
**Information Collection Request
for the Unregulated Contaminant
Monitoring Regulation (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 |
| ICR | Information Collection Request |
| LCMRL | Lowest Concentration Minimum Reporting Level |
| MCL | Maximum Contaminant Level |
| MCLG | Maximum Contaminant Level Goal |
| MRL | Minimum Reporting Level |
| 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 |
| 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 Regulation |

— PART A OF THE SUPPORTING STATEMENT —**1 IDENTIFICATION OF THE INFORMATION COLLECTION****1(a) Title and Number of the Information Collection**

Title: Information Collection Request for UCMR 3

OMB Control Number: 2040-0270

EPA Tracking Number: 2192.05

1(b) Short Characterization

Section 1445(a)(2) of the 1996 amendments to 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). SDWA requires that EPA vary the frequency and schedule for monitoring based on the number of persons served, the source of supply, and the contaminants likely to be found. It requires that EPA only include a representative sample of systems 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 Regulation (UCMR 1) for PWSs in the *Federal Register* (FR) on September 17, 1999 (64 FR 50556). In addition, several supplemental rules 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) builds on the established structure of UCMR 1 and UCMR 2, and makes some changes to improve the rule design. EPA revised the contaminant list, analytical methods and sampling design for UCMR 3.

UCMR 3 monitoring will take place from 2013 through 2015. The applicable three-year period for this particular Information Collection Request (ICR) is 2012-2014. A future ICR action will cover the latter part of UCMR 3. 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, will be conducted from January 2013 through December 2015 by 800 systems serving 10,000 or fewer (hereafter referred to as small systems), and by all systems serving more than 10,000 people. These systems will monitor for 20 List 1 chemicals; total chromium will be 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. It is assumed for this cost estimation that one-third of systems will monitor each year.

Screening Survey (List 2) monitoring will be conducted from January 2013 through December 2015 by all (413) very large systems serving more than 100,000 people, 320 large systems serving 10,000 to 100,000 people, and by 480 small systems 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 insufficient to conduct the larger scale Assessment Monitoring. Under the UCMR 3 Screening Survey, seven List 2 contaminants will be monitored.

Pre-Screen Testing (List 3) for two contaminants and related pathogen indicators² will also be conducted during January 2013 through December 2015. EPA will select 800 small, undisinfected ground water systems serving fewer than 1,000 customers that may be vulnerable to contamination. This sample of small systems may include non-transient non-community water systems (NTNCWSs) and transient non-community water systems (TNCWSs). Small systems will not be subject to more than one component of UCMR 3 monitoring. Additionally, EPA will pay for all sampling and analysis cost associated with virus and pathogen indicator monitoring at these small systems. The indicator information will be useful because the virus method is expensive and complicated, and routine monitoring may not be practical. Instead if there is a correlation between virus and indicator presence then we could use indicator monitoring (simpler and less expensive) to determine possible presence of viruses.

No small systems will be selected for more than one of the three monitoring lists.

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

Small systems selected for UCMR 3 monitoring (Assessment Monitoring, Screening Survey, and Pre-Screen Testing) will sample an average of 2.4 times per system (*i.e.*, number of responses

¹ Transient non-community water systems and those systems that sell *all* of their water to another PWS are 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.

per system) across the three-year ICR period of 2012 through 2014. The estimated burden per response for small systems is 2.8 hours. Large systems (those serving 10,001 to 100,000 people) and very large systems (those serving more than 100,000 people) will sample and report an average of 3.2 and 3.7 times per system, respectively, across the three-year ICR period of 2012-2014. The estimated burdens per response for large and very large systems, respectively, are 7.7 and 10.2 hours.

EPA expects that States will incur only labor costs associated with UCMR 3 implementation. State activities are determined through their individual Partnership Agreements (PAs) with EPA. To estimate State burden, it was assumed that State participation levels would reflect the participation levels that occurred in UCMR 1 and UCMR 2. States are assumed to incur 3.0 responses over the three-year ICR period related to coordination with EPA and systems, with an average burden per response of 233.4 hours. In aggregate, during the ICR period of 2012-2014, the average response (*e.g.*, responses from systems and States) is associated with a burden of 9.6 hours, with a labor plus non-labor cost of \$3,480, per response.

The annual average per respondent burden hours and costs for the ICR period of 2012-2014 are: small systems — 2.3 hour burden at \$53 for labor; large systems — 8.3 hours at \$259 for labor, and \$3,928 for analytical costs; very large systems — 12.5 hours at \$479 for labor, and \$11,394 for analytical costs; and States — 233.4 hours at \$13,992 for labor. Annual average burden and cost per respondent (including both systems and States) is estimated to be 9.6 hours, with a labor plus non-labor cost of \$3,466 per respondent (note that small systems do not pay for testing costs, so they only incur labor costs).

The agency estimates the annual burden to EPA for UCMR 3 program activities during the ICR years of 2012-2014 to be approximately 9,533 hours, at an annual labor cost of \$0.74 million. EPA's annual non-labor costs are estimated to be \$3.9 million. EPA's non-labor costs are primarily attributed to the cost of sample analysis for small systems (sample analysis represents approximately 91% 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 contaminants to be monitored, and procedures for placement of the monitoring data in NCOD. EPA's program must also include a nationally "representative sample of systems serving 10,000 or fewer persons" that will be required to monitor. In addition, EPA must determine the frequency of monitoring and devise a monitoring schedule for systems.

Section 1412(b)(4) of SDWA, as amended in 1996, requires EPA to promulgate maximum contaminant level goals (MCLGs) and promulgate National Primary Drinking Water Regulations (NPDWRs) for contaminants that: may have adverse human health effects; are known to or anticipated to occur in systems; and, in the 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 be set as close to the MCLG as possible. NPDWRs apply to systems (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)), to issue regulations that establish criteria for listing contaminants, and to carry out the UCMR Program.

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 him in establishing regulations, [or] ... in evaluating the health risks of unregulated contaminants ...". This section authorizes EPA to require systems to monitor, provide the agency with these data, and to maintain records of this information.

In addition, 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 systems and laboratories to use agency-approved methods and quality assurance criteria for collecting and analyzing water samples.

The sections from the SDWA 1996 Amendments, 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 will support: the development of the CCL; the Administrator's determination of whether to regulate a contaminant; and, as appropriate, regulation development. In addition, if the contaminant has 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.

Each PWS will maintain system level records of the analytical results of this monitoring. EPA-approved laboratories will report these results to EPA's electronic data reporting system. PWSs will 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 will be EPA's Office of Water (OW). Other users of this information may 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. With public health protection as its top priority, EPA drew upon several different sources in developing 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 would 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; removed *sec*-butylbenzene and *n*-propylbenzene. The seven hormones were moved from Assessment Monitoring to the Screening Survey. In addition, EPA is requiring PWSs to monitor for total chromium concurrent with all chromium-6 monitoring. EPA is requiring 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

Following publication of the proposed rule on March 3, 2011 (76 FR 11713), EPA received several public comments related to ICR and other cost estimates. Those commenters felt that EPA's estimates of cost and burden to PWSs were too low, including laboratory analysis fees and estimated PWS labor burden.

EPA estimates of laboratory fees are based on consultations with national drinking water laboratories and a review of the costs of similar analytical methods. In response to comments, EPA revisited the estimates of UCMR 3 method pricing. EPA requested pricing estimates for UCMR 3 methods from four national drinking water laboratories. Estimates were requested for all chemical methods that will be required under Assessment Monitoring and the Screening Survey, including: 200.8 (metals and total chromium); 218.7 (chromium-6); 300.1 (chlorate);

522 (1,4-dioxane); 524.3 (VOCs); 537 (PFCs); and 539 (hormones). EPA averaged the pricing estimates from the laboratories that were consulted into the cost estimates. Three laboratories provided estimated costs for the Pre-Screening Testing viruses and related pathogen indicators. These costs were also averaged and incorporated into the cost estimates.

With respect to per system burden estimates, EPA notes that all burden estimates represent average burden hours, which include surface water systems that may have very few sampling points, and thus lower sampling burden, as well as those systems with higher numbers of sampling points that would then have greater sampling activity labor burden. Moreover, a system's burden is primarily incurred during its one year of required UCMR monitoring (between January 2013 and December 2015). However, in compliance with the requirements of the Paperwork Reduction Act (44 U.S.C. 3501 et seq.), these cost and burden estimates are presented as an average over the applicable three-year ICR period (2012 - 2014).

Small systems (those serving 10,000 or fewer people) will have the lowest burden not only because of the relative smaller size of their infrastructure, but also because these systems will receive a great deal of direct assistance from EPA and/or their State (e.g., EPA will collect the samples for the Pre-Screen Testing).

EPA reviewed burden estimates used in recently published drinking water rules and determined that estimates used for UCMR 3 are similar.

3(c) Consultations

EPA's Office of Ground Water and Drinking Water (OGWDW) incorporated stakeholder involvement early in the regulatory development process. In the late 1990s, EPA held meetings for the design and development of both the CCL and UCMR programs. Stakeholders who provided comments concerning the development of the UCMR program include PWSs, States, industry, and other organizations. A total of seventeen meetings were held specifically concerning UCMR development. A description of public involvement activities related to UCMR are provided in the September 1999, UCMR Final Rule *Federal Register* at 64 FR 50556. A stakeholder meeting was held for development of UCMR 2 in October 2003. State agencies, federal agencies, laboratories, PWSs, and drinking water associations discussed: the rationale for selecting a new list of contaminants; analytical methods to be used in measuring these contaminants; sampling design, particularly for the Screening Survey monitoring; procedure for determining the lowest concentration minimum reporting levels (LCMRLs); validation of laboratory performance at or below the minimum reporting level (MRL); revisions to data elements; and other revisions based on lessons learned during implementation of UCMR 1.

