

**Information Collection Request for the 2011 Drinking Water
Infrastructure Needs Survey and Assessment (DWINSA)
(Supporting Statement for ICRAS and ROCIS)**

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Prepared by:

**The Cadmus Group, Inc.
57 Water Street
Watertown, MA 02472**

Prepared for:

**U.S. Environmental Protection Agency
Office of Ground Water and Drinking Water
Drinking Water Protection Division**

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PART A OF THE SUPPORTING STATEMENT

A.1 IDENTIFICATION OF THE INFORMATION COLLECTION

A.1.a Title of the Information Collection Request

The title of this information collection request (ICR) is *Information Collection Request for the 2011 Drinking Water Infrastructure Needs Survey and Assessment (DWINSA)*¹. The Office of Management and Budget (OMB) control number for this ICR is 2040-0274; EPA ICR No. 2234.03.

A.1.b Short Characterization

The Environmental Protection Agency (EPA) will conduct an assessment to estimate the capital investment needs for drinking water systems eligible to receive Drinking Water State Revolving Fund (DWSRF) monies. The nationwide assessment will be conducted by the Drinking Water Protection Division (DWPD) of EPA's Office of Ground Water and Drinking Water (OGWDW). The data collection is authorized by Sections 1452(h) and 1452(i)(4) of the Safe Drinking Water Act (SDWA) and will be used to estimate the cost of providing safe drinking water to consumers over a 20-year period. The data from the report will also be used to allot DWSRF monies among states.

While the focus of the 2011 DWINSA is collecting information on systems' needs and on the projected costs associated with those needs, EPA also uses the surveying effort to identify and report on emerging trends and issues potentially impacting infrastructure investment needs of the Nation's drinking water systems. Issues of current interest include: the industry's employment of sustainable infrastructure planning methods and policies, infrastructure investments to increase security deployment of "green infrastructure projects, and considerations of climate changes or variability (i.e., climate readiness) in infrastructure investment planning.

EPA's primary goal is to achieve the most accurate survey possible. The two sources of potential inaccuracy in the survey result from "measurement error" in determining the need for each individual infrastructure investment and "sampling error" in estimating the needs of all water systems from a representative sub-sample of those systems. EPA strives to reduce "measurement error" by relying on the information and judgment of those individuals most familiar and directly responsible for the infrastructure, the owners and operators of water systems, and assuring that their estimates of investment needs are within the context of the industry's best engineering practices. EPA addresses the "sampling error" by identifying and specifying statistical precision targets for the survey and determining the necessary sample and sub-sample sizes to achieve those targets. It is important to note that while greater statistical precision can be achieved by increasing the size of the sample to be surveyed, the additional burden that a larger sample size creates for collecting data and assuring its quality can result in substantially increasing the potential for measurement errors, perhaps reducing the overall accuracy of the survey. In determining the most appropriate survey approach, EPA strives to create a balance between achieving statistical precision and avoiding measurement errors as well as to minimize the burden placed on the states, water systems, and the Agency in conducting the surveying effort.

¹ EPA's previous assessments of infrastructure need in 1995 and 1999 were called "needs surveys" because the assessment relied primarily on survey methods. In 2003, EPA relied in part on surveys but also on analysis of previous survey data. Accordingly, the term "assessment" is more appropriate. Hereinafter, these studies will be referred to as "assessments."

All states and the Navajo Nation have committed to help EPA administer the 2011 DWINSA with at least the minimum of activities. Fifteen states will not participate in the statistical portion of the survey (i.e., collecting data from systems serving 3,301 – 100,000 persons). For the states that are not included in the statistical portion of the survey, the needs of the participating states will be used to determine the needs for systems serving 3,301 – 100,000 persons. All states with systems serving more than 100,000 persons will participate in the census portion of the survey.

For the 2011 DWINSA, there are two similar approaches EPA will take to collect the information. One approach will collect the 20-year need for systems that are under state primacy (e.g., 2011 State DWINSA). The term states refer to all 50 states, the U.S. territories (Guam, U.S. Virgin Islands, Northern Mariana Islands, and American Samoa), Puerto Rico, and the District of Columbia. A separate collection of 20-year need will be conducted for American Indian and Alaskan Native Village water systems (e.g., 2011 Native American DWINSA). The method of data collection and statistical precision is the same for the two approaches. However, to account for differences the stratification of systems between the two approaches and the type of systems that will EPA collect information from will differ.

For the 2011 State DWINSA, EPA will conduct a census of all community water systems (CWSs) serving populations more than 100,000 and select a random sample of CWSs that serve populations of 3,301 – 100,000. EPA will estimate the infrastructure needs for CWSs serving 3,300 and fewer persons based on the 2007 DWINSA results and the infrastructure needs for not-for-profit noncommunity water systems (NPNCWSs)² based on the 1999 DWINSA results. The data collection instrument that EPA will send to all water systems selected in the 2011 State DWINSA to complete consists of project tables in which the water systems list all their capital improvement projects for the survey period of January 1, 2011 to December 31, 2030.

For the 2011 Native American DWINSA, EPA will conduct a census of all CWSs and NPNCWSs serving more than 10,000 and will select a random sample of CWSs and NPNCWSs serving 10,000 and fewer persons. These systems will receive the same data collection instrument as the systems selected for the 2011 State DWINSA. EPA Regions and the Navajo Nation will use data provided by the Indian Health Service (IHS) from their Sanitary Deficiency System (SDS) to identify potential needs and EPA Regions and the Navajo Nation will collect additional information through phone calls or on-site engineering reviews.

The effort for the 2011 DWINSA will involve 3,215 respondents (3,158 water systems, 56 states³, and the Navajo Nation), requiring 48,995 hours at a total cost to the respondents of \$1,847,525. Section A.6, *Estimating the Burden and Cost of the Collection*, provides a detailed description of the unit burden and costs for this collection. The average water system burden per response is 7.51 hours.⁴

² NPNCWSs are also eligible for DWSRF funding.

³ Fifty-six states include the 50 states plus the District of Columbia, Puerto Rico, Northern Mariana Islands, American Samoa, Guam, and the U.S. Virgin Islands.

⁴ See Exhibit A-6-9.

A.2 NEED FOR AND USE OF THE COLLECTION

A.2.a Authority and Need for the Collection

EPA (the Agency) is conducting this DWINSA pursuant to its authority under Sections 1452(h) and 1452(i)(4) of the SDWA. Section 1452(h) requires that “the Administrator shall conduct an assessment of water system capital improvements needs of all eligible public water systems in the United States and submit a report to the Congress containing the results of such assessment within 180 days after the date of the enactment of the SDWA Amendments of 1996 and every 4 years thereafter.” Section 1452(i)(4) requires that “the Administrator, in consultation with the Director of Indian Health Services and Indian Tribes, shall, in accordance with a schedule that is consistent with the needs survey conducted pursuant to subsection (h), prepare surveys and assess the needs of drinking water treatment facilities to serve Indian Tribes, including an evaluation of the public water systems that pose the most significant threat to public health.”

A.2.b Use and Users of the Information

The results of the 2011 DWINSA will be used as a basis for allocation of DWSRF funds among states and EPA Regions (for the American Indian and Alaskan Native Village water systems). In addition, many water systems have empirical data on the cost of compliance with SDWA regulations. A national assessment will improve the Agency’s ability to gauge the real capital cost of SDWA regulations.

