Appendix A

Federal Register Notice Soliciting Comments on Information Collection Requests

Abstract: Source Compliance and State Action Reporting is an activity whereby State, District, Local, and Commonwealth governments (hereafter referred to as either ''states/locals'' or ''state and local agencies'') make air compliance and enforcement information available to the U.S. Environmental Protection Agency (EPA or the Agency) on a cyclic basis via input to the Air Facility System (AFS). The information provided to EPA includes compliance activities and determinations, and enforcement activities. EPA uses this information to assess progress toward meeting emission requirements developed under the authority of the Clean Air Act (CAA or the Act) to protect and maintain the atmospheric environment and the public health. The EPA and many of the state and local agencies access the data in AFS to assist them in the management of their air pollution control programs. This renewal information collection request (ICR) affects oversight of approximately 39,005 stationary sources by 99 state and local agencies and the Federal EPA. On average, the burden imposed by this collection amounts to approximately one-tenth of a full-time equivalent employee for each small state and local agency, one-fourth of a full-time equivalent employee for each medium sized state and local agency and one and one-tenth of a full-time equivalent employee for each large sized state and local agency for national reporting of compliance and enforcement related data under all of the applicable Clean Air Act programs.

Burden Statement: The annual public reporting and recordkeeping burden for this collection of information is estimated to average 92 hours per response. 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 which have subsequently changed; 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.

Respondents/Affected Entities: State and Local Agencies.

Estimated Number of Respondents: 99.

Frequency of Response: Every 60 days.

Estimated Total Annual Hour Burden: 54,384.

Estimated Total Annual Cost: $2,843,187 in labor costs. There are no capital or O&M costs.

Changes in the Estimates: There is a decrease of 18,689 hours in the total estimated burden currently identified in the OMB Inventory of Approved ICR Burdens. This decrease is due to a continuing decrease in the number of major sources in the reportable universe and a reported decrease of time and resources available for use in data management by small and medium sized agencies.

Dated: June 28, 2011.

Joseph A. Sierra,

Acting Director, Collection Strategies Division.

[FR Doc. 2011–16728 Filed 7–1–11; 8:45 am]

BILLING CODE 6560–50–P

ENVIRONMENTAL PROTECTION AGENCY

[EPA–HQ–OW–2011–0439; EPA–HQ–OW–2011–0442; EPA–HQ–OW–2011–0443; FRL–9429–6]

Agency Information Collection Activities; Proposed Collection; Comment Request; Disinfectants/Disinfection Byproducts, Chemical and Radionuclides; Microbial; and Public Water System Supervision Program

AGENCY: Environmental Protection Agency (EPA).

ACTION: Notice.

SUMMARY: In compliance with the Paperwork Reduction Act (PRA) (44 U.S.C. 3501 *et seq.*), this document announces that EPA is planning to submit a request to renew existing approved Information Collection Requests (ICRs) to the Office of Management and Budget (OMB). The ICRs scheduled to expire are Disinfectants/Disinfection Byproducts, Chemical and Radionuclides Rules ICR expires on December 31, 2011; Microbial Rules ICR expires on April 30, 2012; and Public Water System Supervision ICR expires on March 31, 2012. Before submitting the ICR to OMB for review and approval, EPA is soliciting comments on specific aspects of the proposed information collection as described below.

DATES: Comments must be submitted on or before September 6, 2011.

ADDRESSES: Submit your comments, identified by the Docket ID EPA–HQ–OW–2011–0439 (Disinfectants/Disinfection Byproducts, Chemical and Radionuclides Rules); EPA–HQ–OW–2011–0442 (Microbial Rules); and EPA–HQ–OW–2011–0443 (Public Water System Supervision), by one of the following methods:

- *http://www.regulations.gov:* Follow the on-line instructions for submitting comments.
- *E-mail: OW–Docket@epa.gov*
- *Mail:* Water Docket, US Environmental Protection Agency, EPA Docket Center (EPA/DC), Water Docket, MC: 28221T, 1200 Pennsylvania Ave., NW., Washington, DC 20460.
- *Hand Delivery:* EPA Docket Center, Public Reading Room, EPA Headquarters West Building, Room 3334, 1301 Constitution Ave., NW., Washington, DC. Such deliveries are only accepted during the Docket's normal hours of operation, and special arrangements should be made for deliveries of boxed information.

Instructions: Direct your comments identified by the Docket ID numbers identified in the **ADDRESSES** section for each item in the text. EPA's policy is that all comments received will be included in the public docket without change and may be made available online at *http://www.regulations.gov*, including any personal information provided, unless the comment includes information claimed to be Confidential Business Information (CBI) or other information whose disclosure is restricted by statute. Do not submit information that you consider to be CBI or otherwise protected through *http://www.regulations.gov* or e-mail. The *http://www.regulations.gov* Web site is an ''anonymous access'' system, which means EPA will not know your identity or contact information unless you provide it in the body of your comment. If you send an e-mail comment directly to EPA without going through *www.regulations.gov* your e-mail address will be automatically captured and included as part of the comment that is placed in the public docket and made available on the Internet. If you submit an electronic comment, EPA recommends that you include your name and other contact information in the body of your comment and with any disk or CD–ROM you submit. If EPA cannot read your comment due to technical difficulties and cannot contact you for clarification, EPA may not be able to consider your comment. Electronic files should avoid the use of special characters, any form of encryption, and be free of any defects or viruses. For additional information about EPA's public docket visit the EPA

Docket Center homepage at *http://www.epa.gov/epahome/dockets.htm.*

FOR FURTHER INFORMATION CONTACT: Matthew Reed, Drinking Water Protection Division, Office of Ground Water and Drinking Water, (4606M), Environmental Protection Agency, 1200 Pennsylvania Ave., NW., Washington, DC 20460; telephone number: 202–564–4719; e-mail address: *reed.matthew@epa.gov.*

SUPPLEMENTARY INFORMATION:

How can I access the docket and/or submit comments?

EPA has established a public docket for each of the ICRs identified in the **ADDRESSES** section, which are available for online viewing at *http://www.regulations.gov*, or in person viewing at the Water Docket in the EPA Docket Center (EPA/DC), EPA West, Room 3334, 1301 Constitution Ave., NW., Washington, DC. The EPA/DC 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 the Reading Room is 202–566–1744, and the telephone number for the Water Docket is 202–566–2426.

Use *http://www.regulations.gov* to obtain a copy of the draft collection of information, submit or view public comments, access the index listing of the contents of the docket, and to access those documents in the public docket that are available electronically. Once in the system, select ''search,'' then key in the docket ID number identified in this document.

What information is EPA particularly interested in?

Pursuant to section 3506(c)(2)(A) of the PRA, EPA specifically solicits comments and information to enable it to:

(i) Evaluate whether the proposed collection of information is necessary for the proper performance of the functions of the Agency, including whether the information will have practical utility;

(ii) evaluate the accuracy of the Agency's estimate of the burden of the proposed collection of information, including the validity of the methodology and assumptions used;

(iii) enhance the quality, utility, and clarity of the information to be collected; and

(iv) minimize the burden of the collection of information on those who are to respond, including through the use of appropriate automated electronic, mechanical, or other technological collection techniques or other forms of information technology, e.g., permitting electronic submission of responses. In particular, EPA is requesting comments from small public water systems (those that serve less than 10,000 customers) on examples of specific additional efforts that EPA could make to reduce the paperwork burden for small public water systems affected by this collection. The small public water systems include community water systems, and non-transient non-community water systems such as schools and hospitals, in addition to transient non-community water systems such as restaurants and campgrounds.

What should I consider when I prepare my comments for EPA?

You may find the following suggestions helpful for preparing your comments:

1. Explain your views as clearly as possible and provide specific examples.

2. Describe any assumptions that you used.

3. Provide copies of any technical information and/or data you used that support your views.

4. If you estimate potential burden or costs, explain how you arrived at the estimate that you provide.

5. Offer alternative ways to improve the collection activity.

6. Make sure to submit your comments by the deadline identified under DATES.

7. To ensure proper receipt by EPA, be sure to identify the docket ID number assigned to this action in the subject line on the first page of your response. You may also provide the name, date, and **Federal Register** citation.

What information collection activity or ICR does this apply to?

Docket ID No. EPA–HQ–OW–2011–0439.

Affected entities: Entities potentially affected by this action are new and existing public water systems (PWS), primacy agencies, and EPA.

Title: Disinfectants/Disinfection Byproducts, Chemical, and Radionuclides Rules (Renewal).

ICR numbers: EPA ICR No. 1896.09, OMB Control No. 2040–0204.

ICR status: This ICR is currently scheduled to expire on December 31, 2011. An Agency may not conduct or sponsor, and a person is not required to respond to, a collection of information, unless it displays a currently valid OMB control number. The OMB control numbers for EPA's regulations in title 40 of the CFR, after appearing in the **Federal Register** when approved, are listed in 40 CFR part 9, are displayed either by publication in the **Federal Register** or by other appropriate means, such as on the related collection instrument or form, if applicable. The display of OMB control numbers in certain EPA regulations is consolidated in 40 CFR part 9.

Abstract: The Disinfectants/Disinfection Byproducts, Chemical and Radionuclides Rules ICR examines PWS, primacy agency and EPA burden and costs for recordkeeping and reporting requirements in support of the chemical drinking water regulations. These recordkeeping and reporting requirements are mandatory for compliance with 40 CFR parts 141 and 142. The following chemical regulations are included: Stage 1 Disinfectants and Disinfection Byproducts Rule (Stage 1 DBPR), Stage 2 Disinfectants and Disinfection Byproducts Rule (Stage 2 DBPR), Chemical Phase Rules (Phases II/IIB/V), 1976 Radionuclides Rule and 2000 Radionuclides Rule, Total Trihalomethanes (TTHM) Rule, Disinfectant Residual Monitoring and Associated Activities under the Surface Water Treatment Rule, Arsenic Rule, Lead and Copper Rule (LCR) and revisions. Future chemical-related rulemakings will be added to this consolidated ICR after the regulations are finalized and the initial, rule-specific, ICRs are due to expire.

Burden Statement: The annual public reporting and recordkeeping burden for this collection of information is estimated to average 0.40 hours per response. 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 which have subsequently changed; 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.

The ICR provides a detailed explanation of the Agency's estimate, which is only briefly summarized here:

Estimated total number of potential respondents: 246,048.

Frequency of response: varies by requirement (*i.e.,* on occasion, monthly, quarterly, semi-annually, annually, biennially, and every 3, 6, and 9 years).

Estimated total average number of responses for each respondent: varies by requirement.

Estimated total annual burden hours: 6,987,131 hours.

Estimated total annualized capital/startup costs: $6,918,000.

Estimated total annual maintenance and operational costs: $203,672,204.

Are there changes in the estimates from the last approval?

There is no estimated increase or decrease of hours in the total estimated respondent burden compared with that identified in the ICR currently approved by OMB.

What information collection activity or ICR does this apply to?

Docket ID No. EPA–HQ–OW–2011–0442.

Affected entities: Entities potentially affected by this action are new and existing public water systems (PWS), primacy agencies, and EPA.

Title: Microbial Rules (Renewal).

ICR numbers: EPA ICR No. 1895.07, OMB Control No. 2040–0205

ICR status: This ICR is currently scheduled to expire on April 30, 2012. An Agency may not conduct or sponsor, and a person is not required to respond to, a collection of information, unless it displays a currently valid OMB control number. The OMB control numbers for EPA's regulations in title 40 of the CFR, after appearing in the **Federal Register** when approved, are listed in 40 CFR part 9, are displayed either by publication in the **Federal Register** or by other appropriate means, such as on the related collection instrument or form, if applicable. The display of OMB control numbers in certain EPA regulations is consolidated in 40 CFR part 9.

Abstract: The Microbial Rules Renewal ICR examines PWS, primacy agency and EPA burden and costs for recordkeeping and reporting requirements in support of the microbial drinking water regulations. These recordkeeping and reporting requirements are mandatory for compliance with 40 CFR parts 141 and 142. The following microbial regulations are included: Surface Water Treatment Rule (SWTR), Total Coliform Rule (TCR), Interim Enhanced Surface Water Treatment Rule (IESWTR), Filter Backwash Recycling Rule (FBRR), Long Term 1 Enhanced Surface Water Treatment Rule (LT1ESWTR), Long Term 2 Enhanced Surface Water Treatment Rule (LT2ESWTR), Ground Water Rule, and the Aircraft Drinking Water Rule. Although the Aircraft Drinking Water Rule has a stand-alone ICR at this time, it is being included into the Microbial ICR due to the nature of information collected. The information collected for the Aircraft Drinking Water Rule is directly correlated to information collected under the Total Coliform Rule, and therefore is appropriate to be included in the Microbial ICR. Future microbial-related rulemakings will be added to this consolidated ICR after the regulations are finalized and the initial, rule-specific, ICRs are due to expire.

Burden Statement: The annual public reporting and recordkeeping burden for this collection of information is estimated to average 0.79 hours per response. 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 which have subsequently changed; 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.

The ICR provides a detailed explanation of the Agency's estimate, which is only briefly summarized here:

Estimated total number of potential respondents: 161,337.

Frequency of response: Varies by requirement (*i.e.,* on occasion, monthly, quarterly, semi-annually, and annually.

Estimated total average number of responses for each respondent: 72.

Estimated total annual burden hours: 9,172,188 hours.

Estimated total annualized capital/startup costs: $32,888,601.

Estimated total annual maintenance and operational costs: $88,222,000.

Are there changes in the estimates from the last approval?

There is an increase of 17,583 hours in the total estimated respondent burden compared with that identified in the ICR currently approved by OMB. This increase reflects EPA's inclusion of the information collection requirements of the Aircraft Drinking Water Rule, which was previously a stand-alone ICR.

What information collection activity or ICR does this apply to?

Docket ID No. EPA–HQ–OW–2011–0443.

Affected entities: Entities potentially affected by this action are new and existing public water systems (PWS), primacy agencies, and EPA.

Title: Public Water System Supervision Program (Renewal).

ICR numbers: EPA ICR No. 0270.45, OMB Control No. 2040–0090.

ICR status: This ICR is currently scheduled to expire on March 31, 2012. An Agency may not conduct or sponsor, and a person is not required to respond to, a collection of information, unless it displays a currently valid OMB control number. The OMB control numbers for EPA's regulations in title 40 of the CFR, after appearing in the **Federal Register** when approved, are listed in 40 CFR part 9, are displayed either by publication in the **Federal Register** or by other appropriate means, such as on the related collection instrument or form, if applicable. The display of OMB control numbers in certain EPA regulations is consolidated in 40 CFR part 9.

Abstract: The Public Water System Supervision (PWSS) Program Renewal ICR examines PWS, primacy agency, EPA, and tribal operator certification provider burden and costs for ''cross-cutting'' recordkeeping and reporting requirements (*i.e.,* the burden and costs for complying with drinking water information requirements that are not associated with contaminant-specific rulemakings). These activities which have record keeping and reporting requirements that are mandatory for compliance with 40 CFR parts 141 and 142 include the following: Consumer Confidence Reports (CCRs), Primacy Regulation Activities, Variance and Exemption Rule (V/E Rule), General State Primacy Activities, Public Notification (PN) and Proficiency Testing Studies for Drinking Water Laboratories. The information collection activities for both the Operator Certification/Expense Reimbursement Program and the Capacity Development Program are driven by the grant withholding and reporting provisions under Sections 1419 and 1420, respectively, of the Safe Drinking Water Act. Although the Tribal Operator Certification Program is voluntary, the information collection is driven by grant eligibility requirements outlined in the Drinking Water Infrastructure Grant Tribal Set-Aside Program Final Guidelines and the Tribal Drinking Water Operator Certification Program Guidelines.

Burden Statement: The annual public reporting and recordkeeping burden for this collection of information is estimated to average 6.5 hours per response. 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 which have subsequently changed; 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.

The ICR provides a detailed explanation of the Agency's estimate, which is only briefly summarized here:

Estimated total number of potential respondents: 161,682.

Frequency of response: Varies by requirement (*i.e.,* on occasion, monthly, quarterly, semi-annually, and annually).

Estimated total average number of responses for each respondent: 3.1.

Estimated total annual burden hours: 3,249,695 hours.

Estimated total annual costs: $119,174,000. This includes an estimated burden cost of $97,636,000 and an estimated cost of $21,538,000 for capital investment or maintenance and operational costs.

Are there changes in the estimates from the last approval?

There is no estimated increase or decrease of hours in the total estimated respondent burden compared with that identified in the ICR currently approved by OMB.

What is the next step in the process for these ICRs?

EPA will consider the comments received and amend the ICRs as appropriate. The final ICR packages will then be submitted to OMB for review and approval pursuant to 5 CFR 1320.12. At that time, EPA will issue another Federal Register notice pursuant to 5 CFR 1320.5(a)(1)(iv) to announce the submission of the ICRs to OMB and the opportunity to submit additional comments to OMB. If you have any questions about these ICRs or the approval process, please contact the technical person listed under **FOR FURTHER INFORMATION CONTACT**.

Dated: June 28, 2011.

Ronald W. Bergman,

Acting Director, Office of Ground Water and Drinking Water.

[FR Doc. 2011–16731 Filed 7–1–11; 8:45 am]

BILLING CODE 6560–50–P

ENVIRONMENTAL PROTECTION AGENCY

[EPA–HQ–UST–2010–0651; FRL–9428–8]

Compatibility of Underground Storage Tank Systems With Biofuel Blends

AGENCY: Environmental Protection Agency (EPA).

ACTION: Notice of final guidance.

SUMMARY: EPA is issuing final guidance on how owners and operators of underground storage tanks (USTs) can demonstrate compliance with the Federal compatibility requirement for UST systems storing gasoline containing greater than 10 percent ethanol or diesel containing greater than 20 percent biodiesel.

ADDRESSES: EPA established a docket for this action under Docket ID No. EPA–HQ–UST–2010–0651. All documents and public comments in the document are available at *http://www.regulations.gov* or in hard copy at the UST Docket in the EPA Headquarters Library, located at EPA West Building, Room 3334, 1301 Constitution Ave., NW., Washington, DC 20460. The Public Reading Room is open from 8:30 a.m. to 4:30 p.m., Monday through Friday, excluding Federal holidays. The telephone number for the Public Reading Room is (202) 566–1744. The telephone number for the UST Docket is (202) 566–0270.

FOR FURTHER INFORMATION CONTACT: Andrea Barbery, Office of Underground Storage Tanks, Mail Code 5402P, U.S. Environmental Protection Agency, 1200 Pennsylvania Ave., NW., Washington, DC 20460; telephone number: (703) 603–7137; e-mail address: *barbery.andrea@epa.gov.*

SUPPLEMENTARY INFORMATION:

I. General Information

A. Does this action apply to me?

This guidance is for owners and operators of underground storage tank (UST) systems (hereafter referred to as tank owners) regulated by 40 CFR Part 280, who intend to store gasoline blended with greater than 10 percent ethanol or diesel blended with greater than 20 percent biodiesel.

40 CFR Part 280, and therefore this guidance, applies in Indian country and in states and territories (hereafter referred to as states) that do not have state program approval (SPA). You can view a map of SPA states with approved UST programs at: *http://www.epa.gov/oust/states/spamap.htm.* SPA states may find this guidance relevant and useful because they also have a compatibility requirement that is similar to the Federal compatibility requirement. You can view state-specific requirements for SPA states at: *http://www.epa.gov/oust/fedlaws/spa_frs.htm.*

B. How can I get copies of this document and other related information?

1. Docket. EPA has established a docket for this action under Docket ID No. EPA–HQ–UST–2010–0651. Publicly available docket materials are available either electronically through www.regulations.gov or in hard copy at the UST Docket in the EPA Docket Center, located at EPA West Building, Room 3334, 1301 Constitution Ave., NW., Washington, DC 20460. The EPA Docket Center Public Reading Room is open from 8:30 a.m. to 4:30 p.m., Monday through Friday, excluding Federal holidays. The telephone number for the Public Reading Room is (202) 566–1744. The telephone number for the UST Docket is (202) 566–0270.

2. Electronic Access. EPA established a docket for this action under Docket ID No. EPA–HQ–UST–2010–0651. All documents and public comments in the document are available at *http://www.regulations.gov.* In addition to being available in the UST docket, an electronic copy of this guidance is also available on EPA's Office of Underground Storage Tanks Web site at *http://www.epa.gov/oust.*

II. Background

A. Statutory Authority

This guidance discusses the Federal UST compatibility requirement promulgated under the authority of Subtitle I of the Solid Waste Disposal Act (SWDA), as amended. 42 U.S.C. 6991b *et seq.* You can find this requirement, which is referenced and discussed in the guidance, in 40 CFR 280.32.

B. Underground Storage Tank Compatibility Requirement

To protect groundwater, a source of drinking water for nearly half of all Americans, the U.S. Environmental Protection Agency (EPA) regulates UST systems storing petroleum or hazardous substances under authority of Subtitle I of the Solid Waste Disposal Act (SWDA), as amended. Tanks storing

Appendix B

Surface Water Treatment Rule Spreadsheets

Exhibit B.1a - SWTR Unfiltered System Burden and Cost Summary

Requirement	Annual Respondents	Avg. Annual Responses	Annual Burden	Annual Burden (Labor) Cost	Annual O&M Cost	Annual Capital Cost
Raw Water Coliforms Sampling	18	2,392	4,784	$ 154,925	$ 53,349	N/A
On Site Inspections & Watershed Management	18	18	61,732	$ 1,999,125	N/A	N/A
Raw Water Turbidity Monitoring	18	52,560	3,395	$ 109,927	$ 13,676	$ 7,001

Note: Disinfectant residual monitoring requirements under the SWTR are addressed in the DBP/Chems/Rads ICR.

Exhibit B.1b - SWTR Filtered System Burden and Cost Summary

Requirement	Annual Respondents	Avg. Annual Responses	Annual Burden	Annual Burden (Labor) Cost	Annual O&M Cost	Annual Capital Cost
Finished Water Turbidity Monitoring	6,305	17,984,604	1,713,708	$ 55,496,729	$ 4,347,445	$ 2,199,120

Note: Disinfectant residual monitoring requirements under the SWTR are addressed in the DBP/Chems/Rads ICR.

Exhibit B.1c - Total SWTR PWS (Filtered + Unfiltered System) Burden and Cost Summary

Requirement	Annual Respondents	Avg. Annual Responses	Annual Burden	Annual Burden (Labor) Cost	Annual O&M Cost	Annual Capital Cost
Totals for Unfiltered and Filtered Systems	6,323	18,039,574	1,783,619	$ 57,760,706	$ 4,414,470	$ 2,206,121

Exhibit B.1d - SWTR State Burden and Cost Summary

Requirement	Annual Respondents	Avg. Annual Responses	Annual Burden	Annual Burden (Labor) Cost	Annual O&M Cost	Annual Capital Cost
Finished Water Turbidity Monitoring	57	76,108	266,889	$ 11,687,587	N/A	N/A

Note: State activities associated with disinfectant residual monitoring requirements are addressed in the DBP/Chems/Rads ICR.

Exhibit B.2 - SWTR System Inventory

B.2a - Number of Systems

Population Category	Surface Water and GWUDI			Non-Purchased Surface Water/GWUDI			Unfiltered Surface Water/GWUDI			Filtered Non-Purchased Surface Water/GWUDI		
	CWS	NTNC	TNC	CWS	NTNC	TNC	CWS	NTNC	TNC	CWS	NTNC	TNC
<100	983	257	1,347	416	120	632	1	-	3	415	120	629
101-500	2,153	264	498	645	151	375	4	-	-	641	151	375
501-1,000	1,173	86	86	348	50	63	2	-	-	346	50	63
1,001-3,300	2,527	75	64	949	34	50	1	-	-	948	34	50
3,301-10K	2,143	29	23	1,010	7	17	-	-	-	1,010	7	17
10,001-50K	1,920	6	2	975	1	-	5	-	-	970	1	-
50,001-100K	392	1	-	224	-	-	1	-	-	223	-	-
100,001-1M	325	1	-	237	-	-	-	-	-	237	-	-
>1M	18	-	1	17	-	-	1	-	-	16	-	-
Total	**11,635**	**719**	**2,021**	**4,822**	**363**	**1,138**	**15**	**-**	**3**	**4,807**	**363**	**1,135**

Source: SDWIS/FED Data from October 2010.

Note: Source was not specified for some systems. These PWSs were assigned to SW or GW categories based on the ratio of SW to GW systems within a given size category.

B.2b - Filtered Non-Purchased Plants

Population Category	Plants Per System (SW/GWUDI)			Total Filtered Non-Purchased Plants (SW/GWUDI)		
	CWS	NTNC	TNC	CWS	NTNC	TNC
<100	1.02	1.00	1.00	422	120	629
101-500	1.06	1.00	1.00	677	151	375
501-1,000	1.03	1.00	1.00	357	50	63
1,001-3,300	1.00	1.00	1.00	948	34	50
3,301-10K	1.07	1.00	1.00	1,080	7	17
10,001-50K	1.08	1.00	1.00	1,048	1	-
50,001-100K	1.35	1.00	1.00	301	-	-
100,001-1M	1.69	1.00	1.00	400	-	-
>1M	1.69	1.00	1.00	27	-	-
Total				**5,259**	**363**	**1,135**

Source: Plants per system for CWSs: From 2006 Community Water Systems Survey. Includes treated surface water entry points.

Exhibit B.3 - Raw Water Coliforms Burden and Cost (Unfiltered Systems)

Population Category	Hourly Labor Rate	Number of Unfiltered Systems (SW and GWUDI)			Yearly Sample Freq.	Labor Hours Per Sample		Cost/Sample		Total Samples/ Year	Labor				O&M Costs
		CWS	NTNC	TNC		Collect	Analysis	O&M (materials)	Labor		Sample Collection		Analysis		Analytical Materials
											(hrs)	(cost)	(hrs)	(cost)	
<100	$ 32.38	1	-	3	52	1	1	$ 22.30	$ 32.38	208	208	$ 6,736	208	$ 6,736	$ 4,639
101-500	$ 32.38	4	-	-	52	1	1	$ 22.30	$ 32.38	208	208	$ 6,736	208	$ 6,736	$ 4,639
501-1,000	$ 32.38	2	-	-	104	1	1	$ 22.30	$ 32.38	208	208	$ 6,736	208	$ 6,736	$ 4,639
1,001-3,300	$ 32.38	1	-	-	104	1	1	$ 22.30	$ 32.38	104	104	$ 3,368	104	$ 3,368	$ 2,320
3,301-10K	$ 32.38	-	-	-	156	1	1	$ 22.30	$ 32.38	-	-	$ -	-	$ -	$ -
10,001-25K	$ 32.38	3	-	-	208	1	1	$ 22.30	$ 32.38	624	624	$ 20,208	624	$ 20,208	$ 13,917
25,001-50K	$ 32.38	2	-	-	260	1	1	$ 22.30	$ 32.38	520	520	$ 16,840	520	$ 16,840	$ 11,598
50,001-100K	$ 32.38	1	-	-	260	1	1	$ 22.30	$ 32.38	260	260	$ 8,420	260	$ 8,420	$ 5,799
100,001-1M	$ 32.38	-	-	-	260	1	1	$ 22.30	$ 32.38	-	-	$ -	-	$ -	$ -
>1M	$ 32.38	1	-	-	260	1	1	$ 22.30	$ 32.38	260	260	$ 8,420	260	$ 8,420	$ 5,799
Total		**15**	**-**	**3**	**1,716**					**2,392**	**2,392**	**$ 77,463**	**2,392**	**$ 77,463**	**$ 53,349**

Sources: Cost per sample from ICR for proposed Aircraft Drinking Water Rule, updated from 2006 to 2010 dollars. Burden estimates take into account the results of December 2011 consultations with water industry representatives.
Unfiltered systems must measure total or fecal coliform density of source water 1-5 times per week, depending on system size (40 CFR 141.74(b)(1)).

Exhibit B.4 - On Site Inspections and Watershed Management Burden and Cost (Unfiltered Systems)

Population Category	Hourly Labor Rate	Number of Unfiltered Systems (SW and GWUDI)			Hours/ System/ Year	Total Annual Burden and Cost	
		CWS	NTNC	TNC		(hrs)	(cost)
<100	$ 32.38	1	-	3	48	192	$ 6,218
101-500	$ 32.38	4	-	-	115	460	$ 14,897
501-1,000	$ 32.38	2	-	-	221	442	$ 14,314
1,001-3,300	$ 32.38	1	-	-	418	418	$ 13,537
3,301-10K	$ 32.38	-	-	-	826	-	$ -
10,001-25K	$ 32.38	3	-	-	1,411	4,423	$ 143,250
25,001-50K	$ 32.38	2	-	-	2,160	4,028	$ 130,456
50,001-75K	$ 32.38	1	-	-	2,947	1,989	$ 64,419
75,001-100K	$ 32.38	0	-	-	4,070	1,323	$ 42,836
100,001-500K	$ 32.38	-	-	-	7,392	-	$ -
500,001-1M	$ 32.38	-	-	-	15,792	-	$ -
>1M	$ 32.38	1	-	-	48,456	48,456	$ 1,569,199
Total		**15**	**-**	**3**		**61,732**	**$ 1,999,125**

Note: Burden estimates take into account the results of December 2011 consultations with water industry representatives.

Exhibit B.5 - Raw Water Turbidity Monitoring Burden and Costs (Unfiltered Systems)

Population Category	Hourly Labor Rate	Number of Unfiltered Systems (SW and GWUDI)			% Cont. Monitoring	Labor Hours/System/Year (Collection, Analysis, and Reporting)			Total Labor Hours/Year	Total Labor Cost/Year
		CWS	NTNC	TNC		Calibration	Continuous Monitoring	Verification Grab Samples		
						(15 min./day)*365	(1 min/reading) *6 readings/day*365	(10 min/sample)*1 sample/day*365		
<100	$ 32.38	1	-	3	100%	91.3	36.5	60.8	754	$ 24,428.33
101-500	$ 32.38	4	-	-	100%	91.3	36.5	60.8	754	$ 24,428.33
501-1,000	$ 32.38	2	-	-	100%	91.3	36.5	60.8	377	$ 12,214.17
1,001-3,300	$ 32.38	1	-	-	100%	91.3	36.5	60.8	189	$ 6,107.08
3,301-10K	$ 32.38	-	-	-	100%	91.3	36.5	60.8	-	$ -
10,001-25K	$ 32.38	3	-	-	100%	91.3	36.5	60.8	566	$ 18,321.25
25,001-50K	$ 32.38	2	-	-	100%	91.3	36.5	60.8	377	$ 12,214.17
50,001-100K	$ 32.38	1	-	-	100%	91.3	36.5	60.8	189	$ 6,107.08
100,001-1M	$ 32.38	-	-	-	100%	91.3	36.5	60.8	-	$ -
>1M	$ 32.38	1	-	-	100%	91.3	36.5	60.8	189	$ 6,107.08
Total		**15**	**-**	**3**					**3,395**	**$ 109,927.49**

Note: Burden estimates take into account the results of December 2011 consultations with water industry representatives.

The SWTR requires systems using continuous monitoring to "validate the continuous measurement on a regular basis using a protocol approved by the State" (40 CFR 141.74(b)(2)). EPA assumes 1 verification sample per day.

Exhibit B.6 - Raw Water Turbidity Monitoring O&M and Capital Costs (Unfiltered Systems)

Population Category	Number of Unfiltered Systems (SW and GWUDI)			% Cont. Monitoring	Activities/System/Year		Annual O&M Unit Costs		Annual O&M Costs		Capital Unit Costs		Annual Capital Costs	
	CWS	NTNC	TNC		Calibration	Verification Grab Samples	Continuous Monitoring	Grab Sampling	Continuous Monitoring	Grab Sampling	Continuous Monitoring	Grab Sampling	Continuous Monitoring	Grab Sampling
					1 per day	1 per day	Materials	Materials	Unit O&M costs * # Systems	Unit O&M costs * # Systems	In-line turbidimeter	Bench-Top Unit	1/7 of systems replace per year	1/7 of systems replace per year
<100	1	-	3	100%	365	365	$ 380	$ 380	$ 1,520	$ 1,520	$ 1,520	$ 1,203	$ 868	$ 687
101-500	4	-	-	100%	365	365	$ 380	$ 380	$ 1,520	$ 1,520	$ 1,520	$ 1,203	$ 868	$ 687
501-1,000	2	-	-	100%	365	365	$ 380	$ 380	$ 760	$ 760	$ 1,520	$ 1,203	$ 434	$ 344
1,001-3,300	1	-	-	100%	365	365	$ 380	$ 380	$ 380	$ 380	$ 1,520	$ 1,203	$ 217	$ 172
3,301-10K	-	-	-	100%	365	365	$ 380	$ 380	$ -	$ -	$ 1,520	$ 1,203	$ -	$ -
10,001-25K	3	-	-	100%	365	365	$ 380	$ 380	$ 1,140	$ 1,140	$ 1,520	$ 1,203	$ 651	$ 516
25,001-50K	2	-	-	100%	365	365	$ 380	$ 380	$ 760	$ 760	$ 1,520	$ 1,203	$ 434	$ 344
50,001-100K	1	-	-	100%	365	365	$ 380	$ 380	$ 380	$ 380	$ 1,520	$ 1,203	$ 217	$ 172
100,001-1M	-	-	-	100%	365	365	$ 380	$ 380	$ -	$ -	$ 1,520	$ 1,203	$ -	$ -
>1M	1	-	-	100%	365	365	$ 380	$ 380	$ 380	$ 380	$ 1,520	$ 1,203	$ 217	$ 172
Total	**15**	**-**	**3**						**$ 6,838**	**$ 6,838**			**$ 3,907**	**$ 3,093**

Note: O&M unit costs and capital unit costs have been updated from 2000 to 2010 dollars.

The SWTR requires systems using continuous monitoring to "validate the continuous measurement on a regular basis using a protocol approved by the State" (40 CFR 141.74(b)(2)). EPA assumes 1 verification sample per day.

Exhibit B.7 - Finished Water Turbidity Monitoring Burden and Costs (Filtered Systems)

Population Category	Hourly Labor Rate	Number of Filtered Non-Purchased Plants (SW and GWUDI)			% Cont. Monitoring	Labor Hours/System/Year (Collection, Analysis, and Reporting)				Total Labor Hours/Year	Total Labor Cost/Year
		CWS	NTNC	TNC		Calibration	Continuous Monitoring	Verification Grab Samples	Grab Sample Only		
						(15 min./day)*365	(1 min/reading) *6 readings/day*365	(10 min/sample)*1 sample/day*365	(15 min/sample)*6 sample/day*365		
<100	$ 32.38	415	121	628	50%	91	37	61	548	481,874	$ 15,605,022
101-500	$ 32.38	640	150	376	50%	91	37	61	548	482,486	$ 15,624,818
501-1,000	$ 32.38	346	50	63	100%	91	37	61	548	86,583	$ 2,803,905
1,001-3,300	$ 32.38	947	34	50	100%	91	37	61	548	194,474	$ 6,297,837
3,301-10K	$ 32.38	1,011	7	17	100%	91	37	61	548	195,223	$ 6,322,090
10,001-25K	$ 32.38	601	1	-	100%	91	37	61	548	113,527	$ 3,676,464
25,001-50K	$ 32.38	369	-	-	100%	91	37	61	548	69,587	$ 2,253,514
50,001-100K	$ 32.38	224	-	-	100%	91	37	61	548	42,243	$ 1,367,987
100,001-1M	$ 32.38	237	-	-	100%	91	37	61	548	44,694	$ 1,447,379
>1M	$ 32.38	16	-	-	100%	91	37	61	548	3,017	$ 97,713
Total		**4,807**	**363**	**1,135**						**1,713,708**	**$ 55,496,729**

Note: EPA assumes that 50 percent of systems serving 500 or fewer will monitor turbidity with grab samples rather than continuous monitoring. Burden estimates take into account the results of December 2011 consultations with water industry representatives.

Exhibit B.8 - Finished Water Turbidity Monitoring O&M and Capital Costs (Filtered Systems)

Population Category	Number of Filtered Non-Purchased Plants (SW and GWUDI)			% Cont. Monitoring	Activities/System/Year			Annual O&M Unit Costs		Annual O&M Costs		Capital Unit Costs		Annual Capital Costs	
	CWS	NTNC	TNC		Calibration	Verification Grab Samples	Routine Grab Samples	Continuous Monitoring	Grab Sampling	Continuous Monitoring	Grab Sampling	Continuous Monitoring	Grab Sampling	Continuous Monitoring	Grab Sampling
					1 per day	1 per day	6 per day	Materials	Materials	Unit O&M costs * # Systems	Unit O&M costs * # Systems	In-line turbidimeter	Bench-Top Unit	1/7 of systems replace per year	1/7 of systems replace per year
<100	415	121	628	50%	365	365	2,190	$ 380	$ 380	$ 221,263	$ 442,527	$ 1,520	$ 1,203	$ 126,436	$ 200,191
101-500	640	150	376	50%	365	365	2,190	$ 380	$ 380	$ 221,544	$ 443,088	$ 1,520	$ 1,203	$ 126,597	$ 200,445
501-1,000	346	50	63	100%	365	365	N/A	$ 380	$ 380	$ 174,416	$ 174,416	$ 1,520	$ 1,203	$ 99,666	$ 78,902
1,001-3,300	947	34	50	100%	365	365	N/A	$ 380	$ 380	$ 391,754	$ 391,754	$ 1,520	$ 1,203	$ 223,860	$ 177,222
3,301-10K	1,011	7	17	100%	365	365	N/A	$ 380	$ 380	$ 393,263	$ 393,263	$ 1,520	$ 1,203	$ 224,722	$ 177,905
10,001-25K	601	1	-	100%	365	365	N/A	$ 380	$ 380	$ 228,693	$ 228,693	$ 1,520	$ 1,203	$ 130,682	$ 103,456
25,001-50K	369	-	-	100%	365	365	N/A	$ 380	$ 380	$ 140,179	$ 140,179	$ 1,520	$ 1,203	$ 80,102	$ 63,414
50,001-100K	224	-	-	100%	365	365	N/A	$ 380	$ 380	$ 85,095	$ 85,095	$ 1,520	$ 1,203	$ 48,626	$ 38,495
100,001-1M	237	-	-	100%	365	365	N/A	$ 380	$ 380	$ 90,034	$ 90,034	$ 1,520	$ 1,203	$ 51,448	$ 40,729
>1M	16	-	-	100%	365	365	N/A	$ 380	$ 380	$ 6,078	$ 6,078	$ 1,520	$ 1,203	$ 3,473	$ 2,750
Total	**4,807**	**363**	**1,135**							**$ 1,952,319**	**$ 2,395,126**			**$ 1,115,611**	**$ 1,083,510**

Note: EPA assumes that 50 percent of SWTR systems serving 500 or fewer take grab samples only; the other 50 percent monitor continuously. O&M unit costs and capital unit costs updated from 2000 to 2010 dollars.

Exhibit B.9

Surface Water Treatment Rule - Summary of Original and Revised Burden Estimates

No changes in burden estimates based on December 2011 consultations.

Appendix C

Total Coliform Rule Spreadsheets

Exhibit C.1a - TCR PWS Burden and Cost Summary

Requirement	Annual Respondents	Avg. Annual Responses	Annual Burden	Annual Burden (Labor) Cost	Annual O&M Cost	Annual Capital Cost
System Monitoring	152,979	3,668,442	3,508,253	113,611,408	81,817,746	N/A

Exhibit C.1b - TCR State Burden and Cost Summary

Requirement	Annual Respondents	Avg. Annual Responses	Annual Burden	Annual Burden (Labor) Cost	Annual O&M Cost	Annual Capital Cost
Monitoring Related Activities	57	1,835,748	458,937	20,097,769	N/A	N/A
Sanitary Surveys	57	-	-	-	N/A	N/A
Total	**57**	**1,835,748**	**458,937**	**20,097,769**	**N/A**	**N/A**

Note: Sanitary survey burden for surface water systems is included under IESWTR. Sanitary survey burden for ground water systems is now included under the GWR (see App. G).

Number of responses for monitoring for states is based on number of PWS respondents and assumes 1 response per system per month.

State burden for monitoring assumes 15 minutes to review each system's data each month.

Exhibit C.2 - Calculating Average Number of TCR Samples for 3 System Types, Combined
Source: SDWIS/FED Data from October 2010.

All PWSs

Population Range	Minimum Routine/ month	Minimum Repeat	Addtnl Routines next mo	CWSs		NTNCWSs		TNCWSs		Total PWSs	
				Systems	Samples	Systems	Samples	Systems	Samples	Systems	Samples
	A	B	C	D	E=D*A	F	G=F*A	H	I=H*A	J=D+F+H	K=E+G+I
<25-500	1	4	4	28,524	28,524	15,559	15,559	80,440	80,440	124,523	124,523
501-1k	1	4	4	5,636	5,636	1,745	1,745	2,051	2,051	9,432	9,432
1,001-2.5K	2	3	3	6,480	12,960	747	1,494	573	1,146	7,800	15,600
2,501-3.3K	3	3	2	1,741	5,223	92	276	59	177	1,892	5,676
3,301-4.1K	4	3	1	1,163	4,652	51	204	28	112	1,242	4,968
4,101-4.9K	5	3	0	821	4,105	15	75	10	50	846	4,230
4,901-5.8K	6	3	0	780	4,680	26	156	20	120	826	4,956
5,801-6.7K	7	3	0	598	4,186	10	70	9	63	617	4,319
6,701-7.6K	8	3	0	458	3,664	13	104	8	64	479	3,832
7,601-8.5K	9	3	0	433	3,897	8	72	4	36	445	4,005
8,501-10k	10	3	0	629	6,290	9	90	10	100	648	6,480
10,001-12.9k	10	3	0	687	6,870	7	70	2	20	696	6,960
12,901-17.2K	15	3	0	761	11,415	5	75	3	45	769	11,535
17,201-21.5K	20	3	0	468	9,360	0	0	0	0	468	9,360
21,501-25K	25	3	0	311	7,775	0	0	1	25	312	7,800
25,001-33K	30	3	0	452	13,560	3	90	2	60	457	13,710
33,001-41K	40	3	0	346	13,840	1	40	0	0	347	13,880
41,001-50K	50	3	0	215	10,750	2	100	0	0	217	10,850
50,001-59K	60	3	0	189	11,340	0	0	1	60	190	11,400
59,001-70K	70	3	0	146	10,220	0	0	1	70	147	10,290
70,001-83K	80	3	0	101	8,080	1	80	0	0	102	8,160
83,001-96K	90	3	0	85	7,650	0	0	0	0	85	7,650
96,001-130K	100	3	0	134	13,400	0	0	1	100	135	13,500
130,001-220K	120	3	0	149	17,880	1	120	0	0	150	18,000
220,001-320K	150	3	0	64	9,600	0	0	0	0	64	9,600
320,001-450K	180	3	0	27	4,860	0	0	0	0	27	4,860
450,001-600K	210	3	0	13	2,730	0	0	0	0	13	2,730
600,001-780K	240	3	0	18	4,320	0	0	0	0	18	4,320
780,001-970K	270	3	0	8	2,160	0	0	0	0	8	2,160
970,001-1,230K	300	3	0	5	1,500	0	0	0	0	5	1,500
1,230,001-1,520K	330	3	0	7	2,310	0	0	0	0	7	2,310
1,520,001-1,850K	360	3	0	4	1,440	0	0	0	0	4	1,440
1,850,001-2,270K	390	3	0	1	390	0	0	1	390	2	780
2,270,001-3,020K	420	3	0	3	1,260	0	0	0	0	3	1,260
3,020,001-3,960K	450	3	0	1	450	0	0	0	0	1	450
Over 3,960K	480	3	0	2	960	0	0	0	0	2	960
Total				51,460	257,937	18,295	20,420	83,224	85,129	152,979	363,486

TCR Samples - combined GW+SW/GWUDI

Population PopRange	Routine	Repeat	Addtnl Routines next mo	CWSs		NTNCWSs		TNCWSs		Total PWSs	
				Sys	Samples	Sys	Samples	Sys	Samples	Sys	Samples
	A	B	C	D	E=D*A	G	H=G*A	J	K=J*A	M=D+G+J	N=E+H+K
<25-500	1.0	4	4	28,524	28,524	15,559	15,559	80,440	80440.00	124,523	124,523
501-1k	1.0	4	4	5,636	5,636	1,745	1,745	2,051	2051.00	9,432	9,432
1,001-2.5K	2.0	3	3	6,480	12,960	747	1,494	573	1146.00	7,800	15,600
2,501-3.3K	3.0	3	2	1,741	5,223	92	276	59	177.00	1,892	5,676
3,301-4.1K	4.0	3	1	1,163	4,652	51	204	28	112.00	1,242	4,968
4,101-10K	7.2	3	0	3,719	26,822	81	567	61	433.00	3,861	27,822
10,001-25k	15.9	3	0	2,227	35,420	12	145	6	90.00	2,245	35,655
25,001-50k	37.7	3	0	1,013	38,150	6	230	2	60.00	1,021	38,440
Over 50K	105.1	3	0	957	100,550	2	200	4	620.00	963	101,370
Total				51,460	257,937	18,295	20,420	83,224	85129.00	152,979	363,486

Exhibit C.2 (Continued). Average Number of TCR Samples for Surface/GWUDI Systems

SURFACE/GWUDI

Population Range	Routine	Repeat	Addtnl Routines next mo	CWSs Systems	CWSs Samples	NTNCWSs Systems	NTNCWSs Samples	TNCWSs Systems	TNCWSs Samples	Total PWSs Systems	Total PWSs Samples
	A	B	C	D	E=D*A	F	G=F*A	H	I=H*A	J=D+F+H	K=E+G+I
<25-500	1	4	4	3,136	3,136	521	521	1,845	1,845	5,502	5,502
501-1k	1	4	4	1,173	1,173	86	86	86	86	1,345	1,345
1,001-2.5K	2	3	3	1,897	3,795	62	124	51	102	2,010	4,021
2,501-3.3K	3	3	2	630	1,890	13	39	13	39	656	1,968
3,301-4.1K	4	3	1	446	1,784	5	20	5	20	456	1,824
4,101-4.9K	5	3	0	332	1,660	2	10	3	15	337	1,685
4,901-5.8K	6	3	0	344	2,064	10	60	6	36	360	2,160
5,801-6.7K	7	3	0	277	1,942	3	21	5	35	285	1,998
6,701-7.6K	8	3	0	215	1,720	4	32	0	0	219	1,752
7,601-8.5K	9	3	0	205	1,845	3	27	1	9	209	1,881
8,501-10k	10	3	0	324	3,240	2	20	3	30	329	3,290
10,001-12.9k	10	3	0	362	3,620	3	30	0	0	365	3,650
12,901-17.2K	15	3	0	434	6,510	1	15	1	15	436	6,540
17,201-21.5K	20	3	0	290	5,800	0	0	0	0	290	5,800
21,501-25K	25	3	0	177	4,425	0	0	0	0	177	4,425
25,001-33K	30	3	0	285	8,550	1	30	1	30	287	8,610
33,001-41K	40	3	0	225	9,000	0	0	0	0	225	9,000
41,001-50K	50	3	0	147	7,350	1	50	0	0	148	7,400
50,001-59K	60	3	0	120	7,200	0	0	0	0	120	7,200
59,001-70K	70	3	0	105	7,350	0	0	0	0	105	7,350
70,001-83K	80	3	0	77	6,160	1	80	0	0	78	6,240
83,001-96K	90	3	0	70	6,300	0	0	0	0	70	6,300
96,001-130K	100	3	0	107	10,700	0	0	0	0	107	10,700
130,001-220K	120	3	0	118	14,160	1	120	0	0	119	14,280
220,001-320K	150	3	0	59	8,850	0	0	0	0	59	8,850
320,001-450K	180	3	0	24	4,320	0	0	0	0	24	4,320
450,001-600K	210	3	0	13	2,730	0	0	0	0	13	2,730
600,001-780K	240	3	0	15	3,600	0	0	0	0	15	3,600
780,001-970K	270	3	0	7	1,890	0	0	0	0	7	1,890
970,001-1,230K	300	3	0	4	1,200	0	0	0	0	4	1,200
1,230,001-1,520K	330	3	0	6	1,980	0	0	0	0	6	1,980
1,520,001-1,850K	360	3	0	4	1,440	0	0	0	0	4	1,440
1,850,001-2,270K	390	3	0	0	0	0	0	1	390	1	390
2,270,001-3,020K	420	3	0	3	1,260	0	0	0	0	3	1,260
3,020,001-3,960K	450	3	0	1	450	0	0	0	0	1	450
Over 3,960K	480	3	0	2	960	0	0	0	0	2	960
				11,635	150,054	719	1,286	2,021	2,652	14,376	153,992