A UCMR 3 stakeholder meeting was held on April 7, 2010, in Washington, DC. There were 22 attendees, representing State agencies, laboratories, PWSs, environmental groups, and drinking water associations. The presentations and discussions included the following: status of UCMR 2; rationale for developing a new list of potential contaminants; analytical methods that could be used in measuring these contaminants; sampling design; procedure for determining MRLs; laboratory approval; and other potential revisions based on lessons learned during implementation of UCMR 1 and UCMR 2.

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. EPA is also requiring PWSs to monitor for total chromium concurrent with all chromium-6 monitoring.. EPA revised or clarified requirements pertaining to system applicability criteria, reporting, monitoring and quality control. In addition, several commenters suggested that EPA's estimates of cost and burden to PWSs were low, including laboratory analysis fees and estimated labor burden. EPA's responses to these cost- and burden-related comments are addressed in Section 3(b) Public Notice Required Prior to ICR Submission to OMB and in Section 6(a)(ii) Estimating Non-labor Costs.

3(d) Effects of Less Frequent Collection

The agency considered a wide range of alternatives for frequency of collection that would still allow the agency to meet its statutory requirements and overall objectives. Less frequent data collection than that being implemented would seriously 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 system, contaminants likely to be found, and source of supply. The monitoring frequency design also considers that the number of people served affects exposure to contaminants, as well as the 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 carefully devised 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 system;

- source of the supply (*e.g.*, surface water or ground water);
- likelihood of finding contaminants; and
- temporal variability in occurrence.

Assessment Monitoring will be conducted from January 2013 through December 2015 by all large systems (those systems serving 10,001 to 100,000 people) and very large systems (those systems serving more than 100,000 people), and by a nationally representative sample of 800 small PWSs (those serving 10,000 people or fewer). The Screening Survey will be conducted from January 2013 through December 2015 by all very large systems, 320 randomly-selected large systems, and 480 randomly selected small systems. Pre-Screen Testing will be conducted from January 2013 through December 2015 by a sample of 800 small (systems serving 1,000 or fewer people) undisinfected ground water systems. Samples will be collected from entry points to the distribution system (EPTDSs) for all contaminants. In addition, samples for the metals (including total chromium, under the authority of Section 1445 (a)(1)(A) of SDWA) and chlorate under Assessment Monitoring will be collected from sampling locations that represent the distribution system maximum residence time (DSMRT). As specified in the final rule, ground water systems with multiple EPTDSs will only be required to sample at representative sampling locations for each ground water source, as long as those sites have been approved. Systems will also select a representative intake from a wholesaler.

Sampling at locations³ fed by ground water will be 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) will be sampled four times during the monitoring year. Multiple samples during a year are necessary to capture the temporal variability in contaminant occurrence to support an adequate characterization of potential exposure. The required sampling frequencies help provide the quality and quantity of data that will be statistically necessary for regulatory determinations. The agency will schedule the year and months of system monitoring. PWSs will have the option of changing their schedules by coordinating a new schedule with EPA.

EPA is maintaining the same statistical design established under UCMR 1 for its UCMR 3 national representative sample of 800 small systems and continuing with a census of large systems for Assessment Monitoring. EPA believes that the combination of a nationally representative sample of small systems and a census of large systems provides a powerful tool for assessing contaminant occurrence in PWSs; this is the most effective and accurate survey approach. A sample of 800 PWSs from the universe of over 63,000 small systems will provide a confidence level of 99% with an allowable error of $\pm 1\%$. The set of representative PWSs are

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

distributed among different size categories, but weighted by population served, to ensure that the sample can provide estimates of exposure.

EPA has selected this design to ensure 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 systems 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. However, the larger possible error is not considered acceptable for this program. 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 systems on a *national* basis. For many contaminants, a 1% occurrence nationally translates into a substantially larger occurrence regionally. Also, even a small percentage of systems with detections can translate into a significant population affected. With a greater margin of error, and the resultant smaller sample size, such occurrence might be missed entirely. Also, it is necessary for EPA to make some judgments about the occurrence of contaminants in relation to source waters and different size categories of systems. Many statutes and current regulations differentiate implementation requirements based on system size or water source. While combining sampling results from the representative sample of small systems with that from all large systems provides increased power in the total sample, EPA must be able to evaluate occurrence, and possible regulatory options, related to the small systems. SDWA and many current rules focus on burden reduction for small systems when feasible. Also, there are many other uncertainties and sources of variance in such a sample program. For example, all contaminants have censored distributions (*i.e.*, “less than detection level” analytical results) and there are a myriad of factors that affect variability and vulnerability of ground water systems. It remains unclear how normal sampling theory accommodates these. Hence, the high confidence level, low allowable error, and larger sample size should help to ensure adequate data to meet the objectives of the UCMR program.

The Screening Survey component of UCMR 3 will be similar to UCMR 2. The Screening Survey will include 480 small systems serving less than or equal to 10,000 people, 320 large systems serving 10,001 to 100,000 people, and all very large systems serving more than 100,000 people (413 systems). Using a census of these very large systems will minimize the possibility of missing contaminant occurrence at the systems that serve the largest portion of the population, while keeping the number of systems 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 systems selected to monitor for Pre-Screen Testing represent a targeted sample consisting of small ground water systems that EPA has determined are most vulnerable to the List 3 contaminants. The wells will be selected from areas of karst or fractured bedrock. The sample size of 800 undisinfected ground water systems will include community water systems (CWSs), NTNCWSs,

and TNCWSs, which ensures that sample results are representative of different types of water systems.

Since it is possible that certain contaminants may reasonably be predicted to not be found in a particular State, UCMR includes a provision for waivers for large systems on a State-wide, chemical-specific basis. However, for small systems, waivers will not be considered because eliminating small systems 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 both the presence and absence of contaminants for the systems sampled. Furthermore, since EPA will pay for this testing, there is no significant burden on these small systems.

3(e) General Guidelines

This ICR has been completed in accordance with the November 2009 version of *EPA's Guide to Writing Information Collection Requests Under the Paperwork Reduction Act of 1995* (hereafter, the "ICR Handbook"). The ICR Handbook was prepared by EPA's Office of Environmental Information, Collection Strategies Division. The ICR Handbook provides the most current instructions for ICR preparation to ensure compliance with the 1995 Paperwork Reduction Act Amendments and OMB's implementing guidelines.

EPA is taking an approach that minimizes burden on the respondents. In addition, 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 systems 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 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 adds codes for the chlorine residual treatment information 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 Testing² | |
| enteroviruses | Noroviruses |
| Exhibit 1b: Total Chromium Monitoring³ | |
| total chromium | |

¹ Chromium-6 will be measured as soluble chromate (ion).

² Monitoring for microbial indicators – in conjunction with UCMR 3 Pre-Screen Testing – is also required. This monitoring includes sampling for pathogen indicators (i.e., total coliforms, *E.coli*, bacteriophage, *Enterococci* and aerobic spores). It is not subject to the stipulation in Section 1445(a)(2)(B)(i) of SDWA that restricts UCMR contaminants to not more than 30. List 3 monitoring, including monitoring of microbial indicators, is only required at selected small systems. EPA will pay for all sampling and analysis costs associated with virus and indicator monitoring at these small systems.

³ Monitoring for total chromium – in conjunction with UCMR 3 Assessment Monitoring – is required under the authority provided in Section 1445(a)(1)(A) of SDWA.

This action also modifies 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 systems must electronically report all 15 data elements with their Assessment Monitoring, Screening Survey, and Pre-Screen Testing samples. All systems 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

As was true for UCMR 1 and UCMR 2, UCMR 3 will be a direct implementation rule, and therefore States will not be required to report to EPA. Implementation activities for each State will be identified and determined through PAs with EPA. If participating in a PA, States will at a minimum be reviewing and revising Initial State Monitoring Plans, notifying systems of their UCMR responsibilities, and providing EPA with a list of the systems notified. Because States have no specified reporting cycle, this analysis assumes that States have 1.0 response per year, encompassing all communication and coordination activities with EPA and systems.

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, systems are expected to 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 are assumed to read the UCMR regulations and/or a State-issued guidance letter during the year in which their monitoring will occur. 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 system 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. Assessment Monitoring, the Screening Survey, and Pre-Screen Testing are scheduled to occur from January 2013 through December 2015 for 30 contaminants. Because an equal percentage of systems are assumed to monitor during each consecutive 12-month period, two-thirds of systems are expected to conduct Assessment Monitoring and Screening Survey monitoring, and to assist EPA with Pre-Screen Testing, during the ICR period of 2012-2014. The last group of systems will monitor in 2015, which is outside of the time period covered by this particular ICR. To provide a comprehensive cost estimate for the rule, Appendix B provides monitoring costs for the entire monitoring period of 2013-2015.

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

Monitoring requirements for the Screening Survey are similar to Assessment Monitoring. Surface water (and GWUDI) sampling points will be monitored four times during the applicable year of monitoring and ground water sampling points will be monitored twice during the applicable year of monitoring. Monitoring will be conducted at EPTDSs. Large ground water systems with multiple EPTDSs will only be required to sample at representative sampling locations for each ground water source, as long as those sites have been approved by EPA or the State.

For Pre-Screen Testing, two samples will be collected from EPTDSs from small ground water systems 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*

Contact and zip code information: As under UCMR 1 and UCMR 2, large

systems are required to report contact information to EPA. This information includes 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 must be submitted to EPA's electronic data reporting system within a specified time frame after rule promulgation. Small systems must provide this information in response to a specific written request that they will receive from EPA. In addition, as a one-time reporting requirement under UCMR 3, PWSs must 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 must also provide inventory information to EPA related to each applicable sampling location. For each sampling location or each approved representative sampling location, large PWSs must submit: PWS identification (PWSID) code; PWS facility identification code; sampling point identification code; sampling point type identification code; sampling location water type.