EPA will collect three types of system-specific information: (1) system inventory and characteristics data (i.e., name and address of the system, contact person, population served, total design capacity, number of connections, primary source, whether the system is privately or publicly owned, and whether the system purchases/sells water from/to another public water system (PWS)); (2) information on capital improvement projects; and (3) information on “green” and climate readiness infrastructure projects. The specific uses of each data type vary. EPA will use system inventory and characteristics data to characterize CWSs nationwide, and, in some cases, to model individual systems’ capital improvement projects. EPA will use all data collected to estimate state and national needs. This will be the first time EPA will collect information for “green” and climate readiness infrastructure projects.

Respondents will identify needs on a project-by-project basis and list the “type(s) of need” that the project will meet on the data collection instrument. EPA will collect information on the proposed infrastructure to be installed, replaced, rehabilitated, upgraded, or expanded. EPA will use the information to assess project allowability.

Respondents will also identify either a documented cost estimate for the project or will provide adequate information so that EPA can model the cost of the project. The information needed to model the cost will depend on the type of need. For example, EPA may collect information on the type and number of meters or the diameter and length of transmission or distribution lines. EPA expects that modeling will be required to project the capital needs for some systems that serve more than 100,000 persons, many of the systems that serve 3,301 – 100,000 persons, and almost all of the systems serving 3,300 and fewer (for the 2011 Native American DWINSA only). For the 2007 DWINSA, approximately 19 percent of the projects reported had documented costs; the costs for the remaining 81 percent of projects were modeled.

The data collected by the 2011 DWINSA will likely have several secondary uses, both inside and outside of EPA. For example, EPA will use the information to support various program activities, such as the

development of general enforcement strategies and new regulations. Congress may use occurrence and cost information in considering new drinking water legislation. States have indicated to EPA that they plan to use the data collected to help identify projects that should be included on the state's DWSRF priority list and to implement capacity development strategies. The public may use information on costs associated with SDWA compliance.

A.3 NONDUPLICATION, CONSULTATIONS, AND OTHER COLLECTION CRITERIA

The following sections verify that this information collection satisfies the OMB's nonduplication and consultation guidelines, and does not duplicate another collection.

A.3.a Nonduplication

To the best of EPA's knowledge, up-to-date state-by-state information on water systems' capital needs is not available from any other source. Some of the data collection efforts EPA considered include the following:

- **Safe Drinking Water Information System (SDWIS).** Inventory data and information on system characteristics have been collected by states and regions and entered into the SDWIS. For the statistical sample, EPA will pre-print the SDWIS system characteristics data (i.e., name and address of the system, contact person, address, population served, total design capacity, number of connections, primary source, whether the system is privately or publicly owned, and whether the system purchases/sells water from/to another PWS) on the 2011 DWINSA form and ask the respondents to provide information only if the SDWIS data are inaccurate or missing. SDWIS does not contain information on water systems' capital needs.
- **Community Water System Survey (CWSS).** EPA completed a statistical survey in 2006 that focused on the operating and financial characteristics of CWSs. The CWSS is addressed in the ICR for National Survey of the Financial and Operating Characteristics of Community Water Suppliers. The CWSS had a different objective than the DWINSA. The CWSS was designed to characterize the technical and financial aspects of CWSs. In contrast, the DWINSA will be used to develop national estimates of capital needs. In addition, the CWSS's targeted precision was on a national basis; whereas the DWINSA will provide state-by-state estimates.
- **Economic Analyses (EAs) for National Primary Drinking Water Regulations.** The Agency has developed EAs for its National Primary Drinking Water Regulations. These documents estimate the costs of complying with proposed regulations. The scope of the EAs is limited to the cost associated with the implementation of a given proposed regulation. EAs do not include an estimate for on-going capital projects to maintain compliance with existing regulations. Therefore, the EAs are not an adequate substitute for the DWINSA. In addition, the EAs provide nationwide estimates. As discussed above, EPA is conducting the DWINSA because the Agency needs a state-by-state estimate to develop the allocation formula for the DWSRF. Also, many EAs are several years out of date. They do not consider currently available contaminant occurrence data or current or emerging treatment technology costs.
- **State Needs Surveys.** Several states have conducted needs surveys of their own drinking water systems. The state results cannot be extrapolated to the nation as a whole because the state surveys do not use consistent methodologies and do not account for national variations in system characteristics and needs.
- **1995, 1999, 2003, and 2007 DWINSAs.** Under the SDWA, EPA must conduct the DWINSA every 4 years. The approach for the 2011 DWINSA will incorporate some data collected during the previous assessments, as well as "lessons learned" from the earlier assessments. In addition,

the approach for the 2011 DWINSA ensures that up-to-date data on infrastructure needs are collected for all CWSs. CWSs under state primacy accounted for approximately 97 percent of the national need for the 2007 DWINSA. The remaining 3 percent represents needs associated with American Indian and Alaskan Native water systems, NPNCWSs, and recently promulgated regulations.

A.3.b Public Notice Required Prior to ICR Submission to OMB

To comply with the 1995 Amendments to the Paperwork Reduction Act (PRA), EPA solicited public comment on this ICR for a 60-day period before it was submitted to OMB. Specifically, EPA published a notice in the *Federal Register* (FR) requesting comment on the estimated respondent burden and other aspects of this ICR (75FR55324). This notice is included in Appendix A. Before submission to OMB, EPA considered any comments received and determined if any adjustments were needed to the burden and cost calculations or to the supporting statement for this ICR. Comments received and EPA's responses are included in Appendix C. An additional *Federal Register* notice will be published when this ICR is submitted to OMB. The public comment period for this additional notice is 30 days.

A.3.c Consultations

In May 2010, EPA assembled a workgroup that consisted of EPA Headquarters, EPA Regional, tribal, and state representatives to discuss the approach for the 2011 DWINSA. Separate meetings were held for the 2011 State DWINSA and the 2011 Native American DWINSA. The purpose of the meetings was to: gather information on state, Native American, and/or regional concerns; to discuss lessons learned during the 2007 DWINSA; and to discuss new policies for the 2011 DWINSA. The 2011 Native American DWINSA Workgroup also discussed the methodology for collecting information from American Indian and Alaskan Native Village water systems. The information gathered during the meetings was used to develop the methodology for the 2011 DWINSA.

For the 2007 DWINSA the data collection instrument and some policies were modified substantially. Consequently, in 2007, EPA conducted a pre-test of the data collection instrument (see B.3 for more information on the pre-test) and a formal peer review of the 2007 DWINSA statistical methodology and policies. Based on comments received from the peer review and the pre-test, EPA made modifications to the data collection instrument, statistical procedures, and survey polices. Since the only significant modification to the 2011 data collection instrument was the addition of questions and codes to gather information on "green" and climate readiness infrastructure projects, EPA conducted a limited peer review of these new questions. The peer review will include experts familiar with the operations of drinking water systems and "green" and climate readiness issues. Based on comments received from the peer review EPA developed an addendum to the survey instructions that provides additional explanation on why EPA is collecting information on "green" and climate readiness infrastructure projects as well as an explanation on what EPA means by "green" and climate readiness infrastructure projects.

A.3.d Effects of Less Frequent Collection

The 2011 DWINSA is a single collection and does not involve periodic reporting or recordkeeping.