TCR Sampling - SW/GWUDI

Population PopRange	Routine	Repeat	Addtnl Routines next mo	CWSs - SW Sys	CWSs - SW Samples	NTNCWSs - SW Sys	NTNCWSs - SW Samples	TNCWSs - SW Sys	TNCWSs - SW Samples	Total PWSs - SW Sys	Total PWSs - SW Samples
	A	B	C	D	E=D*A	G	H=G*A	J	K=J*A	M=D+G+J	N=E+H+K
<25-500	1.0	4	4	3,136	3,136	521	521	1,845	1,845	5,502	5,502
501-1k	1.0	4	4	1,173	1,173	86	86	86	86	1,345	1,345
1,001-2.5K	2.0	3	3	1,897	3,795	62	124	51	102	2,010	4,021
2,501-3.3K	3.0	3	2	630	1,890	13	39	13	39	656	1,968
3,301-4.1K	4.0	3	1	446	1,784	5	20	5	20	456	1,824
4,101-10K	7.3	3	0	1,697	12,471	24	170	18	125	1,739	12,766
10,001-25k	16.1	3	0	1,263	20,355	4	45	1	15	1,268	20,415
25,001-50k	37.9	3	0	657	24,900	2	80	1	30	660	25,010
Over 50K	109.6	3	0	735	80,550	2	200	1	390	738	81,140
Total				11,635	150,054	719	1,286	2,021	2,652	14,376	153,992

Exhibit C.2 (Continued). Average Number of TCR Samples for Ground Water Systems

Ground Water

Population Range	Routine	Repeat	Addtnl Routines next mo	CWSs Systems	CWSs Samples	NTNCWSs Systems	NTNCWSs Samples	TNCWSs Systems	TNCWSs Samples	Total PWSs Systems	Total PWSs Samples
	A	B	C	D	E=D*A	F	G=F*A	H	I=H*A	J=D+F+H	K=E+G+I
<25-500	1	4	4	25,388	25,388	15,038	15,038	78,595	78,595	119,021	119,021
501-1k	1	4	4	4,463	4,463	1,659	1,659	1,965	1,965	8,087	8,087
1,001-2.5K	2	3	3	4,583	9,165	685	1,370	522	1,044	5,790	11,579
2,501-3.3K	3	3	2	1,111	3,333	79	237	46	138	1,236	3,708
3,301-4.1K	4	3	1	717	2,868	46	184	23	92	786	3,144
4,101-4.9K	5	3	0	489	2,445	13	65	7	35	509	2,545
4,901-5.8K	6	3	0	436	2,616	16	96	14	84	466	2,796
5,801-6.7K	7	3	0	321	2,244	7	49	4	28	332	2,321
6,701-7.6K	8	3	0	243	1,944	9	72	8	64	260	2,080
7,601-8.5K	9	3	0	228	2,052	5	45	3	27	236	2,124
8,501-10k	10	3	0	305	3,050	7	70	7	70	319	3,190
10,001-12.9k	10	3	0	325	3,250	4	40	2	20	331	3,310
12,901-17.2K	15	3	0	327	4,905	4	60	2	30	333	4,995
17,201-21.5K	20	3	0	178	3,560	0	0	0	0	178	3,560
21,501-25K	25	3	0	134	3,350	0	0	1	25	135	3,375
25,001-33K	30	3	0	167	5,010	2	60	1	30	170	5,100
33,001-41K	40	3	0	121	4,840	1	40	0	0	122	4,880
41,001-50K	50	3	0	68	3,400	1	50	0	0	69	3,450
50,001-59K	60	3	0	69	4,140	0	0	1	60	70	4,200
59,001-70K	70	3	0	41	2,870	0	0	1	70	42	2,940
70,001-83K	80	3	0	24	1,920	0	0	0	0	24	1,920
83,001-96K	90	3	0	15	1,350	0	0	0	0	15	1,350
96,001-130K	100	3	0	27	2,700	0	0	1	100	28	2,800
130,001-220K	120	3	0	31	3,720	0	0	0	0	31	3,720
220,001-320K	150	3	0	5	750	0	0	0	0	5	750
320,001-450K	180	3	0	3	540	0	0	0	0	3	540
450,001-600K	210	3	0	0	0	0	0	0	0	0	0
600,001-780K	240	3	0	3	720	0	0	0	0	3	720
780,001-970K	270	3	0	1	270	0	0	0	0	1	270
970,001-1,230K	300	3	0	1	300	0	0	0	0	1	300
1,230,001-1,520K	330	3	0	1	330	0	0	0	0	1	330
1,520,001-1,850K	360	3	0	0	0	0	0	0	0	0	0
1,850,001-2,270K	390	3	0	1	390	0	0	0	0	1	390
2,270,001-3,020K	420	3	0	0	0	0	0	0	0	0	0
3,020,001-3,960K	450	3	0	0	0	0	0	0	0	0	0
Over 3,960K	480	3	0	0	0	0	0	0	0	0	0
Total				39,825	107,883	17,576	19,134	81,203	82,477	138,603	209,494

TCR Sampling - Ground Water

Population PopRange	Min Samp/ month	Min Repeat	Addtnl Routines next mo	CWSs - GW Sys	CWSs - GW Samples	NTNCWSs - GW Sys	NTNCWSs - GW Samples	TNCWSs - GW Sys	TNCWSs - GW Samples	Total PWSs - GW Sys	Total PWSs - GW Samples
	A	B	C	D	E=D*A	G	H=G*A	J	K=J*A	M=D+G+J	N=E+H+K
<25-500	1.0	4	4	25,388	25,388	15,038	15,038	78,595	78,595	119,021	119,021
501-1k	1.0	4	4	4,463	4,463	1,659	1,659	1,965	1,965	8,087	8,087
1,001-2.5K	2.0	3	3	4,583	9,165	685	1,370	522	1,044	5,790	11,579
2,501-3.3K	3.0	3	2	1,111	3,333	79	237	46	138	1,236	3,708
3,301-4.1K	4.0	3	1	717	2,868	46	184	23	92	786	3,144
4,101-10K	7.1	3	0	2,022	14,351	57	397	43	308	2,122	15,056
10,001-25k	15.6	3	0	964	15,065	8	100	5	75	977	15,240
25,001-50k	37.2	3	0	356	13,250	4	150	1	30	361	13,430
Over 50K	90.1	3	0	222	20,000	0	0	3	230	225	20,230
Total				39,825	107,883	17,576	19,134	81,203	82,477	138,603	209,494

Exhibit C.3 - Inventory of Systems with Violations (for Routine and Repeat Monitoring)

Complete System Inventory

Population	CWSs			NTNCWSs			TNCWSs			NCWSs		
Range	GW	SW/GUDI	Total	GW	SW/GUDI	Total	GW	SW/GUDI	Total	GW	SW/GUDI	Total
<25-500	25,388	3,136	28,524	15,038	521	15,559	78,595	1,845	80,440	93,633	2,366	95,999
501-1K	4,463	1,173	5,636	1,659	86	1,745	1,965	86	2,051	3,624	172	3,796
1,001-2.5K	4,583	1,897	6,480	685	62	747	522	51	573	1,207	113	1,320
2,501-3.3K	1,111	630	1,741	79	13	92	46	13	59	125	26	151
3,301-4.1K	717	446	1,163	46	5	51	23	5	28	69	10	79
4,101-10K	2,022	1,697	3,719	57	24	81	43	18	61	100	42	142
10,001-25K	964	1,263	2,227	8	4	12	5	1	6	13	5	18
25,001-50K	356	657	1,013	4	2	6	1	1	2	5	3	8
Over 50K	222	735	957	0	2	2	3	1	4	3	3	6
Total	39,825	11,635	51,460	17,576	719	18,295	81,203	2,021	83,224	98,778	2,741	101,519

Source: TCR Inventory, pages C-1 through C-9

CWSs with MCL Violations, TC+ Samples, No TC+ Samples

Population	CWS Inventory (from TCR Inventory)			CWSs with MCL Vios (# of Samples)			CWSs with TC+ Samples 3 x # of Vios			CWSs with "Clean" Samples (=Inventory-Sys w/TC+)		
Range	GW	SW/GUDI	Total	GW	SW/GUDI	Total	GW	SW/GUDI	Total	GW	SW/GUDI	Total
	A	B	C	D	E	F	G=D*3	H=E*3	I=F*3	J=A-G	K=B-H	L=C-I
<25-500	25,388	3,136	28,524	1,144	53	1,197	3,432	159	3,591	21,956	2,977	24,933
501-1K	4,463	1,173	5,636	130	17	147	390	51	441	4,073	1,122	5,195
1,001-2.5K	4,583	1,897	6,480	164	42	206	492	126	618	4,091	1,771	5,862
2,501-3.3K	1,111	630	1,741	44	17	61	132	51	183	979	579	1,558
3,301-4.1K	717	446	1,163	32	10	42	96	30	126	621	416	1,037
4,101-10K	2,022	1,697	3,719	110	60	170	330	180	510	1,692	1,517	3,209
10,001-25K	964	1,263	2,227	69	62	131	207	186	393	757	1,077	1,834
25,001-50K	356	657	1,013	27	17	44	81	51	132	275	606	881
Over 50K	222	735	957	5	11	16	15	33	48	207	702	909
Total	39,825	11,635	51,460	1,725	289	2,014	5,175	867	6,042	34,650	10,768	45,418

Source: Number of systems with violations from SDWIS/FED October 2010. Assumes that for every system with a violation, there are 3 systems with TC+ samples that trigger repeat sampling and in some cases additional routine monitoring.

Inventory of Systems with Violations (for Routine and Repeat Monitoring) continued

NCWSs with MCL Violations, TC+ Samples, No TC+ Samples

Population	NCWS Inventory (from TCR Inventory)			NCWSs with MCL Vios 3.96% = Vio Rate			NCWSs with TC+ Samples 3 x # of Vios			NCWSs with "Clean" Samples (=Inventory-Sys w/TC+)		
Range	GW	SW/GUDI	Total	GW	SW/GUDI	Total	GW	SW/GUDI	Total	GW	SW/GUDI	Total
	A	B	C	D	E	F	G=D*3	H=E*3	I=F*3	J=A-G	K=B-H	L=C-I
<25-500	93,633	2,366	95,999	3,781	28	3,809	11,343	84	11,427	82,290	2,282	84,572
501-1K	3,624	172	3,796	126	1	127	378	3	381	3,246	169	3,415
1,001-2.5K	1,207	113	1,320	58	4	62	174	12	186	1,033	101	1,134
2,501-3.3K	125	26	151	7	1	8	21	3	24	104	23	127
3,301-4.1K	69	10	79	3	-	3	9	0	9	60	10	70
4,101-10K	100	42	142	5	2	7	15	6	21	85	36	121
10,001-25K	13	5	18	1	-	1	3	0	3	10	5	15
25,001-50K	5	3	8			0	0	0	0	5	3	8
Over 50K	3	3	6			0	0	0	0	3	3	6
Total	98,778	2,741	101,519	3,981	36	4017	11,943	108	12,051	86,835	2,633	89,468

Source: Number of systems with violations from SDWIS/FED October 2010. Assumes that for every system with a violation, there are 3 systems with TC+ samples that trigger repeat sampling and in some cases additional routine monitoring.

All Systems with MCL Violations, TC+ Samples, No TC+ Samples

Population	Total PWS Inventory (CWS + NCWS)			PWSs with MCL Vios (CWS + NCWS)			PWSs with TC+ Samples (CWS + NCWS)			PWSs with "Clean" Samples (=Inventory-Sys w/TC+)		
Range	GW	SW/GUDI	Total	GW	SW/GUDI	Total	GW	SW/GUDI	Total	GW	SW/GUDI	Total
	A	B	C	D	E	F	G=D*3	H=E*3	I=F*3	J=A-G	K=B-H	L=C-I
<25-500	119,021	5,502	124,523	4,925	81	5006	14,775	243	15,018	104,246	5,259	109,505
501-1K	8,087	1,345	9,432	256	18	274	768	54	822	7,319	1,291	8,610
1,001-2.5K	5,790	2,010	7,800	222	46	268	666	138	804	5,124	1,872	6,996
2,501-3.3K	1,236	656	1,892	51	18	69	153	54	207	1,083	602	1,685
3,301-4.1K	786	456	1,242	35	10	45	105	30	135	681	426	1,107
4,101-10K	2,122	1,739	3,861	115	62	177	345	186	531	1,777	1,553	3,330
10,001-25K	977	1,268	2,245	70	62	132	210	186	396	767	1,082	1,849
25,001-50K	361	660	1,021	27	17	44	81	51	132	280	609	889
Over 50K	225	738	963	5	11	16	15	33	48	210	705	915
Total	138,603	14,376	152,979	5,706	325	6031	17,118	975	18,093	121,485	13,401	134,886

Population	Inventory for Calculating Routine Monitoring			Inventory for Calculating Repeat/Addtl Routine Mon		
Range	GW*	SW/GUDI	Total	GW	SW/GUDI	Total
	M	N	O	P	Q	R
<25-500 - TC+*	14,775	243	15,018	14,775	243	15,018
<25-500 - rest	104,246	5,259	109,505	0	0	0
501-1K - TC+*	768	54	822	768	54	822
501-1K - rest	7,319	1,291	8,610	0	0	0
1,001-2.5K	5,790	2,010	7,800	666	138	804
2,501-3.3K	1,236	656	1,892	153	54	207
3,301-4.1K	786	456	1,242	105	30	135
4,101-10K	2,122	1,739	3,861	345	186	531
10,001-25K	977	1,268	2,245	210	186	396
25,001-50K	361	660	1,021	81	51	132
Over 50K	225	738	963	15	33	48
Total	138,603	14,376	152,979	17,118	975	18,093

* GW CWSs (serving 1,000 or less) with TC+ results sample monthly rather than quarterly.

Exhibit C.4 - Sampling - Burden, Cost, and Frequencies of Monitoring

GW

Size Category	Labor Rates	Labor Hours Required		Analytical Cost/Sample					
		Collection	Analysis	Samples for Total Coliforms			Samples for Fecal/E.coli		
	($/hr)	(hrs/sample)	(hrs/sample)	PurchServ	O&M-matrl	O&M-labor	PurchServ	O&M-matrl	O&M-labor
	A	B	C	D	E	F=C*A	G	H	I=C*A
<25-500	$32.38	0.5	0.166667	$0.00	$22.30	$5.40	$0.00	$22.30	$5.40
501-1K	$32.38	0.5	0.166667	$0.00	$22.30	$5.40	$0.00	$22.30	$5.40
1,001-2.5K	$32.38	0.5	0.166667	$0.00	$22.30	$5.40	$0.00	$22.30	$5.40
2,501-3.3K	$32.38	0.5	0.166667	$0.00	$22.30	$5.40	$0.00	$22.30	$5.40
3,301-4.1K	$32.38	0.5	0.166667	$0.00	$22.30	$5.40	$0.00	$22.30	$5.40
4,101-10K	$32.38	0.5	0.166667	$0.00	$22.30	$5.40	$0.00	$22.30	$5.40
10,001-25K	$32.38	1.0	0.166667	$0.00	$22.30	$5.40	$0.00	$22.30	$5.40
25,001-50K	$32.38	1.0	0.166667	$0.00	$22.30	$5.40	$0.00	$22.30	$5.40
Over 50K	$32.38	1.0	0.166667	$0.00	$22.30	$5.40	$0.00	$22.30	$5.40

Monitoring Frequency per Year		Number of Routine Smp/Sys	Minimum Repeat Samples	Addtl Routines next mo	For Systems that are TC+, Percentage of Routine Samples Assumed to Be TC+	Routine Samples that=TC+	Repeat	Sliding scale- TC+ Repeats	TC+ Repeat
Most	Other*								
J	K	L	M	N	O	P=L*O	Q=P*M	R	S=Q*R
4	12	1.0	4	4	100%	1.0	4.0	50%	2.0
4	12	1.0	4	4	100%	1.0	4.0	50%	2.0
12		2.0	3	3	50%	1.0	3.0	50%	1.5
12		3.0	3	2	50%	1.5	4.5	25%	1.1
12		4.0	3	1	50%	2.0	6.0	25%	1.5
12		7.1	3	0	25%	1.8	5.4	25%	1.4
12		15.6	3	0	25%	3.9	11.7	25%	2.9
12		37.2	3	0	10%	3.7	11.1	25%	2.8
12		90.1	3	0	10%	9.0	27.0	10%	2.7

* GW CWSs serving <=1,000 with TC-positive samples monitor monthly rather than quarterly.
Note: Number of routine samples per system from TCR Inventory page. Number is a weighted average based on number of systems in each size category.

SW/GWUDI

Size Category	Labor Rates	Labor Hours Required		Analytical Cost/Sample					
		Collection	Analysis	Samples for Total Coliforms			Samples for Fecal/E.coli		
	($/hr)	(hrs/sample)	(hrs/sample)	PurchServ	O&M-matrl	O&M-labor	PurchServ	O&M-matrl	O&M-labor
	A	B	C	D	E	F	G	H	I
<25-500	$32.38	0.5	0.166667	$0.00	$22.30	$5.40	$0.00	$22.30	$5.40
501-1K	$32.38	0.5	0.166667	$0.00	$22.30	$5.40	$0.00	$22.30	$5.40
1,001-2.5K	$32.38	0.5	0.166667	$0.00	$22.30	$5.40	$0.00	$22.30	$5.40
2,501-3.3K	$32.38	0.5	0.166667	$0.00	$22.30	$5.40	$0.00	$22.30	$5.40
3,301-4.1K	$32.38	0.5	0.166667	$0.00	$22.30	$5.40	$0.00	$22.30	$5.40
4,101-10K	$32.38	0.5	0.166667	$0.00	$22.30	$5.40	$0.00	$22.30	$5.40
10,001-25K	$32.38	1.0	0.166667	$0.00	$22.30	$5.40	$0.00	$22.30	$5.40
25,001-50K	$32.38	1.0	0.166667	$0.00	$22.30	$5.40	$0.00	$22.30	$5.40
Over 50K	$32.38	1.0	0.166667	$0.00	$22.30	$5.40	$0.00	$22.30	$5.40

Monitoring Frequency per Year		Number of Routine Smp/Sys	Minimum Repeat Samples	Addtl Routines next mo	For Systems that are TC+, Percentage of Routine Samples Assumed to Be TC+	Routine Samples that=TC+	Repeat	Sliding scale-TC+ Repeat	TC+ Repeat
J	K	L	M	N	O	P=L*O	Q=P*M	R	S=Q*R
12		1.0	4	4	100%	1.0	4.0	50%	2.0
12		1.0	4	4	100%	1.0	4.0	50%	2.0
12		2.0	3	3	50%	1.0	3.0	50%	1.5
12		3.0	3	2	50%	1.5	4.5	25%	1.1
12		4.0	3	1	50%	2.0	6.0	25%	1.5
12		7.3	3	0	25%	1.8	5.4	25%	1.4
12		16.1	3	0	25%	4.0	12.0	25%	3.0
12		37.9	3	0	10%	3.8	11.4	25%	2.9
12		109.6	3	0	10%	11.0	33.0	10%	3.3

Note: Number of routine samples per system from TCR Inventory page. Number is a weighted average based on number of systems in each size category.

Notes:Burden estimates take into account the results of December 2011 consultations with water industry representatives. Overall sample costs are conservative estimates. Many systems now use a method allowing for both total coliforms and fecal/E.coli to be tested at one time. Average sample cost based on research conducted for the Aircraft Drinking Water Rule in Nov. 2006.

Exhibit C.5 - Routine Monitoring - Burden and Cost

a. Routine-GW

Size Category	Number of PWSs	Monitoring Frequency per Year	Routine Samples/ Sys	Total Samples/ Sys/Yr	Labor (per System per Year)				O&M	Total Burden per System	Cost (per System per Year)		Total Cost per System per Year	GW Routine Monitoring			
					Sample Collection		Analysis (in-house)		Analytical Costs		O&M	Labor		Total Annual Burden - Hours	Total Annual Cost	O&M Cost	Labor Cost
					(hrs)	(cost)	(hrs)	(cost)	Materials	(hrs)							
	A (from "Systems with Violations")	B = J or K from "Sampling"	C = L from "Sampling"	D = B * C	E = D* B from "Sampling"	F = E* A from "Sampling"	G = D* C from "Sampling"	H= G* A from "Sampling"	I = D* E from "Sampling"	J = E+G	K = I	L = F+ H	M = K + L	N = A * J	O = A * M	P = A * K	Q = A * L
<25-500 - TC+*	14,775	12	1.0	12.0	6.0	$194.30	2.0	$64.77	$267.64	8.0	$267.64	$259.07	$526.71	118,200.0	$7,782,137.01	$3,954,348.21	$3,827,788.80
<25-500 - rest	104,246	4	1.0	4.0	2.0	$64.77	0.7	$22.67	$89.21	2.7	$89.21	$87.44	$176.65	281,463.0	$18,414,913.67	$9,300,016.13	$9,114,897.54
501-1K - TC+*	768	12	1.0	12.0	6.0	$194.30	2.0	$64.77	$267.64	8.0	$267.64	$259.07	$526.71	6,144.0	$404,513.11	$205,545.82	$198,967.30
501-1K - rest	7,319	4	1.0	4.0	2.0	$64.77	0.7	$22.67	$89.21	2.7	$89.21	$87.44	$176.65	19,760.2	$1,292,823.36	$652,909.82	$639,913.53
1,001-2.5K	5,790	12	2.0	24.0	12.0	$388.61	4.0	$129.54	$535.28	16.0	$535.28	$518.14	$1,053.42	92,632.6	$6,098,809.36	$3,098,996.57	$2,999,812.79
2,501-3.3K	1,236	12	3.0	36.0	18.0	$582.91	6.0	$194.30	$802.91	24.0	$802.91	$777.22	$1,580.13	29,664.0	$1,953,039.87	$992,400.89	$960,638.98
3,301-4.1K	786	12	4.0	48.0	24.0	$777.22	8.0	$259.07	$1,070.55	32.0	$1,070.55	$1,036.29	$2,106.84	25,152.0	$1,655,975.55	$841,453.18	$814,522.37
4,101-10K	2,122	12	7.1	85.2	42.6	$1,379.56	14.2	$459.85	$1,899.94	56.8	$1,899.94	$1,839.41	$3,739.35	120,503.2	$7,933,174.86	$4,030,797.76	$3,902,377.10
10,001-25K	977	12	15.6	187.5	187.5	$6,072.00	31.3	$1,013.62	$4,182.53	218.8	$4,182.53	$7,085.62	$11,268.15	213,767.6	$11,008,986.08	$4,086,336.12	$6,922,649.96
25,001-50K	361	12	37.2	446.6	446.6	$14,462.69	74.4	$2,409.37	$9,961.24	521.0	$9,961.24	$16,872.06	$26,833.30	188,081.0	$9,686,821.89	$3,596,006.79	$6,090,815.10
Over 50K	225	12	90.1	1,081.1	1081.1	$35,010.34	180.2	$5,835.60	$24,111.51	1261.3	$24,111.51	$40,845.94	$64,957.45	283,792.5	$14,615,426.47	$5,425,090.15	$9,190,336.32
Total	138,603			1,940.4	1,827.8	$59,191.48	323.5	$10,476.22	$43,277.67	2,151.3	$43,277.67	$69,667.70	$112,945.37	1,379,160.1	$80,846,621.23	$36,183,901.44	$44,662,719.79

*GW CWSs serving 1000 or fewer with TC-positive samples.

b. Routine-SW

Size Category	Number of PWSs	Monitoring Frequency per Year	Routine Samples/ Sys	Total Samples/ Sys/Yr	Labor (per System per Year)				O&M	Total Burden per System	Cost (per System per Year)		Total Cost per System per Year	SW Routine Monitoring			
					Sample Collection		Analysis (in-house		Analytical Costs		O&M	Labor		Total Annua Burden	Total Annua Cost	O&M Cost	Labor Cost
					(hrs)	(cost)	(hrs)	(cost)	Materials	(hrs)	(F+H)	(I+J)					
	A (from "Systems with Violations")	B = J or K from "Sampling"	C = L from "Sampling"	D = B * C	E = D* B from "Sampling"	F = E* A from "Sampling"	G = D* C from "Sampling"	H= G* A from "Sampling"	I = D* E from "Sampling"	J = E+G	K = I	L = F+ H	M = K + L	N = A * J	O = A * M	P = A * K	Q = A * L
<25-500	5,502	12	1.0	12.0	6.0	$194.30	2.0	$64.77	$267.64	8.0	$267.64	$259.07	$526.71	44,019.6	$2,898,192.81	$1,472,662.79	$1,425,530.03
501-1K	1,345	12	1.0	12.0	6.0	$194.30	2.0	$64.77	$267.64	8.0	$267.64	$259.07	$526.71	10,763.3	$708,643.98	$360,084.26	$348,559.72
1,001-2.5K	2,010	12	2.0	24.0	12.0	$388.61	4.0	$129.54	$535.28	16.0	$535.28	$518.14	$1,053.42	32,167.4	$2,117,863.23	$1,076,152.82	$1,041,710.41
2,501-3.3K	656	12	3.0	36.0	18.0	$582.91	6.0	$194.30	$802.91	24.0	$802.91	$777.22	$1,580.13	15,744.0	$1,036,564.85	$526,711.15	$509,853.70
3,301-4.1K	456	12	4.0	48.0	24.0	$777.22	8.0	$259.07	$1,070.55	32.0	$1,070.55	$1,036.29	$2,106.84	14,592.0	$960,718.64	$488,171.31	$472,547.33
4,101-10K	1,739	12	7.3	88.2	44.1	$1,428.13	14.7	$476.04	$1,966.33	58.8	$1,966.33	$1,904.18	$3,870.51	102,280.5	$6,732,614.19	$3,420,363.04	$3,312,251.14
10,001-25K	1,268	12	16.1	193.4	193.4	$6,263.07	32.2	$1,042.76	$4,313.35	225.6	$4,313.35	$7,305.83	$11,619.19	286,060.8	$14,733,126.75	$5,469,333.80	$9,263,792.95
25,001-50K	660	12	37.9	454.8	454.8	$14,728.24	75.8	$2,454.71	$10,143.35	530.6	$10,143.35	$17,182.95	$27,326.30	350,196.0	$18,035,358.06	$6,694,610.79	$11,340,747.26
Over 50K	738	12	109.6	1,315.1	1315.1	$42,588.20	219.2	$7,098.57	$29,330.92	1534.3	$29,330.92	$49,686.77	$79,017.69	1,132,313.4	$58,315,053.15	$21,646,216.00	$36,668,837.15
Total	14,376			2,183.5	2,073.4	$67,144.99	363.9	$11,784.54	$48,697.97	2,437.3	$48,697.97	$78,929.52	$127,627.49	1,988,137.0	$105,538,135.65	$41,154,305.96	$64,383,829.69

Exhibit C.6 - Repeat Monitoring - Burden and Cost

a. Repeat-GW

Size Category	PWSs	Repeat Samples/ System	Labor (per System per Year)				O&M	Total Burden	Cost (per System Per Year)		Total Cost	GW Repeat Monitoring				
			Sample Collection		Analysis (in-house)		Analytical Costs	(per System	O&M	Labor	(per System	Total Number	Total Annual	Total Annual	O&M Cost	Labor Cost
			(hrs)	(cost)	(hrs)	(cost)	Materials	per Year) (hrs)			per Year)	of Samples	Burden	Cost		
	A (from "Systems with Violations)	B = Q from "Sampling"	C = B* B from "Sampling"	D = C* A from "Sampling"	E = B * C from "Sampling"	F = E* A from "Sampling"	G = B* E from "Sampling"	H = C + E	J = G	K = D + F	L = J + K	M = A * B	N = A * H	O = A * L	P = A * J	Q = A * K
<25-500	14,775	4	2.0	$64.77	0.7	$22.67	$89.21	2.7	$89.21	$87.44	$176.65	59100	39,892.5	$2,610,003.75	$1,318,077.75	$1,291,926.00
501-1K	768	4	2.0	$64.77	0.7	$22.67	$89.21	2.7	$89.21	$87.44	$176.65	3072	2,073.6	$135,667.20	$68,513.28	$67,153.92
1,001-2.5K	666	3	1.5	$48.58	0.5	$16.19	$66.91	2.0	$66.91	$64.77	$131.68	1998	1,332.0	$87,698.88	$44,562.06	$43,136.82
2,501-3.3K	153	4.5	2.3	$74.48	0.8	$25.91	$100.36	3.1	$100.36	$100.39	$200.75	689	474.3	$30,714.75	$15,355.08	$15,359.67
3,301-4.1K	105	6	3.0	$97.15	1.0	$32.38	$133.82	4.0	$133.82	$129.53	$263.35	630	420.0	$27,651.75	$14,051.10	$13,600.65
4,101-10K	345	5.4	2.7	$87.44	0.9	$29.15	$120.44	3.6	$120.44	$116.59	$237.03	1863	1,242.0	$81,775.35	$41,551.80	$40,223.55
10,001-25K	210	11.7	11.7	$378.89	2.0	$64.77	$260.95	13.7	$260.95	$443.66	$704.61	2457	2,877.0	$147,968.10	$54,799.50	$93,168.60
25,001-50K	81	11.1	11.1	$359.46	1.9	$61.53	$247.56	13.0	$247.56	$420.99	$668.55	899	1,053.0	$54,152.55	$20,052.36	$34,100.19
Over 50K	15	27	27.0	$874.37	4.5	$145.73	$602.19	31.5	$602.19	$1,020.10	$1,622.29	405	472.5	$24,334.35	$9,032.85	$15,301.50
Total	17,118		63.3	$2,049.91	13.0	$421.00	$1,710.65	76.3	$1,710.65	$2,470.91	$4,181.56	71,113	49,836.9	$3,199,966.68	$1,585,995.78	$1,613,970.90

Note: Systems with TC-positive samples are required to take 4 repeat samples for each TC-positive sample if they serve 1,000 people or fewer. Larger systems must take 3 repeat samples for each TC-positive sample.

b. Repeat-SW

Size Category	PWSs	Repeat Samples/ System	Labor (per System per Year)				O&M	Total Burden	Cost (per System Per Year)		Total Cost	SW Repeat Monitoring				
			Sample Collection		Analysis (in-house)		Analytical Costs	(per System	O&M	Labor	(per System	Total Number	Total Annual	Total Annual	O&M Cost	Labor Cost
			(hrs)	(cost)	(hrs)	(cost)	Materials	per Year) (hrs)			per Year)	of Samples	Burden	Cost	(C x R)	(C x S)
	A (from "Systems with Violations)	B = Q from "Sampling"	C = B* B from "Sampling"	D = C* A from "Sampling"	E = B * C from "Sampling"	F = E* A from "Sampling"	G = B* E from "Sampling"	H = C + E	J = G	K = D + F	L = J + K	M = A * B	N = A * H	O = A * L	P = A * J	Q = A * K
<25-500	243	4	2.0	$64.77	0.7	$22.67	$89.21	2.7	$89.21	$87.44	$176.65	972	656.1	$42,925.95	$21,678.03	$21,247.92
501-1K	54	4	2.0	$64.77	0.7	$22.67	$89.21	2.7	$89.21	$87.44	$176.65	216	145.8	$9,539.10	$4,817.34	$4,721.76
1,001-2.5K	138	3	1.5	$48.58	0.5	$16.19	$66.91	2.0	$66.91	$64.77	$131.68	414	276.0	$18,171.84	$9,233.58	$8,938.26
2,501-3.3K	54	4.5	2.3	$74.48	0.8	$25.91	$100.36	3.1	$100.36	$100.39	$200.75	243	167.4	$10,840.50	$5,419.44	$5,421.06
3,301-4.1K	30	6	3.0	$97.15	1.0	$32.38	$133.82	4.0	$133.82	$129.53	$263.35	180	120.0	$7,900.50	$4,014.60	$3,885.90
4,101-10K	186	5.4	2.7	$87.44	0.9	$29.15	$120.44	3.6	$120.44	$116.59	$237.03	1004	669.6	$44,087.58	$22,401.84	$21,685.74
10,001-25K	186	12	12.0	$388.61	2.0	$64.77	$267.64	14.0	$267.64	$453.38	$721.02	2232	2,604.0	$134,109.72	$49,781.04	$84,328.68
25,001-50K	51	11.4	11.4	$369.18	1.9	$61.53	$254.26	13.3	$254.26	$430.71	$684.97	581	678.3	$34,933.47	$12,967.26	$21,966.21
Over 50K	33	33	33.0	$1,068.67	5.5	$178.11	$736.00	38.5	$736.00	$1,246.78	$1,982.78	1089	1,270.5	$65,431.74	$24,288.00	$41,143.74
Total	975		69.9	$2,263.65	14.0	$453.38	$1,857.85	83.9	$1,857.85	$2,717.03	$4,574.88	6,932	6,587.7	$367,940.40	$154,601.13	$213,339.27

Note: Systems with TC-positive samples are required to take 4 repeat samples for each TC-positive sample if they serve 1,000 people or fewer. Larger systems must take 3 repeat samples for each TC-positive sample.

Exhibit C.7 - Fecal / E.coli Monitoring - Burden and Cost

a. Fecal/E. Coli - GW

Size Category	PWSs	TC+ Samples/ System	Labor (per System per Year)				O&M	Total Burden	Cost (per System per Year)		Total Cost	GW Fecal/E. coli Monitoring			
			Sample Collection		Analysis (in-house)		Analytical Costs	(per System	O&M	Labor	(per System	Total Annual	Total Annual	O&M Cost	Labor Cost
			(hrs)	(cost)	(hrs)	(cost)	Materials	per Year) (hrs)			per Year)	Burden	Cost		
	A (from "Systems with Violations")	B = P + S (both from "Sampling")	C = B * B (from "Sampling")	D = C * A (from "Sampling")	E = B * C (from "Sampling")	F = E * A (from "Sampling")	G = B * H (from "Sampling")	H = C + E	I = G	J = D + F	K = I + J	L = A * H	M = A * K	N = A * I	O = A * J
<25-500	14,775	3.0	1.5	$48.58	0.5	$16.19	$66.91	2.0	$66.91	$64.77	$131.68	29,550.0	$1,945,572.00	$988,595.25	$956,976.75
501-1K	768	3.0	1.5	$48.58	0.5	$16.19	$66.91	2.0	$66.91	$64.77	$131.68	1,536.0	$101,130.24	$51,386.88	$49,743.36
1,001-2.5K	666	2.5	1.3	$42.10	0.4	$12.95	$55.76	1.7	$55.76	$55.05	$110.81	1,132.2	$73,799.46	$37,136.16	$36,663.30
2,501-3.3K	153	2.6	1.3	$42.10	0.4	$12.95	$57.99	1.7	$57.99	$55.05	$113.04	260.1	$17,295.12	$8,872.47	$8,422.65
3,301-4.1K	105	3.5	1.8	$58.29	0.6	$19.43	$78.06	2.4	$78.06	$77.72	$155.78	252.0	$16,356.90	$8,196.30	$8,160.60
4,101-10K	345	3.2	1.6	$51.81	0.5	$16.19	$71.37	2.1	$71.37	$68.00	$139.37	724.5	$48,082.65	$24,622.65	$23,460.00
10,001-25K	210	6.8	6.8	$220.21	1.1	$35.62	$151.66	7.9	$151.66	$255.83	$407.49	1,659.0	$85,572.90	$31,848.60	$53,724.30
25,001-50K	81	6.5	6.5	$210.50	1.1	$35.62	$144.97	7.6	$144.97	$246.12	$391.09	615.6	$31,678.29	$11,742.57	$19,935.72
Over 50K	15	11.7	11.7	$378.89	2.0	$64.77	$260.95	13.7	$260.95	$443.66	$704.61	205.5	$10,569.15	$3,914.25	$6,654.90
Total	17,118		34.0	$1,101.06	7.1	$229.91	$954.58	41.1	$954.58	$1,330.97	$2,285.55	35,934.9	$2,330,056.71	$1,166,315.13	$1,163,741.58

Each system with a TC-positive sample must check that sample for fecal coliform or E. coli.

b. Fecal/E. Coli - SW

Size Category	PWSs	TC+ Samples/ System	Labor (per System per Year)				O&M	Total	Cost (per System per Year)		Total Cost	SW Fecal/E. coli Monitoring			
			Sample Collection		Analysis (in-house)		Analytical Costs	(per System	O&M	Labor	(per System	Total Annual	Total Annual	O&M Cost	Labor Cost
			(hrs)	(cost)	(hrs)	(cost)	Materials	per Year) (hrs)			per Year)	Burden	Cost		
	A (from "Systems with Violations")	B = P + S (both from "Sampling")	C = B * B (from "Sampling")	D = C * A (from "Sampling")	E = B * C (from "Sampling")	F = E * A (from "Sampling")	G = B * H (from "Sampling")	H = C + E	I = G	J = D + F	K = I + J	L = A * H	M = A * K	N = A * I	O = A * J
<25-500	243	3.0	1.5	$48.58	0.5	$16.19	$66.91	2.0	$66.91	$64.77	$131.68	486.0	$31,998.24	$16,259.13	$15,739.11
501-1K	54	3.0	1.5	$48.58	0.5	$16.19	$66.91	2.0	$66.91	$64.77	$131.68	108.0	$7,110.72	$3,613.14	$3,497.58
1,001-2.5K	138	2.5	1.3	$42.10	0.4	$12.95	$55.76	1.7	$55.76	$55.05	$110.81	234.6	$15,291.78	$7,694.88	$7,596.90
2,501-3.3K	54	2.6	1.3	$42.10	0.4	$12.95	$57.99	1.7	$57.99	$55.05	$113.04	91.8	$6,104.16	$3,131.46	$2,972.70
3,301-4.1K	30	3.5	1.8	$58.29	0.6	$19.43	$78.06	2.4	$78.06	$77.72	$155.78	72.0	$4,673.40	$2,341.80	$2,331.60
4,101-10K	186	3.2	1.6	$51.81	0.5	$16.19	$71.37	2.1	$71.37	$68.00	$139.37	390.6	$25,922.82	$13,274.82	$12,648.00
10,001-25K	186	7.0	7.0	$226.69	1.2	$38.86	$156.12	8.2	$156.12	$265.55	$421.67	1,525.2	$78,430.62	$29,038.32	$49,392.30
25,001-50K	51	6.7	6.7	$216.97	1.1	$35.62	$149.43	7.8	$149.43	$252.59	$402.02	397.8	$20,503.02	$7,620.93	$12,882.09
Over 50K	33	14.3	14.3	$463.09	2.4	$77.72	$318.94	16.7	$318.94	$540.81	$859.75	551.1	$28,371.75	$10,525.02	$17,846.73
Total	975		37.0	$1,198.21	7.6	$246.10	$1,021.49	44.6	$1,021.49	$1,444.31	$2,465.80	3,857.1	$218,406.51	$93,499.50	$124,907.01

Each system with a TC-positive sample must check that sample for fecal coliform or E. coli.

Exhibit C.8 - Additional Routine Monitoring - Burden and Cost

a. Additional Routines - GW

Size Category	PWSs	TC+ Samples/ System	Labor (per System per Year)				O&M	Total Burden	Cost (per System per Year		Total Cost	GW Addtl Routine Monitoring			
			Sample Collection		Analysis (in-house)		Analytical Costs	(per System	O&M	Labor	(per System	Total Annual	Total Annual	O&M Cost	Labor Cost
			(hrs)	(cost)	(hrs)	(cost)	Materials	per Year) (hrs)			per Year)	Burden	Cost		
	A (from "Systems with Violations")	B = N (from "Sampling")	C = B * B (from "Sampling")	D = C * A (from "Sampling")	E = B * C (from "Sampling")	F = E * A (from "Sampling")	G = B * E (from "Sampling")	H = C + E	I = G	J = D + F	K = I + J	L = A * H	M = A * K	N = A * I	O = A * J
<25-500	14,775	4.0	2.0	$64.77	0.7	$22.67	$89.21	2.7	$89.21	$87.44	$176.65	39,892.5	$2,610,003.75	$1,318,077.75	$1,291,926.00
501-1K	768	4.0	2.0	$64.77	0.7	$22.67	$89.21	2.7	$89.21	$87.44	$176.65	2,073.6	$135,667.20	$68,513.28	$67,153.92
1,001-2.5K	666	3.0	1.5	$48.58	0.5	$16.19	$66.91	2.0	$66.91	$64.77	$131.68	1,332.0	$87,698.88	$44,562.06	$43,136.82
2,501-3.3K	153	2.0	1.0	$32.38	0.3	$9.72	$44.61	1.3	$44.61	$42.10	$86.71	198.9	$13,266.63	$6,825.33	$6,441.30
3,301-4.1K	105	1.0	0.5	$16.19	0.2	$6.48	$22.30	0.7	$22.30	$22.67	$44.97	73.5	$4,721.85	$2,341.50	$2,380.35
4,101-10K	345	0.0	0.0	$0.00	0.0	$0.00	$0.00	0.0	$0.00	$0.00	$0.00	0.0	$0.00	$0.00	$0.00
10,001-25K	210	0.0	0.0	$0.00	0.0	$0.00	$0.00	0.0	$0.00	$0.00	$0.00	0.0	$0.00	$0.00	$0.00
25,001-50K	81	0.0	0.0	$0.00	0.0	$0.00	$0.00	0.0	$0.00	$0.00	$0.00	0.0	$0.00	$0.00	$0.00
Over 50K	15	0.0	0.0	$0.00	0.0	$0.00	$0.00	0.0	$0.00	$0.00	$0.00	0.0	$0.00	$0.00	$0.00
Total	17,118		7.0	$226.69	2.4	$77.73	$312.24	9.4	$312.24	$304.42	$616.66	43,570.5	$2,851,358.31	$1,440,319.92	$1,411,038.39

Systems that collect fewer than 5 routine samples per month must collect 5 routine samples the month following a TC-positive sample. Depending on system size, systems will be required to take 1-4 additional routine samples to bring the total to 5 samples.

b. Additional Routines - SW

Size Category	PWSs	TC+ Samples/ System	Labor (per System per Year)				O&M	Total Burden	Cost (per System per Year		Total Cost	SW Addtl Routine Monitoring			
			Sample Collection		Analysis (in-house)		Analytical Costs	(per System	O&M	Labor	(per System	Total Annual	Total Annual	O&M Cost	Labor Cost
			(hrs)	(cost)	(hrs)	(cost)	Materials	per Year) (hrs)			per Year)	Burden	Cost		
	A (from "Systems with Violations")	B = N (from "Sampling")	C = B * B (from "Sampling")	D = C * A (from "Sampling")	E = B * C (from "Sampling")	F = E * A (from "Sampling")	G = B * E (from "Sampling")	H = C + E	I = G	J = D + F	K = I + J	L = A * H	M = A * K	N = A * I	O = A * J
<25-500	243	4.0	2.0	$64.77	0.7	$22.67	$89.21	2.7	$89.21	$87.44	$176.65	656.1	$42,925.95	$21,678.03	$21,247.92
501-1K	54	4.0	2.0	$64.77	0.7	$22.67	$89.21	2.7	$89.21	$87.44	$176.65	145.8	$9,539.10	$4,817.34	$4,721.76
1,001-2.5K	138	3.0	1.5	$48.58	0.5	$16.19	$66.91	2.0	$66.91	$64.77	$131.68	276.0	$18,171.84	$9,233.58	$8,938.26
2,501-3.3K	54	2.0	1.0	$32.38	0.3	$9.72	$44.61	1.3	$44.61	$42.10	$86.71	70.2	$4,682.34	$2,408.94	$2,273.40
3,301-4.1K	30	1.0	0.5	$16.19	0.2	$6.48	$22.30	0.7	$22.30	$22.67	$44.97	21.0	$1,349.10	$669.00	$680.10
4,101-10K	186	0.0	0.0	$0.00	0.0	$0.00	$0.00	0.0	$0.00	$0.00	$0.00	0.0	$0.00	$0.00	$0.00
10,001-25K	186	0.0	0.0	$0.00	0.0	$0.00	$0.00	0.0	$0.00	$0.00	$0.00	0.0	$0.00	$0.00	$0.00
25,001-50K	51	0.0	0.0	$0.00	0.0	$0.00	$0.00	0.0	$0.00	$0.00	$0.00	0.0	$0.00	$0.00	$0.00
Over 50K	33	0.0	0.0	$0.00	0.0	$0.00	$0.00	0.0	$0.00	$0.00	$0.00	0.0	$0.00	$0.00	$0.00
Total	975		7.0	$226.69	2.4	$77.73	$312.24	9.4	$312.24	$304.42	$616.66	1,169.1	$76,668.33	$38,806.89	$37,861.44

Systems that collect fewer than 5 routine samples per month must collect 5 routine samples the month following a TC-positive sample. Depending on system size, systems will be required to take 1-4 additional routine samples to bring the total to 5 samples.

Exhibit C.9 - System Responses - Monitoring Events

Routine Monitoring

Population Range	Inventory of Public Water Systems			Samples per System per Year		Number of Responses Routine Monitoring Events per Year		
	GW*	SW/GUDI	Total	GW	SW/GUDI	GW	SW/GUDI	Total
	A (from M of "Systems with Violations")	B (from N of "Systems with Violations")	C = A + B	D (from J or K of "Sampling" * L from "Sampling)	E ((from J or K of "Sampling" * L from "Sampling))	F = A * D	G = B * E	H = F + G
<25-500 - TC+*	14,775	243	15,018	12	12	177,300	2,916	180,216
<25-500 - rest	104,246	5,259	109,505	4	12	416,982	63,113	480,096
501-1K - TC+*	768	54	822	12	12	9,216	648	9,864
501-1K - rest	7,319	1,291	8,610	4	12	29,274	15,497	44,771
1,001-2.5K	5,790	2,010	7,800	24	24	138,949	48,251	187,200
2,501-3.3K	1,236	656	1,892	36	36	44,496	23,616	68,112
3,301-4.1K	786	456	1,242	48	48	37,728	21,888	59,616
4,101-10K	2,122	1,739	3,861	85	88	180,728	153,358	334,086
10,001-25K	977	1,268	2,245	188	193	183,218	245,227	428,445
25,001-50K	361	660	1,021	447	455	161,233	300,164	461,398
Over 50K	225	738	963	1081	1315	243,243	970,545	1,213,789
Total	138,603	14,376	152,979			1,622,367	1,845,224	3,467,591

* GW CWSs with TC+ results sample monthly.

Repeat Monitoring

Population Range	Inventory of Public Water Systems			Frequency of Monitoring per Year		Number of Responses Repeat Monitoring Events per Year		
	GW	SW/GUDI	Total	GW	SW/GUDI	GW	SW/GUDI	Total
	A (from P of "Systems with Violations")	B (from Q of "Systems with Violations")	C = A + B	D (from Q of "Sampling")	E (from Q of "Sampling")	F = A * D	G = B * E	H = F + G
<25-500	14,775	243	15,018	4	4	59,100	972	60,072
501-1K	768	54	822	4	4	3,072	216	3,288
1,001-2.5K	666	138	804	3	3	1,998	414	2,412
2,501-3.3K	153	54	207	4.5	4.5	689	243	932
3,301-4.1K	105	30	135	6	6	630	180	810
4,101-10K	345	186	531	5.4	5.4	1,863	1,004	2,867
10,001-25K	210	186	396	11.7	12	2,457	2,232	4,689
25,001-50K	81	51	132	11.1	11.4	899	581	1,481
Over 50K	15	33	48	27	33	405	1,089	1,494
Total	17,118	975	18,093			71,113	6,932	78,044

Exhibit C.9 continued - System Responses - Monitoring Events

Fecal - *E. coli* Monitoring

Population	Inventory of Public Water Systems			Frequency of Monitoring per Year		Number of Responses *E. coli* Monitoring Events per Year		
Range	GW	SW/GUDI	Total	GW	SW/GUDI	GW	SW/GUDI	Total
	A (from P of "Systems with Violations")	B (from Q of "Systems with Violations")	C = A + B	D (from P + S of "Sampling")	E (from P + S of "Sampling")	F = A * D	G = B * E	H = F + G
<25-500	14,775	243	15,018	3	3	44,325	729	45,054
501-1K	768	54	822	3	3	2,304	162	2,466
1,001-2.5K	666	138	804	2.5	2.5	1,665	345	2,010
2,501-3.3K	153	54	207	2.6	2.6	398	140	538
3,301-4.1K	105	30	135	3.5	3.5	368	105	473
4,101-10K	345	186	531	3.2	3.2	1,104	595	1,699
10,001-25K	210	186	396	6.8	7	1,428	1,302	2,730
25,001-50K	81	51	132	6.5	6.7	527	342	868
Over 50K	15	33	48	11.7	14.3	176	472	647
Total	17,118	975	18,093			52,293	4,192	56,486

Additional Routine Monitoring

Population	Inventory of Public Water Systems			Frequency of Monitoring per Year		Number of Responses Add'l Routine Monitoring Events per Year		
Range	GW	SW/GUDI	Total	GW	SW/GUDI	GW	SW/GUDI	Total
	A (from P of "Systems with Violations")	B (from Q of "Systems with Violations")	C = A + B	D (from N of "Sampling")	E (from N of "Sampling")	F = A * D	G = B * E	H = F + G
<25-500	14,775	243	15,018	4	4	59,100	972	60,072
501-1K	768	54	822	4	4	3,072	216	3,288
1,001-2.5K	666	138	804	3	3	1,998	414	2,412
2,501-3.3K	153	54	207	2	2	306	108	414
3,301-4.1K	105	30	135	1	1	105	30	135
4,101-10K	345	186	531	0	0	0	0	0
10,001-25K	210	186	396	0	0	0	0	0
25,001-50K	81	51	132	0	0	0	0	0
Over 50K	15	33	48	0	0	0	0	0
Total	17,118	975	18,093			64,581	1,740	66,321

Exhibit C.10 - Total Burden and Cost for TCR

System TCR Totals

Monitoring	Total Burden in Hours			Total Cost			O&M Cost			Labor Cost		
	GW	SW	Total	GW	SW	Total	GW	SW	Total	GW	SW	Total
Routine	1,379,160.1	1,988,137.0	3,367,297.1	$80,846,621.23	$105,538,135.65	$186,384,756.89	$36,183,901.44	$41,154,305.96	$77,338,207.40	$44,662,719.79	$64,383,829.69	$109,046,549.48
Repeat	49,836.9	6,587.7	56,424.6	$3,199,966.68	$367,940.40	$3,567,907.08	$1,585,995.78	$154,601.13	$1,740,596.91	$1,613,970.90	$213,339.27	$1,827,310.17
Fecal/E. coli	35,934.9	3,857.1	39,792.0	$2,330,056.71	$218,406.51	$2,548,463.22	$1,166,315.13	$93,499.50	$1,259,814.63	$1,163,741.58	$124,907.01	$1,288,648.59
Addtl Routine	43,570.5	1,169.1	44,739.6	$2,851,358.31	$76,668.33	$2,928,026.64	$1,440,319.92	$38,806.89	$1,479,126.81	$1,411,038.39	$37,861.44	$1,448,899.83
Total	1,508,502.4	1,999,750.9	3,508,253.3	$89,228,002.93	$106,201,150.89	$195,429,153.83	$40,376,532.27	$41,441,213.48	$81,817,745.75	$48,851,470.66	$64,759,937.41	$113,611,408.07

Exhibit C.11 - Sanitary Surveys - State Burden and Cost

A. Community Water Systems

Size Category	Inventory of GW Systems	GW CWSs				GW CWS Total	
		Unit Burden for SSurvey	Unit Labor Cost	Systems w SSurveys Annual %	Sys	Annual Burden	Annual Cost
	A (from "Inventory of Systems with Violations")	B	C = B * State Labor Rate	D	E = A * D	F = B * E	G = C * E
<25-500	25,388	12	$ 525.50	0%	-	0	$ -
501-1K	4,463	24	$ 1,051.01	0%	-	0	$ -
1,001-2.5K	4,583	24	$ 1,051.01	0%	-	0	$ -
2,501-3.3K	1,111	24	$ 1,051.01	0%	-	0	$ -
3,301-4.1K	717	36	$ 1,576.51	0%	-	0	$ -
Total	36,261				-	0	$ -

Note: Burden estimates take into account the results of December 2011 consultations with water industry representatives.