Representative sampling plan proposal: Some systems that use ground water as a source and have multiple EPTDSs may monitor at representative sampling location(s), rather than at each EPTDS. To qualify, these ground water systems must have either the same treatment or no treatment at all of their well sources and they must have an EPTDS for each well within a well field (resulting in multiple EPTDSs from the same source, such as an aquifer). Systems meeting these criteria can submit a proposal to EPA or the State. The proposal must demonstrate that any EPTDS selected as representative of the ground water supplied from multiple wells is 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: Systems 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 systems: As under UCMR 2, small systems are only required to record system 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 system.

Large systems: UCMR 3 specifies that laboratories must post the analytical results and associated data elements to EPA's electronic data reporting system within 120 days of sample collection, as under UCMR 1 and UCMR 2. Large systems must ensure that their laboratory meets this requirement, and those systems 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 final for EPA review.

- *Record Keeping*

Section 141.33 requires systems to maintain records of chemical monitoring data for 10 years. No changes are being 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 system. 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 systems (CWSs, NTNCWSs, and TNCWSs) will be reportable under the Public Notification Rule (64 FR 25964 (May 13, 1999)). No changes are being 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 systems affected, estimates of violation rates, etc.). Since that time, EPA and ASDWA have worked together to update and improve 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 assumes that State participation will 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 will be delineated in PAs between the States and EPA. However, in response to the regulation, EPA anticipates that State activities will generally include coordination activities, data management and support, program implementation, and training/overhead. Though some States may choose to conduct sampling for their systems, this activity is not part of the PA agreement and is optional for States. Burden for sampling is currently attributed to systems only. If States choose to conduct monitoring for systems, burden would be similar to that estimated for systems.

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 will be one of the first UCMR activities to take place at the State level. Each State will receive a proposed initial State Monitoring Plan from EPA. This plan will list all systems that will be required to conduct Assessment Monitoring, the Screening Survey, and Pre-Screen Testing, including small and large systems that were statistically selected as a sample, and those large systems subject to the rule by meeting applicability criteria. For systems that are part of the sample, EPA will also generate a list to provide similar replacement systems for States to select from, for those systems that may not have been correctly specified in the initial plan. If a State identifies systems on the original proposed State Monitoring Plan that it determines are not appropriate for the representative ground water sampling locations (*e.g.*, if systems are inactive, or sell all of their water and do not have their own retail customers), the State can propose an alternative plan by selecting other systems from EPA's alternate list to replace the ineligible systems. The State Monitoring Plans will also specify the year and months during which regulated systems will monitor. States will have the option to modify these schedules.

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

EPA also recognizes that it will be necessary for States to maintain ongoing communications with EPA regarding the requirements of UCMR. An example of this would be instances when States need clarification and guidance regarding a specific requirement of the regulation.

Data Management and Support: Though there are no data management and support activities included in UCMR, EPA recognizes that many States will update their databases to

accommodate the revised UCMR data elements. Activities will likely include data entry/downloading of data, and general record keeping.

Program Implementation: Program implementation activities for each State may include notification and guidance letter to systems, data review, ongoing system support, and enforcement.

Following review and finalization of State Monitoring Plans, participating States will prepare a notification letter that describes system monitoring schedules and requirements under the regulation. These States will send notification to each applicable system and send the list of these notified systems to EPA. It is also likely that States will receive telephone calls from water systems asking for clarification and guidance pertaining to the requirements of UCMR. States may choose to review monitoring results, in part to determine whether a system has met its monitoring and reporting requirements.

State Staff Training and Overhead: Technical staff members are assumed to 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 the systems. In addition, 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 will be responsible for oversight of State PWS programs, and processing and analysis of the UCMR data. EPA implementation activities are categorized, as follows, into three major categories: regulatory support activities; program oversight and data analysis; and small system 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 anticipates incurring various costs related to laboratory approvals and laboratory quality assurance and control, including the following activities:

- *Laboratory approvals/Proficiency Testing (PT) program* - EPA will assess whether laboratories meet the required equipment, laboratory performance, and data reporting criteria. EPA will register and evaluate laboratories based on the applications. Selected laboratories will then participate in the UCMR 3 PT program. EPA plans to conduct these laboratory assessments during 2012.
- *QC audits of contract laboratories* - EPA expects to conduct QC audits at each of the approved laboratories not more than annually during UCMR 3 monitoring (January 2013 through December 2015).
- *Analytical standards provision and coordination* - EPA will coordinate and distribute specialized analytical standards to participating laboratories.

Technical Support/Guidance Document Development: Technical support and guidance document includes developing and distributing guidance for laboratory calculations and background information about the health effects (*e.g.*, fact sheets) of the UCMR 3 contaminants.

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 will develop its PAs with States and the State Monitoring Plans prior to January 2013, when monitoring will begin.

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

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

EPA expects that implementation of the small system testing program will be the largest portion of agency costs for the UCMR program. Prior to monitoring, EPA activities for logistical support of the small system testing program will include coordination of small system testing and provision of testing supplies.

The single largest cost to EPA for implementation of UCMR is for small system sample analyses. During the ICR period of 2012-2014, EPA will pay for the analytical and shipping costs for small systems in the national representative sample for two-thirds of Assessment Monitoring, Screening Survey, and Pre-Screen Testing (the monitoring period of January through December 2015 falls outside of the ICR period). EPA will also collect all of the Pre-Screen Testing samples for systems. EPA also expects to conduct some QC activities that will not be required of the large systems. Specifically, EPA plans to send duplicates of approximately 10% of small system samples to a separate laboratory for analysis. The quality control duplicates are intended to provide standard, real time, QC checks among the different contract laboratories.

5(b) Information Collection Methodology and Management

As under UCMR 2, UCMR 3 continues to specify that laboratories must report the analytical results and associated data elements to EPA's electronic data reporting system. Large systems 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. Systems 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 will be considered approved and final for EPA review. Electronic reporting provides significant collection efficiencies, and reduces the possibility of data input error.

The UCMR data will be maintained and analyzed through NCOD. The data collected under UCMR will be 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 will receive information regarding UCMR monitoring results through the CCRs, and will be able to access data through the NCOD. Systems that fail to monitor for unregulated contaminants will be required to notify the public of their failure to monitor.

EPA plans to conduct ongoing data analysis which will include 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 the three-year ICR period of 2012-2014.

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 CCRs rulemaking (63 FR 44512, August 19, 1998 (USEPA, 1998b)). Consistent with that Final Rule, the alternative definition has been applied to this regulation.

After considering the economic impacts of this rule on small entities, I certify that this action will not have a significant economic impact on a substantial number of small entities. The small entities directly regulated by this rule are PWSs serving 10,000 or fewer people. EPA has determined that the small entities subject to the requirements of this rule are a subset of the small PWSs (those serving 10,000 or fewer people). The agency has determined that 2,080 small PWSs (across Assessment Monitoring, Screening Survey, and Pre-Screen Testing), or approximately 3% of small systems, will experience an impact of no more than 0.4% of revenues; the remainder of small systems will not be impacted.

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

The evaluation of the overall impact on small systems, summarized in the preceding discussion, is further described as follows. EPA analyzed the impacts for privately-owned and publicly-owned water systems separately due to the different economic characteristics of these ownership types, such as different rate structures and profit goals. For both publicly- and privately-owned systems, EPA used the “revenue test,” which compares annual system costs attributed to the rule to the system’s annual revenues. Median revenue data from the 2006 Community Water System Survey Volume II: Detailed Tables and Survey Methodology (<http://water.epa.gov/aboutow/ogwdw/upload/cwssreportvolumeII2006.pdf>) were used for public and private water systems. EPA assumes that the distribution of the sample of participating small systems will reflect the proportions of publicly- and privately-owned systems in the national inventory. The estimated distribution of the representative sample, categorized by ownership type, source water, and system size, is presented in Exhibit 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 |
| <i>Ground Water</i> | | | |
| 500 and under | 134 | 402 | 536 |
| 501 to 3,300 | 548 | 208 | 757 |
| 3,301 to 10,000 | 286 | 66 | 352 |
| <i>Subtotal GW</i> | <i>968</i> | <i>677</i> | <i>1,645</i> |
| <i>Surface Water (and GWUDI)</i> | | | |
| 500 and under | 7 | 9 | 16 |
| 501 to 3,300 | 98 | 35 | 133 |
| 3,301 to 10,000 | 222 | 64 | 286 |

| Exhibit 4: Number of Publicly- and Privately-Owned Small Systems Subject to UCMR 3 | | | |
|---|----------------|-----------------|-------|
| System Size (# of people served) | Publicly-Owned | Privately-Owned | Total |
| <i>Subtotal SW</i> | 327 | 108 | 435 |
| <i>Total of Small Water Systems</i> | 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 | | | | | | |
|--|-------------|-----------------|-----------------|-----------------|-------------|-----------------|
| <i>Cost Description</i> | <i>2012</i> | <i>2013</i> | <i>2014</i> | <i>2015</i> | <i>2016</i> | <i>Total</i> |
| <i>Costs to EPA for Small System Program (including Assessment Monitoring, the Screening Survey, and Pre-Screen Testing)</i> | | | | | | |
| | \$0.00 | \$5,407,232.66 | \$5,407,232.66 | \$5,407,232.66 | \$0.00 | \$16,221,697.97 |
| <i>Costs to Small Systems (including Assessment Monitoring, the Screening Survey, and Pre-Screen Testing):</i> | | | | | | |
| | \$0.00 | \$110,719.99 | \$110,719.99 | \$110,719.99 | \$0.00 | \$332,159.97 |
| <i>Total Costs to EPA and Small Systems for UCMR 3:</i> | | | | | | |
| | \$0.00 | \$5,517,952.65 | \$5,517,952.65 | \$5,517,952.65 | \$0 | \$16,553,857.94 |
| <i>System Monitoring Activity Timeline:¹</i> | | | | | | |
| <i>Assessment Monitoring</i> | | 1/3 PWSs Sample | 1/3 PWSs Sample | 1/3 PWSs Sample | | 800 |
| <i>Screening Survey</i> | | 1/3 PWSs Sample | 1/3 PWSs Sample | 1/3 PWSs Sample | | 480 |
| <i>Pre-Screen Testing</i> | | 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. As required by SDWA, the agency specifically structured the rule to avoid significantly affecting small entities by assuming all costs for laboratory analyses, shipping, and quality control for small entities. As a result, EPA incurs the entirety of the non-labor costs associated with UCMR 3 small system monitoring, or 98% of total small system testing costs. Exhibits 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/aboutow/ogwdw/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/aboutow/ogwdw/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

EPA is using the same monitoring frequency as that used under UCMR 1 and UCMR 2 for Assessment Monitoring because the agency believes that the frequency is sufficient to gather necessary information on occurrence of unregulated contaminants, without significantly burdening small systems. Assessment Monitoring, Screening Survey, and Pre-Screen Testing activities are expected to occur from January 2013 through December 2015.