A.3.e General Guidelines

The 2011 DWINSA does not violate any guidelines for information collection activities specified by OMB. Specifically, the 2011 DWINSA respondents are not required to:

- Report information to EPA more often than quarterly.
- Retain records for more than 3 years.
- Complete the data collection instrument in fewer than 30 days.
- Maintain or provide information in a format other than that in which it is customarily maintained.
- Submit proprietary, trade secret, or other confidential information.
- Submit more than one original and two copies of any document.

The information collection:

- Is a statistical assessment designed to produce data that can be generalized to the universe of the study (see Section B.2).
- Does not provide remuneration to participants.
- Will transcribe information collected into an automated format.
- Is designed with small entities particularly in mind (see Part A.5.c).
- Does not concern grants or grantees.
- Is voluntary.

A.3.f Confidentiality Questions

This information collection does not require the respondent to disclose any confidential information. Respondents are not obliged to respond to this strictly voluntary information collection. Further, respondents could eliminate any confidential business information from their reply.

A.3.g Sensitive Questions

The 2011 DWINSA does not ask sensitive questions, such as those pertaining to sexual attitudes or behavior or religious beliefs.

A.4 THE RESPONDENTS AND THE INFORMATION REQUESTED

A.4.a Respondents/NAICS Codes

NAICS Codes

The respondents for the 2011 DWINSA are CWSs, NPNCWSs, tribal authorities, and states. Both CWSs and NPNCWSs are considered public water systems. According to 40 CFR Part 141.2, a CWS is a “public water system which serves at least 15 service connections used by year-round residents or regularly serves at least 25 year-round residents” and a NCWS is a “public water system that is not a community water system and that regularly serves at least 25 of the same persons over 6 months per year” (nontransient noncommunity water system) or is a public water system that is not a community water system and “does not regularly serve at least 25 of the same persons over six months per year” (transient noncommunity water system). The North American Industry Classification System (NAICS) code for a public water system is 221310. For government establishments providing public administration of American Indian and Alaskan Native Village affairs, the NAICS code is 921190 (Other General Government Support). State agencies that include drinking water programs are classified as NAICS code 924110 (Administration of Air and Water Resources and Solid Waste Management Programs) or 926130 (Regulation and Administration of Communications, Electric, Gas, and Other Utilities). Ancillary systems (i.e., those that supplement the function of other establishments like factories, power plants, mobile home parks, etc.) cannot be categorized in a single NAICS code. For ancillary systems, the NAICS code is that of the primary establishment or industry.

Respondents

For the 2011 State DWINSA, EPA will gather information from CWSs serving more than 3,300 persons. Because of their variability and significant contribution to the overall drinking water capital investment need, systems serving more than 100,000 persons will be sampled with certainty. EPA will survey 611 systems that serve more than 100,000 persons. There are 8,919 systems that serve populations of 3,301 – 100,000. Surveying all of these systems would impose a large burden on respondents, EPA, and states. Therefore, EPA will select a statistically representative sample of systems serving 3,301 – 100,000. This will result in 2,241 systems receiving the mailed data collection instrument. Part B of the supporting statement describes the sampling methodology.

For the 2011 Native American DWINSA, EPA will collect information from all American Indian and Alaskan Native Village water systems serving more than 10,000 and will select a random sample of American Indian and Alaskan Native Village water systems serving 10,000 and fewer persons. This will result in 306 water systems being selected as part of the 2011 Native American DWINSA. Part B of the supporting statement describes the sampling methodology.

Fifty-six states (50 states plus the District of Columbia, Puerto Rico, Northern Mariana Islands, American Samoa, Guam, and the U.S. Virgin Islands) and the Navajo Nation will provide support and information for the 2011 DWINSA.

A.4.b Information Requested

As previously discussed, EPA will collect three types of information from systems: (1) system inventory and characteristics; (2) information on capital improvement projects; and (3) information on “green” and climate readiness infrastructure projects. EPA anticipates that respondents will provide varying levels of information by system size category. Based on experience from the previous four DWINSAs, EPA expects larger systems (e.g., those systems serving more than 50,000 persons) to have a good understanding of their capital needs and the costs for meeting them. Almost all of these systems will have detailed Capital Improvement Plans (CIPs). Most of these systems will be capable of providing accurate information on cost. Most medium-sized systems (e.g., those systems serving 3,301 to 50,000 persons) can provide reliable data on their needs and some can provide cost estimates for meeting their needs. The information that respondents will be asked to provide is generally maintained and reported as a function of the management and operation of the water system. American Indian and Alaskan Native Village water systems that serve populations of 3,300 or fewer are unlikely to be able to provide much information on needs or costs. EPA will use data provided by the IHS from their SDS to identify potential needs and EPA Regions will collect additional information through phone calls or on-site engineering reviews.

A.4.b.i Data Items

2011 State DWINSA – Systems serving more than 3,300 persons

The data collection instrument asks respondents to verify or correct system characteristic information (i.e., name and address of the system, contact person, address, population served, total design capacity, number of connections, primary source, whether the system is privately or publicly owned, and whether the system purchases/sells water from/to another PWS). It is Customary Business Practice (CBP) for the system to maintain this information. The respondent will either indicate that the information is correct as printed or enter the correct information in the space provided. States verify this information in advance of the data collection instrument being sent to the systems. Based on previous assessments, EPA anticipates that very few systems will need to correct the information provided.

In addition, the respondent is asked to provide information on tables associated with specific types of projects:

- Source.
- Treatment.
- Finished or Treated Water Storage, Pumping, and Other.
- Transmission and Distribution.
- Backflow Prevention Devices/Assemblies, Flushing Hydrants, Service Lines, Valves, and Water Meters, and Other.

For each project, the respondent is asked to:

- Briefly describe the needed capital projects (e.g., “routine distribution system replacement,” “filtration plant upgrade,” “high service pump replacement,” “corrosion control treatment,” or “storage tank rehabilitation”). Information is collected on a project-by-project basis because it is

most commonly available to respondents in that form, and because documentation, when available, is usually developed on a project-by-project basis.

- Provide the code that best describes the project from List 1⁵ of the Lists of Codes and that best describes the reason for the need from List 2. EPA will use this information to:
 - Develop separate cost estimates for source water treatment, transmission, storage, distribution, and other needs. (EPA will disaggregate the costs when projects meet multiple needs, if necessary.)
 - Help verify that adequate documentation of the need has been submitted.
 - Help determine if the project is an allowable need.
 - Help gauge cost-reasonableness.
- Indicate if the project is to install new infrastructure to meet current population demands, replace old infrastructure, expand or upgrade existing infrastructure (such as treatment plants to meet current population demands), or rehabilitate existing infrastructure.
- Indicate if the project is needed now to protect public health or not needed now, but will be necessary to continue providing safe drinking water over the next 20 years.
- Indicate if the project is associated with a regulation requirement or if the infrastructure is for a “green” or climate readiness need using the codes from List 3 in the Lists of Codes. EPA will use this information to determine which needs are required or necessary because of SDWA regulation, state requirement, or green or climate readiness need. If a system indicates they have projects pertaining to climate readiness, they will be asked to provide additional information regarding those projects on the data collection instrument. They will be asked if the project is for source quality degradation issues, source quantity degradation issues, or infrastructure vulnerability. They will also be asked if data was obtained through models or by other means.
- Provide design capacity when applicable—millions of gallons per day (MGD) for treatment and pumping; millions of gallons (MG) for storage; the diameter and number of feet of distribution or transmission lines; or the size and number of backflow prevention devices/assemblies, flushing hydrants, service lines, valves, and water meters. EPA will use these parameters to model project costs.
- If available, provide the capital cost estimate and year and month (if known) of the estimate. EPA will use this information to assign the cost of the project. The year and month are important because they will allow EPA to account for differences in the value of money over different years and to convert all costs to a common year.

