an adverse effect on the health of persons;

(ii) the contaminant is known to occur or there is a substantial likelihood that the contaminant will occur in public water systems with a frequency and at levels of public health concern; and

(iii) in the sole judgment of the Administrator, regulation of such contaminant presents a meaningful opportunity for health risk reduction for persons served by public water systems.

(B) Regulation of unregulated contaminants–

(i) Listing of contaminants for consideration–

(I) Not later than 18 months after the date of enactment of the Safe Drinking Water Act Amendments of 1996 and every 5 years thereafter, the Administrator, after consultation with the scientific community, including the Science Advisory Board, after notice and opportunity for public comment, and after considering the occurrence data base established under section 1445(g), shall publish a list of contaminants which, at the time of publication, are not subject to any proposed or promulgated national primary drinking water regulation, which are known or anticipated to occur in public water systems, and which may require regulation under this title.

(II) The unregulated contaminants considered under subclause (i) shall include, but not be limited to, substances referred to in section 101(14) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, and substances registered as pesticides under the Federal Insecticide, Fungicide, and Rodenticide Act.

(III) The Administrator's decision whether or not to select an unregulated contaminant for a list under this clause shall not be subject to judicial review.

(ii) Determination to regulate–

(I) Not later than 5 years after the date of enactment of the Safe Drinking Water Act Amendments of 1996, and every 5 years thereafter, the Administrator shall, after notice of the preliminary determination and opportunity for public comment, for not fewer than 5 contaminants included on the list published under clause (i), make determinations of whether or not to regulate such contaminants.

(II) A determination to regulate a contaminant shall be based on findings that the criteria of clauses (i), (ii), and (iii) of subparagraph (A) are satisfied. Such findings shall be based on the best available public health information, including the occurrence data base established under section 1445(g).

(III) The Administrator may make a determination to regulate a contaminant that does not appear on a list under clause (i) if the determination to regulate is made pursuant to subclause (II).

(IV) A determination under this clause not to regulate a contaminant shall be considered final Agency action and subject to judicial review.

(iii) Review – Each document setting forth the determination for a contaminant under clause (ii) shall be available for public comment at such time as the determination is published.

(C) Priorities – In selecting unregulated contaminants for consideration under subparagraph (B), the Administrator shall select contaminants that present the greatest public health concern. The Administrator, in making such selection, shall take into consideration, among other factors of public health concern, the effect of such contaminants upon subgroups that comprise a meaningful portion of the general population (such as infants, children, pregnant women, the elderly, individuals with a history of serious illness, or other subpopulations) that are identifiable as being at greater

risk of adverse health effects due to exposure to contaminants in drinking water than the general population.
(D) Urgent threats to public health – The Administrator may promulgate an interim national primary drinking water regulation for a contaminant without making a determination for the contaminant under paragraph (4)(C), or completing the analysis under paragraph (3)(C), to address an urgent threat to public health as determined by the Administrator after consultation with and written response to any comments provided by the Secretary of Health and Human Services, acting through the director of the Centers for Disease Control and Prevention or the director of the National Institutes of Health. A determination for any contaminant in accordance with paragraph (4)(C) subject to an interim regulation under this subparagraph shall be issued, and a completed analysis meeting the requirements of paragraph (3)(C) shall be published, not later than 3 years after the date on which the regulation is promulgated and the regulation shall be repromulgated, or revised if appropriate, not later than 5 years after that date.
(E) Regulation – For each contaminant that the Administrator determines to regulate under subparagraph (B), the Administrator shall publish maximum contaminant level goals and promulgate, by rule, national primary drinking water regulations under this subsection. The Administrator shall propose the maximum contaminant level goal and national primary drinking water regulation for a contaminant not later than 24 months after the determination to regulate under subparagraph (B), and may publish such proposed regulation concurrent with the determination to regulate. The Administrator shall publish a maximum contaminant level goal and promulgate a national primary drinking water regulation within 18 months after the proposal thereof. The Administrator, by notice in the *Federal Register*, may extend the deadline for such promulgation for up to 9 months.
(F) Health advisories and other actions – The Administrator may publish health advisories (which are not regulations) or take other appropriate actions for contaminants not subject to any national primary drinking water regulation.