B. Nontransient Noncommunity Systems

Size Category	Inventory of GW Systems	GW NTNCWSs				GW NTNC Total	
		Unit Burden for SSurvey	Unit Labor Cost	Systems w SSurveys Annual %	Sys	Annual Burden	Annual Cost
	A (from "Inventory of Systems with Violations")	B	C = B * State Labor Rate	D	E = A * D	F = B * E	G = C * E
<25-500	15,038	12	$ 525.50	0%	-	0	$ -
501-1K	1,659	24	$ 1,051.01	0%	-	0	$ -
1,001-2.5K	685	24	$ 1,051.01	0%	-	0	$ -
2,501-3.3K	79	24	$ 1,051.01	0%	-	0	$ -
3,301-4.1K	46	36	$ 1,576.51	0%	-	0	$ -
Total	17,507				-	0	$ -

Note: Burden estimates take into account the results of December 2011 consultations with water industry representatives.

Sanitary Surveys - Burden and Cost (Continued)

C. Transient Noncommunity Systems

Size Category	Inventory of GW Systems	GW TNCWSs				GW TNC Total	
		Unit Burden for SSurvey	Unit Labor Cost	Systems w Surveys Annual %	Sys	Annual Burden	Annual Cost
	A (from "Inventory of Systems with Violations")	B	C = B * State Labor Rate	D	E = A * D	F = B * E	G = C * E
<25-500	78,595	12	$ 525.50	0%	-	0	$ -
501-1K	1,965	24	$ 1,051.01	0%	-	0	$ -
1,001-2.5K	522	24	$ 1,051.01	0%	-	0	$ -
2,501-3.3K	46	24	$ 1,051.01	0%	-	0	$ -
3,301-4.1K	23	36	$ 1,576.51	0%	-	0	$ -
Total	81,151				-	0	$ -

Note: Burden estimates take into account the results of December 2011 consultations with water industry representatives.

D. Totals

Size Category	Total Annual Burden	Total Annual Cost	Total Annual Responses
	H	I	J
<25-500	-	$ -	-
501-1K	-	$ -	-
1,001-2.5K	-	$ -	-
2,501-3.3K	-	$ -	-
3,301-4.1K	-	$ -	-
Total	-	$ -	-

Note: Burden for sanitary surveys is now accounted for under the Ground Water Rule.

Exhibit C.12
Total Coliform Rule - Summary of Original and Revised Burden Estimates

No changes in burden estimates based on December 2011 consultations.

Appendix D

Interim Enhanced Surface Water Treatment Rule Spreadsheets

Exhibit D.1a - IESWTR PWS Burden and Cost Summary

Requirement	Annual Respondents	Avg. Annual Responses	Annual Burden	Annual Burden (Labor) Cost	Annual O&M Cost	Annual Capital Cost
Turbidity Monitoring	1,376	3,781,232	4,276,458	$ 138,488,817	$ 16,938,278	$ 15,822,633
Exception Reports and Individual Filter Assessments (IFAs)	165	165	4,127	$ 133,656	$ -	$ -
Totals	**1,376**	**3,781,397**	**4,280,585**	**$ 138,622,473**	**$ 16,938,278**	**$ 15,822,633**

Exhibit D.1b - IESWTR State Burden and Cost Summary

Requirement	Annual Respondents	Avg. Annual Responses	Annual Burden	Annual Burden (Labor) Cost	Annual O&M Cost	Annual Capital Cost
Turbidity Monitoring	57	66,035	445,739	$ 19,519,815	$ -	$ -
Exception Reports and Comprehensive Performance Evaluations (CPEs)	57	151	7,154	$ 313,281	$ -	$ -
Sanitary Surveys	57	4,432	495,015	$ 21,677,693	$ -	$ -
Total	**57**	**70,619**	**947,908**	**$ 41,510,789**	**$ -**	**$ -**

Exhibit D.2 - IESWTR System Inventory

Population Category	Surface Water and GWUDI			Non-Purchased Surface Water/GWUDI			Unfiltered Surface Water/GWUDI			Filtered Non-Purchased Surface Water/GWUDI		
	CWS	NTNC	TNC	CWS	NTNC	TNC	CWS	NTNC	TNC	CWS	NTNC	TNC
				A	B	C	D	E	F	G=A-D	H=B-E	I=C-F
≤100	987	257	1,345	416	121	631	1	-	3	415	121	628
101-500	2,150	264	500	644	150	376	4	-	-	640	150	376
501-1,000	1,171	86	86	348	50	63	2	-	-	346	50	63
1,001-3,300	2,521	75	63	948	34	50	1	-	-	947	34	50
3,301-10K	2,149	29	24	1,011	7	17	-	-	-	1,011	7	17
10,001-50K	1,920	6	2	975	1	-	5	-	-	970	1	-
50,001-100K	393	1	-	225	-	-	1	-	-	224	-	-
100,001-1M	325	1	-	237	-	-	-	-	-	237	-	-
>1M	18	0	1	17	0	-	1	-	-	16	-	-
Total	**11,635**	**719**	**2,021**	**4,822**	**363**	**1,138**	**15**	**-**	**3**	**4,807**	**363**	**1,135**

Note: Source was not specified for some systems. These PWSs were assigned to SW or GW categories based on the ratio of SW to GW systems within a given size category.

Source: SDWIS/FED Data from October 2010.

Exhibit D.3 - Systems and Plants Subject to IESWTR Individual Filter Turbidity Monitoring Requirements (Practicing Conventional or Direct Filtration)

Population Category	Filtered Non-Purchased Surface Water/GWUDI			% Using Conventional or Direct Filtration			Total Systems Subject to IESWTR Individual Filter Turbidity Monitoring			Plants Per System			Total Plants Subject to IESWTR Individual Filter Turbidity Monitoring		
	CWS	NTNC	TNC	CWS	NTNC	TNC	CWS	NTNC	TNC	CWS	NTNC	TNC	CWS	NTNC	TNC
	A	B	C	D	E	F	G=A*D	H=B*E	I=C*F	J	K	L	M=G*J	N=H*K	O=I*L
≤100	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
101-500	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
501-1,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1,001-3,300	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
3,301-10K	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10,001-25K	601	1	-	93.9%	93.9%	93.9%	565	1	-	1.08	1.00	1.00	610	1	-
25,001-50K	369	-	-	93.9%	93.9%	93.9%	347	-	-	1.08	1.00	1.00	375	-	-
50,001-75K	141	-	-	98.5%	98.5%	98.5%	139	-	-	1.35	1.00	1.00	187	-	-
75,001-100K	83	-	-	98.5%	98.5%	98.5%	82	-	-	1.35	1.00	1.00	110	-	-
100,001-500K	210	-	-	96.0%	96.0%	96.0%	202	-	-	1.69	1.00	1.00	340	-	-
500,001-1M	27	-	-	96.0%	96.0%	96.0%	26	-	-	1.69	1.00	1.00	44	-	-
>1M	16	-	-	96.0%	96.0%	96.0%	15	-	-	1.69	1.00	1.00	26	-	-
Total	**1,447**	**1**	**-**				**1,375**	**1**	**-**				**1,692**	**1**	**-**

Note: IESWTR individual filter turbidity monitoring requirements apply only to systems serving more than 10,000 people. Percentage of plants using conventional or direct filtration was assumed to apply to NTNCWSs and TNCWSs. Percentage of systems using conventional or direct filtration was not available. Percentage of plants was used as a proxy.
Source: Number of plants per system (for CWSs) and percentage of plants using conventional or direct filtration are from 2006 CWSS.

Exhibit D.4 - Individual Filter Turbidity Monitoring Burden and Costs - PWSs

Population Category	Hourly Labor Rate	Number of Conventional and Direct Filtration Systems (SW and GWUDI)			Number of Conventional and Direct Filtration Plants (SW and GWUDI)			Plant Level Burden								System Level Labor Hours				Total Annual Burden (hours)	Total Annual Labor Cost
		CWS	NTNC	TNC	CWS	NTNC	TNC	Data Collection Unit Burden (hours)	Data Collection Annual Burden (hours)	Data Review Unit Burden (hours)	Data Review Annual Burden (hours)	Data Reporting Unit Burden (hours)	Data Reporting Annual Burden (hours)	Recordkeeping Unit Burden (hours)	Recordkeeping Annual Burden (hours)	Data Review Unit Burden (hours)	Data Review Annual Burden (hours)	Develop Summary Report Unit Burden (hours)	Develop Summary Report Annual Burden (hours)		
	A	B	C	D	E	F	G	H	I=H*365 days/yr *3 times/day	J	K=J*365 days/yr *3 times/day	L	M=L*12	N	O=N*12	P	Q=P*12	R	S=R*12	T=[(E+F+G) *(I+K+M+O)] +[(A+B+C)*(Q+S)]	U=T*A
<100	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
101-500	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
501-1,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1,001-3,300	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
3,301-10K	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10,001-25K	$ 32.38	565	1	-	610	1	-	1	1,095	1	1,095	10	120	5	60	8	96	8	96	1,557,095	$ 50,424,968
25,001-50K	$ 32.38	347	-	-	375	-	-	1	1,095	1	1,095	10	120	5	60	8	96	8	96	954,542	$ 30,911,901
50,001-75K	$ 32.38	139	-	-	187	-	-	1	1,095	1	1,095	10	120	5	60	8	96	8	96	470,571	$ 15,238,978
75,001-100K	$ 32.38	82	-	-	110	-	-	1	1,095	1	1,095	10	120	5	60	8	96	8	96	277,003	$ 8,970,462
100,001-500K	$ 32.38	202	-	-	340	-	-	1	1,095	1	1,095	10	120	5	60	8	96	8	96	844,355	$ 27,343,584
500,001-1M	$ 32.38	26	-	-	44	-	-	1	1,095	1	1,095	10	120	5	60	8	96	8	96	108,560	$ 3,515,604
>1M	$ 32.38	15	-	-	26	-	-	1	1,095	1	1,095	10	120	5	60	8	96	8	96	64,332	$ 2,083,321
Total		**1,375**	**1**	**-**	**1,692**	**1**	**-**													**4,276,458**	**$ 138,488,817**

Note:
IESWTR individual filter turbidity monitoring requirements apply only to systems serving more than 10,000 people.
Sources:
(H, J) These activities occur three times per day on a daily basis.
(H, J, L, N, P, R) Burden estimates take into account the results of December 2011 consultations with water industry representatives.
(M, O, Q, S) These activities occur monthly.

Exhibit D.5 - Individual Filter Turbidity Monitoring O&M and Capital Costs - PWSs

Population Category	Number of Conventional and Direct Filtration Systems (SW and GWUDI)			Flows (Millions of Gallons per Day)		O&M Unit Costs for Continuous Monitoring (cents per thousand gallons)	Annual O&M Costs for Continuous Monitoring (dollars/yr)	Capital Unit Costs for Continuous Monitoring (cents per thousand gallons)	Annual Capital Costs for Continuous Monitoring
	CWS	NTNC	TNC	Avg Flow	Design Flow				
	A	B	C	D	E	F	G=(A+B+C)*D*F *(1,000 kgal/Mgal) *(1 dollar/100 cents) *(365 days/yr)	H	I=[(A+B+C)*E*H *(1,000 kgal/Mgal) *(1 dollar/100 cents) *(365 days/yr)]/ 7 years
<100	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
101-500	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
501-1,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1,001-3,300	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
3,301-10K	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10,001-25K	565	1	-	4	8	0.377	$ 2,781,487	1.295	$ 3,174,083
25,001-50K	347	-	-	4	9	0.317	$ 1,716,892	1.088	$ 1,748,699
50,001-75K	139	-	-	8	20	0.320	$ 1,325,451	0.927	$ 1,356,655
75,001-100K	82	-	-	14	33	0.316	$ 1,343,908	0.837	$ 1,177,442
100,001-500K	202	-	-	27	60	0.322	$ 6,509,500	0.805	$ 5,048,585
500,001-1M	26	-	-	78	164	0.150	$ 1,111,029	0.771	$ 1,705,738
>1M	15	-	-	299	594	0.128	$ 2,150,010	0.338	$ 1,611,432
Total	**1,375**	**1**	**-**				**$ 16,938,278**		**$ 15,822,633**

Note:
IESWTR individual filter turbidity monitoring requirements apply only to systems serving more than 10,000 people.
Sources:
(D, E) Average and design flow information is from the 2006 CWSS. This data includes both surface water and groundwater sources, and thus potentially over estimate daily flows.
(F, H) IESWTR RIA (1998), Appendix C. Updated to 2010$.
(I) Assumes turbidimeters are replaced once every 7 years.

Exhibit D.6 - Exceptions Reporting and Individual Filter Assessment Burden and Costs - PWSs

Population Category	Hourly Labor Rate	Number of Conventional and Direct Filtration Systems (SW and GWUDI)			Percent of Systems Performing Each Year		Annual Number of Systems Performing Each Activity		Labor Hours/Report		Total Annual Burden	Total Annual Labor Cost
		CWS	NTNC	TNC	Exception Reports	IFAs	Exception Reports	IFAs	Exception Reports	IFAs		
	A	B	C	D	E	F	G=(B+C+D)*E	H=(B+C+D)*F	I	J	K=(G*I)+(J*H)	L=K*A
<100	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
101-500	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
501-1,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1,001-3,300	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
3,301-10K	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10,001-25K	$ 32.38	565	1	-	10%	2%	57	11	20	50	1,697	$ 54,943
25,001-50K	$ 32.38	347	-	-	10%	2%	35	7	20	50	1,040	$ 33,678
50,001-75K	$ 32.38	139	-	-	10%	2%	14	3	20	50	417	$ 13,492
75,001-100K	$ 32.38	82	-	-	10%	2%	8	2	20	50	245	$ 7,942
100,001-500K	$ 32.38	202	-	-	10%	2%	20	4	20	50	605	$ 19,589
500,001-1M	$ 32.38	26	-	-	10%	2%	3	1	20	50	78	$ 2,519
>1M	$ 32.38	15	-	-	10%	2%	2	0	20	50	46	$ 1,493
Total		**1,375**	**1**	**-**			**138**	**28**			**4,127**	**$ 133,656**

Notes:

(E) Exception reports are required when systems exceed turbidity levels of 0.5 or 1 NTU in consecutive measurements in individual filters (absent such exceedances, systems need only report that they have completed monitoring). IESWTR individual filter turbidity monitoring requirements apply only to systems serving more than 10,000 people.

(F) Individual filter assessments are required when systems exceed turbidity levels of 1 NTU during 3 consecutive months. IESWTR individual filter turbidity monitoring requirements apply only to systems serving more than 10,000 people.

(I, J) Burden estimates take into account the results of December 2011 consultations with water industry representatives.

Exhibit D.7 - Individual Filter Turbidity Monitoring Burden and Costs - States

Population Category	Hourly Labor Rate	Number of Conventional and Direct Filtration Systems (SW and GWUDI)			State Level Labor Hours/System								Total Annual Burden (hours)	Total Annual Labor Cost
		CWS	NTNC	TNC	Compliance Tracking Unit Burden (hours)	Compliance Tracking Annual Burden (hours)	Analyze/Review Data Unit Burden (hours)	Analyze/Review Data Annual Burden (hours)	Determinations Unit Burden (hours)	Make Determinations Annual Burden (As Required) (hours)	Recordkeeping Unit Burden (hours)	Recordkeeping Annual Burden (hours)		
	A	B	C	D	E	F=E*12	G	H=G*12	I	J=I*12	K	L=K*12	M=(B+C+D)*(F+H+J+L)	N=M*A
<100	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
101-500	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
501-1,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1,001-3,300	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
3,301-10K	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10,001-25K	$ 43.79	565	1	-	8	96	9	108	8	96	2	24	183,235	$ 8,024,218
25,001-50K	$ 43.79	347	-	-	8	96	9	108	8	96	2	24	112,315	$ 4,918,499
50,001-75K	$ 43.79	139	-	-	8	96	9	108	8	96	2	24	44,995	$ 1,970,443
75,001-100K	$ 43.79	82	-	-	8	96	9	108	8	96	2	24	26,487	$ 1,159,906
100,001-500K	$ 43.79	202	-	-	8	96	9	108	8	96	2	24	65,330	$ 2,860,938
500,001-1M	$ 43.79	26	-	-	8	96	9	108	8	96	2	24	8,400	$ 367,835
>1M	$ 43.79	15	-	-	8	96	9	108	8	96	2	24	4,978	$ 217,976
Total		**1,375**	**1**	**-**									**445,739**	**$ 19,519,815**

Notes:
(E, G, I, K) Burden estimates take into account the results of December 2011 consultations with water industry representatives (including states).
(F, H, J, L) These activities occur monthly.

Exhibit D.8 - Exceptions Reporting and Comprehensive Performance Evaluation Burden and Costs - States

Population Category	Hourly Labor Rate	Number of Conventional and Direct Filtration Systems (SW and GWUDI)			Percent of Systems Requiring Activity Each Year		Annual Number of Systems Requiring Activity		Unit Burden		Total Annual Burden	Total Annual Labor Cost
		CWS	NTNC	TNC	Exception Reports	CPEs	Exception Reports	CPEs	Exception Reports	CPEs		
	A	B	C	D	E	F	G=(B+C+D)*E	H=(B+C+D)*F	I	J	K=(G*I)+(J*H)	L=K*A
<100	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
101-500	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
501-1,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1,001-3,300	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
3,301-10K	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10,001-25K	$ 43.79	565	1	-	10%	1%	57	6	36	160	2,941	$ 128,784
25,001-50K	$ 43.79	347	-	-	10%	1%	35	3	36	160	1,803	$ 78,939
50,001-75K	$ 43.79	139	-	-	10%	1%	14	1	36	160	722	$ 31,624
75,001-100K	$ 43.79	82	-	-	10%	1%	8	1	36	160	425	$ 18,616
100,001-500K	$ 43.79	202	-	-	10%	1%	20	2	36	160	1,049	$ 45,916
500,001-1M	$ 43.79	26	-	-	10%	1%	3	0	36	160	135	$ 5,904
>1M	$ 43.79	15	-	-	10%	1%	2	0	36	160	80	$ 3,498
Total		**1,375**	**1**	**-**			**138**	**14**			**7,154**	**$ 313,281**

Notes:

(E) Exception reports are required when systems exceed turbidity levels of 0.5 or 1 NTU in consecutive measurements in individual filters (absent such exceedances, systems need only report that they have completed monitoring).

(F) Comprehensive performance evaluations are performed by states when a system exceeds 2 NTU in two consecutive measurements in an individual filter in each of two consecutive months.

(I, J) Burden estimates take into account the results of December 2011 consultations with water industry representatives (including states).

Source:

(E, F) IESWTR ICR (1998)

Exhibit D.9 - Sanitary Surveys - State Burden and Costs

Population Category	Hourly Labor Rate	Number Filtered Systems (SW and GWUDI)			Number of Unfiltered Systems (SW and GWUDI)			Percent of Surveys Performed Annually		Total Surveys Annually		Sanitary Survey Unit Burden (hours)		Total Labor Hours/Year	Total Labor Cost/Year
		CWS	NTNC	TNC	CWS	NTNC	TNC	CWS	All NCWSs	Filtered Systems	Unfiltered Systems	Filtered Systems	Unfiltered Systems		
	A	B	C	D	E	F	G	H	I	J=(B*H)+((C+D)*I)	K=(E*H)+((F+G)*I)	L	M	N=(L*J)+(M*K)	O=N*A
<100	$ 43.79	987	257	1,345	1	-	3	33.3%	20.0%	649	0.9	16	16	10,405	$ 455,637
101-500	$ 43.79	2,150	264	500	4	-	-	33.3%	20.0%	869	1.3	16	16	13,932	$ 610,126
501-1,000	$ 43.79	1,171	86	86	2	-	-	33.3%	20.0%	425	0.7	28	28	11,915	$ 521,785
1,001-3,300	$ 43.79	2,521	75	63	1	-	-	33.3%	20.0%	868	0.3	28	28	24,315	$ 1,064,820
3,301-4,400	$ 43.79	475	6	5	-	-	-	33.3%	20.0%	161	-	40	40	6,427	$ 281,468
4,401-10K	$ 43.79	1,674	23	19	-	-	-	33.3%	20.0%	566	-	65	40	36,816	$ 1,612,232
10,001-25K	$ 43.79	1,204	4	1	3	-	-	33.3%	20.0%	402	1.0	65	40	26,190	$ 1,146,922
25,001-50K	$ 43.79	716	2	1	2	-	-	33.3%	20.0%	239	0.6	391	194	93,693	$ 4,103,025
50,001-75K	$ 43.79	265	1	-	1	-	-	33.3%	20.0%	89	0.2	705	334	62,510	$ 2,737,436
75,001-100K	$ 43.79	128	0	-	0	-	-	33.3%	20.0%	43	0.1	1,034	485	44,142	$ 1,933,080
100,001-500K	$ 43.79	290	1	-	-	-	-	33.3%	20.0%	97	-	1,364	638	131,903	$ 5,776,303
500,001-1M	$ 43.79	35	0	-	-	-	-	33.3%	20.0%	12	-	1,689	786	19,981	$ 875,012
>1M	$ 43.79	18	0	1	1	-	-	33.3%	20.0%	6	0.3	2,008	1,004	12,784	$ 559,849
Total		**11,635**	**719**	**2,021**	**15**	**-**	**3**			**4,426**	**5.6**			**495,015**	**$ 21,677,693**

Note:
All SW/GWUDI systems must undergo surveys (other requirements of the IESWTR are assumed to apply to non-purchased SW/GWUDI systems).
(L, M) Burden estimates take into account the results of December 2011 consultations with water industry representatives (including states).
Source:
(H, I) Percentage of systems undergoing surveys annually is based on IESWTR requirements. Community water systems must undergo a sanitary survey at least every 3 years and non-community water systems mus undergo a sanitary survey at least every 5 years.

Exhibit D.10
Interim Enhanced Surface Water Treatment Rule - Summary of Original and Revised Burden Estimates

No changes in burden estimates based on December 2011 consultations.

Appendix E

Long Term 1 Enhanced Surface Water Treatment Rule Spreadsheets

Exhibit E1
LT1ESWTR Burden and Cost Summary by Activity

Exhibit E1a
LT1ESWTR PWS Burden and Cost Summary

Requirement	Annual Respondents	Avg. Annual Responses	Annual Burden	Annual Burden (Labor) Cost	Annual O&M Cost	Annual Capital Cost	Total Annual Cost
Turbidity Monitoring	2,770	321,373	128,860	$ 4,173,012	$ 2,894,136	$ 2,265,732	$ 9,332,880
Turbidity Exceptions Reporting	499	499	3,990	$ 129,204	$ -	$ -	$ 129,204
Individual Filter Assessments	111	111	5,541	$ 179,450	$ -	$ -	$ 179,450
Total	**2,770**	**321,982**	**138,391**	**$ 4,481,665**	**$ 2,894,136**	**$ 2,265,732**	**$ 9,641,533**

Exhibit E1b
LT1ESWTR State Burden and Cost Summary

Requirement	Annual Respondents	Avg. Annual Responses	Annual Burden	Annual Burden (Labor) Cost	Annual O&M Cost	Annual Capital Cost	Total Annual Cost
Turbidity Monitoring	57	66,491	99,736	$ 4,367,656	$ -	$ -	$ 4,367,656
Turbidity Exceptions Reporting	57	554	19,501	$ 853,971	$ -	$ -	$ 853,971
Total	**57**	**67,045**	**119,237**	**$ 5,221,626**	**$ -**	**$ -**	**$ 5,221,626**

Exhibit E2
Summary of the LT1 Burden, Respondents, Responses, and Costs for the ICR Approval Period by Year and Annual Averages

PWSs

	Source (Exhibit) [1]	Year 1	Year 2	Year 3	Annual Average	Three Year Total
Burden (hours)	**F5.4**	138,391	138,391	138,391	138,391	415,174
Respondents (number) [2]	**F7**	2,770	2,770	2,770	2,770	2,770
Responses (number)	**F8**	321,982	321,982	321,982	321,982	965,947
Costs (labor)	**F3.4**	$ 4,481,665	$ 4,481,665	$ 4,481,665	$ 4,481,665	$ 13,444,995
Costs (Turbidimeter Capital)	**F3.4**	$ 2,265,732	$ 2,265,732	$ 2,265,732	$ 2,265,732	$ 6,797,196
Costs (Turbidimeter O&M)	**F3.4**	$ 2,894,136	$ 2,894,136	$ 2,894,136	$ 2,894,136	$ 8,682,408

[1] The distribution over time is based upon the Compliance Schedule in Exhibit E17.

States

	Source (Exhibit) [1]	Year 1	Year 2	Year 3	Annual Average	Three Year Total
Burden (hours)	**E6**	119,237	119,237	119,237	119,237	357,711
Respondents (number)**	**E7**	57	57	57	57	57
Responses (number)	**E8**	67,045	67,045	67,045	67,045	201,135
Costs	**E4**	$ 5,221,626	$ 5,221,626	$ 5,221,626	$ 5,221,626	$ 15,664,879

[1] The distribution over time is based upon the Compliance Schedule in Exhibit E17.

	Annual Average	Three Year Total
Total Burden (hours)	**257,628**	**772,885**
Total Respondents (number)	**2,827**	**2,827**
Total Cost for All Activities	**$ 14,863,160**	**$ 44,589,479**

Exhibit E3.1
Costs for the ICR Approval Period Year by Year for Systems Serving 1,000 People or Fewer

PWS Labor

	Source (Exhibit) [1]	Year 1	Year 2	Year 3	Annual Average
Annual Activities					
Turbidity Monitoring	E10.1a	$ 1,492,337	$ 1,492,337	$ 1,492,337	$ 1,492,337
Turbidity Exceptions Reporting	E10.1b	$ 51,991	$ 51,991	$ 51,991	$ 51,991
Individual Filter Assessments	E10.1b	$ 72,209	$ 72,209	$ 72,209	$ 72,209
Annual Activity Yearly Labor Total		**$ 1,616,536**	**$ 1,616,536**	**$ 1,616,536**	**$ 1,616,536**
Yearly Labor Total		**$ 1,616,536**	**$ 1,616,536**	**$ 1,616,536**	**$ 1,616,536**

[1] The distribution over time is based upon the Compliance Schedule in Exhibit E17.

PWS Capital and O&M

	Source (Exhibit) [3]	Year 1	Year 2	Year 3	Annual Average
Annual					
Turbidimeter Capital Cost* [2]	E10.1c	$ 554,633	$ 554,633	$ 554,633	$ 554,633
Turbidimeter Annual O&M * [3]	E10.1c	$ 1,164,729	$ 1,164,729	$ 1,164,729	$ 1,164,729
Yearly Total		**$ 1,719,361**	**$ 1,719,361**	**$ 1,719,361**	**$ 1,719,361**

[2] Turbidimeter capital cost is averaged over the seven year lifespan of the equipment.
[3] The distribution over time is based upon the Compliance Schedule in Exhibit E17.

Exhibit E3.2
Costs for the ICR Approval Period Year by Year for Systems Serving between 1,001 and 3,300 People

PWS Labor

	Source (Exhibit) [1]	Year 1	Year 2	Year 3	Annual Average
Annual Activities					
Turbidity Monitoring	E10.2a	$ 1,180,342	$ 1,180,342	$ 1,180,342	$ 1,180,342
Turbidity Exceptions Reporting	E10.2b	$ 33,996	$ 33,996	$ 33,996	$ 33,996
Individual Filter Assessments	E10.2b	$ 47,217	$ 47,217	$ 47,217	$ 47,217
Annual Activity Yearly Labor Total		**$ 1,261,555**	**$ 1,261,555**	**$ 1,261,555**	**$ 1,261,555**
Yearly Labor Total		**$ 1,261,555**	**$ 1,261,555**	**$ 1,261,555**	**$ 1,261,555**

[1] The distribution over time is based upon the Compliance Schedule in Exhibit E17.

PWS Capital and O&M

	Source (Exhibit)	Year 1	Year 2	Year 3	Annual Average
Annual					
Turbidimeter Capital Cost [1]	E10.2c	$ 613,193	$ 613,193	$ 613,193	$ 613,193
Turbidimeter Annual O&M [2]	E10.2c	$ 761,484	$ 761,484	$ 761,484	$ 761,484
Yearly Total		**$ 1,374,677**	**$ 1,374,677**	**$ 1,374,677**	**$ 1,374,677**

[1] Turbidimeter capital cost is averaged over the seven year lifespan of the equipment.
[2] The distribution over time is based upon the Compliance Schedule in Exhibit E17.

Exhibit E3.3
Costs for the ICR Approval Period Year by Year for Systems Serving between 3,301 and 10,000 People

PWS Labor

	Source (Exhibit) [1]	Year 1	Year 2	Year 3	Annual Average
Annual Activities					
Turbidity Monitoring	E10.3a	$ 1,500,333	$ 1,500,333	$ 1,500,333	$ 1,500,333
Turbidity Exceptions Reporting	E10.3b	$ 43,217	$ 43,217	$ 43,217	$ 43,217
Individual Filter Assessments	E10.3b	$ 60,024	$ 60,024	$ 60,024	$ 60,024
Annual Activity Yearly Labor Total		**$ 1,603,574**	**$ 1,603,574**	**$ 1,603,574**	**$ 1,603,574**
Yearly Labor Total		**$ 1,603,574**	**$ 1,603,574**	**$ 1,603,574**	**$ 1,603,574**

[1] The distribution over time is based upon the Compliance Schedule in Exhibit E17.

PWS Capital and O&M

	Source (Exhibit)	Year 1	Year 2	Year 3	Annual Average
Annual					
Turbidimeter Capital Cost [1]	E10.3c	$ 1,097,906	$ 1,097,906	$ 1,097,906	$ 1,097,906
Turbidimeter Annual O&M [2]	E10.3c	$ 967,923	$ 967,923	$ 967,923	$ 967,923
Yearly Total		**$ 2,065,829**	**$ 2,065,829**	**$ 2,065,829**	**$ 2,065,829**

[1] Turbidimeter capital cost is averaged over the seven year lifespan of the equipment.
[2] The distribution over time is based upon the Compliance Schedule in Exhibit E17.

Exhibit E3.4
Costs for the ICR Approval Period Year by Year for All System Sizes

PWS Labor

	Source (Exhibit) [1]	Year 1	Year 2	Year 3	Annual Average	3 Year Total
Annual Activities						
Turbidity Monitoring	E3.1-E3.3	$ 4,173,012	$ 4,173,012	$ 4,173,012	$ 4,173,012	$ 12,519,035
Turbidity Exceptions Reporting	E3.1-E3.3	$ 129,204	$ 129,204	$ 129,204	$ 129,204	$ 387,611
Individual Filter Assessments	E3.1-E3.3	$ 179,450	$ 179,450	$ 179,450	$ 179,450	$ 538,349
Annual Activity Yearly Total		**$ 4,481,665**	**$ 4,481,665**	**$ 4,481,665**	**$ 4,481,665**	**$ 13,444,995**
Yearly Labor Total		**$ 4,481,665**	**$ 4,481,665**	**$ 4,481,665**	**$ 4,481,665**	**$ 13,444,995**

[1] The distribution over time is based upon the Compliance Schedule in Exhibit E17.

PWS Capital and O&M

	Source (Exhibit) [1]	Year 1	Year 2	Year 3	Annual Average	3 Year Total
Annual						
Turbidimeter Capital Cost	E3.1-E3.3	$2,265,732	$2,265,732	$2,265,732	$2,265,732	$6,797,196
Turbidimeter Annual O&M	E3.1-E3.3	$2,894,136	$2,894,136	$2,894,136	$2,894,136	$8,682,408
Yearly Total		**$5,159,868**	**$5,159,868**	**$5,159,868**	**$5,159,868**	**$15,479,604**

[1] The distribution over time is based upon the Compliance Schedule in Exhibit E17.

Exhibit E4
Costs for the ICR Approval Period Year by Year for States
Summary Cost Estimates for States and Systems

States

	Source (Exhibit) [1]	Year 1	Year 2	Year 3	Annual Average	3 Year Total
Annual Activities						
Turbidity Monitoring	E12a	$ 4,367,656	$ 4,367,656	$ 4,367,656	$ 4,367,656	$ 13,102,968
Turbidity Exceptions Reporting	E12b	$ 853,971	$ 853,971	$ 853,971	$ 853,971	$ 2,561,912
Annual Activity Yearly Total		**$ 5,221,626**	**$ 5,221,626**	**$ 5,221,626**	**$ 5,221,626**	**$ 15,664,879**
Yearly Total		**$ 5,221,626**	**$ 5,221,626**	**$ 5,221,626**	**$ 5,221,626**	**$ 15,664,879**

[1] The distribution over time is based upon the Compliance Schedule in Exhibit E17.

Summary of Total Year by Year Costs for PWSs and States [1]

	Source (Exhibit) [2]	Year 1	Year 2	Year 3	Annual Average	3 Year Total
System Size Category						
PWSs Serving ≤ 1,000 People	E3.1	$ 3,335,898	$ 3,335,898	$ 3,335,898	$ 3,335,898	$ 10,007,693
PWSs Serving 1,001 - 3,300 People	E3.2	$ 2,636,232	$ 2,636,232	$ 2,636,232	$ 2,636,232	$ 7,908,697
PWSs Serving 3,301 - 10,000 People	E3.3	$ 3,669,403	$ 3,669,403	$ 3,669,403	$ 3,669,403	$ 11,008,210
PWS Total		**$ 9,641,533**	**$ 9,641,533**	**$ 9,641,533**	**$ 9,641,533**	**$ 28,924,599**
States and Territories	E4	**$ 5,221,626**	**$ 5,221,626**	**$ 5,221,626**	**$ 5,221,626**	**$ 15,664,879**
Yearly Total		**$ 14,863,160**	**$ 14,863,160**	**$ 14,863,160**	**$ 14,863,160**	**$ 44,589,479**

[1] Include Capital and O&M costs.
[2] The distribution over time is based upon the Compliance Schedule in Exhibit E17.

Exhibit E5.1
Burden for the ICR Approval Period Year by Year by Activity for Systems Serving 1,000 People or Fewer

PWSs Labor

	Source (Exhibit) [1]	Year 1	Year 2	Year 3	Annual Average
Annual Activities					
Turbidity Monitoring	E10.1a	46,083	46,083	46,083	46,083
Turbidity Exceptions Reporting	E10.1b	1,605	1,605	1,605	1,605
Individual Filter Assessment	E10.1b	2,230	2,230	2,230	2,230
Annual Activity Yearly Labor Total		**49,918**	**49,918**	**49,918**	**49,918**
Yearly Labor Total		**49,918**	**49,918**	**49,918**	**49,918**

[1] The distribution over time is based upon the Compliance Schedule in Exhibit E17.

Exhibit E5.2
Burden for the ICR Approval Period Year by Year by Activity for Systems Serving between 1,001 and 3,300 People

PWSs

	Source (Exhibit) [1]	Year 1	Year 2	Year 3	Annual Average
Annual Activities					
Turbidity Monitoring	E10.2a	36,448	36,448	36,448	36,448
Turbidity Exceptions Reporting	E10.2b	1,050	1,050	1,050	1,050
Individual Filter Assessment	E10.2b	1,458	1,458	1,458	1,458
Annual Activity Yearly Labor Total		**38,956**	**38,956**	**38,956**	**38,956**
Yearly Labor Total		**38,956**	**38,956**	**38,956**	**38,956**

[1] The distribution over time is based upon the Compliance Schedule in Exhibit E17.

Exhibit E5.3
Burden for the ICR Approval Period Year by Year by Activity for Systems Serving between 3,301 and 10,000 People

PWSs

	Source (Exhibit) [1]	Year 1	Year 2	Year 3	Annual Average
Annual Activities					
Turbidity Monitoring	E10.3a	46,329	46,329	46,329	**46,329**
Turbidity Exceptions Reporting	E10.3b	1,335	1,335	1,335	**1,335**
Individual Filter Assessment	E10.3b	1,854	1,854	1,854	**1,854**
Annual Activity Yearly Labor Total		**49,517**	**49,517**	**49,517**	**49,517**
Yearly Total		**49,517**	**49,517**	**49,517**	**49,517**

[1] The distribution over time is based upon the Compliance Schedule in Exhibit E17.

Exhibit E5.4
Burden for the ICR Approval Period Year by Year by Activity for All System Sizes

PWSs

	Source (Exhibit) [1]	Year 1	Year 2	Year 3	Annual Average	3 Year Total
Annual Activities						
Turbidity Monitoring	E5.1-E5.3	128,860	128,860	128,860	128,860	**386,581**
Turbidity Exceptions Reporting	E5.1-E5.3	3,990	3,990	3,990	3,990	**11,969**
Individual Filter Monitoring	E5.1-E5.3	5,541	5,541	5,541	5,541	**16,624**
Annual Activity Yearly Tota		**138,391**	**138,391**	**138,391**	**138,391**	**415,174**
Yearly Total		**138,391**	**138,391**	**138,391**	**138,391**	**415,174**

[1] The distribution over time is based upon the Compliance Schedule in Exhibit E17.

Exhibit E6
Burden for the ICR Approval Period Year by Year by Activity for States
Summary Burden for States and Systems

States

	Source (Exhibit) [1]	Year 1	Year 2	Year 3	Annual Average	3 Year Total
Annual Activities						
Turbidity Monitoring	E12a	99,736	99,736	99,736	99,736	299,209
Turbidity Exceptions Reporting	E12b	19,501	19,501	19,501	19,501	58,502
Annual Activity Yearly Tota		**119,237**	**119,237**	**119,237**	**119,237**	**357,711**
Yearly Total		**119,237**	**119,237**	**119,237**	**119,237**	**357,711**

Summary of Total Year by Year Burden for PWSs and States

	Source (Exhibit) [1]	Year 1	Year 2	Year 3	Annual Average	3 Year Total
System Size Category						
PWSs Serving ≤ 1,000 People	E5.1	49,918	49,918	49,918	**49,918**	**149,753**
PWSs Serving 1,001 - 3,300 People	E5.2	38,956	38,956	38,956	**38,956**	**116,868**
PWSs Serving 3,301 - 10,000 People	E5.3	49,517	49,517	49,517	**49,517**	**148,552**
PWS Total		**138,391**	**138,391**	**138,391**	**138,391**	**415,174**
States and Territories	E6	**119,237**	**119,237**	**119,237**	**119,237**	**357,711**
Yearly Total		**257,628**	**257,628**	**257,628**	**257,628**	**772,885**

[1] The distribution over time is based upon the Compliance Schedule in Exhibit E17.

Exhibit E7
Respondents for the ICR Approval Period Year by Year by Activity

PWSs [1]

	Year 1	Year 2	Year 3	Annual Average
Respondents	2,770	2,770	2,770	**2,770**
Includes systems performing:				
Annual Turbidity Monitoring	2,770	2,770	2,770	**2,770**
Turbidity Exceptions Reporting	499	499	499	**499**
Individual Filter Assesment	111	111	111	**111**

States [2]

	Year 1	Year 2	Year 3	Annual Average
Respondents	57	57	57	**57**
Includes States performing:				
Annual Turbidity Monitoring	57	57	57	**57**
Turbidity Exceptions Reporting	57	57	57	**57**
Comprehensive Performance Evaluation	57	57	57	**57**

Sum for PWSs and States

	Year 1	Year 2	Year 3	Annual Average
PWSs	2,770	2,770	2,770	**2,770**
States and Territories	57	57	57	**57**
Yearly Total	**2,827**	**2,827**	**2,827**	**2,827**

[1] Each PWS is one respondent. One respondent may be involved in more than one activity; however, in order to avoid double-counting, the maximum number of respondents expected to be involved in the rule activities annually is assumed to be the number of respondents for that year.
[2] Each state is one respondent.

Exhibit E8
Responses for the ICR Approval Period Year by Year by Activity

PWSs [1]

	Year 1	Year 2	Year 3	Annual Average
Annual Activities				
Turbidity Monitoring	321,373	321,373	321,373	**321,373**
Turbidity Exceptions Reporting	499	499	499	**499**
Individual Filter Assessments	111	111	111	**111**
Yearly Total	**321,982**	**321,982**	**321,982**	**321,982**

States [2]

	Year 1	Year 2	Year 3	Annual Average
Annual Activities				
Turbidity Monitoring	66,491	66,491	66,491	**66,491**
Turbidity Exceptions Reporting	499	499	499	**499**
Comprehensive Performance Evaluation	55	55	55	**55**
Yearly Total	**67,045**	**67,045**	**67,045**	**67,045**

Sum for PWSs and States

	Year 1	Year 2	Year 3	Annual Average
PWSs	321,982	321,982	321,982	**321,982**
States and Territories	67,045	67,045	67,045	**67,045**
Yearly Total	**389,027**	**389,027**	**389,027**	**389,027**

* The distribution over time is based upon the Compliance Schedule in Exhibit E17.

[1] Each PWS is one respondent. Each activity detailed in Exhibits E3-E5 is a response.

[2] Each state is one respondent. Each activity detailed in Exhibits E3-E5 is a response.

Exhibit E9
PWS Cost and Burden Estimates for Start-up Activities for Systems Serving 1,000 People or Fewer

Disinfection Benchmark Labor for Systems Serving 1,000 or Less (Filtered & Unfiltered Systems)

Activity	Systems (Respondents)	Unit Burden	Unit Cost	Total Burden (hrs.)	Total Initial Cost
	A	B	C	A*B	A*C
Submit Profiling Notification to State	0	1.0	$ 32	-	$ -
Data Entry and Spreadsheet Development	0	8.7	$ 281	-	$ -
Data Review	0	4.3	$ 140	-	$ -
Generate Report for State and In-House Review	0	40.0	$ 1,295	-	$ -
Meet and Review with State	0	8.0	$ 259	-	$ -
Supplemental Viral Profile and Benchmark	0	53.0	$ 1,716	-	$ -
Totals		**115.0**	**$ 3,724**	**-**	**$ -**

		Total Cost
Total Costs for All Start-Up Activities		**$ -**

Notes:
Baseline number systems performing rule activities from all filtered systems. Percentages requiring report and viral benchmark from original LT1ESTWTR analysis.
Start-up activities are assumed to have been completed prior to the start of this ICR period.

Exhibit E10.1
PWS Cost and Burden Estimates for Annual Activities by Systems Serving 1,000 People or Fewer

Exhibit E10.1a
Monitoring Requirements for Plants (Monitoring at Individual Filters)

Activity	Systems (Respondents) [1] A	Frequency B	Unit Burden [2] C	Unit Cost D	Annual Burden (hrs.) A*B*C	Annual Cost A*B*D
Data Analysis	1,115	52	0.17	$5	9,662	$312,909
Data Review	1,115	52	0.17	$5	9,662	$312,909
Record Keeping	1,115	12	2.00	$65	26,758	$866,518
				$76	**46,083**	**$1,492,337**

Exhibit E10.1b
Turbidity Exceptions Reporting for Systems

Activity	Systems (Respondents) [1] A	Frequency B	Unit Burden [2] C	Unit Cost D	Annual Burden (hrs.) A*B*C	Annual Cost A*B*D
Annual Reporting Exceptions	201	1	8.0	$259	1,605	$51,991
Annual IFA	45	1	50.0	$1,619	2,230	$72,209
Total				**$1,878**	**3,835**	**$124,200**

	Annual Burden (hrs.)	Annual Cost
Total for All PWS Labor Burdens and Costs	**49,918**	**$1,616,536**

Exhibit E10.1c
Turbidimeter Installation, Operation, and Maintenance

Activities	Systems			Unit Cost	Total Cost	Annual Cost [3]
Turbidimeter Installation [3]	1,115			$3,482	$3,882,428	$554,633
Operation and Maintenance	1,115			$1,045	$1,164,729	$1,164,729
Total					**$5,047,157**	**$1,719,361**

	Annual Burden (hrs.)	Annual Cost
Total for All PWS Activities	**49,918**	**$3,335,898**

[1] Systems performing monitoring include direct and conventional filtration CWSs and NTNCWSs from system baseline. Percentage performing exceptions reporting and IFA from LT1ESWTR EA.
[2] Burden estimates take into account the results of December 2011 consultations with water industry representatives.
[3] Turbidimeter installation costs are averaged over the seven year lifespan of the equipment.

Exhibit E10.2
PWS Cost and Burden Estimates for Annual Activities by Systems Serving 1,001 - 3,300 People

Exhibit E10.2a
Monitoring Requirements for Plants (Monitoring at Individual Filters)

Activity	Systems (Respondents) [1] A	Frequency B	Unit Burden [2] C	Unit Cost D	Annual Burden (hrs.) A*B*C	Annual Cost A*B*D
Data Analysis	729	52	0.250	$ 8	9,477	$ 306,889
Data Review	729	52	0.250	$ 8	9,477	$ 306,889
Record Keeping	729	12	2.0	$ 65	17,495	$ 566,564
Totals				**$ 81**	**36,448**	**$ 1,180,342**

Exhibit E10.2b
Turbidity Exceptions Reporting for Systems

Activity	Systems (Respondents) [1] A	Frequency B	Unit Burden [2] C	Unit Cost D	Annual Burden (hrs.) A*B*C	Annual Cost A*B*D
Annual Reporting Exceptions	131	1	8.0	$ 259	1,050	$ 33,996
Annual IFA	29	1	50.0	$ 1,619	1,458	$ 47,217
Total				**$ 1,878**	**2,508**	**$ 81,213**

	Annual Burden (hrs.)	Annual Cost
Total for All PWS Activities	**38,956**	**$ 1,261,555**

Exhibit E10.2c
Turbidimeter Installation, Operation, and Maintenance

Activity	Systems			Unit Cost	Total Cost	Annual Cost [3]
Turbidimeter Installation [3]	729			$ 5,888	$ 4,292,351	$ 613,193
Operation and Maintenance	729			$ 1,045	$ 761,484	$ 761,484
Total					**$ 5,053,836**	**$ 1,374,677**

	Annual Burden (hrs.)	Annual Cost
Total for All PWS Activities	**38,956**	**$ 2,636,232**

[1] Systems performing monitoring include direct and conventional filtration CWSs and NTNCWSs from system baseline. Percentage performing exceptions reporting and IFA from LT1ESWTR EA.
[2] Burden estimates take into account the results of December 2011 consultations with water industry representatives.
[3] Turbidimeter installation costs are averaged over the seven year lifespan of the equipment.