For Assessment Monitoring and the Screening Survey, surface water or GWUDI systems will collect four samples as follows: systems will select either the first, second, or third month of a quarter and sample 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 systems will collect samples two times in a year as follows: systems will sample 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 will collect two samples for small systems at selected undisinfected ground water EPTDS locations for enteroviruses and noroviruses on the same schedule as for ground water systems under Assessment Monitoring. Small systems must also allow the collection of samples for total coliform, *E. coli*, bacteriophage, *Enterococci* and aerobic spores. Small systems will be selected for no more than one component of UCMR monitoring. UCMR activities that occur after the year 2014 are not included in this ICR analysis. However, 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 system 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 2012-2014. 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.

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 has 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, system inventory numbers (the number of water systems in the various size categories by primary water source), the number of sampling points for each system, 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 system 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 system 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/aboutow/ogwdw/upload/cwssreportvolumeII2006.pdf>).
- *DSMRT Data:* The number of DSMRT samples per system was estimated by taking the average number of treatment plants per system from the 2006 CWSS. As a conservative measure, the average number of CWS treatment plants were also used to represent the number of NTNCWS treatment plants (*i.e.*, it is likely that NTNCWSs have fewer treatment plants than CWSs, and thus lower actual costs for DSMRT sampling than estimated).

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

Assessment Monitoring will be conducted from January 2013 through December 2015 by 800 systems serving 10,000 or fewer people, and all systems serving more than 10,000 people. The Screening Survey will be conducted from January 2013 through December 2015 by 480 small systems serving 10,000 or fewer people, 320 large systems serving 10,001 to 100,000 people, and all very large systems (413) serving more than 100,000 people. Pre-Screen Testing will be conducted from January 2013 through December 2015 by 800 systems serving 1,000 or fewer people. It is assumed for this cost estimation that one-third of systems will conduct Assessment Monitoring, Screening Survey monitoring, and Pre-Screen Testing each monitoring year. The UCMR program will affect approximately 6,295 systems, roughly two-thirds of which will conduct monitoring during the ICR years of 2012-2014. The remaining one-third of systems will conduct monitoring in January-December of 2015. Exhibit 8 presents the estimated numbers of regulated systems to participate. Exhibit 9 presents the timeline in which the system monitoring activities will take place.

As noted in Section 3(b), some public commenters felt 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 system burden estimates represent average burden hours, which include surface water systems that may have very few sampling points, and thus lower sampling burden, as well as those systems with higher numbers of sampling points that would therefore have greater sampling activity labor burden. Moreover, a system's burden is primarily incurred during its one year of required UCMR monitoring (between January 2013 and December 2015). However, in compliance with the requirements of the Paperwork Reduction Act (44 U.S.C. 3501 et seq.), these cost and burden estimates are presented as an average over the applicable three-year ICR period (2012 - 2014). Small systems (those serving 10,000 or fewer people) will have

the lowest burden not only because of the relative smaller size of their infrastructure, but also because these systems will receive a great deal of direct assistance from EPA and/or their State.

| Exhibit 8: Systems to Participate in UCMR 3 Monitoring | | | | |
|---|--|--|--|--------------------------|
| System Size | Assessment Monitoring for 21 List 1 Chemicals | Screening Survey for 7 List 2 Hormones | Pre-Screen Testing for 2 List 3 Microbials¹ | TOTAL² |
| | <i>National Sample</i> | | | |
| <i>Small Systems</i> | | | | |
| 25 – 10,000 | 800 randomly selected systems | 480 randomly selected systems | 800 selected undisinfected ground water wells at PWSs serving 1,000 or fewer | ~2,080 |
| <i>Large Systems</i> | | | | |
| 10,001 and over | All (~4,215) | 320 large systems (serving 10,001 to 100,000) 413 very large systems (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 systems serving 1,000 or fewer customers.

² Total for small systems is additive because these systems would only be selected for one component of UCMR 3 sampling.

³ Total for large systems is not additive because some of the same systems will monitor for both List 1 and List 2 contaminants.

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

¹The 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 systems 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 systems will conduct monitoring during the ICR years of 2013-2014; the remaining systems will monitor in January-December of 2015.

The water system 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 system size and are taken from the 2006 CWSS. Estimated hourly rates range from \$21 per hour for staff in water systems serving 500 or fewer people to \$38 per hour for systems serving more than 100,000 people (see Exhibit 10 for details).

| Exhibit 10: Labor Rates Applied for Public Water Systems | |
|---|-------------------------------|
| System Size | Labor Rate¹ |
| 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) taken from the 2006 CWSS. Rates are for both ground water and surface water/GWUDI systems. 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), systems are assumed to read the regulations and/or a State-issued guidance letter during the year in which systems will monitor (2013-2015). Small systems can rely on the State and EPA for information pertaining to their requirements, rather than reading the regulation; they are expected to spend 1 hour, on average, reading the letter or guidance. Systems serving more than 10,000 people are assumed to read both 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 system labor rate, times the number of systems affected. This reading burden is assumed for each UCMR component. Small systems will only be selected for one component of UCMR monitoring, thus each small system selected to monitor has 1 hour to read a letter or guidance. Some large and very large systems will monitor for Assessment Monitoring, and the Screening Survey, thus these systems receive 4 hours for each UCMR 3 component.

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

For all monitoring, it is assumed that all participating systems will collect samples during January 2013 through December 2015, with approximately one-third of systems involved during each of the 3 consecutive 12-month periods. The last group of systems (or approximately one-third of systems) will monitor outside of the applicable ICR period of 2012-2014, and will conduct their monitoring January through December 2015. See Exhibit 9, for an illustration of the timeline for system sampling activity. For both Assessment Monitoring and Pre-Screen Testing, EPA assumes that each system will incur an estimated burden of 0.5 hours per sampling point to collect samples for analysis. For the Screening Survey, EPA assumes that small systems will 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 systems, because these systems are expected to collect Assessment Monitoring and Screening Survey samples at the same time.

While EPA will collect the samples for the Pre-Screen Testing systems, EPA may need to coordinate with these systems to identify the location of sampling points and to obtain access to sampling points that may be physically secured. Systems may also want to accompany EPA when the samples are collected. This may overestimate the cost for some Pre-Screen Testing systems. This 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 systems) times (number of sample events per year). Note that this estimate is an average. Some systems may need less than 0.5 hours per sampling point to collect a sample, while other systems may need more time. Many ground water systems may 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 systems will sample (as described in section 6(a)(ii), Part A of this ICR document). Certain water systems 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

Under UCMR 3, regulated systems are required to report specific information prior to monitoring, and with their monitoring results.

- *Reporting Prior to Monitoring*

Small systems: EPA assumes that small systems will only need to confirm contact information prior to monitoring. These systems are allotted a one-time reporting burden of 2 hours.

Large surface water (and GWUDI) systems: EPA assumes that large surface water/GWUDI systems will be sending contact and sampling point information, and are allotted a one-time reporting burden of 6 hours.

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

- *Reporting with Monitoring Results*

Small systems: Small systems can choose whether to review their UCMR monitoring results. Because EPA is paying for and coordinating laboratory analyses, small systems are not required to review and approve their analytical results. Some systems may choose not to review at all, while others may review in detail. As a conservative assumption, small systems are each allotted 0.5 hours per sampling period for data review.

Large systems: Large systems must review, approve, and submit the data to the State and EPA via the EPA electronic reporting system. These systems are allotted 2 hours per sampling period for this activity.

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

Systems are required to notify their users of the detection of any unregulated contaminants. Specifically, UCMR monitoring results will be reported by CWSs through the 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)). Therefore, no additional public notification burden is assumed under UCMR.

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

Under UCMR, small systems will only incur labor costs. By design of the rule, EPA assumes all laboratory and shipping costs for systems in the national representative sample of small systems. Thus, the laboratory fee and shipping cost estimates described here are the basis for EPA and large system 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 will 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 will have different approaches to the cost and fees related to handling of field blanks. For the purposes of these cost estimates, EPA conservatively assumes that laboratories will 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 might 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 assumes that 30% of field blanks will be analyzed and reported for VOCs (Method 524.3) and perfluorinated chemicals (Method 537), and 10% of field blanks 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 |
|---|--|
| <i>Synthetic Organic Compound using EPA Method 522 (GC/MS)</i> | \$175.00 |
| <i>7 Volatile Organic Compounds (VOC) using EPA Method 524.3 (GC/MS)</i> | \$187.50 |
| <i>5 Metals using EPA Method 200.8 (IC/MS) or alternate SM or ASTM Methods²</i> | \$103.75 |
| <i>Chromium-6 using EPA Method 218.7 (IC/UV-VIS)</i> | \$100.00 |
| <i>Oxyhalide Anion using EPA Method 300.1 (IC/Conductivity) or alternate SM or ASTM Methods</i> | \$50.00 |
| <i>6 Perfluorinated Chemicals using EPA Method 537 (LC/MS/MS)</i> | \$468.33 |
| Total | \$1,084.58 |

¹Field blank samples are only required for EPA Methods 539, 524.3, and 537.