Section 1412(b)(4) Goals and standards:

(A) Maximum contaminant level goals – Each maximum contaminant level goal established under this subsection shall be set at the level at which no known or anticipated adverse effects on the health of persons occur and which allows an adequate margin of safety.
(B) Maximum contaminant levels – Except as provided in paragraphs (5) and (6), each national primary drinking water regulation for a contaminant for which a maximum contaminant level goal is established under this subsection shall specify a maximum contaminant level for such contaminant which is as close to the maximum contaminant level goal as is feasible.
(C) Determination – At the time the Administrator proposes a national primary drinking water regulation under this paragraph, the Administrator shall publish a determination as to whether the benefits of the maximum contaminant level justify, or do not justify, the costs based on the analysis conducted under paragraph (3)(C).
(D) Definition of feasible – For the purposes of this subsection, the term “feasible” means feasible with the use of the best technology, treatment techniques and other means which

the Administrator finds, after examination for efficacy under field conditions and not solely under laboratory conditions, are available (taking cost into consideration). For the purpose of this paragraph, granular activated carbon is feasible for the control of synthetic organic chemicals, and any technology, treatment technique, or other means found to be the best available for the control of synthetic organic chemicals must be at least as effective in controlling synthetic organic chemicals as granular activated carbon.

(E) Feasible technologies

(i) In general – Each national primary drinking water regulation which establishes a maximum contaminant level shall list the technology, treatment techniques, and other means which the Administrator finds to be feasible for purposes of meeting such maximum contaminant level, but a regulation under this subsection shall not require that any specified technology, treatment technique, or other means be used for purposes of meeting such maximum contaminant level.

(ii) List of technologies for small systems – The Administrator shall include in the list any technology, treatment technique, or other means that is affordable, as determined by the Administrator in consultation with the States, for small public water systems serving

(I) a population of 10,000 or fewer but more than 3,300;

(II) a population of 3,300 or fewer but more than 500; and

(III) a population of 500 or fewer but more than 25;

and that achieves compliance with the maximum contaminant level or treatment technique, including packaged or modular systems and point- of-entry or point-of-use treatment units. Point- of-entry and point-of-use treatment units shall be owned, controlled and maintained by the public water system or by a person under contract with the public water system to ensure proper operation and maintenance and compliance with the maximum contaminant level or treatment technique and equipped with mechanical warnings to ensure that customers are automatically notified of operational problems. The Administrator shall not include in the list any point-of-use treatment technology, treatment technique, or other means to achieve compliance with a maximum contaminant level or treatment technique requirement for a microbial contaminant (or an indicator of a microbial contaminant). If the American National Standards Institute has issued product standards applicable to a specific type of point-of-entry or point-of-use treatment unit, individual units of that type shall not be accepted for compliance with a maximum contaminant level or treatment technique requirement unless they are independently certified in accordance with such standards. In listing any technology, treatment technique, or other means pursuant to this clause, the Administrator shall consider the quality of the source water to be treated.

(iii) List of technologies that achieve compliance – Except as provided in clause (v), not later than 2 years after the date of enactment of this clause and after consultation with the States, the Administrator shall issue a list of technologies that achieve compliance with the maximum contaminant level or treatment technique for each category of public water systems described in subclauses (I), (II), and (III) of clause (ii) for each national primary drinking water regulation promulgated prior to the date of enactment of this paragraph.

(iv) Additional technologies – The Administrator may, at any time after a national primary drinking water regulation has been promulgated, supplement the list of technologies describing additional or new or innovative treatment technologies that meet the requirements of this paragraph for categories of small public water systems described in subclauses (I), (II), and (III) of clause (ii) that are subject to the regulation.

(v) Technologies that meet surface water treatment rule – Within one year after the date of enactment of this clause, the Administrator shall list technologies that meet the Surface Water Treatment Rule for each category of public water systems described in subclauses (I), (II), and (III) of clause (ii).