⁵ List 1 of the List of Codes are the same for the 2011 State DWINSA and the 2011 Native American DWINSA, except the 2011 Native American DWINSA will have 5 extra Type of Need codes. This is consistent with the codes used for systems serving 3,300 and fewer persons in the 2007 DWINSA. Both List of Codes are included in Appendix B.

- Provide an estimate of the total length of pipe in the water system. This information will only be required for water systems that submit pipe projects but do not have independent documentation (i.e., planning document, sanitary survey, or leak and break records). It is expected that not all systems will need to provide this inventory information. This information is necessary to allow EPA to determine that the need reported is reasonable for replacement or rehabilitation in a 20-year timeframe.
- Indicate the type of documentation from List 4 of the Lists of Codes that explains why the project is needed and, if a cost estimate is available, indicate the documentation that explains the breakdown of the cost. This will verify the cost for the project. NOTE: EPA does not expect systems to develop cost estimates for the purposes of the 2011 DWINSA.

The data collection instrument contains optional worksheets where respondents can record information about the water system's existing infrastructure including information on storage tanks, pumps, and pipe material as well as the age and condition of the infrastructure. This information will not be entered into the DWINSA data system, but is only provided as a helpful tool for a respondent to inventory all of a water system's assets and assess any infrastructure needs that are not yet part of the system's formal planning documents.

For respondents of the 2011 State DWINSA that reported projects in the 2007 State DWINSA, EPA will provide them a list of all the projects that were submitted in response to the 2007 DWINSA. The respondent will be asked to update the list, by correcting any old information (e.g., cost estimate), deleting projects that are completed or no longer needed, and providing appropriate documentation that support the project. These respondents will also add any new projects that were not included in the 2007 State DWINSA. All projects must meet documentation and policy requirements established for the 2011 DWINSA.

The respondent is also asked to provide his or her name, title, address, phone number, and e-mail address. This information is requested in case EPA or the state must contact the respondent for clarification or explanation of any response.

The respondent is asked to attach documentation for all needs and costs reported in the 2011 DWINSA. Systems are encouraged to provide inventory data on their systems. Only where noted above will the inventory data be required.

The data collection instrument is attached as Appendix B.

2011 Native American DWINSA – American Indian and Alaskan Native Village Water Systems

To minimize the burden on American Indian and Alaskan Native Village water systems, EPA Regional Offices and the Navajo Nation will use available information from the IHS SDS. EPA Regional and Navajo Nation personnel will complete the data collection instrument for the water systems using the information from the IHS SDS and any additional information collected from the respondent. Respondents will be expected to answer very basic questions about the physical design of the plant, system configuration, and capital needs.

The data collection instrument is attached as Appendix B.

A.4.b.ii Respondent Activities

2011 State DWINSA – Systems serving more than 3,300 persons

To complete the data collection instrument, the following activities are anticipated for CWSs serving more than 3,300 persons:

- **Participate in an informational telephone call from the state.** Respondents will receive a call from the state describing the purpose of the DWINSA, the information that will be requested, and the timetable for completing and returning the data collection instrument.
- **Read the cover letter and data collection instructions.** Respondents will review the cover letter and instructions accompanying the data collection instrument.
- **Collect and copy supporting documentation.** Respondents will locate the necessary supporting documentation in system files and copy it.
- **Complete the data collection instrument.** Respondents will fill out the data collection instrument and attach supporting documentation. An estimate of total amount of pipe in the system must be provided if any pipe project is submitted without independent documentation of need (e.g., a planning document).

In addition, some respondents may contact states (or an EPA-established helpline) to obtain clarifying information on the data collection instrument.

2011 Native American DWINSA – American Indian and Alaskan Native Village Water Systems

The 2011 Native American DWINSA methodology has been designed to minimize the burden on American Indian and Alaskan Native Village water systems. Their role will be limited to answering basic questions during a phone call and providing any available documentation to the Regional Offices or the Navajo Nation. They will:

- **Participate in an informational telephone call from the EPA Regional Office or Navajo Nation.** Respondents will receive a call that describes the purpose of the DWINSA.
- **Answer basic questions posed by the EPA Regional Office or the Navajo Nation.** Respondents will be expected to answer very basic questions about the physical design of the plant, system configuration, and capital needs.
- **Collect and copy supporting documentation.** Respondents will locate the necessary supporting documentation in system files and copy it.

2011 State DWINSA – State Activities

All states have committed to help EPA administer the 2011 State DWINSA with at least the minimum of activities. Fifteen states will not participate in the statistical portion of the survey (i.e., collecting data from systems serving 3,301 – 100,000 persons). For non-participating states, the needs of the participating states will be used to determine an average need per strata. This will be applied to the inventory of systems in non-participating states to estimate the needs for systems serving 3,301 – 100,000

persons. All states that have systems serving more than 100,000 persons will participate in the census portion of the survey.

The activities described in this section represent a level of participation that will ensure nationally consistent results. Some states will participate at a higher level.

State Up-Front Activities

This first activity category includes the states' "fixed burden" for helping EPA prepare for the 2011 State DWINSA.

- **Participate in training and other pre-mailout efforts.** This activity includes participating in training sessions offered by EPA and becoming familiar with the survey design and policies. In addition, it includes activities such as reviewing the draft data collection instrument.
- **Help EPA verify SDWIS data.** There are several important variables for which SDWIS data must be verified. Critical inventory data for the statistical sample will need to be reviewed. Such data includes the PWS identification number (PWSID), system name, address, telephone numbers (if any), primary source, population served, number of service connections, whether the facility is publicly or privately owned, and whether the system is a consecutive system. In addition, states will need to review address information to ensure the street address for each system selected in the sample is accurate. To help with this verification activity, EPA will provide the information that must be reviewed in electronic form.
- **Perform miscellaneous administrative activities.** States will perform various administrative duties prior to the 2011 State DWINSA (e.g., establishing system files). In addition, state management will explain the 2011 State DWINSA to staff and allocate resources.

State Data Collection Activities for Systems serving more than 3,300 persons

States will conduct the following activities for CWSs serving more than 3,300 persons during the data collection phase of the 2011 State DWINSA:

- **Telephone systems to ensure participation.** To improve response rates, states that participate in the 2011 DWINSA will telephone the water systems early in the process to ensure that they have received the survey package and understand how to complete the data collection instrument.
- **Provide technical assistance.** Participating states will provide technical assistance to systems by answering their questions about the data collection instrument and how needs should be represented.
- **Call systems that do not return the data collection instrument by a certain date.** To improve response rates, participating states will telephone systems that have not returned their assessment by a specific date to encourage participation.

- **Review completed data collection instruments and documentation.** The data collection instrument will be returned directly to the state. State personnel will have the opportunity to review the information on the data collection instrument, as well as any accompanying documentation.
- **Discuss results with EPA.** After the state reviews the submission and documentation, the state forwards the data to EPA for review and data entry. EPA performs a second quality control/quality assurance check to ensure all data are documented and allowable. Any differences of opinion regarding the documentation of the data will be resolved by EPA and the state.