Exhibit E10.3
PWS Cost and Burden Estimates for Annual Activities by Systems Serving 3,301 - 10,000 People

Exhibit E10.3a
Monitoring Requirements for Plants (Monitoring at Individual Filters)

Activity	Systems (Respondents) [1] A	Frequency B	Unit Burden [2] C	Unit Cost D	Annual Burden (hrs.) A*B*C	Annual Cost A*B*D
Data Analysis	927	52	0.250	$ 8	12,046	$ 390,087
Data Review	927	52	0.250	$ 8	12,046	$ 390,087
Record Keeping	927	12	2.0	$ 65	22,238	$ 720,160
Totals				**$ 81**	**46,329**	**$ 1,500,333**

Exhibit E10.3b
Turbidity Exceptions Reporting for Systems

Activity	Systems (Respondents) A	Frequency per Year B	Unit Burden [2] C	Unit Cost D	Annual Burden (hrs.) A*B*C	Annual Cost A*B*D
Annual Reporting Exceptions	167	1	8.0	$ 259	1335	$ 43,217
Annual IFA	37	1	50.0	$ 1,619	1854	$ 60,024
Total				**$ 1,878**	**3,188**	**$ 103,241**

	Annual Burden (hrs.)	Annual Cost
Total Labor Burdens and Costs	**49,517**	**$ 1,603,574**

Exhibit E10.3c
Turbidimeter Installation, Operation, and Maintenance

Activity	Systems			Unit Cost	Total Cost	Annual Cost [3]
Turbidimeter Installation [3]	927			$ 8,294	$ 7,685,345	$ 1,097,906
Operation and Maintenance	927			$ 1,045	$ 967,923	$ 967,923
Total					**$ 8,653,268**	**$ 2,065,829**

	Annual Burden (hrs.)	Annual Cost
Total for All PWS Activities	**49,517**	**$ 3,669,403**

[1] Systems performing monitoring include direct and conventional filtration CWS and NTNCWS from system baseline. Percentage performing exceptions reporting and IFA is from the LT1ESWTR EA.
[2] Burden estimates take into account the results of December 2011 consultations with water industry representatives.
[3] Turbidimeter installation costs are averaged over the seven year lifespan of the equipment.

Exhibit E11
State Cost and Burden Estimates for Start-up Activities by Activity

Profiling & Benchmark Dev./Compl. Tracking Labor

Activity	Responses	Hours per Task	Cost per Task	Total Burden (hrs.)	Total Initial Cost ($)
	A	B	C	A*B	A*C
Compliance Tracking [1]	-	4.0	$ 175.17	-	$ -
Analyze and Review Profiling Data	-	8.0	$ 350.34	-	$ -
Make Determinations	-	8.0	$ 350.34	-	$ -
Meet and Review with PWSs	-	16.0	$ 700.67	-	$ -
Review Viral Benchmark	-	16.0	$ 700.67	-	$ -
Recordkeeping	-	4.0	$ 175.17	-	$ -
Total		**56.0**	**$ 2,452.35**	**-**	**$ -**

	Total Burden (hrs.)	Total Cost ($)
Total for All Start-Up Activities	**-**	**$ -**

[1] Includes tracking for applicability monitoring or profiling, as well as data review, determinations, and consultations with PWSs. Profiling and benchmarking were completed during previous ICR periods.
Note:
Start-up activities are assumed to have been completed prior to the start of this ICR period.

Exhibit E12
State Cost and Burden Estimates for Annual Activities

Exhibit E12a
Turbidity Monitoring

Activity	Responses	Frequency per Year	Unit Burden (hrs.) [2]	Cost per Task	Total Burden (hrs.)	Cost ($)
	A	B	C	D	A*B*C	A*B*D
Compliance Tracking	2,770	12	1.0	$ 44	33,245	$ 1,455,885
Recordkeeping	2,770	12	2.0	$ 88	66,491	$ 2,911,771
Total					**99,736**	**$ 4,367,656**

Exhibit E12b
Turbidity Exceptions Reporting

Activity	Responses	Frequency per Year	Unit Burden (hrs.) [2]	Cost per Task	Total Burden (hrs.)	Cost ($)
	A	B	C	D	A*B*C	A*B*D
Annual Exceptions Reports	499	1	3.5	$ 153	1,746	$ 76,439
Annual CPE (serving 1,000 or less) [1]	26	1	400.0	$ 17,517	10,405	$ 455,674
Annual CPE (serving 1,001 - 10,000) [1]	29	1	250.0	$ 10,948	7,350	$ 321,857
Total					**19,501**	**$ 853,971**

[1] Number of systems requiring CPE calculated using percentage from LT1ESTWR 2004 ICR.

[2] Burden estimates take into account the results of December 2011 consultations with water industry representatives (including states).

Exhibit E13
Summary of Annual Costs

Annual Activities

		Source Exhibit		Total Annual Cost
PWS Cost Estimates for Annual Activities				
	Turbidity Monitoring	E3.4	$	4,173,012
	Turbidity Exceptions Reporting and IFAs	E3.4	$	308,653
	Turbidimeter Capital Cost	E3.4	$	2,265,732
	Turbidimeter O&M Cost	E3.4	$	2,894,136
	Subtotal		**$**	**9,641,533**
State Cost Estimates for Annual Activities				
	Turbidity Monitoring	E4	$	4,367,656
	Turbidity Exceptions Reporting and CPEs	E4	$	853,971
	Subtotal		**$**	**5,221,626**
Total Cost Estimates for Annual Activities			**$**	**14,863,160**

Exhibit E14
Occupational Cost and Burden per Start-up Activity

Activity [1]	Total Burden		
	Hours [2]	Labor Rate	Total Cost
States			
Profiling and Benchmark Dev./Compl. Tracking	56.0	$ 43.79	$ 2,452

[1] The activities listed in the first column correspond to Exhibit E11.

[2] Sum of hours devoted to each task listed in Exhibit E11.

Note:

Start-up activities are assumed to have been completed prior to the start of this ICR period.

Exhibit E15
Occupational Cost and Burden per Activity per Year

Activity [1]	Total Burden		
	Hours [2]	Labor Rate [3]	Cost
PWSs Serving 0-500			
Turbidity Monitoring	41.3	$ 32.38	$ 1,339
Exception Reporting	8.0	$ 32.38	$ 259
Individual Filter Assessment	50.0	$ 32.38	$ 1,619
PWSs Serving 501-1,000			
Turbidity Monitoring	41.3	$ 32.38	$ 1,339
Exception Reporting	8.0	$ 32.38	$ 259
Individual Filter Assessment	50.0	$ 32.38	$ 1,619
PWSs Serving 1,001-3,300			
Turbidity Monitoring	50.0	$ 32.38	$ 1,619
Exception Reporting	8.0	$ 32.38	$ 259
Individual Filter Assessment	50.0	$ 32.38	$ 1,619
PWSs Serving 3,301-10,000			
Turbidity Monitoring	50.0	$ 32.38	$ 1,619
Exception Reporting	8.0	$ 32.38	$ 259
Individual Filter Assessment	50.0	$ 32.38	$ 1,619
States			
Turbidity Monitoring State	36.0	$ 43.79	$ 1,577
Exceptions Reporting [4]	403.5	$ 43.79	$ 17,670

[1] Activities correspond to Tables a-c in Exhibits E10.1, E10.2, and E10.3.

[2] Hourly burdens are the sum of the hours devoted to each of the line items listed in tables a-c in Exhibits E10.1, E10.2, and E10.3, multiplied by the frequency of the activity.

[3] PWS labor rates are National Occupational Employment and Wage Estimates, United States, BLS SOC Code 51-8031, "Local Government - Water and Liquid Waste Treatment Plant and System Operators". May 2010 data (published in May 2011). http://stats.bls.gov/oes/current/oes518031.htm. State labor rates are National Occupational Employment and Wage Estimates, United States, BLS SOC Code 19-2041, "State Government - Environmental Scientists and Specialists, Including Health". May 2010 data (published in May 2011). http://stats.bls.gov/oes/current/oes192041.htm.

[4] Exceptions reporting for states includes CPEs, which are assumed to take 400 hours for a system serving $\leq$ 1000 and 250 hours for a system serving 1,001-10,000.

Exhibit E16
LT1 Universe of Respondents Performing Information Collection and Record Keeping Activities

System Types	Turbidity Monitoring	Three Year Total
Community	2,171	**2,171**
Transient Non-Community	435	**435**
Non-Transient Non-Community	164	**164**
Total	**2,770**	**2,770**

Source: SDWIS/FED Data from October 2010.

Exhibit E17
LT1 Activity Schedule

Start date:	Year 1 Jan. 2002- Dec. 2002	Year 2 Jan. 2003- Dec. 2003	Year 3 Jan. 2004- Dec. 2004	Year 4 Jan. 2005- Dec. 2005	Year 5 Jan. 2006- Dec. 2006	Year 6 Jan. 2007- Dec. 2007	Year 7 Jan. 2008- Dec. 2008	Year 8 Jan. 2009- Dec. 2009	Year 9 Jan. 2010- Dec. 2010	Year 10 Jan. 2011- Dec. 2011	Year 11 Jan. 2012- Dec. 2012	Year 12 Jan. 2013- Dec. 2013	Year 13 Jan. 2014- Dec. 2014	Year 14 Jan. 2015- Dec. 2015	Year 15 Jan. 2016- Dec. 2016
Activity															
Turbidity Monitoring Start-up - Systems	17%	33%	50%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turbidity Monitoring Annual - Systems	0%	0%	0%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Turbidity Monitoring Start-up - States	17%	33%	50%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turbidity Monitoring Annual - States	0%	0%	0%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Turbidity Monitoring Capital	0%	20%	80%	0%	0%	0%	0%	0%	20%	80%	0%	0%	0%	0%	0%
Turbidity Monitoring O&M	0%	20%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Benchmarking Start-up - Systems ≤500	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Benchmarking Start-up - Systems 501-10,000	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Benchmarking Start-up - States	70%	30%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Disinfection Profiling - Systems ≤500	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Disinfection Profiling - Systems 501-10,000	0%	50%	50%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Disinfection Profiling - States	0%	0%	60%	40%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Benchmarking - Systems ≤500	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Benchmarking - Systems 501-10,000	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Benchmarking State - State	0%	0%	60%	40%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Covered Finished Water*	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%

* This rule activity is not associated with information collection or recordkeeping.

Exhibit E18
System
Baseline

E.18a - Systems Serving ≤100 to 10,000

Population Category	Surface Water and GWUDI			Non-Purchased Surface Water/GWUDI			Unfiltered Surface Water/GWUDI			Filtered Non-Purchased Surface Water/GWUDI			Percent Conventional or Direct Filtration	Conventional or Direct Surface Water/GWUDI Systems		
	CWS	NTNC	TNC	CWS	NTNC	TNC	CWS	NTNC	TNC	CWS	NTNC	TNC		CWS	NTNC	TNC
≤100	987	257	1,345	416	121	631	1	0	3	415	121	628	22.6%	94	27	142
101-500	2,150	264	500	644	150	376	4	0	0	640	150	376	58.1%	372	87	219
501-1,000	1,171	86	86	348	50	63	2	0	0	346	50	63	37.7%	130	19	24
1,001-3,300	2,521	75	63	948	34	50	1	0	0	947	34	50	70.7%	670	24	35
3,301-10K	2,149	29	24	1,011	7	17	0	0	0	1,011	7	17	89.5%	905	6	15

Source: SDWIS/FED Data from October 2010. Number of unfiltered systems from 2006 CWSS.
Note: Source was not specified for some systems. These PWSs were assigned to SW or GW categories based on the ratio of SW to GW systems within a given size category.
Percent of plants that use conventional or direct filtration from 2006 CWSS survey

E.18b - Systems Serving ≤1,000 to 10,000

Population Category	Conventional or Direct Surface Water/GWUDI			
	CWS	NTNC	TNC	Total
≤ 1,000	597	134	385	1,115
1,001 - 3,300	670	24	35	729
3,301 - 10,000	905	6	15	927
Total	2,171	164	435	2,770

Exhibit E19

Long Term 1 Enhanced Surface Water Treatment Rule - Summary of Original and Revised Burden Estimates

No changes in burden estimates based on December 2011 consultations.

Appendix F

Long Term 2 Enhanced Surface Water Treatment Rule Spreadsheets

Exhibit F.1 Summary of Burden, Respondents, Responses, and Costs for the ICR Approval Period

	Source (Exhibit)	Year 1 May-12 April-13	Year 2 May-13 April-14	Year 3 May-14 April-15	Total	Annual Average
PWSs						
Burden (hours)	F.2	21,974	41,086	66,057	129,117	43,039
Respondents (number)	F.3	1,320	1,248	1,326	1,326	1,231
Responses (number)	F.4	3,210	7,089	15,580	25,879	8,626
Costs (dollars)	F.5	$ 711,607	$ 1,330,535	$ 3,994,869	$ 6,037,012	$ 2,012,337
Labor		$ 711,607	$ 1,330,535	$ 2,139,174	$ 4,181,317	$ 1,393,772
O&M		$ -	$ -	$ 1,855,695	$ 1,855,695	$ 618,565
Capital		$ -	$ -	$ -	$ -	$ -
Burden per respondent					97.4	
Cost per respondent					$ 4,553	
States						
Burden (hours)	F.2	14,464	27,219	44,241	85,925	28,642
Respondents (number)	F.3	57	57	57	57	57
Responses (number)	F.4	3,256	7,134	10,720	920	307
Costs (dollars)	F.5	$ 633,420	$ 1,191,964	$ 1,937,423	$ 3,762,807	$ 1,254,269
Labor		$ 633,420	$ 1,191,964	$ 1,937,423	$ 3,762,807	$ 1,254,269
O & M		$ -	$ -	$ -	$ -	$ -
Capital		$ -	$ -	$ -	$ -	$ -
Burden per respondent					1,507.4	
Cost per respondent					$ 66,014	
Total - PWS and States						
Burden (hours)	F.2	36,438	68,305	110,298	215,041	71,680
Respondents (number)	F.3	1,377	1,305	1,383	1,383	1,288
Responses (number)	F.4	6,466	14,223	26,300	46,989	15,663
Cost (dollars)	F.5	$ 1,345,027	$ 2,522,500	$ 5,932,292	$ 9,799,818	$ 3,266,606
Labor		$ 1,345,027	$ 2,522,500	$ 4,076,597	$ 7,944,124	$ 2,648,041
O & M		$ -	$ -	$ 1,855,695	$ 1,855,695	$ 618,565
Capital		$ -	$ -	$ -	$ -	$ -
Burden per respondent					155.5	
Cost per respondent					$ 7,086	

Note: Detail may not add to total due to rounding.
The number of respondents is not added; rather the maximum number of respondents for the 3 years for a given activity is used to avoid double-counting.
Annual average burden and costs represent burden and costs for May 1, 2012 - April 31, 2015.

Exhibit F.2 Burden for the ICR Approval Period (Hours)

	Source (Exhibit)	Year 1 May-12 April-13	Year 2 May-13 April-14	Year 3 May-14 April-15	Total	Annual Average
PWSs						
Start-up [1]	F.7	-	-	-	-	-
Assessment for Binning [2]			-	-		
E. coli Monitoring	F.9	-	-	-	-	-
Cryptosporidium Monitoring	F.10	-	-	-	-	-
Reporting	F.11	-	-	-	-	-
UCFWR Reporting [3]	F.13	-	-	-	-	-
Technology Reporting	F.16	15,033	34,635	51,999	101,667	33,889
Disinfection Benchmarking [4]	F.17	6,941	6,451	5,344	18,736	6,245
Assessment for Bin Reclassification [5]					-	
E. coli Monitoring	F.19	-	-	2,890	2,890	963
Cryptosporidium Monitoring	F.20	-	-	3,490	3,490	1,163
Reporting	F.21	-	-	2,334	2,334	778
PWSs - Total		**21,974**	**41,086**	**66,057**	**129,117**	**43,039**
States and Territories						
Start-up [6]	F.8	-	-	-	-	-
Bin Determination and Reviewing Monitoring Data [7]	F.12	-	-	6,155	6,155	2,052
Reviewing/Approving UCFWR Schedule [8]	F.14	-	-	-	-	-
Technology Reporting	F.15	10,022	23,090	34,666	67,778	22,593
Disinfection Benchmarking [9]	F.18	4,442	4,129	3,420	11,991	3,997
States and Territories - Total		**14,464**	**27,219**	**44,241**	**85,925**	**28,642**
Total		**36,438**	**68,305**	**110,298**	**215,041**	**71,680**

Note: Detail may not add to total due to rounding.
Sources:
See Exhibit F.22 for breakdown of burden by year and system type.
Years listed in the following notes are years post-promulgation.
(1) Start-up burden is assumed to have been completed in Year 3.
(2) Initial *E.coli and Cryptosporidium* monitoring was completed by all systems by Year 6.
(3) Reporting requirements associated with uncovered finished water reservoirs are assumed to have been completed in Year 3.
(4) Disinfection profiling and benchmarking are assumed to occur before systems begin installing treatment.
(5) Assessment for Bin Reclassification begins in Year 9 for systems serving 100,000 or more.
(6) State rule start-up activities paralleled system activities.
(7) Bin determination and monitoring review are assumed to parallel system monitoring and reporting activities.
(8) State activities related to uncovered finished water reservoirs parallel system activities.
(9) Disinfection profiling and benchmarking activities will parallel system activities.

Exhibit F.3 Respondents for the ICR Approval Period

	Source (Exhibit)	Year 1 May-12 April-13	Year 2 May-13 April-14	Year 3 May-14 April-15	Total [11]	Annual Average
PWSs						
Start-up [1,2]	F.7	-	-	-	-	-
Assessment for Binning [3, 4]						
E. coli Monitoring	F.9	-	-	-	-	-
Cryptosporidium Monitoring	F.10	-	-	-	-	-
Reporting	F.11	-	-	-	-	-
UCFWR Reporting [5]	F.13	-	-	-	-	-
Technology Reporting	F.16	447	985	1,326	1,326	919
Disinfection Benchmarking [6]	F.17	1,320	1,248	1,124	1,320	1,231
Assessment for Bin Reclassification					-	-
E. coli Monitoring	F.19	-	-	288	288	96
Cryptosporidium Monitoring	F.20	-	-	288	288	96
Reporting	F.21	-	-	288	288	96
PWSs - Total		**1,320**	**1,248**	**1,326**	**1,326**	**1,231**
States and Territories						
Start-up [7]	F.8	-	-	-	-	-
Bin Determination and Reviewing Monitoring Data [8]	F.12	-	-	57	57	19
Reviewing/Approving UCFWR Schedule [9]	F.14	-	-	-	-	-
Technology Reporting	F.15	57	57	57	57	57
Disinfection Benchmarking [10]	F.18	57	57	57	57	57
States and Territories - Total		**57**	**57**	**57**	**57**	**57**
Total		**1,377**	**1,305**	**1,383**	**1,383**	**1,288**

Notes:

Detail may not add due to rounding.

To avoid double-counting the number of respondents for assessment for binning and for State activities, the highest number of respondents for an activity for each year is used for the total number of respondents.

Years listed in the following notes are years post-promulgation.

(1) Each PWS is assumed to be a respondent.

(2) Start-up is assumed to have been completed in Years 1-3.

(3) Each plant is assumed to be a respondent.

(4) This activity was completed in the previous ICR period.

(5) Activities associated with uncovered finished water reservoirs are assumed to have been completed in Years 1-3.

(6) Systems are assumed to conduct disinfection profiling and benchmarking prior to installing treatment.

(7) Start-up is assumed to have been completed in Years 1-3.

(8) Each State will be a respondent associated with reviewing monitoring data.

(9) Activities associated with uncovered finished water reservoirs are assumed to have been completed in Years 1-3.

(10) State activities for reviewing disinfection benchmarks are assumed to parallel system activities for profiling and benchmarking.

Exhibit F.4 Responses for the ICR Approval Period

	Source (Exhibit)	Year 1 May-12 April-13	Year 2 May-13 April-14	Year 3 May-14 April-15	Total	Annual Average
PWSs						
Start-up [1]	F.7	-	-	-	-	-
Assessment for Binning [2]						
E. coli Monitoring	F.9	-	-	-	-	-
Cryptosporidium Monitoring	F.10	-	-	-	-	-
Reporting	F.11	-	-	-	-	-
UCFWR Reporting [3]	F.13	-	-	-	-	-
Technology Reporting [4]	F.16	2,978	6,876	10,335	20,190	6,730
Disinfection Benchmarking [5]	F.17	232	212	169	613	204
Assessment for Bin Reclassification					-	-
E. coli Monitoring	F.19	-	-	2,343	2,343	781
Cryptosporidium Monitoring	F.20	-	-	2,538	2,538	846
Reporting [6]	F.21	-	-	195	195	65
PWSs - Total		**3,210**	**7,089**	**15,580**	**25,879**	**8,626**
States and Territories						
Start-up [7]	F.8	-	-	-	-	-
Bin Determination and Reviewing Monitoring Data [8]	F.12	-	-	171	171	57
Reviewing/approving UCFWR schedule [9]	F.14	-	-	-	-	-
Technology Reporting	F.15	2,978	6,876	10,335		
Disinfection Benchmarking [10]	F.18	278	258	214	749	250
States and Territories - Total		**3,256**	**7,134**	**10,720**	**920**	**307**
Total		**6,466**	**14,223**	**26,300**	**26,799**	**8,933**

Notes

Detail may not add to totals due to rounding.
Years listed in the following notes are years post-promulgation.
(1) Start-up is assumed to have been completed in Years 1-3.
(2) This activity was completed in the previous ICR period.
(3) Activities associated with uncovered finished water reservoirs are assumed to have been completed in Years 1-3.
(4) Systems are assumed to report monthly. This may be an overestimate, since reporting requirements vary with technology used.
(5) Disinfection profiling and benchmarking are considered 1 response. Profiling is assumed to be conducted prior to treatment installation.
(6) Two responses are associated with the second round of reporting: sampling plan and bin calculation.
(7) State start-up activities are assumed to have been completed in Years 1-3.
(8) Each State will have 3 responses associated with binning and reviewing monitoring data (see Exhibit F.12). The number of responses from States and Territories equals three times the number of small systems performing E. coli monitoring in a given year.
(9) Activities associated with uncovered finished water reservoirs are assumed to have been completed in Years 1-3.
(10) State reviews of disinfection benchmarks will parallel system activities. One response per system conducting benchmarking is assumed.

Exhibit F.5 Cost for the ICR Approval Period

	Source (Exhibit)	Year 1 May-12 to April-13 Labor	Year 1 O&M	Year 1 Capital	Year 2 May-13 to April-14 Labor	Year 2 O&M	Year 2 Capital	Year 3 May-14 to April-15 Labor	Year 3 O&M	Year 3 Capital	Total May-12 to April-15 Labor	Total O&M	Total Capital	Total	Annual Average
PWSs															
Start-up [1]	F.7	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Assessment for Binning [2]															
E. coli Monitoring	F.9	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Cryptosporidium Monitoring	F.10	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Reporting	F.11	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
UCFWR Reporting [3]	F.13	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Technology Reporting	F.16	$ 486,845	$ -	$ -	$ 1,121,624	$ -	$ -	$ 1,683,921	$ -	$ -	$ 3,292,390	$ -	$ -	$ 3,292,390	$ 1,097,463
Disinfection Benchmarking [4]	F.17	$ 224,762	$ -	$ -	$ 208,911	$ -	$ -	$ 173,068	$ -	$ -	$ 606,741	$ -	$ -	$ 606,741	$ 202,247
Assessment for Bin Reclassification															
E. coli Monitoring	F.19	$ -	$ -	$ -	$ -	$ -	$ -	$ 93,595	$ 58,195	$ -	$ 93,595	$ 58,195	$ -	$ 151,790	$ 50,597
Cryptosporidium Monitoring	F.20	$ -	$ -	$ -	$ -	$ -	$ -	$ 113,022	$ 1,797,500	$ -	$ 113,022	$ 1,797,500	$ -	$ 1,910,522	$ 636,841
Reporting	F.21	$ -	$ -	$ -	$ -	$ -	$ -	$ 75,569	$ -	$ -	$ 75,569	$ -	$ -	$ 75,569	$ 25,190
PWSs - Total		**$ 711,607**	**$ -**	**$ -**	**$ 1,330,535**	**$ -**	**$ -**	**$ 2,139,174**	**$ 1,855,695**	**$ -**	**$ 4,181,317**	**$ 1,855,695**	**$ -**	**$ 6,037,012**	**$ 2,012,337**
States and Territories															
Start-up [5]	F.8	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Reporting and bin determination	F.12	$ -	$ -	$ -	$ -	$ -	$ -	$ 269,560	$ -	$ -	$ 269,560	$ -	$ -	$ 269,560	$ 89,853
Reviewing/Approving UCFWR Schedule [6]	F.14	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Technology Reporting	F.15	$ 438,898	$ -	$ -	$ 1,011,161	$ -	$ -	$ 1,518,080	$ -	$ -	$ 2,968,139	$ -	$ -	$ 2,968,139	$ 989,380
Disinfection Benchmarking [7]	F.18	$ 194,522	$ -	$ -	$ 180,803	$ -	$ -	$ 149,782	$ -	$ -	$ 525,107	$ -	$ -	$ 525,107	$ 175,036
States and Territories - Total		**$ 633,420**	**$ -**	**$ -**	**$ 1,191,964**	**$ -**	**$ -**	**$ 1,937,423**	**$ -**	**$ -**	**$ 3,762,807**	**$ -**	**$ -**	**$ 3,762,807**	**$ 1,254,269**
Total		**$ 1,345,027**	**$ -**	**$ -**	**$ 2,522,500**	**$ -**	**$ -**	**$ 4,076,597**	**$ 1,855,695**	**$ -**	**$ 7,944,124**	**$ 1,855,695**	**$ -**	**$ 9,799,818**	**$ 3,266,606**

Note: Detail may not add to total due to rounding.
Sources
See Exhibit F.23 for a breakdown of cost by year and system type.
Years below are years post-promulgation.
(1) Start-up is assumed to have been completed in Years 1-3.
(2) All initial *E. coli* and *Cryptosporidium* monitoring by systems (Assessment for binning) was completed by Year 6.
(3) Systems are assumed to have incurred costs associated with uncovered finished water reservoirs during Years 1-3.
(4) Costs associated with disinfection profiling and benchmarking are assumed to be incurred prior to treatment installation.
(5) State rule start-up activities will parallel system activities.
(6) Costs associated with reviewing reports on uncovered finished water reservoirs are assumed to have been incurred during Years 1-3.
(7) State costs associated with reviewing disinfection benchmarks are assumed to parallel system costs.

Exhibit F.6a Baseline Number of Plants for Rule Start-up and Monitoring Activities

	Implementation					Monitoring for Initial Bin Classification			Future Monitoring for Re-Binning			
System Size (Population Served)	Number of Filtered Systems	Number of Unfiltered Systems	Baseline # PWSs	Percent of Plants with > 5.5 Log Treatment Prior to Rule Promulgation	Plants Per System	Baseline # of Plants Conducting *E. coli* Monitoring	Percent of Plants Triggered to Monitor for *Cryptosporidium*	Baseline # of Plants Conducting *Cryptosporidium* Monitoring	Percent of Plants with > 5.5 Log Treatment for LT2 Compliance	Percent of Plants with > 5.5 Log Treatment for Stage 2 Compliance	Baseline # of Plants Conducting *E. coli* Monitoring	Baseline # of Plants Conducting *Cryptosporidium* Monitoring
	A	B	C=A+B	D	E	F = A*E*(1-D)	G	H=F*G+B*E	I	J	K = F*(1-I-J)	L = G*K
CWSs												
<100	384	1	385	3.6%	1.0	377	35%	132	5.3%	15.0%	300	104
100-499	649	4	653	3.6%	1.1	665	35%	236	5.3%	6.3%	588	204
500-999	348	2	350	3.6%	1.0	344	35%	122	5.3%	6.3%	304	106
1,000-3,299	965	1	966	3.6%	1.0	930	35%	325	9.7%	1.8%	823	287
3,300-9,999	1,010	-	1,010	3.6%	1.1	1,040	35%	362	9.5%	1.8%	922	321
10,000-49,999	973	5	978	0.4%	1.1	1,047		1,052	30.4%	1.5%	713	713
50,000-99,999	224	1	225	0.4%	1.4	302		303	30.3%	1.5%	206	206
100,000-999,999	236	-	236	0.4%	1.5	356		356	29.7%	1.5%	245	245
1,000,000+	17	1	18	0.4%	3.7	62		66	29.7%	1.5%	43	43
National Totals	**4,807**	**15**	**4,822**			**5,122**		**2,953**			**4,145**	**2,229**
NTNCWSs												
<100	104	-	104	3.6%	1.0	100	35%	35	5.3%	15.0%	80	28
100-499	162	-	162	3.6%	1.0	156	35%	54	5.3%	6.3%	138	48
500-999	47	-	47	3.6%	1.0	45	35%	16	5.3%	6.3%	40	14
1,000-3,299	42	-	42	3.6%	1.0	41	35%	14	9.7%	1.8%	36	12
3,300-9,999	7	-	7	3.6%	1.0	7	35%	2	9.5%	1.8%	6	2
10,000-49,999	1	-	1	0.4%	1.0	1		1	30.4%	1.5%	1	1
50,000-99,999	-	-	0	0.4%	1.0	-		0	0.0%	1.5%	-	0
100,000-999,999	-	-	0	0.4%	1.0	-		0	0.0%	1.5%	-	0
1,000,000+	-	-	0	0.4%	1.0	-		0	0.0%	1.5%	-	0
National Totals	**363**	**-**	**363**			**350**		**123**			**301**	**105**
TNCWSs												
<100	544	2	546	0.0%	1.0	544	35%	191	5.3%	0.0%	516	179
100-499	444	1	445	0.0%	1.0	444	35%	156	5.3%	0.0%	421	146
500-999	66	-	66	0.0%	1.0	66	35%	23	5.3%	0.0%	63	22
1,000-3,299	63	-	63	0.0%	1.0	63	35%	22	9.7%	0.0%	57	20
3,300-9,999	16	-	16	0.0%	1.0	16	35%	6	9.5%	0.0%	14	5
10,000-49,999	1	-	1	0.0%	1.0	1		1	30.4%	0.0%	1	1
50,000-99,999	-	-	0	0.0%	1.0	-		0	0.0%	0.0%	-	0
100,000-999,999	-	-	0	0.0%	1.0	-		0	14.8%	0.0%	-	0
1,000,000+	-	-	0	0.0%	1.0	-		0	58.6%	0.0%	-	0
National Totals	**1,135**	**3**	**1,138**			**1,135**		**399**			**1,071**	**373**
Grand Totals	**6,305**	**18**	**6,323**			**6,607**		**3,474**			**5,516**	**2,707**

Notes:
Detail may not add exactly to totals due to rounding.
Sources:
(C) Number of systems from SDWIS/FED Data from October 2010.
(D) EPA assumes only membrane filtration plants will have > 5.5 log *Cryptosporidium* treatment prior to rule promulgation. Plants estimated to have membrane filtration as a result of Stage 1 DBPR compliance are from the Economic Analysis for the Stage 2 DBPR.
(E) For CWSs, from the 2006 CWSS. NCWSs are assumed to have one plant per system.
(G) Percentage of plants triggered into *Cryptosporidium* monitoring is estimated from the modeled Information Collection Rule Occurrence Distribution. All systems serving greater than 10,000 people must conduct *Cryptosporidium* monitoring.
(I) Derived from Appendix G of the LT2ESWTR Economic Analysis; this number is calculated by dividing the number of plants achieving 5.5 log treatment for the LT2ESWTR by the total number of plants for the size category.
(J) EPA assumes only membrane plants will have > 5.5 log *Cryptosporidium* treatment as a result of the Stage 2 DBPR. Estimates from the Economic Analysis for the Stage 2 DBPR.

Exhibit F.6b Labor Rates

Cost Assumptions: Labor Rate Components

Cost Element	Base Hourly Labor Cost	ECI in Year of Data	ECI 2010	2010 Labor Cost
	A	B	C	D=A*(C/B)
State Employee	$ 43.79	1.0	1.0	$ 43.79

Sources: (A) National Occupational Employment and Wage Estimates, United States, BLS SOC Code 19-2041, "State Government - Environmental Scientists and Specialists, Including Health". May 2010 data (published in May 2011). http://stats.bls.gov/oes/current/oes192041.htm. Multiplied by a loading rate of 1.6 to account for benefits.

(B) - (C) Not required (source data is in 2010$)

Technical Wage Rates by System Size

Rate	System size					
	25-100	101-500	500-3.3k	3.3k-10k	10k-100k	>100k
Base Wage Rate ($2010)	$ 20.24	$ 20.24	$ 20.24	$ 20.24	$ 20.24	$ 20.24
Loaded Wage Rate ($2010)	$ 32.38	$ 32.38	$ 32.38	$ 32.38	$ 32.38	$ 32.38
Loaded Wage Rate ($2010)	$ 32.38	$ 32.38	$ 32.38	$ 32.38	$ 32.38	$ 32.38

Source: National Occupational Employment and Wage Estimates, United States, BLS SOC Code 51-8031, "Local Government - Water and Liquid Waste Treatment Plant and System Operators". May 2010 data (published in May 2011). http://stats.bls.gov/oes/current/oes518031.htm. Multiplied by a loading rate of 1.6 to account for benefits.

Exhibit F.6b (continued) Labor Rates

Analyte	Laboratory Cost Per Sample [1] Average	Range [2] Min	Range [2] Max	Total Laboratory Cost per Plant
Cryptosporidium [3]	$ 708	$ 520	$ 953	$18,412
E. Coli				
(1) Utility Analysis	28	16	51	730
(2) Commercial Lab	94	80	114	2,434

Note: Lab costs per sample updated to $2010, from BLS, using PPI (annual, all commodities).

[1] Lab costs based on EPA subcontractor (DynCorp) survey of laboratories. Cryptosporidium costs assume all plants must send samples to commercial laboratories and that 27 percent of samples will require multiple subsamples analysis at additional cost (based on Supplemental Survey results). E. Coli costs are provided for utility analysis (no shipping) and commercial analysis, which includes overnight shipping charges.

[2] Minimum costs are estimated from DynCorp for the minimum analytical cost and the mean cost for shipping a 37.6 pound package (average weight of sample as observed during the Supplemental Survey, estimated by Kevin Connell) overnight (FedEx). Maximum costs are estimated from DynCorp for the maximum analytical costs, the mean cost for shipping a 37.6 pound package (average weight of sample as observed during the Supplemental Survey, estimated by Kevin connell) overnight (FedEx), and the maximum cost of an additional subsample analysis, also estimated by DynCorp.

[3] Assumes monthly Cryptosporidium monitoring, plus two matrix spike samples to be analyzed at the beginning of monitoring and bi-weekly E. Coli monitoring. These are conservative estimates, therefore laboratory costs could be lower.

Costs	Average	Minimum	Maximum
***Crypto* Analytical**	**$ 539**	**$ 401**	**$ 647**
E. coli Analytical			
Commercial	**$ 47**	**$ 33**	**$ 67**
Utility	**$ 28**	**$ 16**	**$ 51**
Shipping (lbs)			
7	*47*		
25	*93*		
50	*145*		
Mean - 37.6	**119**	*64*	*162*
Subsample	**51**	0	**187**
Crypto Total	$ 708	$ 520	$ 953
E. coli commercial Total	$ 94	$ 80	$ 114
E. coli analytical Total	$ 28	$ 16	$ 51

Note: Lab costs per sample and shipping costs updated to $2010, from BLS, using PPI (annual, all commodities).

E. coli commercial shipping costs were estimated by assuming that two 125-mL sample containers would be shipped to the laboratory in a 10-quart polyethylene cooler packed with approximately 4 lb of UTEK gel paks.

The approximate weight of the shipment, given these assumptions, is 7 lb. Using this weight, we estimated shipping costs for standard overnight service for shipments to 12 locations using the Fed Ex web site.

Exhibit F.7 Burden and Cost to PWSs Associated with Rule Start-Up Activities (Completed in Years 1-3)

System Size (Population Served)	Read Hours per PWS	Train Hours per PWS	Total Hours per PWS	Cost per Labor Hour	Baseline # of Systems Conducting Implementation	Total Cost	Total Burden (Hours)	Total Burden (FTEs)
	A	B	C = A + B	D	E	F = C*D*E	G = C*E	H = G/2080
CWSs								
<100	35	15	50	$ 32.38	385	$ 623,868	19,265	9.3
100-499	35	15	50	$ 32.38	653	$ 1,057,724	32,662	15.7
500-999	35	15	50	$ 32.38	350	$ 566,916	17,506	8.4
1,000-3,299	35	15	50	$ 32.38	966	$ 1,564,335	48,306	23.2
3,300-9,999	35	15	50	$ 32.38	1,010	$ 1,635,726	50,510	24.3
10,000-49,999	35	15	50	$ 32.38	978	$ 1,583,578	48,900	23.5
50,000-99,999	35	30	65	$ 32.38	225	$ 473,616	14,625	7.0
100,000-999,999	35	30	65	$ 32.38	236	$ 496,771	15,340	7.4
1,000,000+	35	30	65	$ 32.38	18	$ 37,889	1,170	0.6
National Totals					**4,822**	**$ 8,040,422**	**248,284**	**119.4**
NTNCWSs								
<100	35	15	50	$ 32.38	104	$ 168,543	5,205	2.5
100-499	35	15	50	$ 32.38	162	$ 262,419	8,103	3.9
500-999	35	15	50	$ 32.38	47	$ 76,102	2,350	1.1
1,000-3,299	35	15	50	$ 32.38	42	$ 68,079	2,102	1.0
3,300-9,999	35	15	50	$ 32.38	7	$ 11,334	350	0.2
10,000-49,999	35	15	50	$ 32.38	1	$ 1,619	50	0.0
50,000-99,999	35	30	65	$ 32.38	-	$ -	-	-
100,000-999,999	35	30	65	$ 32.38	-	$ -	-	-
1,000,000+	35	30	65	$ 32.38	-	$ -	-	-
National Totals					**363**	**$ 588,097**	**18,160**	**8.7**
TNCWSs								
<100	35	15	50	$ 32.38	546	$ 884,791	27,322	13.1
100-499	35	15	50	$ 32.38	445	$ 720,739	22,256	10.7
500-999	35	15	50	$ 32.38	66	$ 106,867	3,300	1.6
1,000-3,299	35	15	50	$ 32.38	63	$ 102,125	3,154	1.5
3,300-9,999	35	15	50	$ 32.38	16	$ 25,907	800	0.4
10,000-49,999	35	15	50	$ 32.38	1	$ 1,619	50	0.0
50,000-99,999	35	30	65	$ 32.38	-	$ -	-	-
100,000-999,999	35	30	65	$ 32.38	-	$ -	-	-
1,000,000+	35	30	65	$ 32.38	-	$ -	-	-
National Totals					**1,138**	**$ 1,842,049**	**56,881**	**27.3**
Grand Totals					**6,323**	**$ 10,470,569**	**323,325**	**155.4**

Notes:
Burden shown here is assumed to have been incurred in Years 1-3 and is not included in the totals for the LT2ESWTR. It is shown for informational purposes only.
Detail may not add exactly to totals due to rounding.
Sources:
(A & B) Burden estimates take into account the results of December 2011 consultations with water industry representatives.
(D) See Labor Rates exhibit.
(E) Taken from Exhibit F.6b, column A.

Exhibit F.8 Burden and Cost to States and Primacy Agencies Associated with Rule Start-up Activities (Completed in Years 1-3)

Implementation Activities	Cost per Labor Hour	FTEs per State	Hours per State	Cost Per State
	A	B	C = B*2080	D = A*C
Regulation Adoption and Program Development	$ 43.79	1.00	2,080	$ 91,087
Training State Staff	$ 43.79	0.50	1,040	$ 45,544
Training PWS Staff and Technical Assistants	$ 43.79	1.00	2,080	$ 91,087
Updating Data Management System	$ 43.79	0.25	520	$ 22,772
Public Notification	$ 43.79	0.10	208	$ 9,109
Totals per State		**2.85**	**5,928**	**$ 259,599**
National Totals (57 States/Primacy Agencies)		**162.45**	**337,896**	**$ 14,797,142**

Notes:

Burden shown here is assumed to have been incurred in Years 1-3 and is not included in the totals for the LT2ESWTR. It is shown for informational purposes only.

Detail may not add to totals due to rounding.

All States/Primacy Agencies are assumed to incur some costs for each activity.

1 FTE = 2,080 hours (40 hours/week; 52 weeks/year)

Sources:

(A) See Labor Rates exhibit.

(B) FTEs per State/Primacy Agency take into account the results of December 2011 consultations with water industry representatives.

Exhibit F.9 Burden and Cost to Plants Associated with *E. coli* Monitoring for Bin Determination (Completed in Year 6)

		Sampling				Sample Analysis										
System Size (Population Served)	Baseline # of Plants Conducting *E. coli* Monitoring	# of *E. coli* Samples	Hours per Sample	Cost per Labor Hour	Total Sampling Labor Cost	Commercial Analysis (Includes Shipping)	Utility Analysis Hours per Sample (Labor)	Utility Analysis Cost per Sample (O&M)	Utility Analysis Cost per Sample (Total)	Percent Utilities with *E. coli* Analysis Capabilities	Total Laboratory Analysis Cost (Labor)	Total Laboratory Analysis Cost (O&M)	Total Cost	Total Burden (Hours)	Total Burden (FTEs)	Responses	Respondents
	A	B	C	D	E = A*B*C*D	F	G	H = I-G*D	I	J	K = D*G*J*A*B	L = F*A*B*(1-J)+H*A*B*J	M = E+K+L	N = A*B*C+A*B*G*J	O = N/2,080	P = A*B	Q
CWSs																	
<100	377	26	1.00	$ 32.38	$ 317,147	$ 93.62	0.25	$ 19.99	$ 28.09	25%	$ 19,822	$ 736,586	$ 1,073,555	10,405	5.0	9,793	377
100-499	665	26	1.00	$ 32.38	$ 559,684	$ 93.62	0.25	$ 19.99	$ 28.09	25%	$ 34,980	$ 1,299,886	$ 1,894,551	18,363	8.8	17,283	665
500-999	344	26	1.00	$ 32.38	$ 289,759	$ 93.62	0.25	$ 19.99	$ 28.09	25%	$ 18,110	$ 672,976	$ 980,846	9,507	4.6	8,948	344
1,000-3,299	930	26	1.00	$ 32.38	$ 783,358	$ 93.62	0.25	$ 19.99	$ 28.09	25%	$ 48,960	$ 1,819,377	$ 2,651,695	25,702	12.4	24,190	930
3,300-9,999	1,040	26	1.00	$ 32.38	$ 875,671	$ 93.62	0.25	$ 19.99	$ 28.09	25%	$ 54,729	$ 2,033,775	$ 2,964,175	28,730	13.8	27,040	1,040
10,000-49,999	1,047	24	1.00	$ 32.38	$ 813,641	$ 93.62	0.25	$ 19.99	$ 28.09	75%	$ 152,558	$ 964,735	$ 1,930,934	29,836	14.3	25,125	1,047
50,000-99,999	302	24	1.00	$ 32.38	$ 234,409	$ 93.62	0.25	$ 19.99	$ 28.09	75%	$ 43,952	$ 277,939	$ 556,300	8,596	4.1	7,238	302
100,000-999,999	356	24	1.00	$ 32.38	$ 276,500	$ 93.62	0.25	$ 19.99	$ 28.09	100%	$ 69,125	$ 170,679	$ 516,304	10,673	5.1	8,538	356
1,000,000+	62	24	1.00	$ 32.38	$ 48,269	$ 93.62	0.25	$ 19.99	$ 28.09	100%	$ 12,067	$ 29,796	$ 90,132	1,863	0.9	1,491	62
National Totals	**5,122**				**$ 4,198,438**						**$ 454,303**	**$ 8,005,750**	**$ 12,658,491**	**143,674**	**69.1**	**129,645**	**5,122**
NTNCWSs																	
<100	100	26	1.00	$ 32.38	$ 84,487	$ 93.62	0.25	$ 19.99	$ 28.09	25%	$ 5,280	$ 196,225	$ 285,993	2,772	1.3	2,609	100
100-499	156	26	1.00	$ 32.38	$ 131,545	$ 93.62	0.25	$ 19.99	$ 28.09	25%	$ 8,222	$ 305,518	$ 445,285	4,316	2.1	4,062	156
500-999	45	26	1.00	$ 32.38	$ 38,149	$ 93.62	0.25	$ 19.99	$ 28.09	25%	$ 2,384	$ 88,601	$ 129,134	1,252	0.6	1,178	45
1,000-3,299	41	26	1.00	$ 32.38	$ 34,127	$ 93.62	0.25	$ 19.99	$ 28.09	25%	$ 2,133	$ 79,260	$ 115,520	1,120	0.5	1,054	41
3,300-9,999	7	26	1.00	$ 32.38	$ 5,682	$ 93.62	0.25	$ 19.99	$ 28.09	25%	$ 355	$ 13,196	$ 19,233	186	0.1	175	7
10,000-49,999	1	24	1.00	$ 32.38	$ 774	$ 93.62	0.25	$ 19.99	$ 28.09	75%	$ 145	$ 918	$ 1,838	28	0.0	24	1
50,000-99,999	-	24	1.00	$ 32.38	$ -	$ 93.62	0.25	$ 19.99	$ 28.09	75%	$ -	$ -	$ -	-	-	-	-
100,000-999,999	-	24	1.00	$ 32.38	$ -	$ 93.62	0.25	$ 19.99	$ 28.09	100%	$ -	$ -	$ -	-	-	-	-
1,000,000+	-	24	1.00	$ 32.38	$ -	$ 93.62	0.25	$ 19.99	$ 28.09	100%	$ -	$ -	$ -	-	-	-	-
National Totals	**350**				**$ 294,764**						**$ 18,520**	**$ 683,719**	**$ 997,003**	**9,674**	**4.7**	**9,102**	**350**
TNCWSs																	
<100	546	26	1.00	$ 32.38	$ 460,091	$ 93.62	0.25	$ 19.99	$ 28.09	25%	$ 28,756	$ 1,068,578	$ 1,557,426	15,095	7.3	14,207	546
100-499	445	26	1.00	$ 32.38	$ 374,784	$ 93.62	0.25	$ 19.99	$ 28.09	25%	$ 23,424	$ 870,450	$ 1,268,658	12,296	5.9	11,573	445
500-999	66	26	1.00	$ 32.38	$ 55,571	$ 93.62	0.25	$ 19.99	$ 28.09	25%	$ 3,473	$ 129,065	$ 188,110	1,823	0.9	1,716	66
1,000-3,299	63	26	1.00	$ 32.38	$ 53,105	$ 93.62	0.25	$ 19.99	$ 28.09	25%	$ 3,319	$ 123,339	$ 179,763	1,742	0.8	1,640	63
3,300-9,999	16	26	1.00	$ 32.38	$ 13,472	$ 93.62	0.25	$ 19.99	$ 28.09	25%	$ 842	$ 31,289	$ 45,602	442	0.2	416	16
10,000-49,999	1	24	1.00	$ 32.38	$ 777	$ 93.62	0.25	$ 19.99	$ 28.09	75%	$ 146	$ 922	$ 1,844	29	0.0	24	1
50,000-99,999	-	24	1.00	$ 32.38	$ -	$ 93.62	0.25	$ 19.99	$ 28.09	75%	$ -	$ -	$ -	-	-	-	-
100,000-999,999	-	24	1.00	$ 32.38	$ -	$ 93.62	0.25	$ 19.99	$ 28.09	100%	$ -	$ -	$ -	-	-	-	-
1,000,000+	-	24	1.00	$ 32.38	$ -	$ 93.62	0.25	$ 19.99	$ 28.09	100%	$ -	$ -	$ -	-	-	-	-
National Totals	**1,138**				**$ 957,801**						**$ 59,960**	**$ 2,223,642**	**$ 3,241,403**	**31,428**	**15.1**	**29,576**	**1,138**
Grand Totals	**6,610**				**$ 5,451,003**						**$ 532,782**	**$ 10,913,111**	**$ 16,896,897**	**184,776**	**88.8**	**168,324**	**6,610**

Notes:
Detail may not add exactly to totals due to independent rounding.
Sources:
(A) Taken from Exhibit F.6a, column D.
(B) Bi-weekly source water monitoring for one year for small systems and monthly samples for 24 months for medium and large systems.
(C) Estimate takes into account the results of December 2011 consultations with water industry representatives.
(F) DynCorp study, Kevin Connell, June 2002 (updated to $2010).
(G) Estimate takes into account the results of December 2011 consultations with water industry representatives.
(H) The amount left after labor is subtracted from the amount in column I.
(I) DynCorp study, Kevin Connell, December 2000 (updated to $2010).
(J) Estimate based on Third Edition Baseline Handbook data.