Section 1445(a)(1)(A) Every person who is subject to any requirement of this title or who is a grantee, shall 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 regulations under this title, in determining whether such person has acted or is acting in compliance with this title, in administering any program of financial assistance under this title, in evaluating the health risks of unregulated contaminants, or in advising the public of such risks. In requiring a public water system to monitor under this subsection, the Administrator may take into consideration the system size and the contaminants likely to be found in the system's drinking water.

(B) Every person who is subject to a national primary drinking water regulation under section 1412 shall provide such information as the Administrator may reasonably require, after consultation with the State in which such person is located if such State has primary enforcement responsibility for public water systems, on a case-by-case basis, to determine whether such person has acted or is acting in compliance with this title.

(C) Every person who is subject to a national primary drinking water regulation under section 1412 shall provide such information as the Administrator may reasonably require to assist the Administrator in establishing regulations under section 1412 of this title, after consultation with States and suppliers of water. The Administrator may not require under this subparagraph the installation of treatment equipment or process changes, the testing of treatment technology, or the analysis or processing of monitoring samples, except where the Administrator provides the funding for such activities. Before exercising this authority, the Administrator shall first seek to obtain the information by voluntary submission.

(D) The Administrator shall not later than 2 years after the date of enactment of this subparagraph, after consultation with public health experts, representatives of the general public, and officials of State and local governments, review the monitoring requirements for not fewer than 12 contaminants identified by the Administrator, and promulgate any necessary modifications.

(2) MONITORING PROGRAM FOR UNREGULATED CONTAMINANTS

(A) ESTABLISHMENT – The Administrator shall promulgate regulations establishing the criteria for a monitoring program for unregulated contaminants. The regulations shall require monitoring of drinking water supplied by public water systems and shall vary the frequency and schedule for monitoring requirements for systems based on the number of

persons served by the system, the source of supply, and the contaminants likely to be found, ensuring that only a representative sample of systems serving 10,000 persons or fewer are required to monitor.

(B) MONITORING PROGRAM FOR CERTAIN UNREGULATED CONTAMINANTS

(i) INITIAL LIST – Not later than 3 years after the date of enactment of the Safe Drinking Water Act Amendments of 1996 and every 5 years thereafter, the Administrator shall issue a list pursuant to subparagraph (A) of not more than 30 unregulated contaminants to be monitored by public water systems and to be included in the national drinking water occurrence data base maintained pursuant to subsection (g).

(ii) GOVERNORS' PETITION – The Administrator shall include among the list of contaminants for which monitoring is required under this paragraph each contaminant recommended in a petition signed by the Governor of each of 7 or more States, unless the Administrator determines that the action would prevent the listing of other contaminants of a higher public health concern.

(C) MONITORING PLAN FOR SMALL AND MEDIUM SYSTEMS

(i) IN GENERAL – Based on the regulations promulgated by the Administrator, each State may develop a representative monitoring plan to assess the occurrence of unregulated contaminants in public water systems that serve a population of 10,000 or fewer in that State. The plan shall require monitoring for systems representative of different sizes, types, and geographic locations in the State.

(ii) GRANTS FOR SMALL SYSTEM COSTS – From funds reserved under section 1452(o) or appropriated under subparagraph (H), the Administrator shall pay the reasonable cost of such testing and laboratory analysis as are necessary to carry out monitoring under the plan.

(D) MONITORING RESULTS – Each public water system that conducts monitoring of unregulated contaminants pursuant to this paragraph shall provide the results of the monitoring to the primary enforcement authority for the system.

(E) NOTIFICATION – Notification of the availability of the results of monitoring programs required under paragraph (2)(A) shall be given to the persons served by the system.

(F) WAIVER OF MONITORING REQUIREMENT – The Administrator shall waive the requirement for monitoring for a contaminant under this paragraph in a State, if the State demonstrates that the criteria for listing the contaminant do not apply in that State.

(G) ANALYTICAL METHODS – The State may use screening methods approved by the Administrator under subsection (i) in lieu of monitoring for particular contaminants under this paragraph.

(H) AUTHORIZATION OF APPROPRIATIONS – There are authorized to be appropriated to carry out this paragraph $10,000,000 for each of the fiscal years 1997 through 2003.

(i) SCREENING METHODS.—The Administrator shall review new analytical methods to screen for regulated contaminants and may approve such methods as are more accurate or cost-effective than established reference methods for use in compliance monitoring.