2011 Native American DWINSA – Navajo Nation Activities

The Navajo Nation has primary enforcement for water systems within its tribal organization. The Navajo Nation has committed to help EPA administer the 2011 Native American DWINSA with at least the minimum of activities for its water systems that are selected in the 2011 Native American DWINSA. EPA Regional Offices will provide support for all other American Indian and Alaskan Native Village water systems. Their activities are discussed in A.5.

Navajo Nation Up-Front Activities

This first activity category includes the Navajo Nation “fixed burden” for helping EPA prepare for the 2011 Native American DWINSA.

- **Participate in training and other pre-mailout efforts.** This activity includes participating in training sessions offered by EPA and becoming familiar with the survey design and policies. In addition, it includes activities such as reviewing the draft data collection instrument.
- **Help EPA verify SDWIS data.** There are several important variables for which SDWIS data must be verified. Critical inventory data for the statistical sample will need to be reviewed. Such data include PWSID, system name, address, telephone numbers (if any), primary source, population served, number of service connections, whether the facility is a NPNCWSs, and whether the system is a consecutive system, To help with this verification activity, EPA will provide the information that must be reviewed in electronic form.
- **Perform miscellaneous administrative activities.** The Navajo Nation will perform various administrative duties prior to the 2011 Native American DWINSA (e.g., establishing system files). In addition, Navajo Nation management will explain the 2011 Native American DWINSA to staff and allocate resources.

Navajo Nation Data Collection Activities

The Navajo Nation will conduct the following activities for their water systems during the data collection phase:

- **Telephone systems to ensure participation.** The Navajo Nation will contact the water system operators of systems selected in the 2011 Native American DWINSA to ensure

participation and to schedule time to discuss the systems 20-year need and review the completed data collection instrument.

- **Review the IHS SDS projects.** The Navajo Nation will review the list of projects extracted from the IHS SDS and incorporate appropriate projects on to the 2011 DWINSA data collection instrument.
- **Discuss 20-year need.** The Navajo Nation will contact the water system and discuss projects that have been identified, ask basic questions about the physical design of the plant, system configuration, and capital needs, and request additional documentation from the water system.
- **Complete the data collection instrument.** Based on all the data collected from IHS and the water system, the Navajo Nation will complete the data collection instrument and submit it to EPA. An estimate of total amount of pipe in the system must be provided if any pipe project is submitted without independent documentation of need (e.g., a planning document).
- **Discuss results with EPA.** After the data collection instrument is submitted, EPA will perform a quality control/quality assurance check to ensure all data are documented and allowable. Any differences of opinion regarding the documentation of the data will be resolved by EPA and the Navajo Nation.

A.5 INFORMATION COLLECTED: AGENCY ACTIVITIES, COLLECTION METHODOLOGY, AND INFORMATION MANAGEMENT

A.5.a Agency Activities

A.5.a.i EPA and Contractor Activities

Many of the EPA activities described here will be conducted by contractors with EPA oversight/technical direction. For example, EPA will oversee contractor development of the data collection methodology and collection and analysis of assessment data. For purposes of describing Agency activities related to the 2011 DWINSA, contractor effort is not distinguished from EPA effort. Separate estimates for contractor burden and cost will be provided in Section A.6.c. In addition, Section B.1.c describes the contractor's role.

Up-Front Activities

The following pre-assessment activities will be conducted:

- **Revise the data collection instrument.** EPA is revising the data collection instrument based on lessons learned during the previous DWINSAs and to incorporate questions on “green” and climate readiness infrastructure projects. This task will include developing cover letters and other materials for state use.
- **Train state and Navajo Nation participants.** To ensure that participating state and Navajo Nation officials understand every aspect of the 2011 DWINSA, EPA will conduct regional training sessions. The training will help ensure consistent responses across the country, high response rates, and efficient use of staff.
- **Select 2011 DWINSA respondents.** The Agency will draw state samples for the 2011 State DWINSA, a national sample for the American Indian portion of the 2011 Native American DWINSA, and a sample of Alaskan Native Village water systems.
- **Update data system.** EPA will update the data system used for the 2007 DWINSA to store and analyze data. The system will produce the necessary statistical reports for EPA, Congress, states, and the Navajo Nation. The system will also allow EPA, state, and Navajo Nation offices access to the data.
- **Send data collection instruments.** This will include preprinting information on the front and last page of the data collection instrument, printing a list of projects reported in the 2007 DWINSA for systems that are selected to participate in the 2011 State DWINSA, and sending the data collection instrument and additional material via FedEx directly to the selected systems for the 2011 State DWINSA. For the 2011 Native American DWINSA, data collection instruments will be sent to the EPA Regional Offices or Navajo Nation.

Data Collection Activities

EPA will conduct the following activities during the data collection phase of the 2011 DWINSA:

- **Provide technical assistance.** The Agency will maintain a helpline primarily to provide technical assistance to water systems (unless the state prefers to do so). The helpline will promote consistent responses across the country.
- **Review completed data collection instruments.** EPA will review the completed data collection instruments to ensure that all data are documented and allowable.
- **Maintain the data.** EPA will enter DWINSA data into the data system and perform quality control/quality assurance checks of data entry.

A.5.a.ii EPA Regional Activities for the 2011 Native American DWINSA

EPA Regional Offices will help EPA Headquarters administer the 2011 Native American DWINSA with at least the minimum of activities. Support will be provided for all American Indian (except for those water systems under the primacy of the Navajo Nation) and Alaskan Native Village water systems.

EPA Regional Offices Up-Front Activities

This first activity category includes the EPA Regional Offices “fixed burden” for helping EPA prepare for the 2011 Native American DWINSA.

- **Participate in training and other pre-mailout efforts.** This activity includes participating in training sessions offered by EPA and becoming familiar with the survey design and policies. In addition, it includes activities such as reviewing the draft data collection instrument.
- **Help EPA verify SDWIS data.** There are several important variables for which SDWIS data must be verified. Critical inventory data for the statistical sample will need to be reviewed. Such data include PWSID, system name, address, telephone numbers (if any), primary source, population served, number of service connections, whether the facility is a NPNCWSs, and whether the system is a consecutive system, To help with this verification activity, EPA will provide the information that must be reviewed in electronic form.
- **Perform miscellaneous administrative activities.** EPA Regional Offices will perform various administrative duties prior to the 2011 Native American DWINSA (e.g., establishing system files). In addition, EPA Regional management will explain the 2011 Native American DWINSA to staff and allocate resources.

EPA Regional Offices Data Collection Activities

EPA Regional Offices will conduct the following activities for the American Indian water systems (except those water systems under the primacy of the Navajo Nation) and Alaskan Native Village water systems during the data collection phase:

- **Telephone systems to ensure participation.** EPA Regional Offices will contact the water system operators of systems selected in the 2011 Native American DWINSA to ensure participation and to schedule time to discuss the systems 20-year need and review the completed data collection instrument.
- **Review the IHS SDS projects.** EPA Regional Offices will review the list of projects extracted from the IHS SDS and incorporate appropriate projects on to the 2011 DWINSA data collection instrument.
- **Discuss 20-year need.** EPA Regional Offices will contact the water systems and discuss projects that have been identified, ask basic questions about the physical design of the plant, system configuration, and capital needs, and request additional documentation from the water system.
- **Complete the data collection instrument.** Based on all the data collected from IHS and the water system, EPA Regional Offices will complete the data collection instrument and submit it to EPA. An estimate of total amount of pipe in the system must be provided if any pipe project is submitted without independent documentation of need (e.g., a planning document).
- **Discuss results with EPA.** After the data collection instrument is submitted, EPA will perform a quality control/quality assurance check to ensure all data are documented and allowable. Any differences of opinion regarding the documentation of the data will be resolved by EPA and EPA Regional Offices.