Exhibit F.10 Burden and Cost to Plants Associated with *Cryptosporidium* Monitoring for Bin Determination (Completed in Year 6)

System Size (Population Served)	Baseline # of Plants Conducting *Crypto-sporidium* Monitoring	Sampling				Sample Analysis		Total Cost	Total Burden (Hours)	Total Burden (FTEs)	Responses
		# of *Crypto-sporidium* Samples	Hours per Sample	Cost per Labor Hour	Total Sampling Labor Cost	Cost per Sample	Total Laboratory Analysis Cost (O&M)				
	A	B	C	D	E = A*B*C*D	F	G = A*B*F	H = E+G	I = A*B*C	J = I/2080	K = A*B
CWSs											
<100	132	26	1.4	$ 32.38	$ 152,932	$ 708.17	$ 2,432,231	$ 2,585,163	4,722	2.3	3,435
100-499	236	26	1.4	$ 32.38	$ 272,727	$ 708.17	$ 4,337,452	$ 4,610,179	8,422	4.0	6,125
500-999	122	26	1.4	$ 32.38	$ 141,024	$ 708.17	$ 2,242,849	$ 2,383,873	4,355	2.1	3,167
1,000-3,299	325	26	1.4	$ 32.38	$ 375,995	$ 708.17	$ 5,979,813	$ 6,355,808	11,611	5.6	8,444
3,300-9,999	362	26	1.4	$ 32.38	$ 419,008	$ 708.17	$ 6,663,903	$ 7,082,911	12,939	6.2	9,410
10,000-49,999	1,052	26	1.4	$ 32.38	$ 1,218,237	$ 708.17	$ 19,374,820	$ 20,593,057	37,618	18.1	27,359
50,000-99,999	303	26	1.4	$ 32.38	$ 350,736	$ 708.17	$ 5,578,107	$ 5,928,844	10,831	5.2	7,877
100,000-999,999	356	26	1.4	$ 32.38	$ 411,870	$ 708.17	$ 6,550,368	$ 6,962,238	12,718	6.1	9,250
1,000,000+	66	26	1.4	$ 32.38	$ 76,146	$ 708.17	$ 1,211,020	$ 1,287,166	2,351	1.1	1,710
National Totals	**2,953**				**$ 3,418,675**		**$ 54,370,563**	**$ 57,789,239**	**105,567**	**50.8**	**76,776**
NTNCWSs											
<100	35	26	1.4	$ 32.38	$ 40,427	$ 708.17	$ 642,954	$ 683,382	1,248	0.6	908
100-499	54	26	1.4	$ 32.38	$ 62,944	$ 708.17	$ 1,001,066	$ 1,064,011	1,944	0.9	1,414
500-999	16	26	1.4	$ 32.38	$ 18,254	$ 708.17	$ 290,313	$ 308,567	564	0.3	410
1,000-3,299	14	26	1.4	$ 32.38	$ 16,330	$ 708.17	$ 259,706	$ 276,036	504	0.2	367
3,300-9,999	2	26	1.4	$ 32.38	$ 2,719	$ 708.17	$ 43,238	$ 45,957	84	0.0	61
10,000-49,999	1	26	1.4	$ 32.38	$ 1,153	$ 708.17	$ 18,345	$ 19,499	36	0.0	26
50,000-99,999	-	26	1.4	$ 32.38	$ -	$ 708.17	$ -	$ -	-	-	-
100,000-999,999	-	26	1.4	$ 32.38	$ -	$ 708.17	$ -	$ -	-	-	-
1,000,000+	-	26	1.4	$ 32.38	$ -	$ 708.17	$ -	$ -	-	-	-
National Totals	**123**				**$ 141,828**		**$ 2,255,623**	**$ 2,397,450**	**4,380**	**2.1**	**3,185**
TNCWSs											
<100	191	26	1.4	$ 32.38	$ 221,663	$ 708.17	$ 3,525,332	$ 3,746,996	6,845	3.3	4,978
100-499	156	26	1.4	$ 32.38	$ 180,089	$ 708.17	$ 2,864,135	$ 3,044,224	5,561	2.7	4,044
500-999	23	26	1.4	$ 32.38	$ 26,591	$ 708.17	$ 422,898	$ 449,489	821	0.4	597
1,000-3,299	22	26	1.4	$ 32.38	$ 25,411	$ 708.17	$ 404,133	$ 429,544	785	0.4	571
3,300-9,999	6	26	1.4	$ 32.38	$ 6,446	$ 708.17	$ 102,521	$ 108,967	199	0.1	145
10,000-49,999	1	26	1.4	$ 32.38	$ 1,158	$ 708.17	$ 18,412	$ 19,570	36	0.0	26
50,000-99,999	-	26	1.4	$ 32.38	$ -	$ 708.17	$ -	$ -	-	-	-
100,000-999,999	-	26	1.4	$ 32.38	$ -	$ 708.17	$ -	$ -	-	-	-
1,000,000+	-	26	1.4	$ 32.38	$ -	$ 708.17	$ -	$ -	-	-	-
National Totals	**399**				**$ 461,358**		**$ 7,337,432**	**$ 7,798,790**	**14,246**	**6.8**	**10,361**
Grand Totals	**3,474**				**$ 4,021,861**		**$ 63,963,618**	**$ 67,985,479**	**124,193**	**59.7**	**90,322**

Notes:
Detail may not add exactly to totals due to independent rounding.
Sources:
(A) Taken from Exhibit F.6a, column F.
(B) Semimonthly source water monitoring for one year for small systems and monthly samples for 24 months for medium and large systems, plus two matrix spike samples.
(C) Additional consultation on burden for this activity was not sought for this ICR period as this activity was completed prior to this ICR period.
(D) See Labor Rates exhibit.
(F) Taken from Exhibit F.6b.

Exhibit F.11 Burden and Cost to Plants Associated with Reporting for Source Water Sampling Plan and Initial Bin Classification Monitoring (Completed in Year 6)

System Size (Population Served)	Source Water Sampling Plan hours per plant	Bin Classification hours per plant	Total hours per plant	Cost per Labor Hour	Baseline # of Plants Reporting	Total Cost	Total Burden (Hours)	Total Burden (FTEs)
	A	B	C=A+B	D	E	F = C*D*E	G = C*E	H = G/2080
CWSs								
<100	1	7	8	$ 32.38	377	$ 97,584	3,013	1.4
100-499	1	7	8	$ 32.38	665	$ 172,211	5,318	2.6
500-999	1	7	8	$ 32.38	344	$ 89,157	2,753	1.3
1,000-3,299	1	7	8	$ 32.38	930	$ 241,033	7,443	3.6
3,300-9,999	1	7	8	$ 32.38	1,040	$ 269,437	8,320	4.0
10,000-49,999	1	16	17	$ 32.38	1,047	$ 576,329	17,797	8.6
50,000-99,999	1	16	17	$ 32.38	302	$ 166,040	5,127	2.5
100,000-999,999	10	16	26	$ 32.38	356	$ 299,542	9,250	4.4
1,000,000+	10	16	26	$ 32.38	62	$ 52,291	1,615	0.8
National Totals					**5,122**	**$ 1,963,623**	**60,636**	**29.2**
NTNCWSs								
<100	1	7	8	$ 32.38	100	$ 25,996	803	0.4
100-499	1	7	8	$ 32.38	156	$ 40,475	1,250	0.6
500-999	1	7	8	$ 32.38	45	$ 11,738	362	0.2
1,000-3,299	1	7	8	$ 32.38	41	$ 10,501	324	0.2
3,300-9,999	1	7	8	$ 32.38	7	$ 1,748	54	0.0
10,000-49,999	1	16	17	$ 32.38	1	$ 549	17	0.0
50,000-99,999	1	16	17	$ 32.38	0	$ -	-	-
100,000-999,999	10	16	26	$ 32.38	0	$ -	-	-
1,000,000+	10	16	26	$ 32.38	0	$ -	-	-
National Totals					**350**	**$ 91,007**	**2,810**	**1.4**
TNCWSs								
<100	1	7	8	$ 32.38	544	$ 141,048	4,355	2.1
100-499	1	7	8	$ 32.38	444	$ 115,059	3,553	1.7
500-999	1	7	8	$ 32.38	66	$ 17,099	528	0.3
1,000-3,299	1	7	8	$ 32.38	63	$ 16,340	505	0.2
3,300-9,999	1	7	8	$ 32.38	16	$ 4,145	128	0.1
10,000-49,999	1	16	17	$ 32.38	1	$ 551	17	0.0
50,000-99,999	1	16	17	$ 32.38	0	$ -	-	-
100,000-999,999	10	16	26	$ 32.38	0	$ -	-	-
1,000,000+	10	16	26	$ 32.38	0	$ -	-	-
National Totals					**1,135**	**$ 294,242**	**9,086**	**4.4**
Grand Totals					**6,607**	**$ 2,348,872**	**72,532**	**34.9**

Notes:
Detail may not add exactly to totals due to independent rounding.
Sources:
(A & B) Additional consultation on burden for this activity was not sought for this ICR period as this activity was completed prior to this ICR period.
(C) Although small systems will not report *E. coli* and *Cryptosporidium* results at the same time, the additional reporting burden is assumed to be negligible. The decrease in burden for small plants that report *E. coli* but are exempt from *Cryptosporidium* monitoring is also assumed to be negligible.
(D) See Labor Rates exhibit.
(E) Taken from Exhibit F.6a, column D.

Exhibit F.12 Burden and Cost to States Associated with *E. coli* and *Cryptosporidium* Monitoring and Bin Determination (Initial and Future Rounds)

Initial Monitoring for Small Systems (Completed in Year 6)

State Activity	FTEs per State for *E. coli* Monitoring	Total Hours for *E. coli*	FTEs Per State for *Crypto-sporidium* Monitoring	Total Hours for *Crypto-sporidium*	Total FTEs Per State	Total Hours	Cost per Labor Hour	Total Cost
	A	B = A*2080	C	D = C*2080	E = A+C	F = B+D	G	H = F*G
Analyze PWS Reports and Make Bin Classifications	0.3	624	0.2	416	0.5	1040	$ 43.79	$ 45,543.68
Respond to PWS	0.3	624	0.2	416	0.5	1040	$ 43.79	$ 45,543.68
Recordkeeping	0.25	520	0.25	520	0.5	1040	$ 43.79	$ 45,543.68
Totals per State	**0.9**	**1,768**	**0.7**	**1,352**	**1.5**	**3,120**		**$ 136,631.04**
National Totals (57 States/Primacy Agencies)	**48.5**	**100,776**	**37.1**	**77,064**	**85.5**	**177,840**		**$ 7,787,969**

Notes:
Detail may not add to totals due to independent rounding.
All States/Primacy Agencies are assumed to incur some costs for each activity.
1 FTE = 2,080 hours (40 hours/week; 52 weeks/year)
Sources
(A), (C) EPA estimated FTEs based on experience with similar regulations.
(G) See Labor Rates exhibit.

Future Monitoring

State Activity	FTEs per State for *E. coli* Monitoring in Small Systems	Total Hours for *E. coli* in Small Systems	FTEs Per State for *Crypto-sporidium* Monitoring in Small Systems	Total Hours for *Crypto-sporidium* in Small Systems	FTEs Per State for *Crypto-sporidium* Monitoring in Medium & Large Systems	Total Hours for *Cryptosporidium* in Medium & Large Systems	Total FTEs Per State	Total Hours	Cost per Labor Hour	Total Cost
	A	B = A*2080	C	D = C*2080	E	F = E*2080	G = A+C+E	H = B+D+F	I	J = H*I
Analyze PWS Report and Make Bin Classifications	0.2	416	0.1	208	0.1	208	0.4	832	$ 43.79	$ 36,434.94
Respond to PWS	0.2	416	0.1	208	0.1	208	0.4	832	$ 43.79	$ 36,434.94
Recordkeeping	0.25	520	0.25	520	0.25	520	0.75	1560	$ 43.79	$ 68,315.52
Totals per State	**0.7**	**1,352**	**0.5**	**936**	**0.5**	**936**	**1.6**	**3,224**		**$ 141,185**
National Totals (57 States/Primacy Agencies)	**37.1**	**77,064**	**25.7**	**53,352**	**25.7**	**53,352**	**88.4**	**183,768**		**$ 8,047,568**

Notes:
Detail may not add to totals due to independent rounding.
All States/Primacy Agencies are assumed to incur some costs for each activity.
1 FTE = 2,080 hours (40 hours/week; 52 weeks/year)
Sources
(A), (C), (E) EPA estimated FTEs based on experience with similar regulations.
(I) See Labor Rates exhibit.

Exhibit F.13 Burden and Cost to PWSs Associated with UCFWR Reporting (Completed in Years 1-3)

System Size (Population Served)	Reporting Use of UCFWR	Reporting Schedule for Covering UCFWR or Disinfecting UCFWR Effluent	Total Hours per PWS	Cost per Labor Hour	Baseline # of Systems with UCFWRs	Total Cost	Total Burden (Hours)	Total Burden (FTEs)
	A	B	C = A + B	D	E	F = C*D*E	G = C*E	H = G/2080
CWSs								
<100	0.25	8	8.25	$ 32.38	3	$ 802	25	0.01
100-499	0.25	8	8.25	$ 32.38	-	$ -	-	-
500-999	0.25	8	8.25	$ 32.38	-	$ -	-	-
1,000-3,299	0.25	8	8.25	$ 32.38	-	$ -	-	-
3,300-9,999	0.25	8	8.25	$ 32.38	9	$ 2,405	74	0.04
10,000-49,999	0.25	8	8.25	$ 32.38	26	$ 6,946	215	0.10
50,000-99,999	0.25	8	8.25	$ 32.38	5	$ 1,336	41	0.02
100,000-999,999	0.25	8	8.25	$ 32.38	37	$ 9,885	305	0.15
1,000,000+	0.25	8	8.25	$ 32.38	1	$ 267	8	0.00
National Totals					**81**	**$ 21,641**	**668**	**0.3**

Notes:

Burden shown here is assumed to have been incurred in Years 1-3 and is not included in the totals for the LT2ESWTR. It is shown for informational purposes only.

Detail may not add exactly to totals due to rounding.

NTNCWS and TNCWS do not have UCFWRs

Sources:

(A & B) Burden estimates for each activity are based on EPA experience with similar rules.

(D) See Labor Rates exhibit.

(E) Exhibit 4.23, Economic Analysis for the LT2ESWTR

Exhibit F.14 Burden and Cost to States and Primacy Agencies Associated with Reviewing/Approving UCFWR Schedule (Completed in Years 1-3)

State/Primacy Agency Activity	Baseline # of Systems with UCFWRs	Cost per Labor Hour	FTEs per UCFWR	Hours per UCFWR	Cost Per UCFWR
	A	B	C	D	E = B*D
Recording Use of UCFWR	81	$ 43.79	0.0001	0.25	$ 10.9
Approving State Schedule	81	43.79	0.0005	1	$ 43.8
		Totals per UCFWR	**0.0006**	**1.25**	**$ 54.7**
		Burden and Cost per State/Primacy Agency	**0.01**	**14.46**	**$ 633.4**

Notes:

Burden shown here is assumed to have been incurred in Years 1-3 and is not included in the totals for the LT2ESWTR. It is shown for informational purposes only.
Detail may not add to totals due to rounding.
Only the seven States/Primacy Agencies with UCFWRs are assumed to incur burden and costs for these activities.
1 FTE = 2,080 hours (40 hours/week; 52 weeks/year)
Sources:
(A) Carried forward from January 2006 ICR (expert estimates).
(B) See Labor Rates exhibit.
(C) FTEs per State/Primacy Agency based on EPA experience with previous regulations.

Exhibit F.15 Burden and Cost to States Associated with Reviewing Plants' Reports on Technology Compliance

System Size (Population Served)	Number of Plants Installing UV	Number of Plants Installing MF/UF	Number of Plants Installing Bank Filtration	Number of Unfiltered Plants Installing Ozone	Total Plants	Annual Labor Hours per Plant	Labor Rate	Total Annual Labor Hours	Total Annual Costs
	A	B	C	D	E = A+B+C+D	F	G	H = E*F	I = G*H
<100	85	88	-	-	173	40	$ 43.79	6,914	$ 302,793
100-499	79	68	-	-	147	40	$ 43.79	5,896	$ 258,182
500-999	32	37	-	0	69	40	$ 43.79	2,763	$ 121,003
1,000-3,299	125	27	-	1	154	40	$ 43.79	6,145	$ 269,112
3,300-9,999	116	23	-	1	140	40	$ 43.79	5,598	$ 245,162
10,000-49,999	366	22	4	1	392	40	$ 43.79	15,687	$ 686,978
50,000-99,999	100	5	1	0	107	40	$ 43.79	4,263	$ 186,678
100,000-999,999	115	6	1	0	122	40	$ 43.79	4,891	$ 214,190
1,000,000+	21	1	0	-	22	40	$ 43.79	883	$ 38,650
National Totals	**1,038**	**277**	**6**	**4**	**1,326**			**53,040**	**$ 2,322,748**

Notes:
Detail may not add exactly to totals due to independent rounding.
UV stands for ultraviolet disinfection and MF/UF stands for microfiltration/ultrafiltration.
Sources:
(A)-(D) Taken from Appendix G of the Economic Analysis for the LT2ESWTR.
(F) Burden estimates take into account the results of December 2011 consultations with water industry representatives.
(G) See Labor Rates exhibit.

Exhibit F.16 Filtered and Unfiltered Plant Burden and Cost for Preparing Reports Demonstrating Technology Compliance

System Size (Population Served)	Number Plants Installing UV	Number of Plants Installing MF/UF	Number of Plants Installing Bank Filtration	Number of Unfiltered Plants Installing Ozone	Total Plants	Annual Labor Hours per Plant	Labor Rate	Total Annual Labor Hours	Total Annual Costs
	A	B	C	D	E=A+B+C+D	F	G	H=E*F	I=G*H
CWS									
<100	16	54	-	-	69	60	$ 32.38	4,143	$ 134,167
100-499	37	48	-	-	85	60	$ 32.38	5,112	$ 165,555
500-999	23	31	-	0	53	60	$ 32.38	3,197	$ 103,538
1,000-3,299	111	25	-	1	138	60	$ 32.38	8,260	$ 267,504
3,300-9,999	112	23	-	1	136	60	$ 32.38	8,141	$ 263,635
10,000-49,999	361	21	4	1	387	60	$ 32.38	23,219	$ 751,910
50,000-99,999	100	5	1	0	107	60	$ 32.38	6,394	$ 207,071
100,000-999,999	114	6	1	0	122	60	$ 32.38	7,301	$ 236,434
1,000,000+	20	1	0	-	21	60	$ 32.38	1,288	$ 41,711
National Totals	**893**	**214**	**6**	**4**	**1,118**			**67,055**	**$ 2,171,525**
NTNCWS									
<100	9	28	-	-	37	60	$ 32.38	2,205	$ 71,420
100-499	13	17	-	-	30	60	$ 32.38	1,803	$ 58,402
500-999	5	6	-	-	10	60	$ 32.38	609	$ 19,733
1,000-3,299	8	2	-	-	9	60	$ 32.38	569	$ 18,419
3,300-9,999	2	0	-	-	2	60	$ 32.38	149	$ 4,814
10,000-49,999	1	0	0	-	2	60	$ 32.38	91	$ 2,957
50,000-99,999	-	-	-	-	-	60	$ 32.38	-	$ -
100,000-999,999	0	0	0	-	0	60	$ 32.38	18	$ 573
1,000,000+	-	-	-	-	-	60	$ 32.38	-	$ -
National Totals	**38**	**52**	**0**	**-**	**91**			**5,445**	**$ 176,319**
TNCWS									
<100	60	7	-	-	67	60	$ 32.38	4,023	$ 130,284
100-499	29	3	-	-	32	60	$ 32.38	1,928	$ 62,430
500-999	5	1	-	-	6	60	$ 32.38	338	$ 10,950
1,000-3,299	6	0	-	-	6	60	$ 32.38	389	$ 12,588
3,300-9,999	2	0	-	-	2	60	$ 32.38	108	$ 3,496
10,000-49,999	4	0	0	-	4	60	$ 32.38	221	$ 7,160
50,000-99,999	-	-	-	-	-	60	$ 32.38	-	$ -
100,000-999,999	0	0	0	-	0	60	$ 32.38	18	$ 583
1,000,000+	1	0	0	-	1	60	$ 32.38	36	$ 1,161
National Totals	**107**	**11**	**0**	**-**	**118**			**7,061**	**$ 228,651**
Grand Totals	**1,038**	**277**	**6**	**4**	**1,326**			**79,561**	**$ 2,576,494**

Notes:

Detail may not add exactly to totals due to independent rounding.

Some unfiltered plants may install ozone treatment, but no new burden is expected to be incurred because ozone will replace the currently used disinfectant.

UV stands for ultraviolet disinfection and MF/UF stands for microfiltration/ultrafiltration.

Sources:

(A), (B), (C), (D) Taken from Appendix G of the LT2ESWTR Economic Analysis.

(F) Burden estimate take into account the results of December 2011 consultations with water industry representatives.

(G) See Labor Rates exhibit.

Exhibit F.17 Plant Burden and Cost for Disinfection Benchmarking Reports

System Size (Population Served)	Number of Plants Installing UV	Number of Plants Installing MF/UF	Number of Unfiltered Plants Installing Ozone	Total Number of Plants Changing Disinfection	Annual Labor Hours per Plant	Labor Rate	Total Annual Labor Hours	Total Annual Costs
	A	B	C	D = A+B+C	E	F	G = D*E	H = F*G
CWS								
<100	16	54	-	69	25	$ 32.38	1,726	$ 55,902.84
100-499	37	48	-	85	25	$ 32.38	2,130	$ 68,981.29
500-999	23	31	0	53	25	$ 32.38	1,332	$ 43,140.96
1,000-3,299	111	25	1	138	25	$ 32.38	3,442	$ 111,459.97
3,300-9,999	112	23	1	136	25	$ 32.38	3,392	$ 109,847.73
10,000-49,999	361	21	1	383	25	$ 32.38	9,580	$ 310,231.06
50,000-99,999	100	5	0	106	25	$ 32.38	2,638	$ 85,439.22
100,000-999,999	114	6	0	120	25	$ 32.38	3,012	$ 97,552.98
1,000,000+	20	1	-	21	25	$ 32.38	534	$ 17,281.91
National Totals	**893**	**214**	**4**	**1,111**	**225**			**$ 899,837.96**
NTNCWS								
<100	9	28	-	37	25	$ 32.38	919	$ 29,758.46
100-499	13	17	-	30	25	$ 32.38	751	$ 24,334.23
500-999	5	6	-	10	25	$ 32.38	254	$ 8,222.12
1,000-3,299	8	2	-	9	25	$ 32.38	237	$ 7,674.72
3,300-9,999	2	0	-	2	25	$ 32.38	62	$ 2,005.91
10,000-49,999	1	0	-	2	25	$ 32.38	38	$ 1,219.13
50,000-99,999	-	-	-	-	25	$ 32.38	-	$ -
100,000-999,999	0	0	-	0	25	$ 32.38	7	$ 236.04
1,000,000+	-	-	-	-	25	$ 32.38	-	$ -
National Totals	**38**	**52**	**-**	**91**	**225**			**$ 73,450.61**
TNCWS								
<100	60	7	-	67	25	$ 32.38	1,676	$ 54,284.86
100-499	29	3	-	32	25	$ 32.38	803	$ 26,012.38
500-999	5	1	-	6	25	$ 32.38	141	$ 4,562.52
1,000-3,299	6	0	-	6	25	$ 32.38	162	$ 5,244.97
3,300-9,999	2	0	-	2	25	$ 32.38	45	$ 1,456.55
10,000-49,999	4	0	-	4	25	$ 32.38	91	$ 2,951.51
50,000-99,999	-	-	-	-	25	$ 32.38	-	$ -
100,000-999,999	0	0	-	0	25	$ 32.38	7	$ 240.44
1,000,000+	1	0	-	1	25	$ 32.38	15	$ 480.54
National Totals	**107**	**11**	**-**	**118**	**225**			**$ 95,233.77**
Grand Totals	**1,038**	**277**	**4**	**1,320**	**675**			**$1,068,522.34**

Notes:
Detail may not add exactly to totals due to independent rounding.

This ICR only characterizes burden and costs associated with systems complying with LT2ESWTR. Estimates of disinfection and profiling burden and costs associated with systems changing treatment to comply with Stage 2 DBPR are not yet available; they will be added in future ICRs.

UV stands for ultraviolet disinfection and MF/UF stands for microfiltration/ultrafiltration.

Sources:

(A) - (C) From Appendix G of the Economic Analysis for the LT2ESWTR.

(E) Burden estimates take into account the results of December 2011 consultations with water industry representatives.

(G) See Labor Rates exhibit.

Exhibit F.18 State Burden and Cost for Disinfection Benchmarking Reports

System Size (Population Served)	Number of Plants Installing UV	Number of Plants Installing MF/UF	Number of Plants Installing Ozone	Total Number of Plants Changing Disinfection	Labor Hours per Plant	Labor Rate	Total Labor Hours	Total Costs
	A	B	C	D = A + B + C	E	F	G = D*E	H = F*G
<100	85	88	-	173	16	$ 43.79	2,766	$ 121,117.04
100-499	79	68	-	147	16	$ 43.79	2,358	$ 103,272.87
500-999	32	37	0	69	16	$ 43.79	1,105	$ 48,401.06
1,000-3,299	125	27	1	154	16	$ 43.79	2,458	$ 107,644.95
3,300-9,999	116	23	1	140	16	$ 43.79	2,239	$ 98,064.81
10,000-49,999	366	22	1	388	16	$ 43.79	6,213	$ 272,100.38
50,000-99,999	100	5	0	106	16	$ 43.79	1,689	$ 73,943.76
100,000-999,999	115	6	0	121	16	$ 43.79	1,937	$ 84,840.04
1,000,000+	21	1	-	22	16	$ 43.79	351	$ 15,372.60
National Totals	**1,038**	**277**	**4**	**1,320**	**144**	**$ 394.13**		**$ 924,757.51**

Notes:

Detail may not add exactly to totals due to independent rounding.

This ICR only characterizes burden and costs associated with systems complying with LT2ESWTR. Estimates of disinfection and profiling burden and costs associated with systems changing treatment to comply with Stage 2 DBPR are not yet available; they will be added in future ICRs.

UV stands for ultraviolet disinfection and MF/UF stands for microfiltration/ultrafiltration.

Sources:

(A) - (C) From Appendix G of the Economic Analysis for the LT2ESWTR.

(E) Burden estimates take into account the results of December 2011 consultations with water industry representatives.

(F) See Labor Rates exhibit.

Exhibit F.19 Burden and Cost to Plants Associated with E. coli Monitoring for Bin Reclassification

System Size (Population Served)	Baseline # of Plants Conducting *E. coli* Monitoring	Sampling				Sample Analysis							Total Cost	Total Burden (Hours)	Total Burden (FTEs)	Responses
		# of *E. coli* Samples	Hours per Sample	Cost per Labor Hour	Total Sampling Labor Cost	Commercial Analysis (Includes Shipping)	Utility Analysis Hours per Sample (Labor)	Utility Analysis Cost per Sample (O&M)	Utility Analysis Cost per Sample (Total)	Percent Utilities with *E. coli* Analysis Capabilities	Total Laboratory Analysis Cost (Labor)	Total Laboratory Analysis Cost (O&M)				
	A	B	C	D	E = A*B*C*D	F	G	H=I-G*D	I	J	K = D*G*J*A*B	L = F*A*B*(1-J)+H*A*B*J	M = E+K+L	N = A*B*C+A*B*G*J	O = N/2,080	P = A*B
CWSs																
<100	300	26	1	$ 32.38	$ 252,744	$ 93.62	0.25	$ 19.99	$ 28.09	25%	$ 15,796.48	$ 587,006	$ 855,546	8,292	4.0	7,805
100-499	588	26	1	$ 32.38	$ 494,777	$ 93.62	0.25	$ 19.99	$ 28.09	25%	$ 30,923.54	$ 1,149,136	$ 1,674,836	16,233	7.8	15,278
500-999	304	26	1	$ 32.38	$ 256,156	$ 93.62	0.25	$ 19.99	$ 28.09	25%	$ 16,009.78	$ 594,932	$ 867,098	8,404	4.0	7,910
1,000-3,299	823	26	1	$ 32.38	$ 693,199	$ 93.62	0.25	$ 19.99	$ 28.09	25%	$ 43,324.91	$ 1,609,978	$ 2,346,501	22,743	10.9	21,406
3,300-9,999	922	26	1	$ 32.38	$ 776,642	$ 93.62	0.25	$ 19.99	$ 28.09	25%	$ 48,540.11	$ 1,803,777	$ 2,628,959	25,481	12.3	23,982
10,000-49,999	713	24	1	$ 32.38	$ 554,533	$ 93.62	0.25	$ 19.99	$ 28.09	75%	$ 103,974.85	$ 657,510	$ 1,316,018	20,334	9.8	17,124
50,000-99,999	206	24	1	$ 32.38	$ 159,864	$ 93.62	0.25	$ 19.99	$ 28.09	75%	$ 29,974.48	$ 189,551	$ 379,389	5,862	2.8	4,937
100,000-999,999	245	24	1	$ 32.38	$ 190,331	$ 93.62	0.25	$ 19.99	$ 28.09	100%	$ 47,582.74	$ 117,489	$ 355,402	7,347	3.5	5,877
1,000,000+	43	24	1	$ 32.38	$ 33,237	$ 93.62	0.25	$ 19.99	$ 28.09	100%	$ 8,309.15	$ 20,516	$ 62,062	1,283	0.6	1,026
National Totals	**4,145**				**$ 3,411,481**						**$ 344,436**	**$ 6,729,895**	**$ 10,485,812**	**115,981**	**55.8**	**105,345**
NTNCWSs																
<100	80	26	1	$ 32.38	$ 67,330	$ 93.62	0.25	$ 19.99	$ 28.09	25%	$ 4,208.15	$ 156,377	$ 227,916	2,209	1.1	2,079
100-499	138	26	1	$ 32.38	$ 116,290	$ 93.62	0.25	$ 19.99	$ 28.09	25%	$ 7,268.10	$ 270,087	$ 393,644	3,815	1.8	3,591
500-999	40	26	1	$ 32.38	$ 33,725	$ 93.62	0.25	$ 19.99	$ 28.09	25%	$ 2,107.79	$ 78,327	$ 114,159	1,106	0.5	1,041
1,000-3,299	36	26	1	$ 32.38	$ 30,199	$ 93.62	0.25	$ 19.99	$ 28.09	25%	$ 1,887.43	$ 70,138	$ 102,224	991	0.5	933
3,300-9,999	6	26	1	$ 32.38	$ 5,039	$ 93.62	0.25	$ 19.99	$ 28.09	25%	$ 314.95	$ 11,704	$ 17,058	165	0.1	156
10,000-49,999	1	24	1	$ 32.38	$ 528	$ 93.62	0.25	$ 19.99	$ 28.09	75%	$ 98.96	$ 626	$ 1,252	19	0.0	16
50,000-99,999	-	24	1	$ 32.38	$ -	$ 93.62	0.25	$ 19.99	$ 28.09	75%	$ -	$ -	$ -	-	-	-
100,000-999,999	-	24	1	$ 32.38	$ -	$ 93.62	0.25	$ 19.99	$ 28.09	100%	$ -	$ -	$ -	-	-	-
1,000,000+	-	24	1	$ 32.38	$ -	$ 93.62	0.25	$ 19.99	$ 28.09	100%	$ -	$ -	$ -	-	-	-
National Totals	**301**				**$ 253,110**						**$ 15,885**	**$ 587,258**	**$ 856,254**	**8,306**	**4.0**	**7,816**
TNCWSs																
<100	516	26	1	$ 32.38	$ 434,262	$ 93.62	0.25	$ 19.99	$ 28.09	25%	$ 27,141.39	$ 1,008,589	$ 1,469,993	14,248	6.8	13,410
100-499	421	26	1	$ 32.38	$ 354,246	$ 93.62	0.25	$ 19.99	$ 28.09	25%	$ 22,140.38	$ 822,749	$ 1,199,135	11,623	5.6	10,939
500-999	63	26	1	$ 32.38	$ 52,644	$ 93.62	0.25	$ 19.99	$ 28.09	25%	$ 3,290.26	$ 122,268	$ 178,202	1,727	0.8	1,626
1,000-3,299	57	26	1	$ 32.38	$ 47,970	$ 93.62	0.25	$ 19.99	$ 28.09	25%	$ 2,998.14	$ 111,412	$ 162,381	1,574	0.8	1,481
3,300-9,999	14	26	1	$ 32.38	$ 12,196	$ 93.62	0.25	$ 19.99	$ 28.09	25%	$ 762.26	$ 28,326	$ 41,284	400	0.2	377
10,000-49,999	1	24	1	$ 32.38	$ 541	$ 93.62	0.25	$ 19.99	$ 28.09	75%	$ 101.46	$ 642	$ 1,284	20	0.0	17
50,000-99,999	-	24	1	$ 32.38	$ -	$ 93.62	0.25	$ 19.99	$ 28.09	75%	$ -	$ -	$ -	-	-	-
100,000-999,999	-	24	1	$ 32.38	$ -	$ 93.62	0.25	$ 19.99	$ 28.09	100%	$ -	$ -	$ -	-	-	-
1,000,000+	-	24	1	$ 32.38	$ -	$ 93.62	0.25	$ 19.99	$ 28.09	100%	$ -	$ -	$ -	-	-	-
National Totals	**1,071**				**$ 901,860**						**$ 56,434**	**$ 2,093,986**	**$ 3,052,279**	**29,592**	**14.2**	**27,849**
Grand Totals	**5,516**				**$ 4,566,451**						**$ 416,755**	**$ 9,411,139**	**$ 14,394,345**	**153,879**	**74.0**	**141,009**

Notes:
Detail may not add exactly to totals due to independent rounding.
Sources:
(A) Taken from Exhibit F.6a, column I.
(B) Bi-weekly source water monitoring for one year for small systems and monthly samples for 24 months for medium and large systems.
(C) Estimate of labor for collecting sample and shipping; estimate takes into account the results of December 2011 consultations with water industry representatives.
(D) See Labor Rates exhibit.
(F) DynCorp study, Kevin Connell, June 2002. Updated to $2010.
(G) Estimate takes into account the results of December 2011 consultations with water industry representatives.
(H) The amount left over after the cost of labor is subtracted from the cost of utility analysis provided in Column I.
(I) DynCorp study, Kevin Connell, December 2000. Updated to $2010.
(J) Estimate based on Third Edition Baseline Handbook data.

Exhibit F.20 Burden and Cost to Plants Associated with Cryptosporidium Monitoring for Bin Reclassification

System Size (Population Served)	Baseline # of Plants Conducting *Crypto-sporidium* Monitoring	Sampling				Sample Analysis		Total Cost	Total Burden (Hours)	Total Burden (FTEs)	Responses
		# of *Crypto-sporidium* Samples	Hours per Sample	Cost per Labor Hour	Total Sampling Labor Cost	Cost per Sample	Total Laboratory Analysis Cost (O&M)				
	A	B	C	D	E = A*B*C*D	F	G = A*B*F	H = E+G	I = A*B*C	J = I/2080	K = A*B
CWSs											
<100	104	26	1.4	$ 32.38	$ 120,938	$ 708.17	$ 708	$ 121,646	3,734	1.8	2,716
100-499	204	26	1.4	$ 32.38	$ 236,751	$ 708.17	$ 3,765,278	$ 4,002,029	7,311	3.5	5,317
500-999	106	26	1.4	$ 32.38	$ 122,571	$ 708.17	$ 1,949,365	$ 2,071,936	3,785	1.8	2,753
1,000-3,299	287	26	1.4	$ 32.38	$ 331,696	$ 708.17	$ 5,275,281	$ 5,606,977	10,243	4.9	7,449
3,300-9,999	321	26	1.4	$ 32.38	$ 371,623	$ 708.17	$ 5,910,288	$ 6,281,911	11,476	5.5	8,346
10,000-49,999	713	26	1.4	$ 32.38	$ 826,022	$ 708.17	$ 13,137,049	$ 13,963,072	25,507	12.3	18,551
50,000-99,999	206	26	1.4	$ 32.38	$ 238,131	$ 708.17	$ 3,787,225	$ 4,025,356	7,353	3.5	5,348
100,000-999,999	245	26	1.4	$ 32.38	$ 283,514	$ 708.17	$ 4,509,000	$ 4,792,514	8,755	4.2	6,367
1,000,000+	43	26	1.4	$ 32.38	$ 49,509	$ 708.17	$ 787,386	$ 836,894	1,529	0.7	1,112
National Totals	**2,229**				**$ 2,580,753**		**$ 39,121,581**	**$ 41,702,335**	**79,692**	**38.3**	**57,958**
NTNCWSs											
<100	28	26	1.4	$ 32.38	$ 32,218	$ 708.17	$ 512,388	$ 544,606	995	0.5	724
100-499	48	26	1.4	$ 32.38	$ 55,645	$ 708.17	$ 884,971	$ 940,615	1,718	0.8	1,250
500-999	14	26	1.4	$ 32.38	$ 16,137	$ 708.17	$ 256,646	$ 272,783	498	0.2	362
1,000-3,299	12	26	1.4	$ 32.38	$ 14,450	$ 708.17	$ 229,815	$ 244,266	446	0.2	325
3,300-9,999	2	26	1.4	$ 32.38	$ 2,411	$ 708.17	$ 38,348	$ 40,760	74	0.0	54
10,000-49,999	1	26	1.4	$ 32.38	$ 786	$ 708.17	$ 12,503	$ 13,289	24	0.0	18
50,000-99,999	-	26	1.4	$ 32.38	$ -	$ 708.17	$ -	$ -	-	-	-
100,000-999,999	-	26	1.4	$ 32.38	$ -	$ 708.17	$ -	$ -	-	-	-
1,000,000+	-	26	1.4	$ 32.38	$ -	$ 708.17	$ -	$ -	-	-	-
National Totals	**105**				**$ 121,647**		**$ 1,934,672**	**$ 2,056,319**	**3,756**	**1.8**	**2,732**
TNCWSs											
<100	179	26	1.4	$ 32.38	$ 207,794	$ 708.17	$ 3,304,761	$ 3,512,555	6,417	3.1	4,667
100-499	146	26	1.4	$ 32.38	$ 169,507	$ 708.17	$ 2,695,833	$ 2,865,339	5,234	2.5	3,807
500-999	22	26	1.4	$ 32.38	$ 25,190	$ 708.17	$ 400,625	$ 425,815	778	0.4	566
1,000-3,299	20	26	1.4	$ 32.38	$ 22,954	$ 708.17	$ 365,056	$ 388,010	709	0.3	515
3,300-9,999	5	26	1.4	$ 32.38	$ 5,836	$ 708.17	$ 92,813	$ 98,649	180	0.1	131
10,000-49,999	1	26	1.4	$ 32.38	$ 806	$ 708.17	$ 12,819	$ 13,625	25	0.0	18
50,000-99,999	-	26	1.4	$ 32.38	$ -	$ 708.17	$ -	$ -	-	-	-
100,000-999,999	-	26	1.4	$ 32.38	$ -	$ 708.17	$ -	$ -	-	-	-
1,000,000+	-	26	1.4	$ 32.38	$ -	$ 708.17	$ -	$ -	-	-	-
National Totals	**373**				**$ 432,087**		**$ 6,871,906**	**$ 7,303,993**	**13,343**	**6.4**	**9,704**
Grand Totals	**2,707**				**$ 3,134,487**		**$ 47,928,159**	**$ 51,062,646**	**96,791**	**46.5**	**70,394**

Notes:

Detail may not add exactly to totals due to independent rounding.
(A) Taken from Exhibit F.6a, column J.
(B) Semimonthly source water monitoring for one year for small systems and monthly samples for 24 months for medium and large systems, plus two matrix spike samples.
Assume unfiltered plants achieve 3 log removal due to treatment installed following initial *Cryptosporidium* monitoring, and are therefore exempt from future *Cryptosporidium* monitoring.
(C) Estimate of labor for collecting sample and shipping; estimate takes into account the results of December 2011 consultations with water industry representatives.
(D) See Labor Rates exhibit.
(F) Taken from Exhibit F.6b.

Exhibit F.21 Burden and Cost to Plants Associated with Reporting for Source Water Sampling Schedule and Bin Re-Classification Monitoring

System Size (Population Served)	Source Water Sampling Plan hours per plant	Bin Re-Classification hours per plant	Hours per Plant	Cost per Labor Hour	Baseline # of Plants Reporting	Total Cost	Total Burden (Hours)	Total Burden (FTEs)
	A	B	C=A+B	D	E	F = C*D*E	G = C*E	H = G/2080
CWSs								
<100	1	7	8	$ 32.38	300	$ 77,767	2,401	1.2
100-499	1	7	8	$ 32.38	588	$ 152,239	4,701	2.3
500-999	1	7	8	$ 32.38	304	$ 78,817	2,434	1.2
1,000-3,299	1	7	8	$ 32.38	823	$ 213,292	6,586	3.2
3,300-9,999	1	7	8	$ 32.38	922	$ 238,967	7,379	3.5
10,000-49,999	1	16	17	$ 32.38	713	$ 392,794	12,129	5.8
50,000-99,999	1	16	17	$ 32.38	206	$ 113,237	3,497	1.7
100,000-999,999	10	16	26	$ 32.38	245	$ 206,192	6,367	3.1
1,000,000+	10	16	26	$ 32.38	43	$ 36,006	1,112	0.5
National Totals					**4,145**	**$ 1,509,311**	**46,607**	**22.4**
NTNCWSs								
<100	1	7	8	$ 32.38	80	$ 20,717	640	0.3
100-499	1	7	8	$ 32.38	138	$ 35,781	1,105	0.5
500-999	1	7	8	$ 32.38	40	$ 10,377	320	0.2
1,000-3,299	1	7	8	$ 32.38	36	$ 9,292	287	0.1
3,300-9,999	1	7	8	$ 32.38	6	$ 1,551	48	0.0
10,000-49,999	1	16	17	$ 32.38	1	$ 374	12	0.0
50,000-99,999	1	16	17	$ 32.38	-	$ -	-	-
100,000-999,999	10	16	26	$ 32.38	-	$ -	-	-
1,000,000+	10	16	26	$ 32.38	-	$ -	-	-
National Totals					**301**	**$ 78,092**	**2,411**	**1.2**
TNCWSs								
<100	1	7	8	$ 32.38	516	$ 133,619	4,126	2.0
100-499	1	7	8	$ 32.38	421	$ 108,999	3,366	1.6
500-999	1	7	8	$ 32.38	63	$ 16,198	500	0.2
1,000-3,299	1	7	8	$ 32.38	57	$ 14,760	456	0.2
3,300-9,999	1	7	8	$ 32.38	14	$ 3,753	116	0.1
10,000-49,999	1	16	17	$ 32.38	1	$ 383	12	0.0
50,000-99,999	1	16	17	$ 32.38	-	$ -	-	-
100,000-999,999	10	16	26	$ 32.38	-	$ -	-	-
1,000,000+	10	16	26	$ 32.38	-	$ -	-	-
National Totals					**1,071**	**$ 277,712**	**8,576**	**4.1**
Grand Totals					**5,516**	**$ 1,865,115**	**57,594**	**27.7**

Sources
(A), (B) Estimates takes into account the results of December 2011 consultations with water industry representatives.
(D) See Labor Rates exhibit.
(E) Taken from Exhibit F.6a, column I.
Assume unfiltered plants achieve 3 log removal due to treatment installed following initial *Cryptosporidium* monitoring, and are therefore exempt from future *Cryptosporidium* monitoring.

Exhibit F.22 12-Year Summary of Burden Associated with Implementing the LT2ESWTR (Hours)

Activity	Source	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12
CWSs													
Start-up [1]	Exhibit F.7, Column G	16,510	14,625	217,149									
Assessment for Binning [2]													
E. coli Monitoring	Exhibit F.9, Column N	3,134	10,566	68,703	61,271								
Cryptosporidium Monitoring	Exhibit F.10, Column I	3,767	12,950	27,992	18,809	21,024	21,024						
Reporting	Exhibit F.11, Column G	2,740	8,055	25,334	20,019	2,382	2,382						
UCFWR Reporting [3]	Exhibit F.13, Column G	334	334										
Technology Reporting [4]	Exhibit F.16, Column H							8,031	21,795	42,138	50,307	61,285	67,055
Disinfection Benchmarking [5]	Exhibit F.17, Column G				973	2,195	3,153	5,798	5,798	4,825	3,603	1,322	
Assessment for Bin Reclassification [6]													
E. coli Monitoring	Exhibit F.19, Column N										5,780	12,329	52,210
Cryptosporidium Monitoring	Exhibit F.20, Column I										6,980	15,195	14,592
Reporting	Exhibit F.21, Column G										4,667	8,602	16,724
Yearly Total		**26,485**	**46,530**	**339,178**	**101,072**	**25,601**	**26,559**	**13,829**	**27,593**	**46,963**	**71,337**	**98,734**	**150,582**
NTNCWSs													
Start-up [1]	Exhibit F.7, Column G	-	-	18,160									
Assessment for Binning [2]													
E. coli Monitoring	Exhibit F.9, Column N	0	0	4,837	4,837								
Cryptosporidium Monitoring	Exhibit F.10, Column I	0	0	18	18	2,172	2,172						
Reporting	Exhibit F.11, Column G	0	0	1,161	1,161	244	244						
UCFWR Reporting [3]	Exhibit F.13, Column G												
Technology Reporting [4]	Exhibit F.16, Column H							11	55	2,216	2,768	4,377	5,445
Disinfection Benchmarking [5]	Exhibit F.17, Column G				1	5	9	498	498	497	493	245	
Assessment for Bin Reclassification [6]													
E. coli Monitoring	Exhibit F.19, Column N										0	5	4,153
Cryptosporidium Monitoring	Exhibit F.20, Column I										0	6	12
Reporting	Exhibit F.21, Column G										0	3	997
Yearly Totals		**0**	**0**	**24,176**	**6,017**	**2,422**	**2,425**	**509**	**553**	**2,712**	**3,261**	**4,636**	**10,607**
TNCWSs													
Start-up [1]	Exhibit F.7, Column G	-	-	56,881									
Assessment for Binning [2]													
E. coli Monitoring	Exhibit F.9, Column N	0	0	15,714	15,714								
Cryptosporidium Monitoring	Exhibit F.10, Column I	0	0	18	18	7,105	7,105						
Reporting	Exhibit F.11, Column G	0	0	3,749	3,749	806	806						
UCFWR Reporting [3]	Exhibit F.13, Column G												
Technology Reporting [4]	Exhibit F.16, Column H							32	143	2,923	3,646	5,703	7,061
Disinfection Benchmarking [5]	Exhibit F.17, Column G				4	14	23	645	645	640	631	311	
Assessment for Bin Reclassification [6]													
E. coli Monitoring	Exhibit F.19, Column N										0	5	14,796
Cryptosporidium Monitoring	Exhibit F.20, Column I										0	6	12
Reporting	Exhibit F.21, Column G										0	0	3,553
Yearly Totals		**0**	**0**	**76,363**	**19,486**	**7,924**	**7,934**	**677**	**787**	**3,563**	**4,277**	**6,026**	**25,422**
States and Territories													
Start-up	Exhibit F.7, Column E, and Exhibit F.8, Column C	13,574	12,024	312,298									
Bin Determination and Reviewing Monitoring Data [7]	Exhibit F.12, Column B, Column D			50,388	50,388	38,532	38,532				12,311	26,822	76,705
Reviewing/Approving UCFWR Schedule [8]	Exhibit F.14, Column C		51	51									
Technology Reporting [9]	Exhibit F.15, Column H							5,382	14,662	31,518	37,813	47,577	53,040
Disinfection Benchmarking [10]	Exhibit F.18, Column G				627	1417	2038	4442	4442	3815	3025	1202	
Yearly Totals		**13,574**	**12,075**	**362,736**	**51,015**	**39,949**	**40,570**	**9,824**	**19,104**	**35,333**	**53,150**	**75,601**	**129,746**
Grand Totals		**40,059**	**58,605**	**802,452**	**177,590**	**75,896**	**77,488**	**24,839**	**48,038**	**88,572**	**132,024**	**184,996**	**316,356**

Notes:

This ICR only characterizes burden and costs associated with systems complying with LT2ESWTR. Estimates of disinfection and profiling burden and costs associated with systems changing treatment to comply with Stage 2 DBPR are not yet available; they will be added in future ICRs.

[1] Start-up burden is assumed to have been completed in Years 1-3.

[2] The first round of *E. coli* and *Cryptosporidium* monitoring was completed during the previous ICR clearance period.

[3] Activities associated with uncovered finished water reservoirs are assumed to have been completed in Years 1-3.

[4] Systems must begin to demonstrate compliance with technologies 42 months following the completion of *Cryptosporidium* monitoring.

[5] Disinfection profiling must be completed prior to changing the disinfection process. Thus, the schedule reflects treatment installation.

[6] Assessments for re-binning: A second round of *E. coli* and *Cryptosporidium* monitoring for re-binning for a given system will begin 6.5 years after that system's completion of initial monitoring.

[7] In the first round of monitoring, States will perform these activities for small systems only; States will perform these activities for all systems during future monitoring.

[8] State activities associated with uncovered finished water reservoirs are assumed to have been completed during Years 2-3.