[42 U.S.C. 300j–4]

(g) OCCURRENCE DATA BASE

(1) IN GENERAL – Not later than 3 years after the date of enactment of the Safe Drinking Water Act Amendments of 1996, the Administrator shall assemble and maintain a national drinking water contaminant occurrence data base, using information on the occurrence of both regulated and unregulated contaminants in public water systems obtained under subsection (a)(1)(A) or subsection (a)(2) and reliable information from other public and private sources.

(2) PUBLIC INPUT – In establishing the occurrence data base, the Administrator shall solicit recommendations from the Science Advisory Board, the States, and other interested parties concerning the development and maintenance of a national drinking water contaminant occurrence data base, including such issues as the structure and design of the data base, data input parameters and requirements, and the use and interpretation of data.

(3) USE – The data shall be used by the Administrator in making determinations under section 1412(b)(1) with respect to the occurrence of a contaminant in drinking water at a level of public health concern.

(4) PUBLIC RECOMMENDATIONS – The Administrator shall periodically solicit recommendations from the appropriate officials of the National Academy of Sciences and the States, and any person may submit recommendations to the Administrator, with respect to contaminants that should be included in the national drinking water contaminant occurrence data base, including recommendations with respect to additional unregulated contaminants that should be listed under subsection (a)(2). Any recommendation submitted under this clause shall be accompanied by reasonable documentation that–

(A) the contaminant occurs or is likely to occur in drinking water; and

(B) the contaminant poses a risk to public health.

(5) PUBLIC AVAILABILITY – The information from the data base shall be available to the public in readily accessible form.

(6) REGULATED CONTAMINANTS – With respect to each contaminant for which a national primary drinking water regulation has been established, the data base shall include information on the detection of the contaminant at a quantifiable level in public water systems (including detection of the contaminant at levels not constituting a violation of the maximum contaminant level for the contaminant).

(7) UNREGULATED CONTAMINANTS – With respect to contaminants for which a national primary drinking water regulation has not been established, the data base shall include

(A) monitoring information collected by public water systems that serve a population of more than 10,000, as required by the Administrator under subsection (a);

(B) monitoring information collected from a representative sampling of public water systems that serve a population of 10,000 or fewer; and

(C) other reliable and appropriate monitoring information on the occurrence of the contaminants in public water systems that is available to the Administrator.