²The analytical cost for Method 200.8 includes the cost of total chromium monitoring.

Screening Survey (List 2) Analytical Costs

| Method Type | Average Analysis Cost per UCMR 3 Sample ¹ |
|---|--|
| <i>7 Hormones using EPA Method 539 (LC/MS/MS)</i> | \$418.33 |
| Total | \$418.33 |

Pre-Screen Testing (List 3) Analytical Costs

| Method | Average Analysis Cost |
|---|-----------------------|
| <i>Enterovirus and norovirus</i> | \$1,500.00 |
| <i>Pathogen Indicators ²</i> | \$380.00 |
| Total | \$1,880.00 |

¹The 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 has increased the number of samples that will be collected for QA purposes from the number in

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

UCMR 3 specifies that samples be collected at EPTDSs. Some large systems 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. Systems can do this if: they meet certain system 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 systems, EPA assumed that approximately 75% of the current EPTDSs will be sampled at systems serving 10,001 to 100,000 people, and at ground water systems that serve more than 100,000 people 50% of EPTDSs will be sampled.

Systems that purchase all of their water from a wholesale water system, 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 has not attempted to estimate the number of systems that would take advantage of this allowance. Thus, the cost estimates presented in this ICR are conservative.

In addition to EPTDS samples, systems 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. It is assumed that, for each sampling point, a package of empty sample bottles is shipped via ground transportation to the system; estimated at \$17 per package. Following sample collection, the system 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. Thus, shipping cost for a large PWS is estimated at \$97 per sample (again, small system laboratory and shipping costs are paid for by EPA). Shipping costs were estimated based on pricing information posted on: <http://www.fedex.com/> and <http://www.ups.com/>; accessed May 2010.

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 systems) times (number of periods per year) times (number of sampling points per system) 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. As previously discussed, the UCMR 3 period is 2012-2016, and the ICR period of 2012-2014 coincides with the first three years of program implementation (and the first two years of monitoring). One year of monitoring, January through December 2015 is outside of the 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 systems incur labor costs only. Large systems will incur both labor and non-labor costs, as they are responsible for analytical costs.

The nationwide cost to systems for implementing the total UCMR program over the three-year ICR period of 2012-2014 is estimated to be \$41.9 million. Large and very large systems are expected to incur about 99.5% of the total system cost, \$41.6 million. Annual cost per small system for UCMR implementation over the three-year ICR period is estimated to be \$53 per system, all attributed to labor. Annual cost per large system is estimated to be \$258 for labor plus \$3,928 for analytical (non-labor) costs; with very large systems costs of \$479 for labor plus \$11,394 for analytical (non-labor) costs. Exhibits 8 and 9 illustrate numbers of systems participating and timing of monitoring. Per system labor burdens and costs for the UCMR program are presented in Exhibit 11b. In addition, 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 system. 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 System Size and by Type of Cost (2012-2014) <i>(corresponds to Exhibit B-1a)</i> | | | | |
|--|---------------|------------------------|------------------------|------------------------|
| Cost Description | 2012 | 2013 | 2014 | Total |
| SMALL SYSTEMS (standard sample serving 10,000 or fewer people) | | | | |
| Labor Costs | | | | |
| Reading and Initial Reporting | \$0.00 | \$46,459.22 | \$46,459.22 | \$92,918.43 |
| Monitoring | \$0.00 | \$44,811.37 | \$44,811.37 | \$89,622.75 |
| Reporting of Results | \$0.00 | \$19,449.40 | \$19,449.40 | \$38,898.80 |
| Non-Labor Costs (Laboratory Analysis and Shipping (paid for by EPA)) | | | | |
| | \$0.00 | \$0.00 | \$0.00 | \$0.00 |
| Subtotal – Small Systems | \$0.00 | \$110,719.99 | \$110,719.99 | \$221,439.98 |
| LARGE SYSTEMS (serving 10,001 to 100,000 people) | | | | |
| Labor Costs | | | | |
| Reading and Initial Reporting | \$0.00 | \$467,260.11 | \$467,260.11 | \$934,520.22 |
| Monitoring | \$0.00 | \$260,570.02 | \$260,570.02 | \$521,140.03 |
| Reporting of Results | \$0.00 | \$254,970.73 | \$254,970.73 | \$509,941.47 |
| Non-Labor Costs (Laboratory Analysis and Shipping) | | | | |
| | \$0.00 | \$14,935,269.58 | \$14,935,269.58 | \$29,870,539.15 |
| Subtotal – Large Systems | \$0.00 | \$15,918,070.44 | \$15,918,070.44 | \$31,836,140.88 |
| VERY LARGE SYSTEMS (serving greater than 100,000 people) | | | | |
| Labor Costs | | | | |
| Reading and Initial Reporting | \$0.00 | \$74,890.05 | \$74,890.05 | \$149,780.09 |
| Monitoring | \$0.00 | \$84,294.07 | \$84,294.07 | \$168,588.14 |
| Reporting of Results | \$0.00 | \$38,708.94 | \$38,708.94 | \$77,417.87 |
| Non-Labor Costs (Laboratory Analysis and Shipping) | | | | |
| | \$0.00 | \$4,705,632.07 | \$4,705,632.07 | \$9,411,264.14 |
| Subtotal – Very Large Systems | \$0.00 | \$4,903,525.12 | \$4,903,525.12 | \$9,807,050.24 |
| ALL SYSTEMS | | | | |
| Total Labor for All Systems | \$0.00 | \$1,291,413.90 | \$1,291,413.90 | \$2,582,827.81 |
| Total Non-Labor for All Systems | \$0.00 | \$19,640,901.65 | \$19,640,901.65 | \$39,281,803.29 |
| Total Labor and Non-Labor for All Systems | \$0.00 | \$20,932,315.55 | \$20,932,315.55 | \$41,864,631.10 |

| Exhibit 11b: Per System (Respondent) and Per Response UCMR Costs (2012-2014) <i>(corresponds with Exhibit B-1b)</i> | | | | | | |
|---|-----------------------------|---------------|--------------------|--------------------------------------|---------------|--------------------|
| Burden / Cost | Total over 2012-2014 | | | Annual Average over 2012-2014 | | |
| | Small Systems | Large Systems | Very Large Systems | Small Systems | Large Systems | Very Large Systems |
| 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 | 1.80 | 2.69 | 3.67 | 0.60 | 0.90 | 1.22 |
| Labor Cost per Response | \$88.67 | \$288.78 | \$391.61 | \$29.56 | \$96.26 | \$130.54 |
| Non-Labor Cost per Response | \$0.00 | \$4,388.42 | \$9,311.94 | \$0.00 | \$1,462.81 | \$3,103.98 |
| Burden (labor hours) per Response | 3.82 | 9.24 | 10.22 | 1.27 | 3.08 | 3.41 |

6(b) Estimating the Burden and Cost to States

Since UCMR is a direct implementation rule, individual State costs will largely depend on specifications in their PA. EPA assumed that States will incur only labor costs, because no capital investments are expected for UCMR 3. Because States will be 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 are assumed to 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. This assessment tool (or model) was developed by ASDWA 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).

Understandably, the model had bundled the State resource needs for Phase II/V, Arsenic, and UCMR, because of the inherent overlap and similarities in the programs. However, because these programs were bundled, 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 2015 and 2016 are not relevant to the current ICR estimations for 2012-2014);
- during the three years (2013-2015) when Assessment Monitoring, the Screening Survey, and Pre-Screen Testing are being conducted, UCMR represents 3% of the bundled program resource needs (although the costs for 2015 are not relevant to the current ICR estimations for 2012-2014).

EPA ran the model for each of the State size categories that were based on the number of systems 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 systems; two separate sets of system 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 |
| <i>Total</i> | 56 |

EPA estimates that the average annual burden over the 3 ICR years (2012-2014) for 56 States to implement UCMR will be 13,068 hours (or 233 hours per State per year), with an average annual cost (labor only) of \$783,534 (or \$13,992 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 (2012-2014)¹ (corresponds with Exhibit B-2a) | | | | | |
|---|--------------|--------------|----------------|----------------|----------------|
| Cost/Burden | 2012 | 2013 | 2014 | Total | Annual Average |
| <i>Costs to All States for labor related to UCMR implementation and oversight</i> | | | | | |
| | \$331,537.87 | \$994,613.61 | \$1,024,452.02 | \$2,350,603.50 | \$783,534.50 |
| <i>Labor burden for all States for UCMR implementation and oversight (number of hours)</i> | | | | | |
| | 13,341.96 | 13,625.46 | 12,238.02 | 39,205.44 | 13,068.48 |

¹ All costs are attributed to labor and are estimated over the period 2012-2014.

| Exhibit 13b: Per State (Respondent) and Per Response UCMR 3 Costs (2012-2014) (corresponds with Exhibit B-2b) | | |
|--|----------------------|-------------------------------|
| Burden / Cost | Total over 2012-2014 | Annual Average over 2012-2014 |
| PER RESPONDENT: | | |
| Labor Cost | \$41,975.07 | \$13,991.69 |
| Non-Labor Cost | \$0.00 | \$0.00 |
| Burden (labor hours) | 700.11 | 233.37 |
| PER RESPONSE: | | |
| Number Responses per Respondent ¹ | 3.00 | 1.00 |
| Labor Cost per Response | \$13,991.69 | \$4,663.90 |
| Non-Labor Cost per Response | \$0.00 | \$0.00 |
| Burden (labor hours) per Response | 233.37 | 77.79 |

¹ States are assumed to 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 will incur UCMR-related burden and costs related to UCMR implementation activities, including: regulatory support activities; national and regional oversight and data analysis; and the small system 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 anticipates incurring various labor or contractor costs related to the laboratory PT/approvals; laboratory QA/QC; and provision of analytical standards, as follows:

- Laboratory approval (PT program) is estimated to cost EPA \$231,855 prior to the beginning of monitoring, in 2013. Cost estimates from best professional judgment are 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.
- QC Audits of contract laboratories will 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 costs 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: <http://www.gsa.gov/Portal/gsa/ep/home.do?tabId=0>). Also included is \$150 for rental of one car for both travelers. It is estimated that these QC audits will take place 4 times each year, at an estimated \$8,699.68 per trip.