A.5.b Collection Methodology and Management

This section discusses the steps that EPA has taken to ensure that the information being collected will be accurate, reliable, and retrievable. This methodology was developed using experience gained in conducting the previous DWINSAs. EPA has incorporated into this methodology comments and advice from EPA staff involved with those assessments.

Development of Data Collection Instrument

Appendix B contains the data collection instrument. EPA has developed the 2011 DWINSA approach and the data collection instrument with the assistance of a workgroup. As is explained in Section A.3.c, the workgroup includes EPA Headquarters, EPA Regional, tribal, and state representatives. The 2011 DWINSA approach and many of the refinements to the data collection instrument were based on experience in conducting the 1995, 1999, 2003, and 2007 DWINSAs. In addition, EPA conducted a limited peer review of the 2011 DWINSA data collection instrument. In developing the 2011 DWINSA, EPA will select a set of appropriate assessment objectives that are easily answerable by knowledgeable respondents. Section B.2.c.ii describes the steps taken to ensure that the data collection instrument will be an effective tool for retrieving the information EPA needs to meet the 2011 DWINSA objectives.

Methodology for 2011 State DWINSA – CWSs serving more than 3,300 persons

Most systems serving more than 100,000 persons have CIPs or similar documents that summarize their needs. Therefore, these systems are generally able to provide accurate information on their needs and, for some needs, accurate estimates on the associated cost. A data collection instrument will be sent to every CWS that serves more than 100,000 persons. Clarifying information for completing the data collection instrument will be available from the state or EPA. The experience of states that participated in the previous DWINSAs indicates that systems serving 3,301 – 100,000 persons can reliably complete a data collection instrument, if technical support is available. Most of these systems could provide reliable data on the needs, and a large portion could provide cost estimates for meeting those needs.

Also, systems that participated in the 2007 DWINSA and are selected to participate in the 2011 DWINSA will receive a copy of their projects from the 2007 DWINSA. These systems will be able to update the information on the list and add new projects to the data collection instrument. States will provide technical support to the systems participating in the 2011 DWINSA by answering their questions. EPA will also offer a helpline for state and system personnel.

EPA will send the data collection instrument directly to the systems. Respondents will send the completed data collection instruments to the state. The state will review all data and provide a quality control/quality assurance function. The state will then forward the data collection instrument and supporting documentation to EPA for review and data entry. EPA will perform a second quality control/quality assurance check to ensure that all data are documented and allowable. EPA will enter the data (for systems that did not use the electronic reporting form) into the data system. States are provided access to the data system and are able to verify that the data have been entered into the data system. Projects or cost estimates that are not documented will be identified in the data system as lacking documentation. If the system or state does not provide documentation, the project or cost estimate will be deleted from the 2011 State DWINSA.

For projects that do not have cost estimates, EPA will model the costs.

Methodology for 2011 State DWINSA – CWSs serving 3,300 and fewer persons

Due to funding limitations, data will not be collected in the 2011 State DWINSA from CWSs serving 3,300 and fewer persons. Their needs will be based on data collected during the 2007 DWINSA and updated to 2011 dollars.

Methodology for American Indian and Alaskan Native Village Water Systems

EPA Regional Offices and the Navajo Nation will use EPA, IHS, and tribal resources to establish an estimate of need for the American Indian and Alaskan Native Village water systems. To ensure that all appropriate systems are addressed, EPA Regional Offices and the Navajo Nation will review the inventory data in SDWIS and provide any updates or changes to EPA Headquarters. The EPA Regional Offices and the Navajo Nation will collect information on the projects needed by the selected systems over the 20-year period and complete the data collection instrument. The information will be collected on the same data collection instrument as will be used for the 2011 State DWINSA.

The data collection instruments will then be forwarded to EPA for review and data entry. EPA will perform a quality control/quality assurance check to ensure that all data are documented and allowable. EPA will enter the data (for systems that did not use the electronic reporting form) into the data system. If

the EPA Regional Office or the Navajo Nation chooses, it may verify that the data have been entered into the data system. Projects or cost estimates that are not documented will be identified in the data system as lacking documentation. If the system, EPA Regional Office, or Navajo Nation does not provide documentation, the project or cost estimate will be deleted from the 2011 Native American DWINSA.

For projects that do not have a cost, the costs for American Indian projects will be assigned using the models developed for the overall 2011 State DWINSA. For Alaskan Native Village projects will be modeled using the costs model with adjustments to reflect unique construction challenges in arctic areas.

Data Quality

It is crucial that the results of the DWINSA be as uniform as possible across the country. Toward this end, EPA will take the following steps:

- EPA will establish a uniform set of assumptions or criteria for state, the Navajo Nation, EPA Regions, EPA Headquarters, and contractor staff to evaluate data submitted by systems.
- EPA will provide training to all those involved in the DWINSA to ensure that the assumptions and procedures are clear and understood.
- EPA will provide quality assurance reviews of each data collection instrument submitted to ensure compliance with DWINSA policies and accuracy of data.

Among the most important steps in quality assurance is training. EPA will provide training sessions for state, EPA Regional, and Navajo Nation staff involved in the 2011 DWINSA. The regional training sessions will be designed to enable state, EPA Regional, and Navajo Nation staff to review completed data collection instruments and respond to questions from systems on the data collection instrument. The training will emphasize the following elements:

- Identifying the capital improvements associated with source, treatment, transmission, distribution, and storage.
- Discussing policies and documentation requirements.
- Completing the 2011 DWINSA data collection instrument.

EPA will develop materials for distribution to state, EPA Regional, and Navajo Nation personnel who are unable to attend regional training sessions.

In addition to the training sessions, EPA will provide support for a helpline for state, EPA Regional, Navajo Nation, and water system personnel. It is anticipated that the helpline will be used primarily to provide information to the EPA Regions, Navajo Nation, and states and that they will provide technical support to the systems. However, the helpline will be available to systems in states that have chosen not to provide their own technical assistance. Helpline staff will refer questions that raise a policy or technical issue to EPA staff.