# APPENDIX B: Burden and Cost Exhibits for the Five-Year UCMR 3 Period of 2012-2016

| **Exhibit B-1a: Yearly Cost to PWSs, by PWS Size and by Type of Cost (2012-2016)** *(corresponds to Exhibit 11a)* | | | | | | |
|---|---|---|---|---|---|---|
| ***Cost Description*** | ***2012*** | ***2013*** | ***2014*** | ***2015*** | ***2016*** | ***Total*** |
| **SMALL PWSs (serving 10,000 or fewer people)** | | | | | | |
| *Labor Costs* | | | | | | |
| *Reading and Initial Reporting* | $0.00 | $46,459.22 | $46,459.22 | $46,459.22 | $0.00 | $139,377.65 |
| *Monitoring* | $0.00 | $44,811.37 | $44,811.37 | $44,811.37 | $0.00 | $134,434.12 |
| *Reporting of Results* | $0.00 | $19,449.40 | $19,449.40 | $19,449.40 | $0.00 | $58,348.20 |
| *Non-Labor Costs (Laboratory Analysis and Shipping (paid for by EPA))* | | | | | | |
| | $0.00 | $0.00 | $0.00 | $0.00 | $0.00 | $0.00 |
| ***Subtotal – Small PWSs*** | ***$0.00*** | **$110,719.99** | **$110,719.99** | **$110,719.99** | ***$0.00*** | ***$332,159.97*** |
| **LARGE PWSs (serving 10,001 to 100,000 people)** | | | | | | |
| Labor Costs | | | | | | |
| Reading and Initial Reporting | $0.00 | $467,260.11 | $467,260.11 | $467,260.11 | $0.00 | $1,401,780.33 |
| Monitoring | $0.00 | $260,570.02 | $260,570.02 | $260,570.02 | $0.00 | $781,710.05 |
| Reporting of Results | $0.00 | $254,970.73 | $254,970.73 | $254,970.73 | $0.00 | $764,912.20 |
| Non-Labor Costs (Laboratory Analysis and Shipping) | | | | | | |
| | $0.00 | $14,935,269.58 | $14,935,269.58 | $14,935,269.58 | $0.00 | $44,805,808.73 |
| ***Subtotal – Large PWSs*** | ***$0.00*** | **$15,918,070.44** | **$15,918,070.44** | **$15,918,070.44** | ***$0.00*** | ***$47,754,211.32*** |
| **VERY LARGE PWSs (serving greater than 100,000 people)** | | | | | | |
| Labor Costs | | | | | | |
| Reading and Initial Reporting | $0.00 | $74,890.05 | $74,890.05 | $74,890.05 | $0.00 | $224,670.14 |
| Monitoring | $0.00 | $84,294.07 | $84,294.07 | $84,294.07 | $0.00 | $252,882.21 |
| Reporting of Results | $0.00 | $38,708.94 | $38,708.94 | $38,708.94 | $0.00 | $116,126.81 |
| Non-Labor Costs (Laboratory Analysis and Shipping) | | | | | | |
| | $0.00 | $4,705,632.07 | $4,705,632.07 | $4,705,632.07 | $0.00 | $14,116,896.21 |
| ***Subtotal – Very Large PWSs*** | ***$0.00*** | ***$4,903,525.12*** | ***$4,903,525.12*** | ***$4,903,525.12*** | ***$0.00*** | ***$14,710,575.36*** |
| **ALL PWSs** | | | | | | |
| Total Labor for All PWSs | $0.00 | $1,291,413.90 | $$1,291,413.90 | $$1,291,413.90 | $0.00 | $3,874,241.71 |
| Total Non-Labor for All PWSs | $0.00 | $19,640,901.65 | $19,640,901.65 | $19,640,901.65 | $0.00 | $58,922,704.94 |
| **Total Labor and Non-Labor for All PWSs** | **$0.00** | **$20,932,315.55** | **$20,932,315.55** | **$20,932,315.55** | **$0.00** | **$62,796,946.65** |

**Exhibit B-1b: Per System (Respondent) and Per Response UCMR 3 Costs (2012-2016)** ***(corresponds with Exhibit 11b)***

| Burden / Cost | Total over 2012-2016 | | | Annual Average over 2012-2016 | | |
|---|---|---|---|---|---|---|
| | Small PWSs | Large PWSs | Very Large PWSs | Small PWSs | Large PWSs | Very Large PWSs |
| **PER RESPONDENT:** | | | | | | |
| Labor Cost | $159.69 | $775.49 | $1,437.48 | $31.94 | $155.10 | $287.50 |
| Non-Labor Cost | $0.00 | $11,784.80 | $34,181.35 | $0.00 | $2,356.96 | $6,836.27 |
| Burden (labor hours) | 6.88 | 24.83 | 37.53 | 1.38 | 4.97 | 7.51 |
| **PER RESPONSE:** | | | | | | |
| Number Responses per Respondent | 2.42 | 3.22 | 3.67 | 0.48 | 0.64 | 0.73 |
| Labor Cost per Response | $66.03 | $240.65 | $391.61 | $13.21 | $48.13 | $78.32 |
| Non-Labor Cost per Response | $0.00 | $3,657.02 | $9,311.94 | $0.00 | $731.40 | $1,862.39 |
| Burden (labor hours) per Response | 2.84 | 7.70 | 10.22 | 0.57 | 1.54 | 2.04 |

**Exhibit B-2a: Yearly Cost and Burden to States for Implementation of UCMR 3 (2012-2016)[1]** ***(corresponds with Exhibit 13a)***

| Cost/ Burden | 2012 | 2013 | 2014 | 2015 | 2016 | Total | Annual Average |
|---|---|---|---|---|---|---|---|
| ***Costs to All States for labor related to UCMR implementation and oversight*** | | | | | | | |
| | $331,537.87 | $994,613.61 | $1,024,452.02 | $1,055,185.58 | $362,280.38 | $3,768,069.46 | $753,613.89 |
| ***Labor burden for all States for UCMR implementation and oversight (number of hours)*** | | | | | | | |
| | 13,341.96 | 13,625.46 | 12,238.02 | 6,202.26 | 6,107.76 | 51,515.46 | 10,303.09 |

[1] All costs are attributed to labor and are estimated over the period 2012-2016.