- Analytical standards provision and coordination are estimated to cost EPA \$600,713 total for three ICR years (or \$200,238 per ICR year). Cost estimates from best professional judgment 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 are estimated to cost EPA \$175,630 total over the ICR period including: costs for developing and distributing guidance for laboratories that will participate in UCMR 3 testing; health effects fact sheets; and other pertinent guidance related to UCMR 3 implementation. These activities are expected to take place in 2012 and 2013. Cost estimates from best professional judgment are 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 will 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 estimates that it will 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 are estimated to cost EPA \$2.2 million in total over the three-year ICR period.

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

EPA will provide logistical support for the small system testing program. This activity includes costs for contractual labor and sampling supplies, and is estimated at \$400 per sampling event per sampling site, based on actual costs incurred during UCMR 1 for this same activity. These activities are estimated to cost EPA \$2.4 million in total over the three ICR years.

The single largest cost to EPA for implementation of UCMR is for small system sample analyses. EPA will pay small system sample analyses and shipping for Assessment Monitoring, the Screening Survey, and Pre-Screen Testing. EPA will also pay for quality control duplicates for up to 10% of all samples.

EPA assumes that, for each sampling point, a package of empty sample bottles is shipped via ground transportation to the system; estimated at \$17 per package. Following sample collection, the system 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. Thus, shipping cost for a large PWS is estimated at \$97 per sample. Small system 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 are estimated to cost EPA \$10.8 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 will incur for the small system testing program were calculated by multiplying the laboratory and shipping fees by: (number of systems) times (number of sampling periods per year (including an additional 10% QA samples)) times (number of sampling points per system).

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

The EPA cost for the UCMR 3 program during the ICR period of 2012-2014 is estimated to be \$14.1 million; (with annual average cost over the ICR period of \$4.7 million). EPA costs for UCMR implementation are shown in Exhibit 14a; average annual labor and non-labor costs, as well as small system 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 (2012-2014)¹ <i>(corresponds with Exhibit B-3a)</i> | | | | | |
|--|---------------------|---------------------|---------------------|-----------------------|-----------------------|
| Cost Description | 2012 | 2013 | 2014 | Total | Annual 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 | \$231,855.00 | \$77,285.00 |
| QC Audits | \$17,399.36 | \$34,798.72 | \$34,798.72 | \$86,996.80 | \$28,998.93 |
| Analytical Standards | \$115,927.00 | \$238,811.00 | \$245,975.00 | \$600,713.00 | \$200,237.67 |
| Technical Support | \$115,927.00 | \$59,703.00 | \$0.00 | \$175,630.00 | \$58,543.33 |
| Subtotal – Regulatory Support | \$481,108.36 | \$333,312.72 | \$280,773.72 | \$1,095,194.80 | \$365,064.93 |
| 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 | \$2,212,496.00 | \$737,498.67 |
| Small System Testing: implementation coordination; and analytical and shipping costs for small system testing for Assessment Monitoring, the Screening Survey, and Pre-Screen Testing | | | | | |
| Implementation Coordination | \$0.00 | \$1,219,832.00 | \$1,219,832.00 | \$2,439,664.00 | \$813,221.33 |

| Exhibit 14a: Yearly Cost to EPA for UCMR Implementation, by Type of Cost (2012-2014)¹ <i>(corresponds with Exhibit B-3a)</i> | | | | | |
|---|---------------------|-----------------------|-----------------------|------------------------|-----------------------|
| Cost Description | 2012 | 2013 | 2014 | Total | Annual Average |
| Fees for Analysis and shipping – standard sample | \$0.00 | \$4,187,400.66 | \$4,187,400.66 | \$8,374,801.32 | \$2,791,600.44 |
| Subtotal – Small System Testing | \$0.00 | \$5,407,232.66 | \$5,407,232.66 | \$10,814,465.32 | \$3,604,821.77 |
| TOTAL | \$923,607.56 | \$6,625,543.78 | \$6,573,004.78 | \$14,122,156.12 | \$4,707,385.37 |

¹ Agency costs are estimated over the period 2012-2014.

| Exhibit 14b: Summary of EPA Burdens and Costs for UCMR Implementation (2012-2014) <i>(corresponds with Exhibit B-3b)</i> | |
|--|--|
| Burden / Cost | Annual Average Cost over Three-year ICR Period of 2012-2014 |
| Labor Cost | \$737,498.67 |
| Non-Labor Cost | \$3,969,886.71 |
| Total Cost to EPA for UCMR Implementation | \$4,707,385.37 |
| Burden (labor hours) | 9,533.33 |

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

For the UCMR 3 period of 2012-2016, the universe of respondents includes 6,295 PWS respondents comprised of CWSs, NTNCWSs, and TNCWSs as well as 56 State respondents. Assessment Monitoring will be conducted by 800 systems serving 10,000 or fewer people, plus all 4,215 systems that serve more than 10,000 people. Screening Survey monitoring will be conducted by 480 small systems, 320 large systems serving 10,001 to 100,000 people, and all 413 very large systems serving more than 100,000 people. Pre-Screen Testing monitoring will be conducted by 800 undisinfected ground water systems serving 1,000 or fewer customers. As described previously, PWS sampling is conducted four times during the monitoring year for surface water/GWUDI sampling locations, and twice for ground water sampling locations (i.e., frequency of response depends on water source) for Assessment Monitoring and the Screening Survey. EPA will collect samples for the Pre-Screen Testing systems twice during the 2013-2015 monitoring period. States will be involved in a variety of UCMR implementation and oversight activities, but have few defined responses; thus, States are assumed to have an average of 1.0 response per year.

Exhibit 15 summarizes national hours and costs for UCMR 3 during the ICR period of 2012-2014. Analogous information for the entire five-year UCMR 3 period of 2012-2016 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 systems is 9,539 hours, with a cost of \$221,440 (small systems only incur labor costs, EPA pays for all laboratory fees and shipping costs). The total labor burden to large systems is 62,924 hours, with a labor cost of \$2.0 million, and non-labor costs for analysis and shipping of \$29.9 million. Very large systems are estimated to have a total labor burden for the ICR period of 10,334 hours, with a labor and non-labor costs of \$0.4 million and \$9.4 million, respectively. The total burden to States over the three-year ICR period is 39,205 hours, with a labor cost of \$2.4 million. EPA anticipates that States will not incur any significant non-labor costs. The EPA total burden over the same time frame is 28,600 hours, with labor costs of \$2.2 million, and non-labor costs of \$11.9 million.

| Exhibit 15: UCMR 3 National Cost Summary for the ICR period (2012-2014) (corresponds with Exhibit B-4) | | | | | |
|---|---------------------|------------------------|------------------------|------------------------|-----------------|
| Type of Cost | 2012 | 2013 | 2014 | TOTAL | Annual Average |
| Small Systems | | | | | |
| Labor Cost | \$0.00 | \$110,719.99 | \$110,719.99 | \$221,439.98 | \$73,813.33 |
| Non-Labor Cost | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 |
| Total Small System Cost | \$0.00 | \$110,719.99 | \$110,719.99 | \$221,439.98 | \$73,813.33 |
| Large Systems | | | | | |
| Labor Cost | \$0.00 | \$982,800.86 | \$982,800.86 | \$1,965,601.72 | \$655,200.57 |
| Non-Labor Cost | \$0.00 | \$14,935,269.58 | \$14,935,269.58 | \$29,870,539.15 | \$9,956,846.38 |
| Total Large System Cost | \$0.00 | \$15,918,070.44 | \$15,918,070.44 | \$31,836,140.88 | \$10,612,046.96 |
| Very Large Systems | | | | | |
| Labor Cost | \$0.00 | \$197,893.05 | \$197,893.05 | \$395,786.10 | \$131,928.70 |
| Non-Labor Cost | \$0.00 | \$4,705,632.07 | \$4,705,632.07 | \$9,411,264.14 | \$3,137,088.05 |
| Total Very Large System Cost | \$0.00 | \$4,903,525.12 | \$4,903,525.12 | \$9,807,050.24 | \$3,269,016.75 |
| States | | | | | |
| Labor Cost | \$331,537.87 | \$994,613.61 | \$1,024,452.02 | \$2,350,603.50 | \$783,534.50 |
| Non-Labor Cost | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 |
| Total State Cost | \$331,537.87 | \$994,613.61 | \$1,024,452.02 | \$2,350,603.50 | \$783,534.50 |
| EPA | | | | | |
| Labor Cost | \$442,499.20 | \$884,998.40 | \$884,998.40 | \$2,212,496.00 | \$737,498.67 |
| Non-Labor Cost | \$481,108.36 | \$5,740,545.38 | \$5,688,006.38 | \$11,909,660.12 | \$3,969,886.71 |