[9] State activities will parallel system activities.

[10] State activities will parallel system activities.

Exhibit F.23 12-Year Summary of Cost Associated with Implementing the LT2ESWTR

Activity	Source	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12
CWSs													
Start-up [1]	Exhibit F.7, Column F	534,660	473,616	7,032,147									
Assessment for Binning [2]													
E. coli Monitoring	Exhibit F.9, Column M	151,609	581,368	6,177,637	5,747,877								
Cryptosporidium Monitoring	Exhibit F.10, Column H	2,062,351	7,089,124	15,323,301	10,296,528	11,508,967	11,508,967						
Reporting	Exhibit F.11, Column F	88,730	260,852	820,409	648,287	77,152	77,152						
UCFWR Reporting [3]	Exhibit F.13, Column F	10,820	10,820										
Technology Reporting [4]	Exhibit F.16, Column							260,069	705,825	1,364,605	1,629,134	1,984,645	2,171,525
Disinfection Benchmarking [5]	Exhibit F.17, Column H				31,511	71,078	102,101	187,754	187,754	156,243	116,676	42,827	
Assessment for Bin Reclassification [6]													
E. coli Monitoring	Exhibit F.19, Column M										303,580	727,431	4,939,327
Cryptosporidium Monitoring	Exhibit F.20, Column H										3,821,043	8,318,150	7,987,875
Reporting	Exhibit F.21, Column F										151,138	278,575	27,175
Yearly Total		**$2,848,170**	**$ 8,415,780**	**$29,353,493**	**$ 16,724,204**	**$11,657,197**	**$ 11,688,220**	**$447,823**	**$ 893,579**	**$1,520,849**	**$ 6,021,571**	**$11,351,628**	**$15,125,901**
NTNCWSs													
Start-up [1]	Exhibit F.7, Column F	-	-	588,097									
Assessment for Binning [2]													
E. coli Monitoring	Exhibit F.9, Column M	0	0	498,501	498,501								
Cryptosporidium Monitoring	Exhibit F.10, Column H	0	0	9,749	9,749	1,188,976	1,188,976						
Reporting	Exhibit F.11, Column F	0	0	37,588	37,588	7,915	7,915						
UCFWR Reporting [3]	Exhibit F.13, Column F												
Technology Reporting [4]	Exhibit F.16, Column I							344	1,789	71,758	89,628	141,761	176,319
Disinfection Benchmarking [5]	Exhibit F.17, Column H				47	169	291	16,130	16,130	16,083	15,961	7,919	
Assessment for Bin Reclassification [6]													
E. coli Monitoring	Exhibit F.19, Column M										0	313	428,127
Cryptosporidium Monitoring	Exhibit F.20, Column H										0	3,322	6,645
Reporting	Exhibit F.21, Column F										0	93	32,284
Yearly Totals		**$ -**	**$ -**	**$ 1,133,936**	**$ 545,886**	**$ 1,197,060**	**$ 1,197,182**	**$ 16,474**	**$ 17,919**	**$ 87,841**	**$ 105,589**	**$ 153,409**	**$ 643,374**
TNCWSs													
Start-up [1]	Exhibit F.7, Column F	-	-	1,842,049									
Assessment for Binning [2]													
E. coli Monitoring	Exhibit F.9, Column M	0	0	1,620,701	1,620,701								
Cryptosporidium Monitoring	Exhibit F.10, Column H	0	0	9,785	9,785	3,889,610	3,889,610						
Reporting	Exhibit F.11, Column F	0	0	121,423	121,423	26,087	26,087						
UCFWR Reporting [3]	Exhibit F.13, Column F												
Technology Reporting [4]	Exhibit F.16, Column I							1,046	4,617	94,655	118,061	184,701	228,651
Disinfection Benchmarking [5]	Exhibit F.17, Column H				144	439	734	20,878	20,878	20,734	20,439	10,072	
Assessment for Bin Reclassification [6]													
E. coli Monitoring	Exhibit F.19, Column M										0	321	1,526,140
Cryptosporidium Monitoring	Exhibit F.20, Column H										0	3,406	6,812
Reporting	Exhibit F.21, Column F										0	96	115,049
Yearly Totals		**$ -**	**$ -**	**$ 3,593,959**	**$ 1,752,054**	**$ 3,916,136**	**$ 3,916,431**	**$ 21,924**	**$ 25,495**	**$ 115,388**	**$ 138,500**	**$ 198,596**	**$ 1,876,652**
States and Territories													
Start-up	Exhibit .7, Column E, Exhibit F.8, Column D	594,431	526,563	13,676,147									
Bin Determination and Reviewing Monitoring Data [7]	Exhibit F.12, Column G, Column I	$ -	$ -	$ 2,206,591	$ 2,206,591	$ 1,687,393	$ 1,687,393	$ -	$ -	$ -	$ 539,121	$ 1,174,578	$ 3,359,084
Reviewing/Approving UCFWR Schedule [8]	Exhibit F.14, Column D		$ 2,217	$ 2,217									
Technology Reporting [9]	Exhibit F.15, Column I							235,709	642,087	1,380,236	1,655,924	2,083,498	2,322,748
Disinfection Benchmarking [10	Exhibit F.18, Column H				27,437	62041	89251	194522	194522	167085	132480	52635	
Yearly Totals		**$ 594,431**	**$ 528,780**	**$15,884,956**	**$ 2,234,028**	**$ 1,749,435**	**$ 1,776,645**	**$430,231**	**$ 836,608**	**$1,547,320**	**$ 2,327,525**	**$ 3,310,711**	**$ 5,681,833**
Grand Totals		**$3,442,601**	**$ 8,944,560**	**$49,966,343**	**$ 21,256,172**	**$18,519,827**	**$ 18,578,478**	**$916,452**	**$ 1,773,601**	**$3,271,398**	**$ 8,593,186**	**$15,014,344**	**$23,327,760**

Notes:

This ICR only characterizes burden and costs associated with systems complying with LT2ESWTR. Estimates of disinfection and profiling burden and costs associated with systems changing treatment to comply with Stage 2 DBPR are not yet available; they will be added in future ICRs.

[1] Start-up is assumed to have been completed in Years 1-3.

[2] The first round of *E. coli* and *Cryptosporidium* monitoring was completed during the previous ICR clearance period.

[3] Activities associated with uncovered finished water reservoirs are assumed to have been completed in Years 1-3.

[4] Systems must begin to demonstrate compliance with technologies 42 months following the completion of *Cryptosporidium* monitoring.

[5] Disinfection profiling must be completed prior to changing the disinfection process. Thus, the schedule reflects treatment installation.

[6] Assessments for re-binning: A second round of *E. coli* and *Cryptosporidium* monitoring for re-binning for a given system will begin 6.5 years after that system's completion of initial monitoring.

[7] In the first round of monitoring, States will perform these activities for small systems only; States will perform these activities for all systems during future monitoring.

[8] States are assumed to have completed review of uncovered finished water reservoir reports during Years 2-3.

[9] State activities will parallel system activities.

[10] State activities will parallel system activities.

Exhibit F.24 Implementation Timeline for the LT2ESWTR

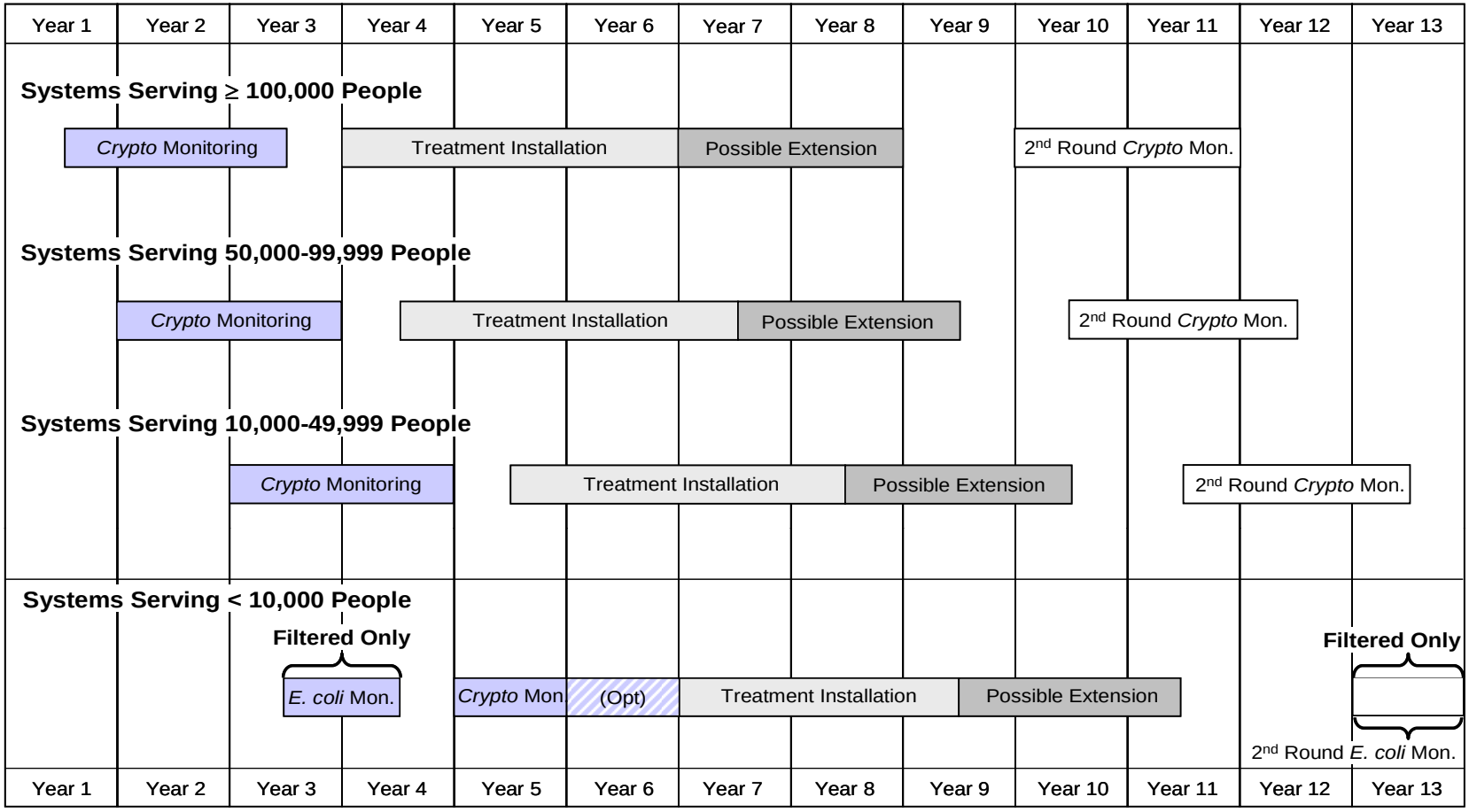

Exhibit F.25

Long Term 2 Enhanced Surface Water Treatment Rule (LT2) - Summary of Original and Revised Burden Estimates

2008 Burden	Task	Revised Burden
10 min	*E. coli* sample analysis (by utility)	15 min

Appendix G

Ground Water Rule Spreadsheets

Exhibit G.1 Labor Rates

Cost Assumptions: State Labor Rate Components

Cost Element	Base Hourly Labor Cost	ECI in Year of Data	ECI 2010	2010 Labor Cost
	A	B	C	D=A*(C/B)
Field Engineer	$ 58.86	-	-	$ 58.86
State Employee	$ 43.79	-	-	$ 43.79

Sources: (A) Field engineer wage rates from National Occupational Employment and Wage Estimates, United States, BLS SOC Code 17-2051 , "State Government - Civil Engineers," hourly mean wage rate. May 2010 data (published in May 2011). http://stats.bls.gov/oes/current/oes172051.htm. Multiplied by a loading rate of 1.6 to account for benefits.

State Employee wage rates from National Occupational Employment and Wage Estimates, United States, BLS SOC Code 19-2041, "State Government - Environmental Scientists and Specialists, Including Health," hourly mean wage rate. May 2010 data (published in May 2011). http://stats.bls.gov/oes/current/oes192041.htm Multiplied by a loading rate of 1.6 to account for benefits.

(B) - (C) Not required (source data is in 2010$)

Technical Wage Rates by System Size

Rate	System size					
	25-100	101-500	500-3.3k	3.3k-10k	10k-100k	>100k
Base Wage Rate ($2010)	$ 20.24	$ 20.24	$ 20.24	$ 20.24	$ 20.24	$ 20.24
Loaded Wage Rate ($2010)	$ 32.38	$ 32.38	$ 32.38	$ 32.38	$ 32.38	$ 32.38
Inflated Wage Rate ($2010)	$ 32.38	$ 32.38	$ 32.38	$ 32.38	$ 32.38	$ 32.38

Source: National Occupational Employment and Wage Estimates, United States, BLS SOC Code 51-8031, "Local Government - Water and Liquid Waste Treatment Plant and System Operators". May 2010 data (published in May 2011). http://stats.bls.gov/oes/current/oes518031.htm. Multiplied by a loading rate of 1.6 to account for benefits. Wage rate is not inflated because source data year matches dollar year.

Exhibit G.2 Number of Systems Subject to Sanitary Surveys

System Size (Population Served)	Systems	Systems Disinfecting	Systems Disinfecting; 4-log	Systems Not Disinfecting	Systems Performing Sanitary Survey
	A	B	C	D=A-B	E
Community Water Systems (CWSs)					
≤100	11,683	6,117	3,181	5,566	11,683
101-500	13,737	9,306	4,839	4,431	13,737
501-1,000	4,463	3,559	1,851	903	4,463
1,001-3,300	5,964	5,013	2,607	951	5,964
3,301-10K	3,108	2,736	1,423	372	3,108
10,001-50K	1,661	1,531	796	131	1,661
50,001-100K	192	177	92	15	192
100,001-1 Million	104	104	54	-	104
> 1 Million	5	5	5	-	5
Totals	**40,918**	**28,548**	**14,847**	**12,370**	**40,918**
Nontransient Noncommunity Water Systems (NTNCWSs)					
≤100	8,571	2,901	899	5,670	8,571
101-500	6,467	2,735	848	3,732	6,467
501-1,000	1,660	872	270	788	1,660
1,001-3,300	763	524	162	239	763
3,301-10K	103	83	26	20	103
10,001-50K	12	9	3	3	12
50,001-100K	-	-	-	-	-
100,001-1 Million	-	-	-	-	-
> 1 Million	-	-	-	-	-
Totals	**17,576**	**7,123**	**2,208**	**10,453**	**17,576**
Transient Noncommunity Water Systems (TNCWSs)					
≤100	59,238	13,793	1,379	45,445	59,238
101-500	19,358	5,504	550	13,854	19,358
501-1,000	1,965	700	70	1,265	1,965
1,001-3,300	568	247	25	321	568
3,301-10K	66	28	3	38	66
10,001-50K	6	2	0	4	6
50,001-100K	3	-	-	3	3
100,001-1 Million	-	-	-	-	-
> 1 Million	-	-	-	-	-
Totals	**81,204**	**20,274**	**2,027**	**60,930**	**81,204**
Total All Systems	**139,698**	**55,945**	**19,083**	**83,752**	**139,698**

Notes: Detail may not add to totals due to independent rounding.

Sources: (A) SDWIS/FED Data from October 2010.

(B) Column (A) times percent disinfecting. Percent disinfecting from SDWIS/FED 2010 data.

(C) Percentage of systems disinfecting to 4-log based on AWWA (1998).

(E) Based on rule requirements, all systems are subject to sanitary surveys.

Exhibit G.3 Number of Entry Points Subject to Triggered Monitoring

System Size (Population Served)	Entry Points Triggered Monitoring A	Mean Number of Samples per EP per Year B	Triggered Monitoring Samples/year C=A*B	Average Positive Triggered Monitoring Entry Points/year D
Community Water Systems (CWSs)				
≤100	9,276	0.38	3,510	52
101-500	10,857	0.41	4,451	71
501-1,000	4,132	0.49	2,045	27
1,001-3,300	6,230	0.22	1,381	33
3,301-10K	3,697	0.58	2,142	30
10,001-50K	3,059	2.21	6,747	34
50,001-100K	941	6.56	6,174	12
100,001-1 Million	627	10.63	6,666	6
> 1 Million	-	10.63	-	-
Totals	**38,820**		**33,116**	**264**
Nontransient Noncommunity Water Systems (NTNCWSs)				
≤100	7,672	0.22	1,681	28
101-500	5,619	0.23	1,264	23
501-1,000	1,390	0.28	391	6
1,001-3,300	601	0.70	422	4
3,301-10K	77	1.84	142	1
10,001-50K	9	6.99	64	0
50,001-100K	-	20.78	-	-
100,001-1 Million	-	33.67	-	-
> 1 Million	-	33.67	-	-
Totals	**15,368**		**3,965**	**62**
Transient Noncommunity Water Systems (TNCWSs)				
≤100	57,859	0.47	27,062	289
101-500	18,808	0.48	9,032	94
501-1,000	1,895	0.60	1,138	10
1,001-3,300	543	1.10	599	3
3,301-10K	63	2.88	182	0
10,001-50K	6	10.97	64	0
50,001-100K	3	32.60	98	0
100,001-1 Million	-	52.83	-	-
> 1 Million	-	52.83	-	-
Totals	**79,177**		**38,174**	**396**
Grand Total	**133,364**		**75,255**	**723**

Notes: Detail may not add to totals due to independent rounding.
- (no PWSs of this size category).

Source: (A) Number of entry points from Chapter 6, Exhibit 6.5b of the GWR EA, updated to current values by multiplying by proportion of 2010 systems to original systems.
(B) Mean triggered samples per system calculated from Chapter 6, Exhibit 6.15 of the GWR EA.
(D) Values in Column D, total entry points with positive triggered monitoring samples (Ex. G17b, col. D), divided by 22 years to obtain positive triggered monitoring EPs/year.

Exhibit G.4 Number of Systems Subject to Compliance Monitoring

System Size (Population Served)	Systems Subject to Compliance Monitoring	Entry Points Subject to Compliance Monitoring	Entry Points Achieving 4-log Prior to GWR	Entry Points Corrected to 4-log as a result of GWR; previously partially disinfected	Entry Points Corrected to 4-log as a result of GWR; previously nondisinfected
	A	B=C+D+E	C	D	E
Community Water Systems (CWSs)					
≤100	4,223	4,607	3,470	326	811
101-500	6,114	7,460	5,905	877	678
501-1,000	2,220	3,512	2,928	346	238
1,001-3,300	2,994	5,556	4,837	399	320
3,301-10K	1,726	3,785	3,120	381	284
10,001-50K	1,009	3,566	2,813	630	123
50,001-100K	120	1,126	865	107	153
100,001-1 Million	65	817	680	95	43
> 1 Million	5	63	63	-	-
Totals	**18,475**	**30,493**	**24,682**	**3,160**	**2,651**
Nontransient Noncommunity Water Systems (NTNCWSs)					
≤100	1,409	1,522	899	136	487
101-500	979	1,358	848	114	397
501-1,000	362	401	270	29	102
1,001-3,300	177	254	162	20	71
3,301-10K	28	40	26	3	11
10,001-50K	3	5	3	0	1
50,001-100K	-	-	-	-	-
100,001-1 Million	-	-	-	-	-
> 1 Million	-	-	-	-	-
Totals	**2,957**	**3,580**	**2,208**	**302**	**1,069**
Transient Noncommunity Water Systems (TNCWSs)					
≤100	1,590	7,735	1,379	1,051	5,305
101-500	624	2,616	550	344	1,722
501-1,000	80	281	70	35	176
1,001-3,300	26	98	25	12	61
3,301-10K	3	13	3	2	9
10,001-50K	0	1	0	0	1
50,001-100K	-	1	-	0	0
100,001-1 Million	-	-	-	-	-
> 1 Million	-	-	-	-	-
Totals	**2,323**	**10,745**	**2,027**	**1,444**	**7,274**
Grand Total	**23,756**	**44,818**	**28,918**	**4,906**	**10,994**

Notes: Detail may not add to totals due to independent rounding.

Source: (A) Exhibit G17a, Column I

(C) Based on percentages from AWWA (1998).

(D) Chapter 6 GWR EA, Exhibit 6.5b, Column E updated using ratio of 2010 systems to original systems.

(E) Chapter 6 GWR EA, Exhibit 6.5b, Column F updated using ratio of 2010 systems to original systems.

Exhibit G.5 Estimated System Burden and Costs for Start-Up Activities

Exhibit G.5a Microbial Source Water Monitoring & Compliance Monitoring Start-Up (CWSs)

Cost Component	Service Population Category								
	≤100	101-500	501-1,000	1,001-3,300	3,301-10,000	10,001-50,000	50,001-100,000	100,001-1,000,000	>1,000,000
Read and Understand Rule	16	16	16	16	16	16	16	16	16
Planning and Mobilization	16	16	16	16	16	32	32	32	32
Total hours[1]	32	32	32	32	32	48	48	48	48
Labor cost[2] (per hour)	$ 32.38	$ 32.38	$ 32.38	$ 32.38	$ 32.38	$ 32.38	$ 32.38	$ 32.38	$ 32.38
Total cost per system	$ 1,036	$ 1,036	$ 1,036	$ 1,036	$ 1,036	$ 1,554	$ 1,554	$ 1,554	$ 1,554
Number of Systems	11,683	13,737	4,463	5,964	3,108	1,661	192	104	5
Total labor burden	373,861	439,587	142,804	190,859	99,463	79,748	9,211	4,995	243
Total cost	$ 12,107,112	$ 14,235,599	$ 4,624,569	$ 6,180,763	$ 3,221,018	$ 2,582,544	$ 298,278	$ 161,767	$ 7,855

Exhibit G.5b Microbial Source Water Monitoring & Compliance Monitoring Start-Up (NCWSs)

Cost Component	Service Population Category								
	≤100	101-500	501-1,000	1,001-3,300	3,301-10,000	10,001-50,000	50,001-100,000	100,001-1,000,000	>1,000,000
Read and Understand Rule	8	8	8	8	8	8	8	8	8
Planning and Mobilization	16	16	16	16	16	16	16	16	16
Total hours[1]	24	24	24	24	24	24	24	24	24
Labor cost[2] (per hour)	$ 32.38	$ 32.38	$ 32.38	$ 32.38	$ 32.38	$ 32.38	$ 32.38	$ 32.38	$ 32.38
Total cost per system	$ 777	$ 777	$ 777	$ 777	$ 777	$ 777	$ 777	$ 777	$ 777
Number of Systems	67,809	25,825	3,625	1,331	169	18	3	-	-
Total labor burden	1,627,416	619,800	87,000	31,944	4,056	432	72	-	-
Total cost	$ 52,702,240	$ 20,071,603	$ 2,817,408	$ 1,034,474	$ 131,350	$ 13,990	$ 2,332	$ -	$ -

Exhibit G.5c Sanitary Survey Start-Up

Cost Component	Service Population Category								
	≤100	101-500	501-1,000	1,001-3,300	3,301-10,000	10,001-50,000	50,001-100,000	100,001-1,000,000	>1,000,000
Read and Understand Rule	2	2	2	2	2	2	2	2	2
Planning and Mobilization	1	1	1	1	1	1	1	1	1
Total hours[1]	3	3	3	3	3	3	3	3	3
Labor cost[2] (per hour)	$ 32.38	$ 32.38	$ 32.38	$ 32.38	$ 32.38	$ 32.38	$ 32.38	$ 32.38	$ 32.38
Total cost per system	$ 97	$ 97	$ 97	$ 97	$ 97	$ 97	$ 97	$ 97	$ 97
Number of Systems	79,492	39,562	8,088	7,295	3,277	1,679	195	104	5
Total labor burden	238,476	118,686	24,263	21,886	9,832	5,038	585	312	15
Total cost	$ 7,722,822	$ 3,843,538	$ 785,729	$ 708,756	$ 318,389	$ 163,158	$ 18,934	$ 10,110	$ 491

Notes: 1) Labor hours for start-up activities reflect EPA estimate.

2) Labor rates from Exhibit G.1.

3) These activities were completed in a prior ICR period.

Exhibit G.6 Estimated State Burden and Costs for Start-Up Activities

Exhibit G.6a Microbial Source & Compliance Monitoring Start-Up

Compliance Activity	Labor Cost (per hour) A	Hours B	FTEs C=B/2,080	Cost D=A*B
Read and Understand Rule	$ 43.79	60	0.03	$ 2,628
Regulation Adoption and Program Development	$ 43.79	1,040	0.50	$ 45,544
Initial Laboratory Certification	$ 43.79	800	0.38	$ 35,034
Modify Data Management Systems	$ 43.79	2,080	1.00	$ 91,087
System Training and Technical Assistance	$ 43.79	2,080	1.00	$ 91,087
Staff Training	$ 43.79	520	0.25	$ 22,772
Per State Total		6,580		$ 288,151
National Totals (57 States/Primacy Agencies)		375,060		$ 16,424,628

Notes: Detail may not add due to independent rounding.

Sources: (A) Labor rate for state employee from Exhibit G.1

(B) Labor hours for start-up activities reflect EPA estimate.

(C) Full-time equivalent (FTE) assumes individual working 40 hours per week, 52 weeks per year.

Exhibit G.6b Annual Administrative Activities

Compliance Activity	Labor Cost (per hour) A	Hours B	FTEs C=B/2,080	Cost D=A*B
Coordination with EPA	$ 43.79	1,040	0.50	$ 45,544
Lab Certification	$ 43.79	1,040	0.50	$ 45,544
Ongoing Technical Assistance	$ 43.79	1,040	0.50	$ 45,544
SDWIS Reporting	$ 43.79	1,040	0.50	$ 45,544
Recordkeeping	$ 43.79	880	0.42	$ 38,537
Staff Training	$ 43.79	104	0.05	$ 4,554
Per State Total		5,144		$ 225,266
National Totals (57 States/Primacy Agencies)		293,208		$ 12,840,165

Notes: Detail may not add due to independent rounding.

These activities were completed in a prior ICR period.

Sources: (A) Labor rate for state employee from Exhibit G.1

(B) Labor hours for start-up activities reflect EPA estimate.

(C) Full-time equivalent (FTE) assumes individual working 40 hours per week, 52 weeks per year.

Exhibit G.7a PWS Unit Burden and Cost Estimates for Performing Full and Incremental Sanitary Surveys (Treatment)

System Size (Population Served)	Labor Cost (per hour)	Review/ Inspect Wells	Review/ Inspect Treatment	Review/ Inspect Distribution System	Report Review and Discussion w/ State	Total Unit Burden (hours)	Unit Cost (Full Survey)
	A	B	C	D	E	F=sum(B-E)	G=A*F
Community Water Systems (CWSs)							
≤100	$ 32.38	1.1	0.8	1.2	1.3	4.4	$ 144
101-500	$ 32.38	1.2	0.8	1.2	1.3	4.5	$ 145
501-1,000	$ 32.38	1.5	1.1	1.7	1.3	5.6	$ 181
1,001-3,300	$ 32.38	2.2	1.3	2.9	1.4	7.7	$ 250
3,301-10K	$ 32.38	2.7	1.6	3.6	1.8	9.6	$ 309
10,001-50K	$ 32.38	3.7	2.0	4.3	1.9	11.8	$ 383
50,001-100K	$ 32.38	9.0	3.0	12.0	3.0	27.0	$ 874
100,000-1M	$ 32.38	15.0	8.0	24.0	3.0	50.0	$ 1,619
>1,000,000	$ 32.38	24.0	10.0	36.0	4.0	74.0	$ 1,619
Nontransient Noncommunity Water Systems (NTNCWSs)							
≤100	$ 32.38	1.0	0.8	1.0	1.3	4.0	$ 131
101-500	$ 32.38	1.0	0.8	1.1	1.3	4.2	$ 135
501-1,000	$ 32.38	1.1	0.9	1.3	1.3	4.6	$ 149
1,001-3,300	$ 32.38	1.1	1.1	1.2	1.3	4.7	$ 152
3,301-10K	$ 32.38	1.5	1.5	1.7	1.5	6.2	$ 200
10,001-50K	$ 32.38	1.5	1.5	1.8	1.5	6.3	$ 202
50,001-100K	$ 32.38	8.0	1.5	2.3	1.5	13.3	$ 429
100,000-1M	$ 32.38	8.0	1.5	10.0	1.5	21.0	$ 680
>1,000,000	$ 32.38	NA	NA	NA	NA	NA	NA
Transient Noncommunity Water Systems (TNCWSs)							
≤100	$ 32.38	0.7	0.6	0.6	0.9	2.7	$ 89
101-500	$ 32.38	0.7	0.6	0.6	0.9	2.7	$ 89
501-1,000	$ 32.38	1.0	0.8	1.0	0.9	3.7	$ 121
1,001-3,300	$ 32.38	1.0	1.0	1.0	1.1	4.1	$ 133
3,301-10K	$ 32.38	1.2	1.3	1.2	1.2	4.8	$ 157
10,001-50K	$ 32.38	1.2	1.3	1.3	1.2	5.0	$ 160
50,001-100K	$ 32.38	8.0	1.3	1.3	1.2	11.8	$ 381
100,000-1M	$ 32.38	8.0	1.3	10.0	1.2	20.5	$ 664
>1,000,000	$ 32.38	NA	NA	NA	NA	NA	NA

Note:

1) Burden estimates take into account the results of December 2011 consultations with water industry representatives.

2) Weighted unit costs equal 5% of the unit costs. This factor accounts for 50% effort for an incremental survey and 10% of systems that do not already comply with rule requirements (see Chapter 6, Sec. 6.4.2 of the GWR EA for discussion).

(D) Unit costs for NTNCWSs may be over-estimated because some of these systems may not have a distribution system.

Exhibit G.7b PWS Unit Burden and Cost Estimates for Performing Full and Incremental Sanitary Surveys (No Treatment)

System Size (Population Served)	Labor Cost (per hour) A	Review/ Inspect Wells B	Review/ Inspect Distribution System C	Report Review and Discussion w/ State D	Total Unit Burden (hours) E=sum(B-D)	Unit Cost (Full Survey) F=A*E
Community Water Systems (CWSs)						
≤100	$ 32.38	1.1	1.2	1.3	3.6	$ 118
101-500	$ 32.38	1.2	1.2	1.3	3.7	$ 118
501-1,000	$ 32.38	1.5	1.7	1.3	4.5	$ 146
1,001-3,300	$ 32.38	2.2	2.9	1.4	6.4	$ 208
3,301-10K	$ 32.38	2.7	3.6	1.8	8.0	$ 258
10,001-50K	$ 32.38	3.7	4.3	1.9	9.8	$ 318
50,001-100K	$ 32.38	9.0	12.0	3.0	24.0	$ 777
100,000-1M	$ 32.38	15.0	24.0	3.0	42.0	$ 1,360
>1,000,000	$ 32.38	24.0	36.0	4.0	64.0	$ 1,360
Nontransient Noncommunity Water Systems (NTNCWSs)						
≤100	$ 32.38	1.0	1.0	1.3	3.3	$ 106
101-500	$ 32.38	1.0	1.1	1.3	3.4	$ 110
501-1,000	$ 32.38	1.1	1.3	1.3	3.7	$ 121
1,001-3,300	$ 32.38	1.1	1.2	1.3	3.6	$ 117
3,301-10K	$ 32.38	1.5	1.7	1.5	4.7	$ 151
10,001-50K	$ 32.38	1.5	1.8	1.5	4.8	$ 154
50,001-100K	$ 32.38	8.0	2.3	1.5	11.8	$ 381
100,000-1M	$ 32.38	8.0	10.0	1.5	19.5	$ 631
>1,000,000	$ 32.38	NA	NA	NA	NA	NA
Transient Noncommunity Water Systems (TNCWSs)						
≤100	$ 32.38	0.7	0.6	0.9	2.2	$ 70
101-500	$ 32.38	0.7	0.6	0.9	2.2	$ 70
501-1,000	$ 32.38	1.0	1.0	0.9	2.9	$ 94
1,001-3,300	$ 32.38	1.0	1.0	1.1	3.1	$ 100
3,301-10K	$ 32.38	1.2	1.2	1.2	3.5	$ 113
10,001-50K	$ 32.38	1.2	1.3	1.2	3.7	$ 118
50,001-100K	$ 32.38	8.0	1.3	1.2	10.5	$ 338
100,000-1M	$ 32.38	8.0	10.0	1.2	19.2	$ 622
>1,000,000	$ 32.38	NA	NA	NA	NA	NA

Note:

1) Burden estimates take into account the results of December 2011 consultations with water industry representatives.

2) Weighted unit costs equal 5% of the unit costs. This factor accounts for 50% effort for an incremental survey and 10% of systems that do not already comply with rule requirements (see Chapter 6, Sec. 6.4.2 of the GWR EA for discussion).

(D) Unit costs for NTNCWSs may be over-estimated because some of these systems may not have a distribution system.

Exhibit G.7c State Unit Burden and Cost Estimates for Performing Full and Incremental Sanitary Surveys (Treatment)

System Size (Population Served)	Labor Cost (per hour)	Review/ Inspect Wells	Review/ Inspect Treatment	Review/ Inspect Distribution System	Report Documentation/ File Review	Report Development	Data Entry	Report Review and Discussion w/ PWS	Travel	Total Unit Burden (hours)	Unit Cost (Full Survey)
	A	B	C	D	E	F	G	H	I	J=sum(B-I)	K=A*J
Community Water Systems (CWSs)											
≤100	$ 58.86	1.1	0.8	1.2	2.3	5.7	0.8	1.3	1.8	14.9	$ 879
101-500	$ 58.86	1.2	0.8	1.2	2.3	5.8	0.8	1.3	1.8	15.1	$ 887
501-1,000	$ 58.86	1.5	1.1	1.7	2.6	7.4	0.8	1.3	1.8	18.1	$ 1,063
1,001-3,300	$ 58.86	2.2	1.3	2.9	3.4	8.8	1.2	1.4	1.8	22.8	$ 1,341
3,301-10K	$ 58.86	2.7	1.6	3.6	3.7	9.6	1.3	1.8	1.8	25.9	$ 1,525
10,001-50K	$ 58.86	3.7	2.0	4.3	5.3	10.1	1.4	1.9	1.8	30.3	$ 1,785
50,001-100K	$ 58.86	9.0	3.0	12.0	12.0	12.0	2.0	3.0	1.8	54.8	$ 3,223
100,000-1M	$ 58.86	15.0	8.0	24.0	18.0	18.0	3.0	3.0	1.8	90.8	$ 5,342
>1,000,000	$ 58.86	24.0	10.0	36.0	18.0	18.0	4.0	4.0	1.8	115.8	$ 5,342
Nontransient Noncommunity Water Systems (NTNCWSs)											
≤100	$ 58.86	1.0	0.8	1.0	1.9	5.1	0.8	1.3	1.8	13.6	$ 800
101-500	$ 58.86	1.0	0.8	1.1	2.0	5.3	0.8	1.3	1.8	14.0	$ 825
501-1,000	$ 58.86	1.1	0.9	1.3	2.1	6.5	0.8	1.3	1.8	15.7	$ 925
1,001-3,300	$ 58.86	1.1	1.1	1.2	2.1	6.5	0.8	1.3	1.8	15.9	$ 933
3,301-10K	$ 58.86	1.5	1.5	1.7	2.2	6.7	0.8	1.5	1.8	17.6	$ 1,033
10,001-50K	$ 58.86	1.5	1.5	1.8	2.5	6.7	0.8	1.5	1.8	18.0	$ 1,060
50,001-100K	$ 58.86	8.0	1.5	2.3	2.5	10.0	0.8	1.5	1.8	28.3	$ 1,666
100,000-1M	$ 58.86	8.0	1.5	10.0	8.0	10.0	1.0	1.5	1.8	41.8	$ 2,458
>1,000,000	NA	NA	NA	NA	NA	NA	NA	NA	1.8	NA	NA
Transient Noncommunity Water Systems (TNCWSs)											
≤100	$ 58.86	0.7	0.6	0.6	1.5	5.1	0.8	0.9	1.8	11.9	$ 699
101-500	$ 58.86	0.7	0.6	0.6	1.5	5.3	0.8	0.9	1.8	12.1	$ 713
501-1,000	$ 58.86	1.0	0.8	1.0	1.8	5.8	0.8	0.9	1.8	13.9	$ 816
1,001-3,300	$ 58.86	1.0	1.0	1.0	1.8	5.8	0.8	1.1	1.8	14.3	$ 839
3,301-10K	$ 58.86	1.2	1.3	1.2	1.8	5.8	0.8	1.2	1.8	15.0	$ 882
10,001-50K	$ 58.86	1.2	1.3	1.3	1.8	5.8	0.8	1.2	1.8	15.1	$ 889
50,001-100K	$ 58.86	8.0	1.3	1.3	3.0	8.0	0.8	1.2	1.8	25.3	$ 1,489
100,000-1M	$ 58.86	8.0	1.3	10.0	3.0	8.0	0.8	1.2	1.8	34.1	$ 2,004
>1,000,000	NA	NA	NA	NA	NA	NA	NA	NA	1.8	NA	NA

Note: 1) Burden estimates take into account the results of December 2011 consultations with water industry representatives.

2) Weighted unit costs equal 5% of the unit costs. This factor accounts for 50% effort for an incremental survey and 10% of systems that do not already comply with rule requirements (see Chapter 6, Sec. 6.4.2 of the GWR EA for discussion).

(D) Unit costs for NTNCWSs may be over-estimated because some of these systems may not have a distribution system.

Exhibit G.7d State Unit Burden and Cost Estimates for Performing Full and Incremental Sanitary Surveys (No Treatment)

System Size (Population Served)	Labor Cost (per hour) A	Review/ Inspect Wells B	Review/ Inspect Distribution System C	Report Documentation/ File Review D	Report Development E	Data Entry F	Report Review and Discussion w/ PWS G	Travel H	Total Unit Burden (hours) I=sum(B-H)	Unit Cost (Full Survey) J=A*I
Community Water Systems (CWSs)										
≤100	$ 58.86	1.1	1.2	2.3	5.7	0.8	1.3	1.8	14.1	$ 831
101-500	$ 58.86	1.2	1.2	2.3	5.8	0.8	1.3	1.8	14.3	$ 840
501-1,000	$ 58.86	1.5	1.7	2.6	7.4	0.8	1.3	1.8	17.0	$ 1,000
1,001-3,300	$ 58.86	2.2	2.9	3.4	8.8	1.2	1.4	1.8	21.5	$ 1,265
3,301-10K	$ 58.86	2.7	3.6	3.7	9.6	1.3	1.8	1.8	24.3	$ 1,433
10,001-50K	$ 58.86	3.7	4.3	5.3	10.1	1.4	1.9	1.8	28.3	$ 1,667
50,001-100K	$ 58.86	9.0	12.0	12.0	12.0	2.0	3.0	1.8	51.8	$ 3,046
100,000-1M	$ 58.86	15.0	24.0	18.0	18.0	3.0	3.0	1.8	82.8	$ 4,871
>1,000,000	$ 58.86	24.0	36.0	18.0	18.0	4.0	4.0	1.8	105.8	$ 4,871
Nontransient Noncommunity Water Systems (NTNCWSs)										
≤100	$ 58.86	1.0	1.0	1.9	5.1	0.8	1.3	1.8	12.8	$ 756
101-500	$ 58.86	1.0	1.1	2.0	5.3	0.8	1.3	1.8	13.3	$ 781
501-1,000	$ 58.86	1.1	1.3	2.1	6.5	0.8	1.3	1.8	14.9	$ 874
1,001-3,300	$ 58.86	1.1	1.2	2.1	6.5	0.8	1.3	1.8	14.8	$ 868
3,301-10K	$ 58.86	1.5	1.7	2.2	6.7	0.8	1.5	1.8	16.1	$ 945
10,001-50K	$ 58.86	1.5	1.8	2.5	6.7	0.8	1.5	1.8	16.5	$ 971
50,001-100K	$ 58.86	8.0	2.3	2.5	10.0	0.8	1.5	1.8	26.8	$ 1,578
100,000-1M	$ 58.86	8.0	10.0	8.0	10.0	1.0	1.5	1.8	40.3	$ 2,369
>1,000,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Transient Noncommunity Water Systems (TNCWSs)										
≤100	$ 58.86	0.7	0.6	1.5	5.1	0.8	0.9	1.8	11.3	$ 664
101-500	$ 58.86	0.7	0.6	1.5	5.3	0.8	0.9	1.8	11.5	$ 679
501-1,000	$ 58.86	1.0	1.0	1.8	5.8	0.8	0.9	1.8	13.0	$ 767
1,001-3,300	$ 58.86	1.0	1.0	1.8	5.8	0.8	1.1	1.8	13.3	$ 780
3,301-10K	$ 58.86	1.2	1.2	1.8	5.8	0.8	1.2	1.8	13.7	$ 803
10,001-50K	$ 58.86	1.2	1.3	1.8	5.8	0.8	1.2	1.8	13.8	$ 812
50,001-100K	$ 58.86	8.0	1.3	3.0	8.0	0.8	1.2	1.8	24.0	$ 1,413
100,000-1M	$ 58.86	8.0	10.0	3.0	8.0	0.8	1.2	1.8	32.8	$ 1,928
>1,000,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Note: 1) Burden estimates take into account the results of December 2011 consultations with water industry representatives.

2) Weighted unit costs equal 5% of the unit costs. This factor accounts for 50% effort for an incremental survey and 10% of systems that do not already comply with rule requirements (see Chapter 6, Sec. 6.4.2 of the GWR EA for discussion).

(D) Unit costs for NTNCWSs may be over-estimated because some of these systems may not have a distribution system.

Exhibit G.8 Estimated Burden and Costs for Performing Triggered Monitoring

Exhibit G.8a Estimated System Burden and Costs for Performing Triggered Monitoring (*E. coli* sampling)

Cost Component	Service Population Category								
	≤100	101-500	501-1,000	1,001-3,300	3,301-10,000	10,001-50,000	50,001-100,000	100,001-1,000,000	>1,000,000
Sampling									
Sampling labor (hours)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Labor cost[1] (per hour)	$ 32.38	$ 32.38	$ 32.38	$ 32.38	$ 32.38	$ 32.38	$ 32.38	$ 32.38	$ 32.38
Total sampling cost	$ 16.19	$ 16.19	$ 16.19	$ 16.19	$ 16.19	$ 16.19	$ 16.19	$ 16.19	$ 16.19
Laboratory Analysis[2]									
Commercial analysis cost [3]	$ 100.04	$ 100.04	$ 100.04	$ 100.04	$ 100.04	$ 100.04	$ 100.04	$ 100.04	$ 100.04
In-house labor (hours)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Labor cost (per hour)	$ 32.38	$ 32.38	$ 32.38	$ 32.38	$ 32.38	$ 32.38	$ 32.38	$ 32.38	$ 32.38
In-house materials cost[4]	$ 10.61	$ 10.61	$ 10.61	$ 10.61	$ 10.61	$ 10.61	$ 10.61	$ 10.61	$ 10.61
Total analysis cost	$ 81.73	$ 81.73	$ 81.73	$ 81.73	$ 81.73	$ 45.11	$ 26.80	$ 26.80	$ 26.80
Reporting									
Monitoring report labor (hours)	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Labor cost[5] (per hour)	$ 32.38	$ 32.38	$ 32.38	$ 32.38	$ 32.38	$ 32.38	$ 32.38	$ 32.38	$ 32.38
Total reporting cost	$ 80.96	$ 80.96	$ 80.96	$ 80.96	$ 80.96	$ 80.96	$ 80.96	$ 80.96	$ 80.96
Total cost	$ 178.88	$ 178.88	$ 178.88	$ 178.88	$ 178.88	$ 142.26	$ 123.95	$ 123.95	$ 123.95

Notes:

1) Burden estimates take into account the results of December 2011 consultations with water industry representatives.

2) Labor rates from Exhibit G.1. EPA assumes all sampling conducted by system operator.

3) EPA assumes that 25 percent of CWSs serving less than 10,000 individuals, 75 percent of systems serving 10,000 to 50,000 individuals, and all CWSs serving more than 50,000 conduct in-house analysis; the remaining CWSs contract a commercial laboratory. EPA assumes all NCWSs contract a commercial laboratory. Therefore, EPA uses the following ratios to determine total cost of analysis:

a) Total cost to system serving <10,000=.75*(Commercial analysis cost)+.25*(In-house labor*Labor cost+In-house materials cost)

b) Total cost to system serving 10,001-50,000=.25(Commercial analysis cost)+.75*(In-house labor*Labor cost+In-house materials cost)

c) Total cost to system serving >50,000=In-house labor*Labor cost+In-house materials cost

4) Inflated to 2010 dollars from the 2006 estimate used in the GWR Economic Analysis using annual PPI, all commodities, not seasonally adjusted (www.bls.gov/data).

5) Inflated to 2010 dollars from the 2006 estimate used in the GWR Economic Analysis using annual CPI-U, U.S. city average, all items, not seasonally adjusted.

6) Labor rates from Exhibit G.1.

Exhibit G.8b Estimated State Burden and Costs for Reviewing Triggered Monitoring Report

Cost Component	Service Population Category								
	≤100	101-500	501-1,000	1,001-3,300	3,301-10,000	10,001-50,000	50,001-100,000	100,001-1,000,000	>1,000,000
Triggered Monitoring Review and	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Labor cost[2] (per hour)	$ 43.79	$ 43.79	$ 43.79	$ 43.79	$ 43.79	$ 43.79	$ 43.79	$ 43.79	$ 43.79
Total cost	$ 153.27	$ 153.27	$ 153.27	$ 153.27	$ 153.27	$ 153.27	$ 153.27	$ 153.27	$ 153.27

Notes:

1) Burden estimates take into account the results of December 2011 consultations with water industry representatives.

2) Labor rate for state employee from Exhibit G.1.

Exhibit G.9 Estimated Burden & Costs for Corrective Action Plans

Exhibit G.9a Estimated System Burden and Costs for Corrective Action Plans

Cost Component	Service Population Category								
	≤100	101-500	501-1,000	1,001-3,300	3,301-10,000	10,001-50,000	50,001-100,000	100,001-1,000,000	>1,000,000
Plan Development and Submission[1] (hours)	12	13	19	29	58	60	70	74	74
Labor cost[2] (per hour)	$ 32.38	$ 32.38	$ 32.38	$ 32.38	$ 32.38	$ 32.38	$ 32.38	$ 32.38	$ 32.38
Unit Plan Cost	$ 388.61	$ 420.99	$ 615.30	$ 939.14	$ 1,878.27	$ 1,943.04	$ 2,266.88	$ 2,396.42	$ 2,396.42

Notes:
1) Burden estimates take into account the results of December 2011 consultations with water industry representatives. Every system performing corrective action is assumed to develop a corrective action plan.
2) Labor rates from Exhibit G.1.

Exhibit G.9b Estimated State Burden and Costs for Reviewing Corrective Action Plans

Cost Component	Service Population Category								
	≤100	101-500	501-1,000	1,001-3,300	3,301-10,000	10,001-50,000	50,001-100,000	100,001-1,000,000	>1,000,000
Plan Review and Processing[1] (hours)	12	13	19	29	58	30	35	37	37
Labor cost[2] (per hour)	$ 58.86	$ 58.86	$ 58.86	$ 58.86	$ 58.86	$ 58.86	$ 58.86	$ 58.86	$ 58.86
Unit Plan Review Cost	$ 706.37	$ 765.23	$ 1,118.42	$ 1,707.06	$ 3,414.11	$ 1,765.92	$ 2,060.24	$ 2,177.97	$ 2,177.97

Notes:
1) Burden estimates take into account the results of December 2011 consultations with water industry representatives. The ratio of state burden to system burden for this activity is assumed to be 1:1 for systems serving 10,000 or fewer because small systems are assumed to require significant assistance to complete the plans. Because systems serving more than 10,000 are assumed to have more technical and managerial staff, their plans will require less review, and the ratio of state burden to system burden for these systems for this activity is assumed to be 0.5:1.
2) Labor rates for field engineer from Exhibit G.1.

Exhibit G.10a PWS Compliance Monitoring Costs for Systems Serving 3,300 or Fewer People

Component	Unit Cost (2010$)	Labor burden (per day)	Annual Cost Frequency	Annual Labor Burden	Annual Total Cost
	A	B	C	D=B*C	E=A*B*C
Compliance Monitoring Labor					
25-100	$ 32.38	0.50	365	183	$ 5,910
101-500	$ 32.38	0.50	365	183	$ 5,910
500-3.3k	$ 32.38	0.50	365	183	$ 5,910
Chlorine Test Kits					
25-100	$ 41.31	N/A	3.65	N/A	$ 151
101-500	$ 41.31	N/A	3.65	N/A	$ 151
500-3.3k	$ 41.31	N/A	3.65	N/A	$ 151
Totals					
25-100				183	$ 6,061
101-500				183	$ 6,061
500-3.3k				183	$ 6,061

Notes: Detail may not add to totals due to independent rounding.

Sources:
(A) Labor rate from Exhibit G.1. Test kit cost inflated from unit cost for test kit from Products for Analysis, 1998 Hach Co. Model 2231-02, using PPI (annual, finished goods less food and energy, www.bls.gov/data)
(B) Burden estimates take into account the results of December 2011 consultations with water industry representatives.
(C) Monitoring performed daily. New test kit needed every 100 days.