**Exhibit B-2b: Per State (Respondent) and Per Response UCMR 3 Costs (2012-2016)** ***(corresponds with Exhibit 13b)***

| Burden / Cost | Total over 2012-2016 | Annual Average over 2012-2016 |
|---|---|---|
| **PER RESPONDENT:** | | |
| Labor Cost | $67,286.95 | $13,457.39 |
| Non-Labor Cost | $0.00 | $0.00 |
| Burden (labor hours) | 919.90 | 183.98 |
| **PER RESPONSE:** | | |
| Number Responses per Respondent[1] | 5.00 | 1.00 |
| Labor Cost per Response | $13,457.39 | $2,691.48 |
| Non-Labor Cost per Response | $0.00 | $0.00 |
| Burden (labor hours) per Response | 183.98 | 36.80 |

[1] States are assumed to have 1 response per year, since there are no specific cyclical state reporting requirements under the UCMR program.

**Exhibit B-3a: Yearly Cost to EPA for UCMR 3 Implementation, by Type of Cost (2012-2016)** [1] ***(corresponds with Exhibit 14a)***

| Cost Description | 2012 | 2013 | 2014 | 2015 | 2016 | Total | Average |
|---|---|---|---|---|---|---|---|
| **Regulatory Support Activities**: laboratory proficiency testing; QC audits; analytical standards provision; and technical support, guidance document development | | | | | | | |
| Lab PT | $231,855.00 | $0.00 | $0.00 | $0.00 | $0.00 | $231,855.00 | $46,371.00 |
| QC Audits | $17,399.36 | $34,798.72 | $34,798.72 | $17,399.36 | $0.00 | $104,396.16 | $20,879.23 |
| Analytical Standards | $115,927.00 | $238,811.00 | $245,975.00 | $253,354.00 | $0.00 | $854,067.00 | $170,813.40 |
| Technical Support | $115,927.00 | $59,703.00 | $0.00 | $0.00 | $0.00 | $175,630.00 | $35,126.00 |
| **Subtotal – Regulatory Support** | **$481,108.36** | **$333,312.72** | **$280,773.72** | **$270,753.36** | **$0.00** | **$1,365,948.16** | **$273,189.63** |
| **National and Regional Oversight and Data Analysis**: UCMR management oversight; review and evaluation of data from all UCMR monitoring | | | | | | | |
| | **$442,499.20** | **$884,998.40** | **$884,998.40** | **$884,998.40** | **$0.00** | **$3,097,494.40** | **$619,498.88** |
| **Small PWS Testing**: implementation coordination; and analytical and shipping costs for small PWS testing for both Assessment Monitoring, Screening Survey, and Pre-Screen Testing | | | | | | | |
| Implementation Coordination | $0.00 | $1,219,832.00 | $1,219,832.00 | $1,219,832.00 | $0.00 | $3,659,496.00 | $731,899.20 |
| Fees for Analysis and shipping | $0.00 | $4,187,400.66 | $4,187,400.66 | $4,187,400.66 | $0.00 | $12,562,201.97 | $2,512,440.39 |
| **Subtotal – Small PWS Testing** | **$0.00** | **$5,407,232.66** | **$5,407,232.66** | **$5,407,232.66** | **$0.00** | **$16,221,697.97** | **$3,244,339.59** |

**Exhibit B-3a: Yearly Cost to EPA for UCMR 3 Implementation, by Type of Cost (2012-2016) [1] *(corresponds with Exhibit 14a)***

| Cost Description | 2012 | 2013 | 2014 | 2015 | 2016 | Total | Average |
|---|---|---|---|---|---|---|---|
| **TOTAL** | **$923,607.56** | **$6,625,543.78** | **$6,573,004.78** | **$6,562,984.42** | **$0.00** | **$20,685,140.53** | **$4,137,028.11** |

[1] Agency costs are estimated over the period 2012-2016.