| Exhibit 15: UCMR 3 National Cost Summary for the ICR period (2012-2014) (corresponds with Exhibit B-4) | | | | | |
|---|------------------|------------------|------------------|-------------------|------------------|
| Type of Cost | 2012 | 2013 | 2014 | TOTAL | Annual Average |
| Total EPA Cost | \$923,607.56 | \$6,625,543.78 | \$6,573,004.78 | \$14,122,156.12 | \$4,707,385.37 |
| National Total | | | | | |
| Total with EPA | \$1,255,145.43 | \$28,552,472.94 | \$28,529,772.34 | \$58,337,390.71 | \$19,445,796.90 |
| Total without EPA | \$331,537.87 | \$21,926,929.16 | \$21,956,767.57 | \$44,215,234.60 | \$14,738,411.53 |
| Total Burden (hours) for All Responses ¹ | | | | | |
| Small Systems | 0 | 4,769.41 | 4,769.41 | 9,538.82 | 3,179.61 |
| Large Systems | 0 | 31,461.90 | 31,461.90 | 62,923.80 | 20,974.60 |
| Very Large Systems | 0 | 5,166.87 | 5,166.87 | 10,333.73 | 3,444.58 |
| States | 13,341.96 | 13,625.46 | 12,238.02 | 39,205.44 | 13,068.48 |
| EPA | 5,720.00 | 11,440.00 | 11,440.00 | 28,600.00 | 9,533.33 |
| Total with EPA | 19,061.96 | 66,463.64 | 65,076.20 | 150,601.80 | 50,200.60 |
| Total without EPA | 13,341.96 | 55,023.64 | 53,636.20 | 122,001.80 | 40,667.27 |

¹ Although EPA is not considered a respondent to the UCMR regulations, 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

This ICR builds upon the ICR developed for UCMR 2, entitled: *Information Collection Request for UCMR 2, ICR Number 2192.03, OMB Control No. 2040-0270*. After the UCMR 1 program was established in 1999, subsequent UCMR cost and burden estimates were incorporated into the larger Chem/Rads ICR. However, the UCMR 2 ICR was developed and tracked separately from the Chem/Rads ICR, because the Chem/Rads ICR is a “renewal” ICR, whereas the UCMR program is, per SDWA, a program that must change every five years. Like the UCMR 2 ICR, this action and subsequent ICRs will be developed and tracked separately.

The reasons that respondents to UCMR 3 will incur a different burden than those responding to UCMR 2 include:

- UCMR 3 establishes a new list of 29 unregulated contaminants, including 27 chemicals measured using up to seven analytical methods and/or four equivalent consensus organization-developed methods, and two viruses measured using one sample collection and two detection methods. In addition, EPA is requiring the monitoring of total chromium under the authority provided in Section 1445 (a)(1)(A) of the SDWA. The cost for sample analysis is different than for UCMR 2. EPA plans to have laboratories under EPA contract to conduct sample analysis for the two viruses.

- More QA samples are collected and analyzed under UCMR 3 than were collected for UCMR 2. Field blanks will be collected for three Assessment Monitoring (List 1) methods, the one Screening Survey (List 2) method, and additional QA samples will be collected and analyzed for Pre-Screen Testing (List 3) viruses and indicator pathogens (see Exhibit 1 in section 4(b)(i), Part A of this ICR document).
- UCMR 3 monitoring is based on retail population served. Thus, as compared to UCMR 1 and 2, systems that purchase all of their water from monitoring are not excluded. In addition, some wholesale systems will no longer be subject to monitoring. All systems serving more than 10,000 retail customers must monitor for Assessment Monitoring (List 1) contaminants. Because of this change, EPA estimates a net increase of approximately 800 large and very large systems to monitor for UCMR 3, compared to those that monitored for UCMR 2 (see Exhibit 8 in section 6(a)(i), Part A of this ICR document).
- Samples for the metals and chlorate (under Assessment Monitoring) will be collected for all systems at the DSMRT location in addition to the required EPTDS locations (see explanation in section 4(b)(ii), Part A of this ICR document).

6(f) Burden Statement

Small systems (those serving 10,000 or fewer) that are selected for UCMR 3 monitoring will sample an average of 2.4 times per system (*i.e.*, number of responses per system) across the three-year ICR period of 2012-2014. The average burden per response for small systems is estimated to be 2.8 hours. Large systems (those serving 10,001 to 100,000) and very large systems (those serving more than 100,000) will sample and report an average of 3.2 and 3.7 times per system, respectively, across the three-year ICR period of 2012-2014. The average burden per response for large and very large systems is estimated to be 7.7 and 10.2 hours, respectively. States are assumed to incur 3.0 responses over the three-year ICR period related to coordination with EPA and systems, with an average burden per response of 233 hours. In aggregate during the ICR period of 2012-2014, the average response (*e.g.*, responses from systems and States) is associated with a burden of 9.6 hours, with a labor plus non-labor cost of \$3,480 per response.

The annual average per respondent burden hours and costs for the ICR period of 2012-2014 are: small systems – 2.3 hour burden at \$53 for labor; large systems – 8.3 hours at \$259 for labor, and \$3,928 for analytical costs; very large systems – 12.5 hours at \$479 for labor, and \$11,394 for analytical costs; and States – 233.4 hours at \$13,992 for labor. Annual average burden and cost per respondent (including systems and States) is estimated to be 9.6 hours, with a labor plus non-labor cost of \$3,466 per respondent (note that small systems do not pay for testing costs, so they only incur labor costs).

The agency estimates the annual average burden to EPA for UCMR 3 program activities during the ICR years of 2012-2014 to be 9,533 hours, at an annual labor cost of \$0.7 million. EPA's annual average non-labor costs are estimated to be \$3.9 million. Non-labor costs are primarily attributed to the cost of sample testing for small systems (testing is 91% of non-labor costs).

Exhibit 16 presents per respondent and per response burdens and costs over the UCMR ICR period of 2012-2014 (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 (2012-2014) (corresponds with Exhibit B-5) | | | | | | | |
|--|------------------|------------------|-----------------------|-------------|-----------------|--|---------------------------------------|
| Burden (hours)/ Cost (dollars) | Small Systems | Large Systems | Very Large Systems | States | EPA | National Average with EPA ¹ | National Average without EPA |
| Three-Year Total per Respondent | | | | | | | |
| Total # of Responses Per Respondent | 2.42 | 3.22 | 3.67 | 3.00 | n/a | n/a | 2.99 |
| Labor Cost Per Respondent | \$159.69 | \$775.49 | \$1,437.48 | \$41,975.06 | \$2,212,496.00 | \$1,679.95 | \$1,160.08 |
| Non-Labor Cost Per Respondent | n/a | \$11,784.80 | \$34,181.35 | n/a | \$11,909,660.12 | \$12,034.67 | \$9,236.98 |
| <i>Total Cost (Labor plus Non-Labor)</i> | \$159.69 | \$12,560.29 | \$35,618.83 | \$41,975.06 | \$14,122,156.12 | \$13,714.61 | \$10,397.06 |
| Total Cost Per Response | \$65.92 | \$3,897.67 | \$9,703.55 | \$13,991.69 | n/a | n/a | \$3,479.92 |
| Total Burden Per Respondent (hr) | 6.88 | 24.83 | 37.53 | 700.10 | 28,600.00 | 35.41 | 28.69 |
| Total Burden Per Response (hr) | 2.84 | 7.70 | 10.22 | 233.37 | n/a | n/a | 9.60 |

| Exhibit 16: UCMR 3 Per Respondent Burden and Cost Summary for the ICR Period (2012-2014) (corresponds with Exhibit B-5) | | | | | | | |
|--|------------------|------------------|-----------------------|-------------|----------------|--|---------------------------------------|
| Burden (hours)/ Cost (dollars) | Small Systems | Large Systems | Very Large Systems | States | EPA | National Average with EPA ¹ | National Average without EPA |
| Average Annual per Respondent | | | | | | | |
| Ave. # of Responses Per Respondent | 0.81 | 1.07 | 1.22 | 1.00 | n/a | n/a | 1.00 |
| Labor Cost Per Respondent | \$53.23 | \$258.50 | \$479.16 | \$13,991.69 | \$737,498.67 | \$559.98 | \$386.69 |
| Non-Labor Cost Per Respondent | n/a | \$3,928.27 | \$11,393.78 | n/a | \$3,969,886.71 | \$4,011.56 | \$3,078.99 |
| <i>Ave. Cost (Labor plus Non-Labor)</i> | \$53.23 | \$4,186.76 | \$11,872.94 | \$13,991.69 | \$4,707,385.37 | \$4,571.54 | \$3,465.69 |
| Ave. Cost Per Response | \$21.97 | \$1,299.22 | \$3,234.52 | \$4,663.90 | n/a | n/a | \$1,159.97 |
| Ave. Burden Per Respondent (hr) | 2.29 | 8.28 | 12.51 | 233.37 | 9,533.33 | 11.80 | 9.56 |
| Ave. Burden Per Response (hr) | 0.95 | 2.57 | 3.41 | 77.79 | n/a | n/a | 3.20 |

¹ National average burdens and costs differ greatly between the State respondents and the various system 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 the agency'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 will conduct monitoring of contaminants identified by the UCMR program. The representativeness of this sample of systems is critical to the UCMR program because the drinking water contaminant occurrence data collected by the PWSs will be 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: system 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 systems serving 10,000 or fewer people. In addition to satisfying statutory requirements, selection of a sample of systems 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 have given 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 systems to conduct monitoring, resulting in much smaller cost and burden at the national level than would be incurred if all systems monitored. Small systems that are selected for UCMR 3 monitoring will incur only a few hours of labor burden. EPA will pay for all laboratory fees and shipping costs related to small system testing.
- The survey results will be completed in time to inform the next cycle of 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 will be subject to the Assessment Monitoring component of UCMR 3 monitoring. Eligible small PWSs (serving 10,000 or fewer people) will only be 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 will only be selected to monitor for one component of UCMR 3.