Exhibit G.10b PWS Compliance Monitoring Costs for Systems Serving More than 3,300 People

Component	Unit Cost (2010$)	Quantity Purchased (units; hours)	Total Cost
	D=A*(C/B)	E	F=D*E
Capital Costs			
Chlorine analyzer (Hach CL17)	$ 2,212	1	$ 2,212
Power cord	$ 9	1	$ 9
Chart recorder (Honeywell 10" round)	$ 619	1	$ 619
Installation labor (System Operator)			
3.3k-10k	$ 32.38	8	$ 259
10k-100k	$ 32.38	8	$ 259
>100k	$ 32.38	8	$ 259
Total Capital Cost			
3.3k-10k			$ 3,100
10k-100k			$ 3,100
>100k			$ 3,100
Annual Operation and Maintenance			
Compliance monitoring (hours/year)			
3.3k-10k	$ 32.38	80	$ 2,591
10k-100k	$ 32.38	80	$ 2,591
>100k	$ 32.38	80	$ 2,591
Maintenance kit	$ 170	1	$ 170
Monthly reagents	$ 22	12	$ 263
Charts	$ 18	1	$ 18
Recorder pens	$ 63	1	$ 63
Total Annual Operation and Maintenance Costs			
3.3k-10k			$ 3,105
10k-100k			$ 3,105
>100k			$ 3,105

Notes: Detail may not add to totals due to independent rounding.

Systems serving greater than 3,300 people conduct continuous monitoring and are required to record the lowest disinfection residual measured daily. Burden for this activity is assumed to be negligible.

Source: (A) Inflated from unit costs for equipment (both capital and O&M) from Products for Analysis, 1998 Hach Co., using PPI for electrical machinery and equipment (chlorine analyzer equipment) and for finished goods less food and energy (O&M equipment) from www.bls.gov/data. Labor rate from Exhibit G.1.

Exhibit G.11 Estimated Burden and Costs for Compliance Monitoring

Exhibit G.11a Estimated System Burden and Costs for Compliance Monitoring Initial Notification

Cost Component	Service Population Category								
	≤100	101-500	501-1,000	1,001-3,300	3,301-10,000	10,001-50,000	50,001-100,000	100,001-1,000,000	>1,000,000
Notification labor[1] (hours)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Labor cost[2] (per hour)	$ 32.38	$ 32.38	$ 32.38	$ 32.38	$ 32.38	$ 32.38	$ 32.38	$ 32.38	$ 32.38
Total cost	$ 16.19	$ 16.19	$ 16.19	$ 16.19	$ 16.19	$ 16.19	$ 16.19	$ 16.19	$ 16.19

Notes: 1) Burden estimates take into account the results of December 2011 consultations with water industry representatives.

2) Labor rates from Exhibit G.1.

Exhibit G.11b Estimated State Burden and Costs for Compliance Monitoring Notification Documentation

Cost Component	Service Population Category								
	≤100	101-500	501-1,000	1,001-3,300	3,301-10,000	10,001-50,000	50,001-100,000	100,001-1,000,000	>1,000,000
Document notification[1] (hours)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Labor cost[2] (per hour)	$ 43.79	$ 43.79	$ 43.79	$ 43.79	$ 43.79	$ 43.79	$ 43.79	$ 43.79	$ 43.79
Total cost	$ 21.90	$ 21.90	$ 21.90	$ 21.90	$ 21.90	$ 21.90	$ 21.90	$ 21.90	$ 21.90

Notes: 1) Burden estimates take into account the results of December 2011 consultations with water industry representatives.

2) Labor rate for state employee from Exhibit G.1.

Exhibit G.11c Estimated System Burden and Costs for Compliance Monitoring Reporting (Disinfection Failure)

Cost Component	Service Population Category								
	≤100	101-500	501-1,000	1,001-3,300	3,301-10,000	10,001-50,000	50,001-100,000	100,001-1,000,000	>1,000,000
Report labor[1] (hours)	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Labor cost[2] (per hour)	$ 32.38	$ 32.38	$ 32.38	$ 32.38	$ 32.38	$ 32.38	$ 32.38	$ 32.38	$ 32.38
Total cost	$ 80.96	$ 80.96	$ 80.96	$ 80.96	$ 80.96	$ 80.96	$ 80.96	$ 80.96	$ 80.96

Notes: 1) Burden estimates take into account the results of December 2011 consultations with water industry representatives.

2) Labor rates from Exhibit G.1.

Exhibit G.11d Estimated State Burden and Costs for Reviewing Compliance Monitoring Report (Disinfection Failure)

Cost Component	Service Population Category								
	≤100	101-500	501-1,000	1,001-3,300	3,301-10,000	10,001-50,000	50,001-100,000	100,001-1,000,000	>1,000,000
Review report[1] (hours)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Labor cost[2] (per hour)	$ 43.79	$ 43.79	$ 43.79	$ 43.79	$ 43.79	$ 43.79	$ 43.79	$ 43.79	$ 43.79
Total cost	$ 153.27	$ 153.27	$ 153.27	$ 153.27	$ 153.27	$ 153.27	$ 153.27	$ 153.27	$ 153.27

Notes: 1) Burden estimates take into account the results of December 2011 consultations with water industry representatives.

2) Labor rate for state employee from Exhibit G.1.

Exhibit G.12
Respondents for Full Implementation of the Rule Year by Year by Activity

PWSs

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Start-Up Activities										
Microbial & Compliance Monitor Start-Up	46,566	46,566	46,566	-	-	-	-	-	-	-
Sanitary Survey Start-Up	46,566	46,566	46,566	-	-	-	-	-	-	-
Annual Activities										
Sanitary Survey	-	-	-	29,678	29,678	29,678	29,678	29,678	29,678	29,678
Triggered Monitoring (EPs)	-	-	-	6,062	6,062	6,062	6,062	6,062	6,062	6,062
Triggered Monitoring Reporting	-	-	-	723	723	723	723	723	723	723
Corrective Action Plans (systems) - from significant deficiencies and TM	-	-	-	1,704	1,704	1,704	1,704	1,704	1,704	1,704
Compliance Monitoring - Initial Notification (systems)	-	-	-	19,083						
Compliance Monitoring (EPs) [1]	-	-	-	471	943	1,414	1,885	2,356	2,828	3,299
Compliance Monitoring Reporting (Disinfection Failure Reports) (EPs)	-	-	-	1,469	1,493	1,517	1,540	1,564	1,587	1,611
PWSs with one/more Respondent Activities	46,566	46,566	46,566	29,678	29,678	29,678	29,678	29,678	29,678	29,678

States

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Start-Up Activities										
Start-Up	57	57	57	-	-	-	-	-	-	-
Annual Activities										
Sanitary Survey	-	-	-	57	57	57	57	57	57	57
Triggered Monitoring - Review Report	-	-	-	57	57	57	57	57	57	57
Correction Action - Review Plans	-	-	-	57	57	57	57	57	57	57
Compliance Monitoring - Notification Documentation	-	-	-	57	57	57	57	57	57	57
Compliance Monitoring Report Review (Disinfection Failure)	-	-	-	57	57	57	57	57	57	57
Annual Administration	-	-	-	57	57	57	57	57	57	57

Sum for PWSs and States

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
PWSs	46,566	46,566	46,566	29,678	29,678	29,678	29,678	29,678	29,678	29,678
States and Territories	57	57	57	57	57	57	57	57	57	57
Yearly Total	**46,623**	**46,623**	**46,623**	**29,735**	**29,735**	**29,735**	**29,735**	**29,735**	**29,735**	**29,735**

Notes:

[1] Compliance monitoring must be conducted for all entry points that disinfect to 4-log. Once compliance monitoring is begun for an entry point, it must be continued. This calculation assumes that the initiation of this activity is evenly distributed across Years 4 to 25 post-implementation.

Exhibit G.13
Responses for Full Implementation of the Rule Year by Year by Activity

PWSs

Start-Up Activities	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**	**Year 7**	**Year 8**	**Year 9**	**Year 10**
Microbial & Compliance Monitor Start-Up	46,566	46,566	46,566	-	-	-	-	-	-	-
Sanitary Survey Start-Up	46,566	46,566	46,566	-	-	-	-	-	-	-
Annual Activities										
Sanitary Survey	-	-	-	29,678	29,678	29,678	29,678	29,678	29,678	29,678
Triggered Monitoring (samples)	-	-	-	89,890	89,890	89,890	89,890	89,890	89,890	89,890
Triggered Monitoring Reporting	-	-	-	723	723	723	723	723	723	723
Corrective Action Plans - from significant deficiencies and TM	-	-	-	1,704	1,704	1,704	1,704	1,704	1,704	1,704
Compliance Monitoring - Initial Notification	-	-	-	28,918	-	-	-	-	-	-
Compliance Monitoring (samples)	-	-	-	172,012	344,025	516,037	688,049	860,061	1,032,074	1,204,086
Compliance Monitoring Reporting (Disinfection Failure)	-	-	-	1,469	1,493	1,517	1,540	1,564	1,587	1,611
Yearly Total	**93,132**	**93,132**	**93,132**	**324,394**	**467,512**	**639,548**	**811,584**	**983,619**	**1,155,655**	**1,327,691**

States

Start-Up Activities	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**	**Year 7**	**Year 8**	**Year 9**	**Year 10**
Start-Up	57	57	57	-	-	-	-	-	-	-
Annual Activities										
Sanitary Survey	-	-	-	29,678	29,678	29,678	29,678	29,678	29,678	29,678
Triggered Monitoring - Review Report	-	-	-	723	723	723	723	723	723	723
Corrective Action - Review Plans	-	-	-	1,704	1,704	1,704	1,704	1,704	1,704	1,704
Compliance Monitoring - Notification Documentation	-	-	-	28,918	-	-	-	-	-	-
Compliance Monitoring Report Review (Disinfection Failure)	-	-	-	1,469	1,493	1,517	1,540	1,564	1,587	1,611
Annual Administration	-	-	-	57	57	57	57	57	57	57
Yearly Total	**57**	**57**	**57**	**62,549**	**33,655**	**33,678**	**33,702**	**33,725**	**33,749**	**33,773**

Sum for PWSs and States

	Year 1	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**	**Year 7**	**Year 8**	**Year 9**	**Year 10**
PWSs	93,132	93,132	93,132	324,394	467,512	639,548	811,584	983,619	1,155,655	1,327,691
States and Territories	57	57	57	62,549	33,655	33,678	33,702	33,725	33,749	33,773
Yearly Total	**93,189**	**93,189**	**93,189**	**386,943**	**501,167**	**673,226**	**845,285**	**1,017,345**	**1,189,404**	**1,361,464**

Exhibit G.14
Burden for Full Implementation of the Rule Year by Activity

PWSs

Start-Up Activities	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**	**Year 7**	**Year 8**	**Year 9**	**Year 10**
Microbial & Compliance Monitor Start-Up	1,237,163	1,237,163	1,237,163	-	-	-	-	-	-	-
Sanitary Survey Start-Up	139,698	139,698	139,698	-	-	-	-	-	-	-
Annual Activities										
Sanitary Survey	-	-	-	105,062	105,062	105,062	105,062	105,062	105,062	105,062
Triggered Monitoring	-	-	-	57,655	57,655	57,655	57,655	57,655	57,655	57,655
Triggered Monitoring Reporting	-	-	-	1,807	1,807	1,807	1,807	1,807	1,807	1,807
Corrective Action Plans	-	-	-	26,169	26,169	26,169	26,169	26,169	26,169	26,169
Compliance Monitoring - Initial Notification	-	-	-	9,542	-	-	-	-	-	-
Compliance Monitoring [1]	-	-	-	86,006	172,012	258,018	344,025	430,031	516,037	602,043
Compliance Monitoring Report (Disinfection Failure)	-	-	-	3,674	3,733	3,791	3,850	3,909	3,968	4,027
Yearly Total	**1,376,861**	**1,376,861**	**1,376,861**	**289,915**	**366,439**	**452,504**	**538,569**	**624,634**	**710,699**	**796,764**

States

Start-Up Activities	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**	**Year 7**	**Year 8**	**Year 9**	**Year 10**
Start-Up	125,020	125,020	125,020	-	-	-	-	-	-	-
Annual Activities										
Sanitary Survey	-	-	-	411,716	411,716	411,716	411,716	411,716	411,716	411,716
Triggered Monitoring - Review Report	-	-	-	2,530	2,530	2,530	2,530	2,530	2,530	2,530
Correction Action - Review Plans	-	-	-	25,340	25,340	25,340	25,340	25,340	25,340	25,340
Compliance Monitoring - Notification Documentation	-	-	-	14,459	-	-	-	-	-	-
Compliance Monitoring Report Review (Disinfection Failure)	-	-	-	5,143	5,226	5,308	5,390	5,473	5,555	5,638
Annual Administration	-	-	-	293,208	293,208	293,208	293,208	293,208	293,208	293,208
Yearly Total	**125,020**	**125,020**	**125,020**	**752,396**	**738,019**	**738,102**	**738,184**	**738,267**	**738,349**	**738,432**

Sum for PWSs and States

	Year 1	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**	**Year 7**	**Year 8**	**Year 9**	**Year 10**
PWSs	1,376,861	1,376,861	1,376,861	289,915	366,439	452,504	538,569	624,634	710,699	796,764
States and Territories	125,020	125,020	125,020	752,396	738,019	738,102	738,184	738,267	738,349	738,432
Yearly Total	**1,501,881**	**1,501,881**	**1,501,881**	**1,042,311**	**1,104,458**	**1,190,605**	**1,276,753**	**1,362,900**	**1,449,048**	**1,535,195**

Notes:
[1] Compliance monitoring burden applies only to systems serving≤3,300 people, because systems larger than 3,300 people incur no significant labor burden for this activity. Systems larger than 3,300 monitor disinfectant residuals continuously, and thus are required to report only the lowest reading each day.

Exhibit G.15
Costs for Full Implementation of the Rule Year by Year by Activity

PWSs

Start-Up Activities	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**	**Year 7**	**Year 8**	**Year 9**	**Year 10**
Microbial & Compliance Monitor Start-Up	$40,064,300	$40,064,300	$40,064,300	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Sanitary Survey Start-Up	$4,523,976	$4,523,976	$4,523,976	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Annual Activities										
Sanitary Survey	$ -	$ -	$ -	$ 3,401,553	$ 3,401,553	$ 3,401,553	$ 3,401,553	$ 3,401,553	$ 3,401,553	$ 3,401,553
Triggered Monitoring (Sampling and Analysis Labor)	$ -	$ -	$ -	$ 1,867,115	$ 1,867,115	$ 1,867,115	$ 1,867,115	$ 1,867,115	$ 1,867,115	$ 1,867,115
Triggered Monitoring Reporting	$ -	$ -	$ -	$ 58,512	$ 58,512	$ 58,512	$ 58,512	$ 58,512	$ 58,512	$ 58,512
Triggered Monitoring O&M	$ -	$ -	$ -	$ 5,625,152	$ 5,625,152	$ 5,625,152	$ 5,625,152	$ 5,625,152	$ 5,625,152	$ 5,625,152
Corrective Action Plans	$ -	$ -	$ -	$ 847,460	$ 847,460	$ 847,460	$ 847,460	$ 847,460	$ 847,460	$ 847,460
Compliance Monitoring - Initial Notification	$ -	$ -	$ -	$ 308,992	$ -	$ -	$ -	$ -	$ -	$ -
Compliance Monitoring	$ -	$ -	$ -	$ 2,785,222	$ 5,570,445	$ 8,355,667	$ 11,140,890	$ 13,926,112	$ 16,711,335	$ 19,496,557
Compliance Monitoring Report (Disinfection Failure)	$ -	$ -	$ -	$ 118,966	$ 120,874	$ 122,781	$ 124,689	$ 126,597	$ 128,504	$ 130,412
Compliance Monitoring (Capital + O&M) [1]	$ -	$ -	$ -	$ 188,474	$ 288,716	$ 388,959	$ 489,201	$ 589,443	$ 689,686	$ 789,928
Capital Cost	$ -	$ -	$ -	$ 88,231	$ 88,231	$ 88,231	$ 88,231	$ 88,231	$ 88,231	$ 88,231
Annual O&M	$ -	$ -	$ -	$ 100,242	$ 200,485	$ 300,727	$ 400,969	$ 501,212	$ 601,454	$ 701,697
Yearly Total	**$ 44,588,275**	**$ 44,588,275**	**$ 44,588,275**	**$ 15,201,447**	**$ 17,779,828**	**$ 20,667,200**	**$ 23,554,572**	**$ 26,441,945**	**$ 29,329,317**	**$ 32,216,690**

States

Start-Up Activities	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**	**Year 7**	**Year 8**	**Year 9**	**Year 10**
Start-Up	$5,474,876	$5,474,876	$5,474,876	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Annual Activities										
Sanitary Survey	$ -	$ -	$ -	$ 24,233,777	$ 24,233,777	$ 24,233,777	$ 24,233,777	$ 24,233,777	$ 24,233,777	$ 24,233,777
Triggered Monitoring - Review Report	$ -	$ -	$ -	$ 110,775	$ 110,775	$ 110,775	$ 110,775	$ 110,775	$ 110,775	$ 110,775
Corrective Action - Review Plans	$ -	$ -	$ -	$ 1,491,620	$ 1,491,620	$ 1,491,620	$ 1,491,620	$ 1,491,620	$ 1,491,620	$ 1,491,620
Compliance Monitoring - Notification Documentation	$ -	$ -	$ -	$ 633,179	$ -	$ -	$ -	$ -	$ -	$ -
Compliance Monitoring Report Review (Disinfection Failure)	$ -	$ -	$ -	$ 225,224	$ 228,836	$ 232,448	$ 236,059	$ 239,671	$ 243,282	$ 246,894
Annual Administration	$ -	$ -	$ -	$ 12,840,165	$ 12,840,165	$ 12,840,165	$ 12,840,165	$ 12,840,165	$ 12,840,165	$ 12,840,165
Yearly Total	**$5,474,876**	**$5,474,876**	**$5,474,876**	**$39,534,740**	**$38,905,172**	**$38,908,783**	**$38,912,395**	**$38,916,007**	**$38,919,618**	**$38,923,230**

Sum for PWSs and States

	Year 1	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**	**Year 7**	**Year 8**	**Year 9**	**Year 10**
PWSs	$ 44,588,275	$ 44,588,275	$ 44,588,275	$ 15,201,447	$ 17,779,828	$ 20,667,200	$ 23,554,572	$ 26,441,945	$ 29,329,317	$ 32,216,690
States and Territories	$ 5,474,876	$ 5,474,876	$ 5,474,876	$ 39,534,740	$ 38,905,172	$ 38,908,783	$ 38,912,395	$ 38,916,007	$ 38,919,618	$ 38,923,230
Yearly Total	**$ 50,063,151**	**$ 50,063,151**	**$ 50,063,151**	**$ 54,736,187**	**$ 56,684,999**	**$ 59,575,983**	**$ 62,466,968**	**$ 65,357,952**	**$ 68,248,936**	**$ 71,139,920**

Notes:
[1] Capital costs are incurred only by systems serving more than 3,300 people, because these systems must purchase equipment to conduct continuous monitoring. O&M costs are incurred by systems of all sizes.

Exhibit G.16
Average Annual Burden per Response and per Respondent and Average Annual Responses per Respondent

	Responses	Burden Hours	Labor Costs	O&M Costs	Capital Costs	Total Annual Costs
PWSs	897,601	581,601	18,833,784	6,076,243	88,231	24,998,259
States and Territories	33,714	738,226	38,914,201	0	0	38,914,201
Total	931,315	1,319,827	57,747,985	6,076,243	88,231	63,912,460

Note: Annual average burden and costs represent burden and costs for May 1, 2012 - April 31, 2015.

Exhibit G.17a - Number of Systems and Entry Points Subject to GWR Requirements

System Size (Population Served)	Systems Performing Implementation Activities	Systems Disinfecting	Systems Disinfecting; 4 log	Systems Receiving a Sanitary Survey	Systems Subject to HSAs	Systems Performing Triggered Monitoring	Systems Performing Assessment Monitoring	Systems Performing Corrective Action	Systems Performing Compliance Monitoring	Entry Points Performing HSAs	Entry Points Performing Triggered Monitoring	Entry Points Performing Assessment Monitoring	Entry Points Performing Compliance Monitoring
	A	B	C	D=A	E=0	F=A-C	G	H	I	J	K	L	M
Community Water Systems (CWSs)													
≤100	11,683	6,117	3,181	11,683	-	8,502	-	3,026	4,223	-	9,276	-	4,607
101-500	13,737	9,306	4,839	13,737	-	8,898	-	3,613	6,114	-	10,857	-	7,460
501-1,000	4,463	3,559	1,851	4,463	-	2,612	-	1,127	2,220	-	4,132	-	3,512
1,001-3,300	5,964	5,013	2,607	5,964	-	3,358	-	1,398	2,994	-	6,230	-	5,556
3,301-10K	3,108	2,736	1,423	3,108	-	1,686	-	834	1,726	-	3,697	-	3,785
10,001-50K	1,661	1,531	796	1,661	-	866	-	495	1,009	-	3,059	-	3,566
50,001-100K	192	177	92	192	-	100	-	60	120	-	941	-	1,126
100,001-1 Million	104	104	54	104	-	50	-	29	65	-	627	-	817
> 1 Million	5	5	5	5	-	-	-	0	5	-	-	-	63
Totals	**40,918**	**28,548**	**14,847**	**40,918**	**-**	**26,070**	**-**	**10,581**	**18,475**	**-**	**38,820**	**-**	**30,493**
Nontransient Noncommunity Water Systems (NTNCWSs)													
≤100	8,571	2,901	899	8,571	-	7,672	-	2,080	1,409	-	7,672	-	1,409
101-500	6,467	2,735	848	6,467	-	5,619	-	1,608	979	-	5,619	-	979
501-1,000	1,660	872	270	1,660	-	1,390	-	413	362	-	1,390	-	362
1,001-3,300	763	524	162	763	-	601	-	221	177	-	601	-	177
3,301-10K	103	83	26	103	-	77	-	32	28	-	77	-	28
10,001-50K	12	9	3	12	-	9	-	4	3	-	9	-	3
50,001-100K	-	-	-	-	-	-	-	0	0	-	-	-	-
100,001-1 Million	-	-	-	-	-	-	-	0	0	-	-	-	-
> 1 Million	-	-	-	-	-	-	-	0	0	-	-	-	-
Totals	**17,576**	**7,123**	**2,208**	**17,576**	**-**	**15,368**	**-**	**4,358**	**2,957**	**-**	**15,368**	**-**	**2,957**
Transient Noncommunity Water Systems (TNCWSs)													
≤100	59,238	13,793	1,379	59,238	-	57,859	-	16,458	1,590	-	57,859	-	1,590
101-500	19,358	5,504	550	19,358	-	18,808	-	5,362	624	-	18,808	-	624
501-1,000	1,965	700	70	1,965	-	1,895	-	544	80	-	1,895	-	80
1,001-3,300	568	247	25	568	-	543	-	170	26	-	543	-	26
3,301-10K	66	28	3	66	-	63	-	22	3	-	63	-	3
10,001-50K	6	2	0	6	-	6	-	2	0	-	6	-	0
50,001-100K	3	-	-	3	-	3	-	1	0	-	3	-	-
100,001-1 Million	-	-	-	-	-	-	-	0	0	-	-	-	-
> 1 Million	-	-	-	-	-	-	-	0	0	-	-	-	-
Totals	**81,204**	**20,274**	**2,027**	**81,204**	**-**	**79,177**	**-**	**22,559**	**2,323**	**-**	**79,177**	**-**	**2,323**
Grand Total	**139,698**	**55,945**	**19,083**	**139,698**	**-**	**120,615**	**-**	**37,498**	**23,756**	**-**	**133,364**	**-**	**35,773**

Notes: Detail may not add to totals due to independent rounding.

Sources: (A) Ground water system inventories for CWSs, NTNCWSs, and TNCWSs: SDWIS/FED Data from October 2010.

(B) Systems performing implementation activities multiplied by percent of systems disinfecting.

(C) Systems disinfecting to 4-log based on percentages from AWWA (1998).

(D) Based on rule requirements, all systems are subject to sanitary surveys.

(E), (J) Based on rule requirements, systems not required to perform HSAs

(F) Based on rule requirements, systems that do not achieve 4-log disinfection are subject to triggered source water monitoring.

(G) Based on rule requirements, assessment monitoring is not required.

(H) Based on rule requirements, systems found to have significant deficiencies during a sanitary survey, or those that detect source water contamination, must undergo corrective action. Number of systems undergoing corrective action from model output.

(I) Systems treating to 4-log inactivation or removal of viruses must undergo compliance monitoring. Number of systems subject to compliance monitoring is converted from entry points subject to compliance monitoring (column M), using entry points/system.

(K) Number of entry points subject to triggered monitoring is equal to number of systems subject to HSAs (column J).

(L) Based on rule requirements, assessment monitoring is not required.

(M) (Exhibit G.17b, Columns E+F) + (Exhibit G.4, Column C)

Exhibit G.17b - Summary of Rule Implications

System Size	Systems Receiving Sanitary Survey	Systems with Corrective Actions for Significant Deficiencies	Entry Points with Triggered Monitoring	Entry Points with Corrective Actions for Triggered Monitoring	Entry Points with Viral Disinfection Increased from less than 4 logs to 4 logs	Previously Non-disinfecting Entry Points Taking Corrective Action	Entry Points with Incremental Compliance Monitoring
	A	B	C	D	E	F	G
Community Water Systems (CWSs)							
≤100	11,683	1,984	11,641	1,137	326	811	225
101-500	13,737	2,338	14,178	1,555	877	678	279
501-1,000	4,463	758	5,354	584	346	238	101
1,001-3,300	5,964	1,010	8,992	719	399	320	131
3,301-10K	3,108	530	6,076	665	381	284	119
10,001-50K	1,661	282	5,013	754	630	123	62
50,001-100K	192	33	1,488	260	107	153	53
100,001-1 Million	104	18	757	137	95	43	21
> 1 Million	5	-	-	-	-	-	-
Nontransient Noncommunity Water Systems (NTNCWSs)							
≤100	8,571	1,458	7,803	623	136	487	135
101-500	6,467	1,098	5,884	510	114	397	163
501-1,000	1,660	282	1,511	131	29	102	43
1,001-3,300	763	129	694	91	20	71	29
3,301-10K	103	18	94	14	3	11	5
10,001-50K	12	2	11	2	0	1	1
50,001-100K	-	-	-	-	-	-	-
100,001-1 Million	-	-	-	-	-	-	-
> 1 Million	-	-	-	-	-	-	-
Transient Noncommunity Water Systems (TNCWSs)							
≤100	59,238	10,102	58,178	6,356	1,051	5,305	1,473
101-500	19,358	3,297	19,006	2,065	344	1,722	710
501-1,000	1,965	334	1,930	211	35	176	74
1,001-3,300	568	96	558	73	12	61	25
3,301-10K	66	11	65	10	2	9	4
10,001-50K	6	1	6	1	0	1	0
50,001-100K	3	1	3	1	0	0	0
100,001-1 Million	-	-	-	-	-	-	-
> 1 Million	-	-	-	-	-	-	-

Sources:

(A) Ground water system inventories for CWSs, NTNCWSs, and TNCWSs: SDWIS/FED Data, October 2010.

(B) - (G): Baseline information from the cost model for the Ground Water Rule was updated by multiplying the percentage of systems or entry points performing each rule component by column A.

Notes:

(G) Indicates number of entry points with treatment corrective actions.

(F) - (G) Indicates non-treatment corrective actions.

Exhibit G.18
Ground Water Rule - Summary of Original and Revised Burden Estimates

2008 Burden	Task	System Size	Revised Burden
PWSs - Treated			
CWSs			
4.3 hrs	Sanitary Survey	<100	4.4 hrs
4.3 hrs	Sanitary Survey	101-500	4.5 hrs
5.4 hrs	Sanitary Survey	501-1,000	5.6 hrs
NTNCWSs			
4.5 hrs	Sanitary Survey	501-1,000	4.6 hrs
5.0 hrs	Sanitary Survey	10,001-50K	6.3 hrs
5.8 hrs	Sanitary Survey	50,001-100K	13.3 hrs
20.5 hrs	Sanitary Survey	100,001-1M	21.0 hrs
TNCWSs			
3.9 hrs	Sanitary Survey	1,001-3,300	4.1 hrs
3.3 hrs	Sanitary Survey	10,001-50K	5.0 hrs
3.8 hrs	Sanitary Survey	50,001-100K	11.8 hrs
20.0 hrs	Sanitary Survey	100,001-1M	20.5 hrs
PWSs - Untreated			
CWSs			
3.5 hrs	Sanitary Survey	<100	3.6 hrs
3.5 hrs	Sanitary Survey	101-500	3.7 hrs
4.4 hrs	Sanitary Survey	501-1,000	4.5 hrs
NTNCWSs			
3.6 hrs	Sanitary Survey	501-1,000	3.7 hrs
4.3 hrs	Sanitary Survey	10,001-50K	4.8 hrs
5.0 hrs	Sanitary Survey	50,001-100K	11.8 hrs
TNCWSs			
2.9 hrs	Sanitary Survey	1,001-3,300	3.1 hrs
2.8 hrs	Sanitary Survey	10,001-50K	3.7 hrs
3.3 hrs	Sanitary Survey	50,001-100K	10.5 hrs
19.0 hrs	Sanitary Survey	100,001-1M	19.2 hrs

Exhibit G.18 cont.
Ground Water Rule Summary of Original and Revised Burden Estimates

2008 Burden	Task	System Size	Revised Burden
States - Treated Systems			
CWSs			
14.8 hrs	Sanitary Survey	<100	14.9 hrs
14.9 hrs	Sanitary Survey	101-500	15.1 hrs
18.0 hrs	Sanitary Survey	501-1,000	18.1 hrs
NTNCWSs			
13.8 hrs	Sanitary Survey	<100	13.6 hrs
14.2 hrs	Sanitary Survey	101-500	14.0 hrs
15.6 hrs	Sanitary Survey	501-1,000	15.7 hrs
15.6 hrs	Sanitary Survey	1,001-3,300	15.9 hrs
15.0 hrs	Sanitary Survey	10,001-50K	18.0 hrs
15.8 hrs	Sanitary Survey	50,001-100K	28.3 hrs
41.3 hrs	Sanitary Survey	100,001-1M	41.8 hrs
TNCWSs			
12.9 hrs	Sanitary Survey	1,001-3,300	14.3 hrs
14.1 hrs	Sanitary Survey	3,301-10K	15.0 hrs
10.8 hrs	Sanitary Survey	10,001-50K	15.1 hrs
11.3 hrs	Sanitary Survey	50,001-100K	25.3 hrs
33.3 hrs	Sanitary Survey	100,001-1M	34.1 hrs
States - Untreated Systems			
CWSs			
13.9 hrs	Sanitary Survey	<100	14.1 hrs
14.1 hrs	Sanitary Survey	101-500	14.3 hrs
16.9 hrs	Sanitary Survey	501-1,000	17.0 hrs
NTNCWSs			
13.0 hrs	Sanitary Survey	<100	12.8 hrs
13.5 hrs	Sanitary Survey	101-500	13.3 hrs
14.8 hrs	Sanitary Survey	501-1,000	14.9 hrs
14.5 hrs	Sanitary Survey	1,001-3,300	14.9 hrs
14.3 hrs	Sanitary Survey	10,001-50K	16.5 hrs
15.0 hrs	Sanitary Survey	50,001-100K	26.8 hrs
TNCWSs			
11.9 hrs	Sanitary Survey	1,001-3,300	13.3 hrs
12.8 hrs	Sanitary Survey	3,301-10K	13.7 hrs
10.3 hrs	Sanitary Survey	10,001-50K	13.8 hrs
10.8 hrs	Sanitary Survey	50,001-100K	24.0 hrs
32.3 hrs	Sanitary Survey	100,001-1M	32.8 hrs

Appendix H

Aircraft Drinking Water Rule Spreadsheets

Exhibit H.1 - Aircraft and Air Carrier Baseline

# of Available Sampling Points	# of Aircraft	Total # of Available Sampling Points	# of Onboard Staff/year	# of Passengers/year	Total # of Potentially Affected Persons/year	# of Air Carriers
A	B	C=B*A	D	E	F=D+E	G
1	290	290	1,507,391	19,028,095	20,535,486	
2	1,584	3,169	6,581,069	79,544,742	86,125,811	
3	576	1,728	1,776,407	17,469,862	19,246,269	
4	321	1,283	1,912,510	39,491,976	41,404,486	
5	728	3,641	5,058,927	120,968,400	126,027,328	
6	663	3,981	2,955,080	69,589,691	72,544,771	
7	227	1,589	1,077,787	26,080,621	27,158,408	
8	616	4,930	2,868,163	71,332,691	74,200,854	
≥ 9	575	7,125	3,045,331	96,109,107	99,154,438	
Total	**5,581**	**27,734**	**26,782,665**	**539,615,186**	**566,397,851**	**47**

Notes:

(A) Each qualifying lavatory and galley on an aircraft is assumed to have only one sampling point. Therefore, the number of available sampling points is representative of the number of lavatories and galleys on an aircraft.

(B), (D), (E) Updated using new information on totals for each group multiplied by the previous ratio of aircraft or people in each category to the total number of aircraft or people.

(C) Average number of sampling points used for ≥ 9 sampling points size category.

(D), (E), (F) These numbers are not used to develop cost and burden estimates, but are shown here for informational purposes.

(G) Aircraft Reporting and Compliance System (ARCS) (2011)

Exhibit H.2 - Labor Rates by Standard Occupational Classification (SOC) Code - 2010$

H.2a - Unloaded Labor Rates

SOC Code	Occupation	Mean Hourly Wage
Managerial		
SOC 11-3071	Transportation, Storage, and Distribution Managers	$41.65
Clerical		
SOC 43-6014	Secretaries, Except Legal, Medical, and Executive	$15.83
Technical		
SOC 39-6031	Flight Attendants[1]	$25.84
SOC 53-7061	Cleaners of Vehicles and Equipment	$10.71
SOC 53-6051	Transportation Inspectors	$30.31
SOC 51-9061	Inspectors, Testers, Sorters, Samplers, and Weighers	$17.09
SOC 53-6099	Transportation Workers	$17.31

Source: Bureau of Labor Statistics (BLS) Occupational Employment Statistics Survey, May 2010, http://www.bls.gov/data/.

[1]Flight Attendants - Occupational Employment and Wages, May 2005. Flight attendants' wage data for 2010 not available.

Index Value

CPI Index Multiplier (2006 to 2010)	CPI Index Multiplier (2008Q3 to 2010Q2)
1.08	1.01

Source: CPI-U. U.S. City Average, by expenditure category and commodity and service group, All Items, Not Seasonally Adjusted, Annual (1982-1984=100).

Load factor	1.5

Source: BLS Employer Costs for Employee Compensation report, Table 9, June 2010. All workers in private industry. Production, transportation, and material moving. Transportation and material moving subsector. http://www.bls.gov/news.release/archives/ecec_09082010.pdf

H.2b - Loaded Labor Rates

SOC Code	Occupation	Mean Hourly Wage
Managerial		
SOC 11-3071	Transportation, Storage, and Distribution Managers	$62.00
Technical		
SOC 53-7061	Cleaners of Vehicles and Equipment	$15.94
SOC 53-6051	Transportation Inspectors	$45.12
SOC 51-9061	Inspectors, Testers, Sorters, Samplers, and Weighers	$25.44

Source: Bureau of Labor Statistics (BLS) Occupational Employment Statistics Survey, May 2010, http://www.bls.gov/data/.

Load factor	1.6

Paperwork Reduction Act of 1995. Revised November 2005. U.S. EPA Office of Environmental Information, Collection Strategies Division. p. A-35.
Load factor used for Federal Employees.

Loaded Labor Rates for Regional EPA Employee, January 2010

GS Level	Mean Hourly Wage (Unloaded)	Mean Hourly Wage (Loaded)
GS 11 - Step 5	$27.40	$43.84

Note:
Source: U.S. Office of Personnel Management (http://www.opm.gov/oca/10tables/html/gs.asp).

Exhibit H.3 - Lab Costs (2010$)

Item	Cost
TC Coliform Sample	$22.30
Disinfectant Residual Sampling Kit	$3.00
Shipping	$108.16
Annual Equipment Replacement	$221.80
One-time Equipment Purchase (3 refrigerators)	$604.63

Notes:

1) Estimated chlorine residual sampling kit costs from www.hach.com ($74 for 25 tests).

2) Assume shipping and annual equipment replacement costs are incurred by coliform monitoring. Disinfectant residual samples will be analyzed immediately and will not require shipping or refrigeration.

3) Assume 3 coolers ($33/cooler), 9 gel packs ($4/gel pack), and 2 calibrated thermometers ($42/thermometer) purchased per air carrier. Cost of cooler and gel pack from www.coleman.com. Cost of thermometer from https://www1.fishersci.com.

4) Assume 3 refrigerators ($199/refrigerator) purchased per air carrier twice in the 25-year evaluation period. Cost of refrigerator from www.homedepot.com.

5) Sample analysis costs based on average costs from various EPA certified labs across the U.S.

Exhibit H.4a - Airline Burden for the ICR Approval Period

Activity	Year 1	Year 2	Year 3	Annual Average	Total Burden for ICR Approval Period
Air Carrier Implementation	-	-	-	-	-
Air Carrier Sampling Plan	-	-	-	-	-
Monitoring TC - Air Carriers	30,012	30,012	30,012	30,012	90,037
O&M Plan- Air Carriers	-	-	-	-	-
Routine Disinfection & Flushing Recordkeeping - Air Carriers	3,907	3,907	3,907	3,907	11,720
Corrective Action Disinfection & Flushing Recordkeeping - Air Carriers	236	236	236	236	707
Self-Inspection Reporting and Recordkeeping Air Carriers	226	226	226	226	677
Public Notification - Air Carriers	707	707	707	707	2,122
Total	**35,087**	**35,087**	**35,087**	**35,087**	**105,262**

Exhibit H.4b - Agency Burden for the ICR Approval Period

Activity	Year 1	Year 2	Year 3	Annual Average	Total Burden for ICR Approval Period
Agency Implementation	-	-	-	-	-
Agency Annual Administration	5,160	5,160	5,160	5,160	15,480
Agency Sampling Plan Information Review	-	-	-	-	-
Monitoring - TC Agency Oversight	687	687	687	687	2,060
O&M Plan Completion- Agency Review	-	-	-	-	-
Compliance Audit- Agency	150	150	150	150	451
Total	**5,997**	**5,997**	**5,997**	**5,997**	**17,991**

Notes:

(1) Total Agency burden and labor costs for ADWR are accounted for in the PWSS Program ICR since this rule is directly implemented through the EPA Regions. Agency burden and cost calculations shown here are for informational purposes only.

(2) Implementation activities are assumed to have been completed in the prior ICR period.

Exhibit H.5a - Airline Costs for the ICR Approval Period

Activity	Year 1	Year 2	Year 3	Annual Average	Total Cost for ICR Approval Period
Air Carrier Implementation	$ -	$ -	$ -	$ -	$ -
Air Carrier Sampling Plan	$ -	$ -	$ -	$ -	$ -
Monitoring TC - Air Carriers - Labor	$ 763,483	$ 763,483	$ 763,483	$ 763,483	$ 2,290,448
Monitoring TC - Air Carriers - O&M	$ 3,049,013	$ 3,049,013	$ 3,049,013	$ 3,049,013	$ 9,147,039
Monitoring TC - Air Carriers - Capital	$ 3,158	$ 3,158	$ 3,158	$ 3,158	$ 9,473
O&M Plan- Air Carriers	$ -	$ -	$ -	$ -	$ -
Routine Disinfection & Flushing Recordkeeping - Air Carriers	$ 99,383	$ 99,383	$ 99,383	$ 99,383	$ 298,148
Corrective Action Disinfection & Flushing Recordkeeping - Air Carriers	$ 5,993	$ 5,993	$ 5,993	$ 5,993	$ 17,978
Self-Inspection Reporting and Recordkeeping Air Carriers	$ 10,179	$ 10,179	$ 10,179	$ 10,179	$ 30,536
Public Notification - Air Carriers	$ 43,844	$ 43,844	$ 43,844	$ 43,844	$ 131,531
Total	**3,975,051**	**3,975,051**	**3,975,051**	**$ 3,975,051**	**$ 11,925,152**

Exhibit H.5b - Agency Costs for the ICR Approval Period

Activity	Year 1	Year 2	Year 3	Annual Average	Total Cost for ICR Approval Period
Agency Implementation	$ -	$ -	$ -	$ -	$ -
Agency Annual Administration	$ 226,210	$ 226,210	$ 226,210	$ 226,210	$ 678,631
Agency Sampling Plan Information Review	$ -	$ -	$ -	$ -	$ -
Monitoring - TC Agency Oversight	$ 29,582	$ 29,582	$ 29,582	$ 29,582	$ 88,745
O&M Plan Completion- Agency Review	$ -	$ -	$ -	$ -	$ -
Compliance Audit- Agency	$ 6,593	$ 6,593	$ 6,593	$ 6,593	$ 19,780
Total	**262,385**	**262,385**	**262,385**	**262,385**	**787,156**

Notes:

(1) Total Agency burden and labor costs incurred to implement the ADWR are not included in the total burden for the Microbial Rules ICR but are accounted for in the PWSS Program ICR (the PWSS ICR addresses all EPA burden for implementation and oversight of the drinking water program). Agency burden and cost calculations shown here are for informational purposes only.

(2) Implementation activities are assumed to have been completed in the prior ICR period.

Exhibit H.6a - Airline Respondents for the ICR Approval Period

Activity	Year 1	Year 2	Year 3	Annual Average	Total Respondents for ICR Approval Period
Air Carrier Implementation	-	-	-	-	-
Air Carrier Sampling Plan	-	-	-	-	-
Monitoring TC - Air Carriers	47	47	47	47	47
O&M Plan- Air Carriers	-	-	-	-	-
Routine Disinfection & Flushing Recordkeeping - Air Carriers	47	47	47	47	47
Corrective Action Disinfection & Flushing Recordkeeping - Air Carriers[1]	47	47	47	47	47
Self-Inspection Reporting and Recordkeeping Air Carriers	9	9	9	9	9
Public Notification - Air Carriers	47	47	47	47	47
Total	**47**	**47**	**47**	**47**	**47**

Exhibit H.6b - Agency Respondents for the ICR Approval Period[2]

Activity	Year 1	Year 2	Year 3	Annual Average	Total Respondents for ICR Approval Period
Agency Implementation	-	-	-	-	-
Agency Annual Administration	10	10	10	10	10
Agency Sampling Plan Information Review	-	-	-	-	-
Monitoring - TC Agency Oversight	10	10	10	10	10
O&M Plan Completion- Agency Review	-	-	-	-	-
Compliance Audit- Agency	2	2	2	2	2
Total	**10**	**10**	**10**	**10**	**10**

Notes:

Implementation activities are assumed to have been completed in the prior ICR period.

[1]EPA estimates that all air carriers subject to ADWR (47 air carriers) will perform corrective actions at least once per year.

[2]This rule is administered by the ten EPA regions, thus there are ten Agency respondents for each active rule component.

Exhibit H.7a - Airline Responses for the ICR Approval Period

Activity	Year 1	Year 2	Year 3	Annual Average	Total Responses for ICR Approval Period
Air Carrier Implementation	-	-	-	-	-
Air Carrier Sampling Plan	-	-	-	-	-
Monitoring TC - Air Carriers	120,371	120,371	120,371	120,371	361,112
O&M Plan- Air Carriers	-	-	-	-	-
Routine Disinfection & Flushing Recordkeeping - Air Carriers	15,627	15,627	15,627	15,627	46,880
Corrective Action Disinfection & Flushing Recordkeeping - Air Carriers[1]	16	16	16	16	47
Self-Inspection Reporting and Recordkeeping Air Carriers	9	9	9	9	28
Public Notification - Air Carriers	202	202	202	202	606
Total	**136,225**	**136,225**	**136,225**	**136,225**	**408,674**

Exhibit H.7b - Agency Responses for the ICR Approval Period[2]

Activity	Year 1	Year 2	Year 3	Annual Average	Total Responses for ICR Approval Period
Agency Implementation	-	-	-	-	-
Agency Annual Administration	20	20	20	20	60
Agency Sampling Plan Information Review	-	-	-	-	-
Monitoring - TC Agency Oversight	1,373	1,373	1,373	1,373	4,119
O&M Plan Completion- Agency Review	-	-	-	-	-
Compliance Audit- Agency	9	9	9	9	28
Total	**1,402**	**1,402**	**1,402**	**1,402**	**4,207**

Note:

Implementation activities are assumed to have been completed in the prior ICR period.

Exhibit H.8a - Air Carrier Burden and Cost Estimates for Implementation (2010$)

Compliance Activity	Labor Cost ($/hour)	One-time labor burden (hours/air carrier)	Unit Cost	Total Labor Burden (hours)	Total Cost ($)
	A	B	C=A*B	D=B*# Air Carriers	E=C*# Air Carriers
Read and Understand Rule	$45.12	8	$ 361	376	$ 16,964
Train Personnel	$45.12	8	$ 361	376	$ 16,964
Total		**16**	**$ 722**	**752**	**$ 33,928**

Notes:

(1) Detail may not add due to rounding.

(2) These activities completed prior to this ICR period.

Sources:

(A) Air carrier labor costs from Exhibit H.2. EPA used the transportation inspector category because it was the highest-paid technical labor category. Transportation inspectors are assumed to have a technical background, as well as some management or oversight responsibility.

(B) Labor hours for start-up activities are carried forward from the stand-alone ADWR ICR.

(D), (E) National totals for U.S. air carriers subject to ADWR to perform implementation activities. Assumes all air carriers spend equal time performing implementation activities, regardless of fleet size or aircraft type.

Exhibit H.8b - Agency Burden and Cost Estimates for Implementation (2010$)

Compliance Activity	Labor Cost ($/hour)	One-time labor burden (hours/Region)	Unit Cost	Total Labor Burden (hours)	Total Cost ($)
	A	B	C=A*B	D=B*10	E=C*10
Read and Understand Rule	$43.84	8	$ 351	80	$ 3,507
Program Development	$43.84	40	$ 1,754	400	$ 17,536
Modify/Develop Data Management Systems	$43.84	115	$ 5,042	1,150	$ 50,415
Air Carrier Training and Technical Assistance	$43.84	80	$ 3,507	800	$ 35,071
Staff Training	$43.84	40	$ 1,754	400	$ 17,536
Total		**283**	**$ 12,407**	**2,830**	**$ 124,065**

Notes:

(1) Total Agency burden and labor costs for ADWR are accounted for in the PWSS Program ICR since this rule is directly implemented through the EPA Regions. Agency burden and cost calculations shown here are for informational purposes only.

(2) Detail may not add due to rounding.

(3) These activities completed prior to this ICR period.

Sources:

(A) Agency labor costs from Exhibit H.2.

(B) Labor hours for start-up activities carried forward from stand-alone ADWR ICR.

(D), (E) National totals for Agency (EPA Regions) to implement ADWR for U.S. air carriers subject to ADWR. Assumes each region spends equal time performing implementation activities, regardless of number of air carriers headquartered in their region, air carrier fleet size or aircraft type.

Exhibit H.8c - Agency Burden and Cost Estimates for Annual Administrative Activities (2010$)

Compliance Activity	Labor Cost ($/hour)	Labor (hours/Region/year)	Cost ($/year)	Total Labor Burden (hours/year)	Total Cost ($/year)
	A	B	C=A*B	D=B*10	E=C*10
Lab Certification	$43.84	-	$ -	-	$ -
Ongoing Technical Assistance	$43.84	500	$ 21,920	5,000	$ 219,196
Staff Training	$43.84	16	$ 701	160	$ 7,014
Total		**516**	**$ 22,621**	**5,160**	**$ 226,210**

Notes:

(1) Total Agency burden and labor costs for ADWR are accounted for in the PWSS Program ICR since this rule is directly implemented through the EPA Regions. Agency burden and cost calculations shown here are for informational purposes only.

(2) Detail may not add due to rounding.

(3) No costs are associated with lab certification under the ADWR because it is not anticipated that the Agency will need to oversee lab certification programs in addition to what is being done for the Total Coliform Rule.

Sources:

(A) Agency labor costs from Exhibit H.2.

(D), (E) National totals for Agency (EPA Regions) to implement ADWR for U.S. air carriers subject to ADWR. Assumes each region spends equal time performing implementation activities, regardless of number of air carriers headquartered in their region, air carrier fleet size or aircraft type.

Exhibit H.9a - Air Carrier Burden and Cost Estimates for Sampling Plan (2010$)

Compliance Activity	Labor Cost ($/hour)	One-time labor burden (hours/air carrier)	Unit Cost	Total Labor Burden (hours)	Total Cost ($)
	A	B	C=A*B	D=B*# Air Carriers	E=C*# Air Carriers
Develop Sampling Plan per ADWR requirements and Report Sampling Frequency	$45.12	10	$ 451	470	$ 21,205
Total		**10**	**$ 451**	**470**	**$ 21,205**

Notes:

(1) One-time labor burden for sampling plan includes initial submission of air carrier inventory information.