**Exhibit B-3b: Summary of EPA Burdens and Costs for UCMR 3 Implementation (2012-2016) *(corresponds with Exhibit 14b)***

| Burden / Cost | Annual Average Cost over Five-Year UCMR Period (2012-2016) |
|---|---|
| Labor Cost | $619,498.88 |
| Non-Labor Cost | $3,517,529.23 |
| **Total Cost to EPA for UCMR Implementation** | **$4,137,028.11** |
| Burden (labor hours) | 8,008.00 |

**Exhibit B-4: National Cost Summary for UCMR 3 Implementation *(2012-2016)***
***(corresponds with Exhibit 15)***

| Type of Cost | 2012 | 2013 | 2014 | 2015 | 2016 | TOTAL |
|---|---|---|---|---|---|---|
| **Small PWSs** | | | | | | |
| Labor Cost | $0.00 | $110,719.99 | $110,719.99 | $110,719.99 | $0.00 | $332,159.97 |
| Non-Labor Cost | $0.00 | $0.00 | $0.00 | $0.00 | $0.00 | $0.00 |
| **Total Small PWS Cost** | **$0.00** | **$110,719.99** | **$110,719.99** | **$110,719.99** | **$0.00** | **$**332,159.97 |
| **Large PWSs** | | | | | | |
| Labor Cost | $0.00 | $982,800.86 | $982,800.86 | $982,800.86 | $0.00 | $2,948,402.59 |
| Non-Labor Cost | $0.00 | $14,935,269.58 | $14,935,269.58 | $14,935,269.58 | $0.00 | $44,805,808.73 |
| **Total Large PWS Cost** | **$0.00** | **$15,918,070.44** | **$15,918,070.44** | **$15,918,070.44** | **$0.00** | **$47,754,211.32** |
| **Very Large PWSs** | | | | | | |
| Labor Cost | $0.00 | $197,893.05 | $197,893.05 | $197,893.05 | $0.00 | $593,679.16 |
| Non-Labor Cost | $0.00 | $4,705,632.07 | $4,705,632.07 | $4,705,632.07 | $0.00 | $14,116,896.21 |
| **Total Very Large PWS Cost** | **$0.00** | **$4,903,525.12** | **4,903,525.12** | **4,903,525.12** | **$0.00** | **$14,710,575.36** |
| **States** | | | | | | |
| Labor Cost | $331,537.87 | $994,613.61 | $1,024,452.02 | $1,055,185.58 | $362,280.38 | $3,768,069.46 |
| Non-Labor Cost | $0.00 | $0.00 | $0.00 | $0.00 | $0.00 | $0.00 |
| **Total State Cost** | **$331,537.87** | **$994,613.61** | **$1,024,452.02** | **$1,055,185.58** | **$362,280.38** | **$3,768,069.46** |
| **EPA** | | | | | | |
| Labor Cost | $442,499.20 | $884,998.40 | $884,998.40 | $884,998.40 | $0.00 | $3,097,494.40 |
| Non-Labor Cost | $481,108.36 | $5,740,545.38 | $5,688,006.38 | $5,677,986.02 | $0.00 | $17,587,646.13 |
| **Total EPA Cost** | **$923,607.56** | **$6,625,543.78** | **$6,573,004.78** | **$6,562,984.42** | **$0.00** | **$20,685,140.53** |
| **National Total** | | | | | | |
| **Total with EPA** | **$1,255,145.43** | **$28,552,472.94** | **$28,529,772.34** | **$28,550,485.55** | **$362,280.38** | **$87,250,156.64** |
| **Total without EPA** | **$331,537.87** | **$21,926,929.16** | **$21,956,767.57** | **$21,987,501.13** | **$362,280.38** | **$66,565,016.10** |
| **Total Burden (hours) for All Responses** | | | | | | |
| Small PWSs | 0.00 | 4,769.41 | 4,769.41 | 4,769.41 | 0.00 | 14,308.24 |
| Large PWSs | 0.00 | 31,461.90 | 31,461.90 | 31,461.90 | 0.00 | 94,385.70 |
| Very Large PWSs | 0.00 | 5,166.87 | 5,166.87 | 5,166.87 | 0.0 | 15,500.60 |
| States | 13,341.96 | 13,625.46 | 12,238.02 | 6,202.26 | 6,107.76 | 51,515.46 |
| EPA | 5,720.00 | 11,440.00 | 11,440.00 | 11,440.00 | 0 | 40,040.00 |