2(b) Sample Design

2(b)(i) Sampling Frame

EPA will develop the sample frame for the statistical selection of UCMR systems, including the system PWSID, name, source water category, and population-served data for each UCMR-eligible PWS. Initial data will be pulled from EPA's Safe Drinking Water Information System (SDWIS/FED) inventory database, and will be 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 will include: 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 systems 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 systems serving 1,000 or fewer people. The Pre-Screen Testing systems will be located in areas with sensitive aquifers containing fractured or karst 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 will be stratified by population served (system size), allocating samples proportionately to each State by system 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 systems will account for different system sizes, sources of water supply, and geographic location (e.g., States). The sample will be stratified by water source type (i.e., ground or surface water) and by system size category (i.e., serves 25 to 500 people, 501 to 3,300 people, etc.). This stratification allows EPA to account for different exposure risks of contaminant occurrence that may be related to the vulnerability differences between surface and ground water sources and differing management and financial capacity that can vary across system sizes.

With contaminant exposure assessment as a primary goal, systems will be selected in proportion to the population served, as was generally done under UCMR 1 and UCMR 2. 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 will include at least two systems from each State. This additional PWS selection requirement will provide 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 water systems across the EPA Regions are grouped into a single category (equivalent to a “State”) for the representative sample.

2(b)(v) Multi-Stage Sampling

Because PWS status often changes over time, EPA will also select “alternate” systems that fit the size/source water strata of the originally selected system. Through an interactive review process with the States, systems 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 system 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 systems in which a contaminant occurs) and exposure (the fraction of people exposed to a contaminant). For estimates of exposure fractions, EPA will allow a margin of error of $\pm 1\%$ 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 will apply the same basic statistical methods that were used for the UCMR 1 and UCMR 2 national representative sample of small systems. Following sample adjustments made through communications with States, >99% of the final sample of small systems (and >95% of large systems) completed their required monitoring and reporting.

4 COLLECTION METHODS AND FOLLOW-UP

4(a) Collection Methods

Large PWSs (those serving more than 10,000 people) are required to submit their data through EPA's electronic data reporting system. Small PWSs (those serving 10,000 or fewer people) will be working directly with an EPA-appointed UCMR Sampling Coordinator, and monitoring data from the small PWSs will be 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 have given EPA confidence that equivalent or better levels can be achieved during UCMR 3. EPA plans to continue outreach and compliance assistance efforts, as needed. Each small system will be working with a UCMR Sampling Coordinator, and will have 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 have been refined, and now clarify that sampling schedules be adjusted based on sample point availability.
- UCMR 3 also modifies system applicability, i.e., the types of water systems that are required to monitor. In UCMR 1 and 2, systems that purchased 100% of their water were excluded from monitoring, making estimates of exposure more difficult because many of these purchasing systems represented high-population areas. 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 systems for any list of UCMR contaminants. This should greatly improve exposure estimates for UCMR 3, since exposure estimates will be based on the monitoring data collected from where the water is consumed rather than where it is sold.

In addition, 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 systems, respectively. EPA believes that required reporting of customer zip codes will provide 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 the following efforts will be taken by EPA to reduce problems and increase the dependability and quality of the occurrence data. The UCMR electronic data reporting system and EPA QA/QC assessments will screen for the use of inappropriate measurement units and other improper data. In addition, EPA plans to have other automated QC functions in place to identify possible data quality issues such as duplicate data submissions, and data completeness. All Assessment Monitoring and Screening Survey samples will be collected by trained PWS staff (Pre-Screen Testing samples will be collected by EPA) and analytical results will be 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 will be 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 expects to 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, system level and population-served level. For each contaminant, occurrence measures include the number and percent of samples for each contaminant with analytical detections, and the minimum, median, maximum, and 99th percentile values of those detections. System-level occurrence measures include the number and percent of systems with one or more analytical detections, and the number and percent of systems with two or more analytical detections of a given contaminant. Population-served occurrence measures include: the number and percent of population served by systems with one or more analytical detections, and the number and percent of population served by systems with two or more analytical detections of a given contaminant. Similar measures may also be conducted for each EPTDS for each system.

Since these contaminant and system 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 system mean contaminant concentrations may be desired. The Stage 2 analysis uses a Bayesian-based hierarchical model to estimate the percent (and number) of systems 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 or 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 ascertain 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 ensure compliance with such levels and to ensure 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 of 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 a 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 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.

(d) SCREENING METHODS – Section 1445 (42 U.S.C. 300j_4) is amended by adding the following after subsection (h):

(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.

(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 Systems, by System Size and by Type of Cost (2012-2016) <i>(corresponds to Exhibit 11a)</i> | | | | | | |
|--|---------------|------------------------|------------------------|------------------------|---------------|------------------------|
| Cost Description | 2012 | 2013 | 2014 | 2015 | 2016 | Total |
| SMALL SYSTEMS (serving 10,000 or fewer people) | | | | | | |
| <i>Labor Costs</i> | | | | | | |
| 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 |
| <i>Non-Labor Costs (Laboratory Analysis and Shipping (paid for by EPA))</i> | | | | | | |
| | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 |
| Subtotal – Small Systems | \$0.00 | \$110,719.99 | \$110,719.99 | \$110,719.99 | \$0.00 | \$332,159.97 |
| LARGE SYSTEMS (serving 10,001 to 100,000 people) | | | | | | |
| <i>Labor Costs</i> | | | | | | |
| 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 |
| <i>Non-Labor Costs (Laboratory Analysis and Shipping)</i> | | | | | | |
| | \$0.00 | \$14,935,269.58 | \$14,935,269.58 | \$14,935,269.58 | \$0.00 | \$44,805,808.73 |
| Subtotal – Large Systems | \$0.00 | \$15,918,070.44 | \$15,918,070.44 | \$15,918,070.44 | \$0.00 | \$47,754,211.32 |
| VERY LARGE SYSTEMS (serving greater than 100,000 people) | | | | | | |
| <i>Labor Costs</i> | | | | | | |
| 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 |
| <i>Non-Labor Costs (Laboratory Analysis and Shipping)</i> | | | | | | |
| | \$0.00 | \$4,705,632.07 | \$4,705,632.07 | \$4,705,632.07 | \$0.00 | \$14,116,896.21 |
| Subtotal – Very Large Systems | \$0.00 | \$4,903,525.12 | \$4,903,525.12 | \$4,903,525.12 | \$0.00 | \$14,710,575.36 |
| ALL SYSTEMS | | | | | | |
| Total Labor for All Systems | \$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 Systems | \$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 Systems | \$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) <i>(corresponds with Exhibit 11b)</i> | | | | | | |
|---|-----------------------------|---------------|--------------------|--------------------------------------|---------------|--------------------|
| Burden / Cost | Total over 2012-2016 | | | Annual Average over 2012-2016 | | |
| | Small Systems | Large Systems | Very Large Systems | Small Systems | Large Systems | Very Large Systems |
| 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 <i>(corresponds with Exhibit 13a)</i> | | | | | | | |
|---|--------------|--------------|----------------|----------------|--------------|----------------|---------------------------|
| 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) <i>(corresponds with Exhibit 13b)</i> | | |
|--|-----------------------------|--------------------------------------|
| 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 <i>(corresponds with Exhibit 14a)</i> | | | | | | | |
|---|---------------------|-----------------------|-----------------------|-----------------------|---------------|------------------------|-----------------------|
| 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 System Testing: implementation coordination; and analytical and shipping costs for small system 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 System 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 | \$923,607.5 _c | \$6,625,543.7 _g | \$6,573,004.78 | \$6,562,984.4 ₂ | \$0.00 | \$20,685,140.5 ₃ | \$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) <i>(corresponds with Exhibit 15)</i> | | | | | | |
|---|-----------------------|------------------------|------------------------|------------------------|---------------------|------------------------|
| Type of Cost | 2012 | 2013 | 2014 | 2015 | 2016 | TOTAL |
| Small Systems | | | | | | |
| 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 System Cost | \$0.00 | \$110,719.99 | \$110,719.99 | \$110,719.99 | \$0.00 | \$332,159.97 |
| Large Systems | | | | | | |
| 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 System Cost | \$0.00 | \$15,918,070.44 | \$15,918,070.44 | \$15,918,070.44 | \$0.00 | \$47,754,211.32 |
| Very Large Systems | | | | | | |
| 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 System 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 Systems | 0.00 | 4,769.41 | 4,769.41 | 4,769.41 | 0.00 | 14,308.24 |
| Large Systems | 0.00 | 31,461.90 | 31,461.90 | 31,461.90 | 0.00 | 94,385.70 |
| Very Large Systems | 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) <i>(corresponds with Exhibit 15)</i> | | | | | | |
|---|------------------|------------------|------------------|------------------|-----------------|-------------------|
| 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 regulations, 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) <i>(corresponds with Exhibit 16)</i> | | | | | | | |
|---|------------------|------------------|-----------------------|-------------|---------------------|--|---------------------------------------|
| Burden (hours)/ Cost (dollars) | Small Systems | Large Systems | Very Large Systems | 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 | \$17,587,646.1 3 | \$12,045.08 | \$9,277.71 |
| <i>Total Cost (Labor plus Non-Labor)</i> | \$159.69 | \$12,560.29 | \$35,618.83 | \$67,286.95 | \$20,685,140.5 3 | \$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 |
| <i>Ave. Cost (Labor plus Non-Labor)</i> | \$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 system respondents. This should be taken into consideration when looking at the national average with or without EPA.