(2) These activities completed prior to this ICR period

Sources:

(A) Air carrier labor costs from Exhibit H.2. EPA used the transportation inspector category because it was the highest-paid technical labor category. Transportation inspectors are assumed to have a technical background, as well as some management or oversight responsibility.

(B) Labor hours for developing sampling plans and reporting sampling frequency reflect EPA estimate. Assumes both disinfection and flushing frequency and monitoring frequency will be reported in plan.

(D), (E) Assume all U.S. air carriers subject to ADWR will develop sampling plans. Assumes all air carriers spend equal time developing sampling plans, regardless of fleet size or aircraft type.

Exhibit H.9b - Agency Burden and Cost Estimates for Sampling Plan (2010$)

Compliance Activity	Labor Cost ($/hour)	One-time labor burden (hours/air carrier)	Unit Cost	Total Labor Burden (hours)	Total Cost ($)
	A	B	C=A*B	D=B*# Air Carriers	E=C*# Air Carriers
Review Air Carrier Sampling Plan and Frequency	$43.84	4.5	$ 197	212	$ 9,272
Total		**4.5**	**$ 197**	**212**	**$ 9,272**

Notes:

(1) Total Agency burden and labor costs for ADWR are accounted for in the PWSS Program ICR since this rule is directly implemented through the EPA Regions. Agency burden and cost calculations shown here are for informational purposes only.

(2) One-time labor burden for sampling plan includes reviewing initial submission of air carrier inventory information.

(3) This activity completed prior to this ICR period.

Sources:

(A) Agency labor costs from Exhibit H.2.

(D), (E) Assume all U.S. air carriers subject to ADWR will develop sampling plans. Assumes Agency spends equal time reviewing air carrier sampling plans, regardless of fleet size or aircraft type.

Exhibit H.10a - Air Carrier Burden and Cost Estimates for Coliform Monitoring (2010$)

			TC Samples						TC Sampling		
# of Available Sampling Points	# of Aircraft	Total # of Available Sampling Points	Routine Coliform Monitoring (samples/year)	Routine Coliform Monitoring TC+ (samples/year)	Additional TC+ (samples/year)	Repeat (samples/year)	Additional Routine Coliform Monitoring (samples/year)	Corrective Action Coliform Follow-up Sample (post-disinfection sample) (samples/year)	Sampling Labor Burden (hours/sample)	Total Sampling Burden (hours/year)	Total Sampling Cost ($/year)
A	B	C=B*A	D	E=D*0.036	F	G	H	I	J	K=J(D+G+H+I)	L=K*AA
1	290	290	1,915	69	4	72	0	98	0.5	1,043	$ 26,528
2	1,584	3,169	10,457	376	22	394	0	535	0.5	5,693	$ 144,823
3	576	1,728	3,801	137	8	143	0	194	0.5	2,069	$ 52,638
4	321	1,283	2,116	76	5	80	0	108	0.5	1,152	$ 29,313
5	728	3,641	4,806	173	10	181	0	246	0.5	2,617	$ 66,563
6	663	3,981	4,379	158	9	165	0	224	0.5	2,384	$ 60,645
7	227	1,589	1,498	54	3	56	0	77	0.5	816	$ 20,749
8	616	4,930	4,067	146	9	153	0	208	0.5	2,214	$ 56,328
≥ 9	575	7,125	3,796	137	8	143	0	194	0.5	2,066	$ 52,568
Total	**5,581**	**27,734**	**36,835**	**1,326**	**79**	**1,389**	**0**	**1,885**		**20,054**	**510,154**

Notes:

(C) Average number of available sampling points used for ≥ 9 sampling points size category.

(D) One galley and one lavatory TC sample collected per aircraft. Assume 30% of aircraft will sample annually, 30% of aircraft will sample twice annually, 30% of aircraft will sample quarterly, and 10% of aircraft will sample monthly.

(E) Assume 3.6% of coliform samples will be TC+ based on AOC data.

(F) Assume 0% of aircraft performing annual routine coliform monitoring, 0% of aircraft performing twice annual routine coliform monitoring, 50% of aircraft performing quarterly routine coliform monitoring, and 46% of aircraft performing monthly routine coliform monitoring with initial TC+ sample will perform repeat sampling. Assume 5.7% of aircraft performing repeat sampling will have at least one additional TC+ sample (based on AOC data).

(G) Assume 0% of aircraft performing annual routine coliform monitoring, 0% of aircraft performing twice annual routine coliform monitoring, 50% of aircraft performing quarterly routine coliform monitoring, and 46% of aircraft performing monthly routine coliform monitoring with TC+ will collect three repeat samples within 24 hours of notification of TC+ as an option to immediate corrective action. Assume aircraft with less than three sampling points collect a total of 300mL of samples from all available sampling points.

(H) Additional routine coliform monitoring not specified, assumed no additional routine coliform monitoring samples collected.

(I) Assume 100% of aircraft performing annual routine coliform monitoring, 100% of aircraft performing twice annual routine coliform monitoring, 50% of aircraft performing quarterly routine coliform monitoring, and 54% of aircraft performing monthly routine coliform monitoring will collect 2 follow-up samples per aircraft that undergoes corrective action flushing and disinfecting.

(J) Assume 0.5 hour for sample collection and for process, storage, and shipping of sample. (Sample set burden is 1 hour for (2) routine samples, 1.5 hours for (3) repeat samples, and 1 hour for (2) corrective action follow-up samples.)

Exhibit H.10a cont.

Analysis									
Analysis Labor Burden (hours/sample)	Total Analysis Burden (hours/year)	Unit Shipping Cost ($/sample set)	Total Shipping Cost ($/year)	Unit Analysis Cost ($/sample)	Total Analysis Cost ($/year)	Annual Unit Equipment Cost ($/air carrier/year)	Total Annual Equipment Cost ($/year)	Periodic Equipment Cost ($/air carrier)	Total Periodic Equipment Cost ($)
M	N=M(D+G+H+I)	O	P=O(D/2+G/3+H+I/2)	Q	R=Q(D+G+H+I)	S	T	U	V
0	-	$108	$ 111,490	$22.30	$ 46,515	$ 222	$ 542	$ 605	$ 1,478
0	-	$108	$ 608,658	$22.30	$ 253,941	$ 222	$ 2,959	$ 605	$ 8,067
0	-	$108	$ 221,224	$22.30	$ 92,298	$ 222	$ 1,076	$ 605	$ 2,932
0	-	$108	$ 123,195	$22.30	$ 51,399	$ 222	$ 599	$ 605	$ 1,633
0	-	$108	$ 279,748	$22.30	$ 116,715	$ 222	$ 1,360	$ 605	$ 3,708
0	-	$108	$ 254,875	$22.30	$ 106,338	$ 222	$ 1,239	$ 605	$ 3,378
0	-	$108	$ 87,202	$22.30	$ 36,382	$ 222	$ 424	$ 605	$ 1,156
0	-	$108	$ 236,733	$22.30	$ 98,769	$ 222	$ 1,151	$ 605	$ 3,138
0	-	$108	$ 220,931	$22.30	$ 92,176	$ 222	$ 1,074	$ 605	$ 2,928
	0		**$ 2,144,055**		**$ 894,533**		**$ 10,425**		**$ 28,418**

Notes:

(M) Assume all analysis conducted by outside lab.

(O) Estimated courier fees based on costs from various courier services in major cities. Assumed courier services required for each sample set. (Sample set consists of 2 routine samples, 3 repeat samples, and 2 corrective action follow-up samples.) Assumed airport distance of 20-30 miles from lab. Assumed courier would return cooler to air carrier. 100% of shipping costs incurred by TC monitoring.
(Q) Average coliform analysis costs based on costs from various labs across the country. Assume all analysis conducted by outside lab.

(S) Assume air carriers will replace coolers, gel packs, and thermometers once a year. 100% of the unit equipment cost is incurred by total coliform monitoring.

(T) Coolers, gel packs, and thermometers are purchased by air carriers. The costs for this equipment are assumed to be distributed evenly across the 5,581 aircraft. Fractional burden is shown for calculation purposes only.
(U) Assume each aircraft will purchase three new refrigerators. 100% of the refrigerator cost is incurred by total coliform monitoring.

(V) Refrigerators are purchased by air carriers. Assume costs for airlines are distributed evenly among aircraft. Fractional burden is shown for calculation purposes only.

Exhibit H.10a cont.

Recordkeeping							Totals			
Maintain Maintenance Log (hours/sample set)	Report Monitoring Results (hours/sample set)	Report Water System Inventory/Changes (hours/air carrier)	Report Water System Inventory/Changes Burden (hours/year)	Labor Cost ($/hour)	Recordkeeping and Reporting Labor (hours/year)	Recordkeeping Cost ($/year)	Total Burden (hours/year)	Total Labor Cost ($/year)	Total O&M Cost ($/year)	Total Capital Cost ($)
W	X	Y	Z	AA	AB=((W+X)* (D/2+G/3+H+I/2))+Z	AC=AB*AA	AD=K+M+AB	AE=L+AC	AF=P+R+T	AG=V
0.25	0.25	1.00	2.44	$25.44	518	$ 13,173	1,561	$ 39,701	$ 158,547	$ 1,478
0.25	0.25	1.00	13.34	$25.44	2,827	$ 71,915	8,520	$ 216,739	$ 865,558	$ 8,067
0.25	0.25	1.00	4.85	$25.44	1,027	$ 26,138	3,097	$ 78,776	$ 314,597	$ 2,932
0.25	0.25	1.00	2.70	$25.44	572	$ 14,556	1,724	$ 43,869	$ 175,192	$ 1,633
0.25	0.25	1.00	6.13	$25.44	1,299	$ 33,053	3,916	$ 99,616	$ 397,824	$ 3,708
0.25	0.25	1.00	5.59	$25.44	1,184	$ 30,115	3,568	$ 90,759	$ 362,453	$ 3,378
0.25	0.25	1.00	1.91	$25.44	405	$ 10,303	1,221	$ 31,052	$ 124,008	$ 1,156
0.25	0.25	1.00	5.19	$25.44	1,100	$ 27,971	3,314	$ 84,299	$ 336,652	$ 3,138
0.25	0.25	1.00	4.84	$25.44	1,026	$ 26,104	3,093	$ 78,672	$ 314,181	$ 2,928
			47			**$ 253,329**	**30,012**	**$ 763,483**	**$ 3,049,013**	**$ 28,418**

Notes:

(Y) Air carriers were required to report their water system inventory within 18 months of promulgation and are required to update that inventory annually. The initial submission of inventory information was assumed to be submitted as part of the sampling plan. This burden reflects only the annual inventory updates.

(Z) Assume burden for airlines is distributed evenly across aircraft. Fractional burden is shown for calculation purposes only.

(AA) Based on technical labor costs for inspectors, testers, sorters, samplers, and weighers, from Exhibit H.2.

(AB) Columns W and X applied on a sample set basis. Assume a sample set consists of (2) routine samples, (3) repeat samples, and (2) corrective action follow-up samples.

Exhibit H.10b - Agency Burden and Cost Estimates for Coliform Monitoring (2010$)

	TC Samples				
Compliance Activity	Labor Cost ($/hour)	Unit labor burden (hours/TC+ sample or air carrier)	Unit Cost ($/TC+ sample or air carrier)	Total Labor Burden (hours)	Total Cost ($)
	A	B	C=A*B	D	E
Review Aircraft Monitoring Results	$43.84	0.5	$ 22	663	$ 29,066
Review Aircraft Water System Inventory Changes	$43.84	0.5	$ 22	24	$ 515
Total		**1.0**	**$ 44**	**687**	**$ 29,582**

Note:

(1) Total Agency burden and labor costs for ADWR are accounted for in the PWSS Program ICR since this rule is directly implemented through the EPA Regions. Agency burden and cost calculations shown here are for informational purposes only.

Sources:

(A) Agency labor costs from Exhibit H.2.

(D) Total labor burden for reviewing monitoring results = unit labor burden * total number of TC+ samples (Exhibit H.10a). Total labor burden for reviewing inventory = unit labor burden * # of air carriers.

(E) Total cost for reviewing monitoring results = unit cost * total number of TC+ samples (Exhibit H.10a). Total cost for reviewing inventory = unit cost * total burden for reviewing inventory.

(F) Air carriers were required to report their water system inventory within 18 months of promulgation and are required to update that inventory annually. The initial submission of inventory information was assumed to be submitted as part of the sampling plan. This burden reflects only the annual inventory updates.

Exhibit H11.a - Air Carrier Burden and Cost Estimates for O&M Plan (2010$)

Compliance Activity	Labor Cost ($/hour)	One-time Labor Burden (hours/air carrier)	Unit Cost	Total Labor Burden (hours)	Total Cost ($)
	A	B	C=A*B	D=B*# Air Carriers	E=C*# Air Carriers
Update existing O&M manual and practices with ADWR specific requirements and submit statement to Agency indicating that O&M manual has been updated	$45.12	80	$ 3,609	3,760	$ 169,642
Total		**80**	**$ 3,609**	**3,760**	**$ 169,642**

Sources:

(A) Air carrier labor costs from Exhibit H.2. EPA used the transportation inspector category because it was the highest-paid technical labor category. Transportation inspectors are assumed to have a technical background, as well as some management or oversight responsibility.

(B) Labor hours for developing and implementing O&M plan and submitting verification statement to Agency carried forward from stand-alone ADWR ICR.

(D), (E) U.S. air carriers subject to ADWR developed O&M plans prior to this ICR period. Calculations assume all air carriers spent equal time developing and implementing O&M plan, regardless of fleet size or aircraft type.

Exhibit H.11b - Agency Burden and Cost Estimates for O&M Plan (2010$)

Compliance Activity	Labor Cost ($/hour)	One-time Labor Burden (hours/air carrier)	Unit Cost	Total Labor Burden (hours)	Total Cost ($)
	A	B	C=A*B	D=B*# Air Carriers	E=C*# Air Carriers
Review system submitted statement indicating that O&M manual has been updated	$43.84	0.5	$ 22	24	$ 1,030
Total		**0.5**	**$ 22**	**24**	**$ 1,030**

Note:

(1) Total Agency burden and labor costs for ADWR are accounted for in the PWSS Program ICR since this rule is directly implemented through the EPA Regions. Agency burden and cost calculations shown here are for informational purposes only.
(2) This activity completed in the prior ICR period.

Sources:

(A) Agency labor costs from Exhibit H.2.

(B) Labor hours for reviewing verification statement carried forward from stand-alone ADWR ICR. Calculations assumed O&M plan review was completed as part of compliance audits.

(D), (E) All U.S. air carriers subject to ADWR developed O&M plans prior to this ICR period. Calculations assumed all Regional Agency offices spent equal time reviewing and approving O&M plan, regardless of fleet size or aircraft type.

Exhibit H12.a - Air Carrier Burden and Cost Estimates for Routine Disinfection and Flushing (2010$)

			Routine Disinfection and Flushing					Recordkeeping					
# of Available Sampling Points	# of Aircraft	Total # of Available Sampling Points	Routine Disinfection and Flushing (aircraft/year)	Routine Disinfection and Flushing Labor Burden (hours/aircraft)	Unit Disinfection and Flushing Cost ($/hour)	Unit Chemical Costs ($/application)	Total Routine Disinfection and Flushing Costs ($/year)	Maintain Maintenance Log for Disinfection Activities Burden (hours/aircraft)	Maintain Maintenance Log for Disinfection Activities Burden (hours/year)	Recordkeeping Labor Cost ($/hour)	Maintain Maintenance Log for Disinfection Activities Costs ($/year)	Total Routine Disinfection/Flushing Labor Burden (hours/year)	Total O&M Cost ($/year)
A	B	C=B*A	D	E	F	G	H=(D*E*F)+(D*G)	I	J=D*I	K	L=J*K	M=(D*E)+J	N=H+L
1	290	290	813	5	$15.94	$ 1	$65,651	0.25	203	$ 25.44	$ 5,168	4,266	$ 70,819
2	1,584	3,169	4,436	5	$15.94	$ 1	$358,409	0.25	1,109	$ 25.44	$ 28,213	23,290	$ 386,622
3	576	1,728	1,612	5	$15.94	$ 1	$130,268	0.25	403	$ 25.44	$ 10,254	8,465	$ 140,522
4	321	1,283	898	5	$15.94	$ 1	$72,543	0.25	224	$ 25.44	$ 5,710	4,714	$ 78,254
5	728	3,641	2,039	5	$15.94	$ 1	$164,730	0.25	510	$ 25.44	$ 12,967	10,704	$ 177,698
6	663	3,981	1,858	5	$15.94	$ 1	$150,084	0.25	464	$ 25.44	$ 11,814	9,753	$ 161,898
7	227	1,589	636	5	$15.94	$ 1	$51,349	0.25	159	$ 25.44	$ 4,042	3,337	$ 55,391
8	616	4,930	1,725	5	$15.94	$ 1	$139,401	0.25	431	$ 25.44	$ 10,973	9,058	$ 150,374
> 9	575	7,125	1,610	5	$15.94	$ 1	$130,096	0.25	403	$ 25.44	$ 10,241	8,454	$ 140,336
Total	**5,581**	**27,734**	**15,627**				**$1,262,531**		**3,907**		**$ 99,383**	**82,041**	**$ 1,361,914**

Notes:

(C) Average number of available sampling points used for 9 sampling points size category.

(D) Assume 30% of aircraft will perform routine disinfection and flushing quarterly, 30% of aircraft will perform routine disinfection and flushing thrice annually, 30% of aircraft will perform routine disinfection and flushing twice annually, and 10% of aircraft will perform routine disinfection and flushing annually.

(D-H, M-N) These columns are not included in the final burden and cost estimates but are are based on the original cost model for the rule and are included here for completeness.

(F) Based on costs for cleaners of vehicles and equipment from Exhibit H.2.

(G) Chemicals used for disinfection cost approximately $1 per application (based on 12.5% chlorine solution from Harcros Chemicals, which costs $12 per 4 gallon jugs). Inflated to 2010 dollars using CPI multiplier in Labor Rates exhibit.

(K) Based on technical labor costs for inspectors, testers, sorters, samplers, and weighers, from Exhibit H.2.

No agency burden is incurred for Routine Disinfection and Flushing.

Exhibit H.12b - Air Carrier Burden and Cost Estimates for Corrective Action Disinfection and Flushing (2010$)

			Corrective Action Disinfection and Flushing						Recordkeeping					
# of Available Sampling Points	# of Aircraft	Total # of Available Sampling Points	Unique Corrective Action Disinfection and Flushing (aircraft/year)	Repeat Disinfection and Flushing (aircraft/year)	Corrective Action Disinfection and Flushing Labor Burden (hours/aircraft)	Unit Disinfection and Flushing Cost ($/hour)	Unit Chemical Costs ($/application)	Total Corrective Action Disinfection and Flushing Costs ($/year)	Maintain Maintenance Log for Disinfection Activities Burden (hours/aircraft)	Maintain Maintenance Log for Disinfection Activities Burden (hours/year)	Recordkeeping Labor Cost ($/hour)	Maintain Maintenance Log for Disinfection Activities Costs ($/year)	Total Corrective Action Disinfection/Flushing Labor Burden (hours/year)	Total O&M Cost ($/year)
A	B	C=B*A	D	E	F	G	H	I=((D+E)*(F*G))+(D+E)*H)	J	K	L	M=K*L	N=((D+E)*F)+K	O=I+M
1	290	290	16	0	5	$15.94	$ 1	$1,264	0.25	12	$25.44	$ 312	91	$ 1,576
2	1,584	3,169	85	0	5	$15.94	$ 1	$6,903	0.25	67	$25.44	$ 1,701	494	$ 8,604
3	576	1,728	31	0	5	$15.94	$ 1	$2,509	0.25	24	$25.44	$ 618	180	$ 3,127
4	321	1,283	17	0	5	$15.94	$ 1	$1,397	0.25	14	$25.44	$ 344	100	$ 1,742
5	728	3,641	39	0	5	$15.94	$ 1	$3,173	0.25	31	$25.44	$ 782	227	$ 3,955
6	663	3,981	36	0	5	$15.94	$ 1	$2,891	0.25	28	$25.44	$ 712	207	$ 3,603
7	227	1,589	12	0	5	$15.94	$ 1	$989	0.25	10	$25.44	$ 244	71	$ 1,233
8	616	4,930	33	0	5	$15.94	$ 1	$2,685	0.25	26	$25.44	$ 662	192	$ 3,347
≥ 9	575	7,125	31	0	5	$15.94	$ 1	$2,506	0.25	24	$25.44	$ 618	179	$ 3,123
Total	**5,581**	**27,734**	**301**	**0**				**$24,316**		**236**		**$ 5,993**	**1,740**	**$ 30,309**

Notes:

(C) Average number of available sampling points used for ≥ 9 sampling points size category.

(D) Assume 100% of aircraft performing annual routine coliform monitoring, 100% of aircraft performing twice annual routine coliform monitoring, 50% of aircraft performing quarterly routine coliform monitoring, and 54% of aircraft performing monthly routine coliform monitoring will perform corrective action disinfection and flushing after a positive routine total coliform sample. Assume the remainder of aircraft with a TC+ sample will perform repeat sampling. Assume 5.7% of aircraft performing repeat sampling will have at least one additional TC+ sample and will perform corrective action. Additionally, of the aircraft with routine coliform monitoring coliform TC+ samples, assume 0% of the 100% of aircraft performing annual routine coliform monitoring coliform, 0% of the 100% of aircraft performing twice annual routine coliform monitoring, 0% of the 50% of aircraft performing quarterly routine coliform monitoring, and 46% of aircraft performing monthly routine coliform monitoring will incur costs for corrective action disinfection and flushing. Remainder of aircraft performing corrective action disinfection and flushing assumed to coordinate schedule with routine disinfection and flushing schedule, and therefore do not incur separate costs for corrective action disinfection and flushing. Assume entire aircraft flushed if either lavatory or galley has a positive total coliform sample. Assume no more than one TC+ per aircraft.

(E) Assumes first flushing/disinfecting is successful.

(D-I, N-O) These columns are not included in the final burden and cost estimates but are are based on the original cost model for the rule and are included here for completeness.

(G) Based on costs for cleaners of vehicles and equipment from Exhibit H.2.

(H) Chemicals used for disinfection cost approximately $1 per application (based on 12.5% chlorine solution from Harcros Chemicals, which costs $12 per 4 gallon jugs). Inflated to 2010 dollars using CPI multiplier in Labor Rates exhibit.

(K), (M) Recordkeeping burden and costs based on total number of corrective action disinfection and flushing events + repeat disinfection and flushing events. Total number of corrective action disinfection and flushing events derived from Exhibit H.10a, column I.

(L) Based on technical labor costs for inspectors, testers, sorters, samplers, and weighers, from Exhibit H.2.

Exhibit H.13a - Air Carrier Burden and Cost Estimates for Compliance Audit (2010$)

		Reporting and Recordkeeping Costs Associated with Compliance Audit of Aircraft PWS			Totals	
# of Available Sampling Points	# of Aircraft	Total # of Available Sampling Points	Unit Labor Cost ($/hour)	Unit labor burden (hours/air carrier)	Total Labor Burden (hours/audit cycle)	Total Labor Cost ($/audit cycle)
A	B	C=B*A	D	E	F	G=D*F
1	290	290	$45.12	24	59	$ 2,646
2	1,584	3,169	$45.12	24	320	$ 14,447
3	576	1,728	$45.12	24	116	$ 5,251
4	321	1,283	$45.12	24	65	$ 2,924
5	728	3,641	$45.12	24	147	$ 6,640
6	663	3,981	$45.12	24	134	$ 6,050
7	227	1,589	$45.12	24	46	$ 2,070
8	616	4,930	$45.12	24	125	$ 5,619
≥ 9	575	7,125	$45.12	24	116	$ 5,244
Total	**5,581**	**27,734**			**1,128**	**$ 50,893**

Sources:

(D) Air carrier labor costs from Exhibit H.2. EPA used the transportation inspector category because it was the highest-paid technical labor category. Transportation inspectors are assumed to have a technical background, as well as some management or oversight responsibility.

(E) EPA assumes that air carriers already conduct major maintenance checks, which include sanitary survey components, every 5 years for each aircraft. Therefore, with the exception of reporting and recordkeeping burden, no additional costs for sanitary surveys are incurred by air carriers under the ADWR.

(F), (G) All aircraft undergo compliance audits once in 5 years. The Agency will review electronic data for all aircraft at the air carrier office site. Fractional costs incurred by aircraft (assuming even distribution across aircraft of all sizes) are represented in the exhibit for presentation and calculation purposes only.

Exhibit H.13b - Agency Burden and Cost Estimates for Compliance Audit (2010$)

Compliance Activity	Labor Cost ($/hour)	Unit Labor Burden (hours/air carrier)	Unit Cost ($/air carrier)	Total Labor Burden (hours/audit cycle)	Total Labor Cost ($/audit cycle)
	A	B	C=A*B	D=B*# Air Carriers	E=C*# Air Carriers
Conducting Compliance Audit of Aircraft PWSs	$43.84	16	$ 701	752	$ 32,967
Total		**16**	**$ 701**	**752**	**$ 32,967**

Note:

(1) Total Agency burden and labor costs for ADWR are accounted for in the PWSS Program ICR since this rule is directly implemented through the EPA Regions. Agency burden and cost calculations shown here are for informational purposes only.

Sources:

(A) Agency labor costs from Exhibit H.2.

(D), (E) Total burden and O&M costs for conducting compliance audits for U.S. air carriers subject to ADWR. All aircraft undergo compliance audits once in 5 years.

Exhibit H.14 - Air Carrier Burden and Cost Estimate for Public Notification

			Total Coliform-Positive Samples				E. coli-Positive Samples		Total PN Burden			Total PN Costs		
# of Available Sampling Points	# of Aircraft	Total # of Available Sampling Points	Total Number of Aircraft Conducting Corrective Action Associated with TC+ Samples	Number of Unique Corrective Actions Associated with TC+ Samples	Percentage of Aircraft Restricting Public Access Following TC+ Samples	Aircraft Conducting PN Following TC+ Sample	Number of Routine Samples	Number of Routine Samples Positive for *E. coli*	Total Number of Aircraft Conducting PN	Labor Burden per PN Event (hours)	Total PN Burden (hours)	Labor Rate ($/hour)	Total Labor Cost	Total Cost
A	B	C=B*A	D	E	F	G=E*F	H	I=H*0.0014	J=G+I	K	L=J*K	M	N=L*M	O=N
1	290	290	49	16	50%	8	1,915	3	11	3.5	37	$ 62.00	$2,280	$2,280
2	1,584	3,169	267	85	50%	43	10,457	15	57	3.5	201	$ 62.00	$12,446	$12,446
3	576	1,728	97	31	50%	16	3,801	5	21	3.5	73	$ 62.00	$4,524	$4,524
4	321	1,283	54	17	50%	9	2,116	3	12	3.5	41	$ 62.00	$2,519	$2,519
5	728	3,641	123	39	50%	20	4,806	7	26	3.5	92	$ 62.00	$5,721	$5,721
6	663	3,981	112	36	50%	18	4,379	6	24	3.5	84	$ 62.00	$5,212	$5,212
7	227	1,589	38	12	50%	6	1,498	2	8	3.5	29	$ 62.00	$1,783	$1,783
8	616	4,930	104	33	50%	17	4,067	6	22	3.5	78	$ 62.00	$4,841	$4,841
≥ 9	575	7,125	97	31	50%	16	3,796	5	21	3.5	73	$ 62.00	$4,518	$4,518
Total	**5,581**	**27,734**	**942**	**301**		**150**	**36,835**	**52**	**202**		**707**		**$43,844**	**$43,844**

Note:

(1) Total Agency burden and labor costs for ADWR are accounted for in the PWSS Program ICR since this rule is directly implemented through the EPA Regions. Agency burden and cost calculations shown here are for informational purposes only.

Sources:

(D) Derived from column I, Exhibit H.10a, which calculates number of followup samples following corrective action. Each aircraft with a total coliform-positive sample takes two followup samples after completing corrective action.

(E) From column D, Exhibit H.12b. Includes only those corrective actions that do not overlap with routine disinfection and flushing. Assumes a one-to-one correspondence between corrective action and aircraft.

(F) EPA assumption. Air carriers that choose to take longer than 72 hours to conduct corrective action must restrict public access and provide public notification.

(G) Assumes each aircraft has no more than one TC+ sample.

(H) From column D, Exhibit H.10a.

(I) Percentage of routine samples positive for *E. coli* from AOC data. All air carriers with positive *E. coli* samples must restrict public access and provide public notification on the affected aircraft. Note that E. coli-positive repeat samples also trigger the same requirements; however they occur so rarely that they do not significantly affect the number of PN events, so they were not included.

(J) Note that a sample can be positive for both total coliform and *E. coli* at the same time. By accounting for each type of sample separately, EPA may be overestimating the number of events requiring public notification. However, they must be accounted for separately, because the public notification requirements vary for each.

(K) EPA estimate, based on burden for preparing a Tier 2 public notice in the Public Water System Supervision ICR. Includes time needed to prepare notice for crew, post placard for passengers (where required), and report to EPA.

(M) Loaded labor rate for transportation, storage, and distribution managers from Exhibit H.2.

Exhibit H.15a - Total Airline Burden Incurred During the First 25 Years After ADWR Promulgation

Year	Air Carrier Implementation	Air Carrier Sampling Plan	Monitoring TC - Air Carriers	O&M Plan- Air Carriers	Routine Disinfection & Flushing Recordkeeping - Air Carriers	Corrective Action Disinfection & Flushing Recordkeeping - Air Carriers	Self-Inspection Reporting and Recordkeeping Air Carriers	Public Notification - Air Carriers
1	376	235	-	1,880	-	-	-	-
2	376	235	-	1,880	-	-	-	-
3	-	-	30,012	-	3,907	236	226	707
4	-	-	30,012	-	3,907	236	226	707
5	-	-	30,012	-	3,907	236	226	707
6	-	-	30,012	-	3,907	236	226	707
7	-	-	30,012	-	3,907	236	226	707
8	-	-	30,012	-	3,907	236	226	707
9	-	-	30,012	-	3,907	236	226	707
10	-	-	30,012	-	3,907	236	226	707
11	-	-	30,012	-	3,907	236	226	707
12	-	-	30,012	-	3,907	236	226	707
13	-	-	30,012	-	3,907	236	226	707
14	-	-	30,012	-	3,907	236	226	707
15	-	-	30,012	-	3,907	236	226	707
16	-	-	30,012	-	3,907	236	226	707
17	-	-	30,012	-	3,907	236	226	707
18	-	-	30,012	-	3,907	236	226	707
19	-	-	30,012	-	3,907	236	226	707
20	-	-	30,012	-	3,907	236	226	707
21	-	-	30,012	-	3,907	236	226	707
22	-	-	30,012	-	3,907	236	226	707
23	-	-	30,012	-	3,907	236	226	707
24	-	-	30,012	-	3,907	236	226	707
25	-	-	30,012	-	3,907	236	226	707
Total	**752**	**470**	**690,281**	**3,760**	**89,854**	**5,418**	**5,189**	**16,265**

Exhibit H.15b - Total Agency Burden Incurred During the First 25 Years After ADWR Promulgation

Year	Agency Implementation	Agency Annual Administration	Agency Sampling Plan Information Review	Monitoring - TC Agency Oversight	O&M Plan Completion-Agency Review	Compliance Audit-Agency
1	1,415	-	106	-	12	-
2	1,415	-	106	-	12	-
3	-	5,160	-	687	-	150
4	-	5,160	-	687	-	150
5	-	5,160	-	687	-	150
6	-	5,160	-	687	-	150
7	-	5,160	-	687	-	150
8	-	5,160	-	687	-	150
9	-	5,160	-	687	-	150
10	-	5,160	-	687	-	150
11	-	5,160	-	687	-	150
12	-	5,160	-	687	-	150
13	-	5,160	-	687	-	150
14	-	5,160	-	687	-	150
15	-	5,160	-	687	-	150
16	-	5,160	-	687	-	150
17	-	5,160	-	687	-	150
18	-	5,160	-	687	-	150
19	-	5,160	-	687	-	150
20	-	5,160	-	687	-	150
21	-	5,160	-	687	-	150
22	-	5,160	-	687	-	150
23	-	5,160	-	687	-	150
24	-	5,160	-	687	-	150
25	-	5,160	-	687	-	150
Total	**2,830**	**118,680**	**212**	**15,790**	**24**	**3,459**

Note:
(1) Total Agency burden and labor costs for ADWR are accounted for in the PWSS Program ICR since this rule is directly implemented through the EPA Regions. Agency burden and cost calculations shown here are for informational purposes only.

Exhibit H.16a - Total Airline Cost Incurred During First 25 Years After ADWR Promulgation

Year	Air Carrier Implementation	Air Carrier Monitoring Plan	Monitoring - TC Air Carriers Labor	Monitoring - TC Air Carriers O&M	Monitoring - TC Air Carriers Capital	O&M Plan Air Carriers	Routine Disinfection & Flushing Recordkeeping - Air Carriers	Corrective Action Disinfection & Flushing Recordkeeping - Air Carriers	Self-Inspection Reporting and Recordkeeping Air Carriers	Public Notification - Air Carriers
1	$ 16,964	$ 10,603	$ -	$ -	$ -	$ 84,821	$ -	$ -	$ -	$ -
2	$ 16,964	$ 10,603	$ -	$ -	$ -	$ 84,821	$ -	$ -	$ -	$ -
3	$ -	$ -	$ 763,483	$ 3,049,013	$ 3,158	$ -	$ 99,383	$ 5,993	$ 10,179	$ 43,844
4	$ -	$ -	$ 763,483	$ 3,049,013	$ 3,158	$ -	$ 99,383	$ 5,993	$ 10,179	$ 43,844
5	$ -	$ -	$ 763,483	$ 3,049,013	$ 3,158	$ -	$ 99,383	$ 5,993	$ 10,179	$ 43,844
6	$ -	$ -	$ 763,483	$ 3,049,013	$ 3,158	$ -	$ 99,383	$ 5,993	$ 10,179	$ 43,844
7	$ -	$ -	$ 763,483	$ 3,049,013	$ 3,158	$ -	$ 99,383	$ 5,993	$ 10,179	$ 43,844
8	$ -	$ -	$ 763,483	$ 3,049,013	$ 3,158	$ -	$ 99,383	$ 5,993	$ 10,179	$ 43,844
9	$ -	$ -	$ 763,483	$ 3,049,013	$ 3,158	$ -	$ 99,383	$ 5,993	$ 10,179	$ 43,844
10	$ -	$ -	$ 763,483	$ 3,049,013	$ 3,158	$ -	$ 99,383	$ 5,993	$ 10,179	$ 43,844
11	$ -	$ -	$ 763,483	$ 3,049,013	$ 3,158	$ -	$ 99,383	$ 5,993	$ 10,179	$ 43,844
12	$ -	$ -	$ 763,483	$ 3,049,013	$ 3,158	$ -	$ 99,383	$ 5,993	$ 10,179	$ 43,844
13	$ -	$ -	$ 763,483	$ 3,049,013	$ 3,158	$ -	$ 99,383	$ 5,993	$ 10,179	$ 43,844
14	$ -	$ -	$ 763,483	$ 3,049,013	$ 3,158	$ -	$ 99,383	$ 5,993	$ 10,179	$ 43,844
15	$ -	$ -	$ 763,483	$ 3,049,013	$ 3,158	$ -	$ 99,383	$ 5,993	$ 10,179	$ 43,844
16	$ -	$ -	$ 763,483	$ 3,049,013	$ 3,158	$ -	$ 99,383	$ 5,993	$ 10,179	$ 43,844
17	$ -	$ -	$ 763,483	$ 3,049,013	$ 3,158	$ -	$ 99,383	$ 5,993	$ 10,179	$ 43,844
18	$ -	$ -	$ 763,483	$ 3,049,013	$ 3,158	$ -	$ 99,383	$ 5,993	$ 10,179	$ 43,844
19	$ -	$ -	$ 763,483	$ 3,049,013	$ 3,158	$ -	$ 99,383	$ 5,993	$ 10,179	$ 43,844
20	$ -	$ -	$ 763,483	$ 3,049,013	$ 3,158	$ -	$ 99,383	$ 5,993	$ 10,179	$ 43,844
21	$ -	$ -	$ 763,483	$ 3,049,013	$ 3,158	$ -	$ 99,383	$ 5,993	$ 10,179	$ 43,844
22	$ -	$ -	$ 763,483	$ 3,049,013	$ 3,158	$ -	$ 99,383	$ 5,993	$ 10,179	$ 43,844
23	$ -	$ -	$ 763,483	$ 3,049,013	$ 3,158	$ -	$ 99,383	$ 5,993	$ 10,179	$ 43,844
24	$ -	$ -	$ 763,483	$ 3,049,013	$ 3,158	$ -	$ 99,383	$ 5,993	$ 10,179	$ 43,844
25	$ -	$ -	$ 763,483	$ 3,049,013	$ 3,158	$ -	$ 99,383	$ 5,993	$ 10,179	$ 43,844
Total	**$ 33,928**	**$ 21,205**	**$ 17,560,098**	**$ 70,127,296**	**$ 72,623**	**$ 169,642**	**$ 2,285,804**	**$ 137,834**	**$ 234,106**	**$ 1,008,405**

Note:
Air carriers conducting monitoring will incur capital costs for refrigerators beginning in year 3. Assumes air carriers will need to replace refrigerators every 10 years. As a modeling assumption, capital costs are evenly distributed across the affected years.

Exhibit H.16b - Total Agency Cost Incurred During First 25 Years After ADWR Promulgation

Year	Agency Implementation	Agency Annual Administration	Agency Monitoring Plan	Monitoring - TC Agency Oversight	O&M Plan Completion Agency Review	Compliance Audit - Agency
1	$ 62,033	$ -	$ 4,636	$ -	$ 515	$ -
2	$ 62,033	$ -	$ 4,636	$ -	$ 515	$ -
3	$ -	$ 226,210	$ -	$ 29,582	$ -	$ 6,593
4	$ -	$ 226,210	$ -	$ 29,582	$ -	$ 6,593
5	$ -	$ 226,210	$ -	$ 29,582	$ -	$ 6,593
6	$ -	$ 226,210	$ -	$ 29,582	$ -	$ 6,593
7	$ -	$ 226,210	$ -	$ 29,582	$ -	$ 6,593
8	$ -	$ 226,210	$ -	$ 29,582	$ -	$ 6,593
9	$ -	$ 226,210	$ -	$ 29,582	$ -	$ 6,593
10	$ -	$ 226,210	$ -	$ 29,582	$ -	$ 6,593
11	$ -	$ 226,210	$ -	$ 29,582	$ -	$ 6,593
12	$ -	$ 226,210	$ -	$ 29,582	$ -	$ 6,593
13	$ -	$ 226,210	$ -	$ 29,582	$ -	$ 6,593
14	$ -	$ 226,210	$ -	$ 29,582	$ -	$ 6,593
15	$ -	$ 226,210	$ -	$ 29,582	$ -	$ 6,593
16	$ -	$ 226,210	$ -	$ 29,582	$ -	$ 6,593
17	$ -	$ 226,210	$ -	$ 29,582	$ -	$ 6,593
18	$ -	$ 226,210	$ -	$ 29,582	$ -	$ 6,593
19	$ -	$ 226,210	$ -	$ 29,582	$ -	$ 6,593
20	$ -	$ 226,210	$ -	$ 29,582	$ -	$ 6,593
21	$ -	$ 226,210	$ -	$ 29,582	$ -	$ 6,593
22	$ -	$ 226,210	$ -	$ 29,582	$ -	$ 6,593
23	$ -	$ 226,210	$ -	$ 29,582	$ -	$ 6,593
24	$ -	$ 226,210	$ -	$ 29,582	$ -	$ 6,593
25	$ -	$ 226,210	$ -	$ 29,582	$ -	$ 6,593
Total	**$ 124,065**	**$ 5,202,840**	**$ 9,272**	**$ 680,375**	**$ 1,030**	**$ 151,649**

Note:

(1) Total Agency burden and labor costs for ADWR are accounted for in the PWSS Program ICR since this rule is directly implemented through the EPA Regions. Agency burden and cost calculations shown here are for informational purposes only.

Exhibit H.17a - Airline Respondents for First 25 Years after ADWR Promulgation

Year	Air Carrier Implementation	Air Carrier Sampling Plan	Monitoring TC - Air Carriers	O&M Plan- Air Carriers	Routine Disinfection & Flushing Recordkeeping - Air Carriers	Corrective Action Disinfection & Flushing Recordkeeping - Air Carriers	Self-Inspection Reporting and Recordkeeping Air Carriers	Public Notification - Air Carriers
1	23.5	23.5	-	23.5	-	-	-	-
2	23.5	23.5	-	23.5	-	-	-	-
3	-	-	47	-	47	47	9	47
4	-	-	47	-	47	47	9	47
5	-	-	47	-	47	47	9	47
6	-	-	47	-	47	47	9	47
7	-	-	47	-	47	47	9	47
8	-	-	47	-	47	47	9	47
9	-	-	47	-	47	47	9	47
10	-	-	47	-	47	47	9	47
11	-	-	47	-	47	47	9	47
12	-	-	47	-	47	47	9	47
13	-	-	47	-	47	47	9	47
14	-	-	47	-	47	47	9	47
15	-	-	47	-	47	47	9	47
16	-	-	47	-	47	47	9	47
17	-	-	47	-	47	47	9	47
18	-	-	47	-	47	47	9	47
19	-	-	47	-	47	47	9	47
20	-	-	47	-	47	47	9	47
21	-	-	47	-	47	47	9	47
22	-	-	47	-	47	47	9	47
23	-	-	47	-	47	47	9	47
24	-	-	47	-	47	47	9	47
25	-	-	47	-	47	47	9	47
Total	**47**	**47**	**47**	**47**	**47**	**47**	**9**	**47**

Exhibit H.17b - Agency Respondents for First 25 Years after ADWR Promulgation

Year	Agency Implementation	Agency Annual Administration	Agency Monitoring Plan	Monitoring - TC Agency Oversight	O&M Plan Completion Agency Review	Compliance Audit - Agency
1	5	-	5	-	5	-
2	5	-	5	-	5	-
3	-	10	-	10	-	2
4	-	10	-	10	-	2
5	-	10	-	10	-	2
6	-	10	-	10	-	2
7	-	10	-	10	-	2
8	-	10	-	10	-	2
9	-	10	-	10	-	2
10	-	10	-	10	-	2
11	-	10	-	10	-	2
12	-	10	-	10	-	2
13	-	10	-	10	-	2
14	-	10	-	10	-	2
15	-	10	-	10	-	2
16	-	10	-	10	-	2
17	-	10	-	10	-	2
18	-	10	-	10	-	2
19	-	10	-	10	-	2
20	-	10	-	10	-	2
21	-	10	-	10	-	2
22	-	10	-	10	-	2
23	-	10	-	10	-	2
24	-	10	-	10	-	2
25	-	10	-	10	-	2
Total	**10**	**10**	**10**	**10**	**10**	**2**

Exhibit H.18a - Airline Responses for First 25 Years after ADWR Promulgation

Year	Air Carrier Implementation	Air Carrier Sampling Plan	Monitoring TC - Air Carriers	O&M Plan- Air Carriers	Routine Disinfection & Flushing Recordkeeping - Air Carriers	Corrective Action Disinfection & Flushing Recordkeeping - Air Carriers	Self-Inspection Reporting and Recordkeeping Air Carriers	Public Notification - Air Carriers
1	47	23.5	-	23.5	-	-	-	-
2	47	23.5	-	23.5	-	-	-	-
3	-	-	120,371	-	15,627	16	9	202
4	-	-	120,371	-	15,627	16	9	202
5	-	-	120,371	-	15,627	16	9	202
6	-	-	120,371	-	15,627	16	9	202
7	-	-	120,371	-	15,627	16	9	202
8	-	-	120,371	-	15,627	16	9	202
9	-	-	120,371	-	15,627	16	9	202
10	-	-	120,371	-	15,627	16	9	202
11	-	-	120,371	-	15,627	16	9	202
12	-	-	120,371	-	15,627	16	9	202
13	-	-	120,371	-	15,627	16	9	202
14	-	-	120,371	-	15,627	16	9	202
15	-	-	120,371	-	15,627	16	9	202
16	-	-	120,371	-	15,627	16	9	202
17	-	-	120,371	-	15,627	16	9	202
18	-	-	120,371	-	15,627	16	9	202
19	-	-	120,371	-	15,627	16	9	202
20	-	-	120,371	-	15,627	16	9	202
21	-	-	120,371	-	15,627	16	9	202
22	-	-	120,371	-	15,627	16	9	202
23	-	-	120,371	-	15,627	16	9	202
24	-	-	120,371	-	15,627	16	9	202
25	-	-	120,371	-	15,627	16	9	202
Total	**94**	**47**	**2,768,527**	**47**	**359,416**	**360**	**216**	**4,647**

Exhibit H.18b - Agency Responses for First 25 Years after ADWR Promulgation

Year	Agency Implementation	Agency Annual Administration	Agency Monitoring Plan	Monitoring - TC Agency Oversight	O&M Plan Completion Agency Review	Compliance Audit - Agency
1	25	-	23.5	-	23.5	-
2	25	-	23.5	-	23.5	-
3	-	20	-	1,373	-	9
4	-	20	-	1,373	-	9
5	-	20	-	1,373	-	9
6	-	20	-	1,373	-	9
7	-	20	-	1,373	-	9
8	-	20	-	1,373	-	9
9	-	20	-	1,373	-	9
10	-	20	-	1,373	-	9
11	-	20	-	1,373	-	9
12	-	20	-	1,373	-	9
13	-	20	-	1,373	-	9
14	-	20	-	1,373	-	9
15	-	20	-	1,373	-	9
16	-	20	-	1,373	-	9
17	-	20	-	1,373	-	9
18	-	20	-	1,373	-	9
19	-	20	-	1,373	-	9
20	-	20	-	1,373	-	9
21	-	20	-	1,373	-	9
22	-	20	-	1,373	-	9
23	-	20	-	1,373	-	9
24	-	20	-	1,373	-	9
25	-	20	-	1,373	-	9
Total	**50**	**20**	**47**	**1,373**	**47**	**9**

Exhibit H.19a - Airline Schedule

Year	Air Carrier Implementation	Air Carrier Monitoring Plan	Monitoring - TC Air Carriers Labor and O&M	Monitoring - TC Air Carriers Capital	O&M Plan Air Carriers	Disinfection & Flushing Routine - Air Carriers	Flushing Corrective Action - Air Carriers	Self-Inspections Air Carriers	Public Notification
1	50%	50%			50%				
2	50%	50%			50%				
3			100%	11%		100%	100%	20%	100%
4			100%	11%		100%	100%	20%	100%
5			100%	11%		100%	100%	20%	100%
6			100%	11%		100%	100%	20%	100%
7			100%	11%		100%	100%	20%	100%
8			100%	11%		100%	100%	20%	100%
9			100%	11%		100%	100%	20%	100%
10			100%	11%		100%	100%	20%	100%
11			100%	11%		100%	100%	20%	100%
12			100%	11%		100%	100%	20%	100%
13			100%	11%		100%	100%	20%	100%
14			100%	11%		100%	100%	20%	100%
15			100%	11%		100%	100%	20%	100%
16			100%	11%		100%	100%	20%	100%
17			100%	11%		100%	100%	20%	100%
18			100%	11%		100%	100%	20%	100%
19			100%	11%		100%	100%	20%	100%
20			100%	11%		100%	100%	20%	100%
21			100%	11%		100%	100%	20%	100%
22			100%	11%		100%	100%	20%	100%
23			100%	11%		100%	100%	20%	100%
24			100%	11%		100%	100%	20%	100%
25			100%	11%		100%	100%	20%	100%

Note: Air carriers conducting monitoring will incur capital costs for refrigerators beginning in year 3. Assumes air carriers will need to replace refrigerators every 10 years. As a modeling assumption, capital costs are evenly distributed across the affected years.

Exhibit H.19b - Agency Schedule

Year	Agency Implementation	Agency Annual Administration	Agency Monitoring Plan	Monitoring - TC Agency Oversight	O&M Plan Agency Review	Compliance Audit Agency
1	50%		50%		50%	
2	50%		50%		50%	
3		100%		100%		20%
4		100%		100%		20%
5		100%		100%		20%
6		100%		100%		20%
7		100%		100%		20%
8		100%		100%		20%
9		100%		100%		20%
10		100%		100%		20%
11		100%		100%		20%
12		100%		100%		20%
13		100%		100%		20%
14		100%		100%		20%
15		100%		100%		20%
16		100%		100%		20%
17		100%		100%		20%
18		100%		100%		20%
19		100%		100%		20%
20		100%		100%		20%
21		100%		100%		20%
22		100%		100%		20%
23		100%		100%		20%
24		100%		100%		20%
25		100%		100%		20%