**Exhibit B-4: National Cost Summary for UCMR 3 Implementation *(2012-2016)***
***(corresponds with Exhibit 15)***

| Type of Cost | 2012 | 2013 | 2014 | 2015 | 2016 | TOTAL |
|---|---|---|---|---|---|---|
| Total with EPA | 19,061.96 | 66,463.64 | 65,076.20 | 59,040.44 | 6,107.76 | 215,749.99 |
| Total without EPA | 13,341.96 | 55,023.64 | 53,636.20 | 47,600.44 | 6,107.76 | 175,709.99 |

[1] Although EPA is not considered a respondent to the UCMR, Agency burdens are shown here to illustrate the national costs of the program. National totals are shown with and without the Agency costs.

**Exhibit B-5: UCMR 3 Per Respondent Burden and Cost Summary (2012-2016)**
***(corresponds with Exhibit 16)***

| Burden (hours)/ Cost (dollars) | Small PWSs | Large PWSs | Very Large PWSs | States | **EPA** | **National Average with EPA[1]** | **National Average without EPA** |
|---|---|---|---|---|---|---|---|
| **Five-Year Total per Respondent** | | | | | | | |
| Total # of Responses Per Respondent | 2.42 | 3.22 | 3.67 | 5.0 | n/a | **n/a** | **3.00** |
| Labor Cost Per Respondent | $159.69 | $775.49 | $1,437.48 | $67,286.95 | $3,097,494.40 | **$1,690.78** | **$1,203.32** |
| Non-Labor Cost Per Respondent | n/a | $11,784.80 | $34,181.35 | n/a | $17,587,646.13 | **$12,045.08** | **$9,277.71** |
| *Total Cost (Labor plus Non-Labor)* | *$159.69* | *$12,560.29* | *$35,618.83* | *$67,286.95* | *$20,685,140.53* | ***$13,735.86*** | ***$10,481.03*** |
| Total Cost Per Response | $66.03 | $3,897.67 | $9,703.55 | $13,457.39 | n/a | **n/a** | **$3,489.03** |
| Total Burden Per Respondent (hr) | 6.88 | 24.83 | 37.53 | 919.92 | 40,040.00 | **33.97** | **27.67** |
| Total Burden Per Response (hr) | 2.84 | 3.22 | 3.67 | 183.98 | n/a | **n/a** | **9.21** |
| **Average Annual per Respondent** | | | | | | | |
| Ave. # of Responses Per Respondent | 0.48 | 0.64 | 0.73 | 1.0 | n/a | **n/a** | **0.60** |
| Labor Cost Per Respondent | $31.94 | $155.10 | $287.50 | $13,457.39 | $619,498.88 | **$338.16** | **$240.66** |
| Non-Labor Cost Per Respondent | n/a | $2,356.96 | $6,836.27 | n/a | $3,517,529.23 | **$2,409.02** | **$1,855.54** |
| *Ave. Cost (Labor plus Non-Labor)* | *$31.94* | *$2,512.06* | *$7,123.77* | *$13,457.39* | *$4,137,028.11* | ***$2,747.17*** | ***$2,096.21*** |
| Ave. Cost Per Response | $13.21 | $779.53 | $1,940.71 | $2,691.48 | n/a | **n/a** | **$697.81** |
| Ave. Burden Per Respondent (hr) | 1.38 | 4.97 | 7.51 | 183.98 | 8,008.00 | **6.79** | **5.53** |
| Ave. Burden Per Response (hr) | 0.57 | 0.64 | 0.73 | 36.80 | n/a | **n/a** | **1.84** |

[1] National average burdens and costs differ greatly between the state respondents and the various PWS respondents. This should be taken into consideration when looking at the national average with or without EPA.