Data quality will be assured by implementing the following mechanisms throughout the gathering and processing phases of the information collection:

- **Adequate documentation.** EPA has requested documentation of needs and costs, when available, to ensure the accuracy and reliability of the data. Acceptable forms of documentation of needs and costs are listed on List 4 of the Lists of Codes. EPA will not accept needs or costs without adequate documentation. EPA will make it very clear to respondents that they are not expected to develop cost estimates for the purposes of the 2011 DWINSA. The costs of projects without a cost estimate will be modeled by EPA.
- **Provide an estimate of the total length of pipe in the water system.** This information will only be required for water systems that submit projects for rehabilitation or replacement of pipe that are not independently documented (i.e., planning document, sanitary survey, or leak and break records). It is expected that not all systems will need to provide this information. This information is necessary to allow EPA to determine that the need reported is reasonable for a 20-year timeframe.
- **Receipt control.** The primary objective of the receipt control system will be to ensure that completed forms submitted by respondents (or forwarded by states) are logged in promptly and given proper chain of custody. A second objective is to provide states with the data needed to monitor cumulative receipts by date to identify potential problems with the response rate. Such response rate problems could necessitate action. See Section B.2.c.ii for EPA's method for improving the response rate. States that receive data collection instruments from respondents will be trained in receipt control.
- **Data review by states, EPA Regional Offices, and Navajo Nation.** EPA will rely on the states, EPA Regional, Offices, and the Navajo Nation to help ensure data quality. Fifteen states will not participate in the statistical portion of the 2011 State DWINSA (i.e., collecting data from systems serving 3,301 – 100,000 persons). However, all states that have systems serving more than 100,000 persons will participate in the census portion of the survey. EPA will ask the Association of State Drinking Water Administrators (ASDWA) to communicate with the state drinking water administrators to encourage their participation. EPA believes that state review is essential in ensuring nationally consistent results because the states have more frequent communications with systems and possess a better understanding of each particular system's needs. Therefore, state personnel will have the opportunity to review the information on the form, as well as any accompanying documentation. When necessary, the states will contact the system to ask for clarifying information.
- **Data entry.** For data collection instruments submitted in hard copy form, the EPA contractor will screen the completed data collection instruments for legibility, completeness, and internal consistency, prior to entry into the DWINSA data. Reviewers will also assign comment codes to projects to describe any changes made to the data collection instruments. Data from the data collection instruments will be keyed into the data only after they have passed the initial screening. As data are keyed, an automatic data entry program will provide reasonable bounds checking and data verification. The program will signal the data entry operator, if an entry is out of the allowable range or is an invalid entry. For data collection instruments submitted electronically, the EPA contractor will follow the same review procedures as those submitted in hard copy.

- **Data systems.** EPA updated a Web-based data system for the 2007 DWINSA that will be used for the 2011 DWINSA. The Web-based system includes a data entry interface that allows the Agency and its contractor to input data and allows states, EPA Regions, and the Navajo Nation to access, download, verify, and suggest modifications to their data (www.DWNeeds.com). EPA will use a commercial “off the shelf” program, Microsoft Access, to manage the information. The data system will provide the following functions:
 - Data entry through the user interface or batch upload.
 - Data verification through bounds checking.
 - A password-protected data modification interface.
 - Data access for states, EPA Regions, and the Navajo Nation for review and verification of their data.
 - Predefined summary and statistical reports.

- **Cost reasonableness ranges.** EPA will develop “cost reasonableness ranges” to help verify the accuracy of the data and identify projects for further review.

Public Access to Data

The Agency’s policy is to make the fullest possible disclosure of information without unjustifiable expense or unnecessary delay to the requester. Once the final Report to Congress has been submitted, the public will be given access to assessment data in accordance with EPA’s policies and procedures for Freedom of Information Act (FOIA) requests. However, as a matter of policy, EPA will not disclose the identity of any respondent to the 2011 DWINSA. EPA will develop standard report formats for providing data to the public.

A.5.c Small Entity Flexibility

In designing the 2007 DWINSA methodology, EPA has taken small systems’ relatively limited technical capabilities and financial resources into account. EPA’s experience with the previous DWINSAs has shown that small systems lack the resources and technical ability to complete the data collection instruments. Small CWSs (those serving 3,300 and fewer persons) under states primacy will not be included in the 2011 State DWINSA. EPA will use the results from the 2007 DWINSA adjusted to 2011 dollars. For NPNCWSs, EPA will use the 1999 DWINSA results as the primary basis for the 2011 State DWINSA estimates.

EPA will conduct a census of all American Indian systems serving more than 10,000 (there are no Alaskan Native Village systems that serve more than 10,000 persons) and will select a random sample of American Indian and Alaskan Native Village systems serving 10,000 and fewer persons. Past experiences with the DWINSA has shown that many of these systems cannot complete the data collection instrument. Instead of mailing a data collection instrument to the water systems, EPA Regions and the Navajo Nation will collect data and complete the data collection instrument for the water systems.

EPA anticipates that almost all of the systems serving 3,300 and fewer (for the 2011 Native American DWINSA only) will not be able to provide information on all needs and capital costs. For projects without a documented cost, EPA will model a cost.

A.5.d Collection Schedule

The current schedule assumed EPA would receive OMB approval for data collection by December 1, 2010. The schedule will be adjusted based on the final approval date. EPA will send data collection instruments to drinking water systems as soon as possible after OMB approval. All systems participating in the 2011 DWINSA will be asked to complete and return the data collection instruments to their state within 1 month of receipt.

To facilitate efficient data entry at EPA Headquarters, EPA will ask the states to submit data for one-third of the systems within 3 months after data collection begins. Data for two-thirds of the systems will be due within 6 months, and all data will be due on November 2011. Exhibit A-5-1 summarizes the major collection milestones.

Exhibit A-5-1 Collection Schedule

| Task | Date |
|---|-------------------|
| Information Collection Request Submitted to OMB | November 2010 |
| EPA Selects Systems to be Included in State Samples | By September 2010 |
| States Submit to EPA Contact Information to be Included on Return FedEx Labels | By December 2010 |
| Training Sessions for States, EPA Regions, and the Navajo Nation | October 2010 |
| Mail Out of Data Collection Instruments to Selected Systems or to EPA Regions and the Navajo Nation | January 2011 |
| Deadline Given to Systems to Return the Data Collection Instrument to States | February 2011 |
| 1/3 of Sent Data Collection Instruments Returned by States, EPA Regions, and the Navajo Nation to EPA | July 2011 |
| 2/3 of Sent Data Collection Instruments Returned by States, EPA Regions, and the Navajo Nation to EPA | September 2011 |
| All Sent Data Collection Instruments Returned by States, EPA Regions, and the Navajo Nation to EPA | November 2011 |
| No New Projects Will Be Accepted by EPA | November 2011 |
| No New Information on Submitted Projects Will Be Accepted by EPA | January 2012 |
| All Information in the Data System Finalized | February 2012 |
| Report to Congress Due | February 2, 2013 |

A.6 ESTIMATING THE BURDEN AND COST OF THE COLLECTION

A.6.a Respondent Burden

A.6.a.i Burden to Public Water Systems

The annual water system burden for the 2011 DWINSA is estimated to be approximately 5,931 hours (approximately a total of 23,723 hours). Exhibit A-6-9 shows the breakdown of the annual burden hours for CWSs by system size in the 2011 State DWINSA. The basis for the burden estimates are detailed below.

2011 State DWINSA – CWSs Serving More Than 50,000 Persons

The respondent burden for the systems serving more than 50,000 persons consists of systems' burden for completing the data collection instrument. EPA estimates that the total unit burden is 10.42 hours per system. Exhibit A-6-1 summarizes the unit burden, broken down by activity and labor category.

- **Participate in informational phone call.** Each informational call should last about 15 minutes (0.25 hours). EPA anticipates that management staff will take the call at half of the systems and technical staff will take the call at the other half. Thus, the unit burdens are 0.125 hours for management staff and 0.125 hours for technical staff.
- **Read cover letter/data collection instructions.** EPA made the following assumptions in estimating the burden for reviewing the cover letter and data collection instructions:
 - A manager will receive the 2011 DWINSA and read the cover letter. The estimated time for managers to review the cover letter is 30 minutes (0.50 hours).
 - Technical staff will read the cover letter and data collection instructions. EPA estimates that the burden for this activity is 1 hour per system.

Thus, the total unit burden is 1.5 hours per system [0.50 + 1.0].

- **Collect and copy supporting documentation.** Time required to review system files, and collect and copy supporting documentation will vary greatly. EPA estimates that it will take 1.5 hours at 30 percent of the systems, 2.5 hours at 30 percent of the systems, 4 hours at 30 percent of the systems, and 16 hours at 10 percent of the systems. Thus, the average time per system is as follows:

$$(1.5 \times 0.30) + (2.5 \times 0.30) + (4 \times 0.30) + (16 \times 0.10) = 4.0 \text{ hrs/system}$$

- **Call for technical assistance.** Many systems will call states for technical assistance. In developing the burden estimate for this activity, EPA made the following assumptions:
 - The number of requests for assistance will equal 100 percent of the number of systems. (This estimate accounts for the fact that some systems will call more than once, while some will not call at all.)
 - Each call will be placed by technical staff.

- About 50 percent of the questions will be “straightforward” and require a single phone call averaging 15 minutes (0.25 hours).
- About 50 percent of the questions will require the state to perform research and call the system back. In this case, EPA estimates that the total burden for the two calls is 26 minutes (0.43 hours).

Thus, the total unit burden is 20.5 minutes (0.34 hours) per system $[(0.50 \times 0.25) + (0.50 \times 0.43)]$.

- **Complete data collection instrument.** EPA estimates that technical staff will take 3 hours to complete the project table of the data collection instrument. This estimate is consistent with EPA’s experience with the previous DWINSAs. In addition, EPA estimates that 10 percent of the systems will have “green” or climate readiness infrastructure projects and will take an additional 20 minutes (0.33 hours) to provide information on these projects. Management is expected to take 18 minutes (0.30 hours) to review the completed data collection instrument for accuracy. Clerical staff is anticipated to take 1 hour to provide support to the technical and managerial staff. Thus, the total unit burden is approximately 4.33 hours per system.

Exhibit A-6-1 Estimated Unit Burden for Systems Serving More Than 50,000 Persons

| Activity | Estimated Burden (hours) | | | |
|--|--------------------------|-------------|-------------|--------------|
| | Management | Technical | Clerical | Total |
| Participate in informational phone call | 0.125 | 0.125 | | 0.25 |
| Read cover letter/data collection instructions | 0.50 | 1.00 | | 1.50 |
| Collect and copy supporting documentation | | 2.00 | 2.00 | 4.00 |
| Call for technical assistance | | 0.34 | | 0.34 |
| Complete data collection instrument | 0.30 | 3.03 | 1.00 | 4.33 |
| TOTAL | 0.93 | 6.50 | 3.00 | 10.42 |

2011 State DWINSA – CWSs Serving 3,301 – 50,000 Persons

Exhibit A-6-2 shows the unit burden for 1,936 systems serving 3,301 – 50,000 persons. EPA estimates that each of these systems will take a total of 6.81 hours to respond to the 2011 State DWINSA.

- **Participate in informational phone call.** Each informational call should last about 15 minutes (0.25 hour). EPA anticipates that management staff will take the call at half of the systems and technical staff will take the call at the other half. Thus, the unit burdens are 0.125 hours for management staff and 0.125 hour for technical staff.
- **Read cover letter/data collection instructions.** EPA used the following assumptions to estimate the burden for reviewing the cover letter and data collection instructions:
 - A manager will receive the 2011 DWINSA and read the cover letter. The estimated time for managers to review the cover letter is 30 minutes (0.50 hours).

- Technical staff will read the cover letter and data collection instructions. EPA estimates that the burden for this activity is 1 hour per system.

Thus, the total unit burden is 1.5 hours per system [(0.50) + (1.0)].

- **Collect and copy supporting documentation.** The time required to review system files, and collect and copy supporting documentation will vary greatly. However, systems serving 3,301 – 50,000 persons typically have less documentation than larger CWSs. Therefore, EPA estimates that it will take 1.0 hour at 50 percent of the systems, 2.0 hour at 25 percent of the systems, and 4.0 hours at 25 percent of the systems. Thus, the average time per system is as follows:

$$(1.0 \times 0.5) + (2.0 \times 0.25) + (4.0 \times 0.25) = 2.0 \text{ hrs/system}$$

- **Call for technical assistance.** Many systems will call EPA or the contractor for technical assistance. In developing the burden estimate for this activity, EPA made the following assumptions:
 - The number of requests for assistance will equal 150 percent of the number of systems. (This estimate accounts for the fact that some systems will call more than once.)
 - Each call will be placed by technical staff.
 - About 50 percent of the questions will be “straightforward” and require a single phone call averaging 15 minutes (0.25 hours) in duration.
 - About 50 percent of the questions will require the state to perform research and call the system back. In this case, EPA estimates that the total burden for the two calls will be 30 minutes (0.50 hours).

Thus, the total unit burden is 34 minutes (0.56 hours) per system [1.5 x ((0.50 x 0.25) + (0.50 x 0.50))].

- **Complete data collection instrument.** EPA estimates that technical staff will take 2 hours to complete the data collection instrument. This estimate is consistent with EPA experience with the previous DWINSAs. In addition, EPA estimates that 10 percent of the systems will have “green” or climate readiness infrastructure projects and will take an additional 20 minutes (0.33 hours) to provide information on these projects. Management is expected to take 28 minutes (0.47 hours) to review the completed data collection instrument for accuracy. Thus, the total unit burden is approximately 2.5 hours per system.

Exhibit A-6-2 Estimated Unit Burden for Systems Serving 3,301 – 50,000 Persons

| Activity | Estimated Burden (hours) | | | |
|--|--------------------------|-------------|-------------|-------------|
| | Management | Technical | Clerical | Total |
| Participate in informational phone call | 0.125 | 0.125 | | 0.25 |
| Read cover letter/data collection instructions | 0.50 | 1.00 | | 1.50 |
| Collect supporting documentation | | 1.00 | 1.00 | 2.00 |
| Call for technical assistance | | 0.56 | | 0.56 |
| Complete data collection instrument | 0.47 | 2.03 | | 2.50 |
| TOTAL | 1.10 | 4.72 | 1.00 | 6.81 |

2011 State DWINSA – CWSs serving 3,300 and fewer persons

EPA will adjust the 2007 DWINSA the need for CWSs serving 3,300 and fewer persons to 2011 dollars for the 2011 State DWINSA. There will be no burden for these systems.

2011 Native American DWINSA – American Indian and Alaskan Native Village Water Systems

To minimize the burden on American Indian and Alaskan Native Village water systems, EPA Regional and Navajo Nation personnel will complete the data collection instrument for the water system using the information from the IHS SDS and any additional information collected from the respondent. Because the EPA Region and the Navajo Nation are collecting the information and completing the data collection instrument, the burden imposed on the systems is small. EPA estimates that the unit burden to these systems averages 3.25 hours per system. Exhibit A-6-3 summarizes the burden for each activity.

- **Participate in an informational telephone call from the EPA Regional Office or the Navajo Nation.** Respondents will receive a call that describes the purpose of the DWINSA. The telephone call should take approximately 15 minutes (0.25 hours). Most American Indian and Alaskan Native Village water systems are staffed by one technical person; therefore, the entire burden falls with the technical labor category.
- **Answer basic questions posed by the EPA Regional Office or the Navajo Nation.** Respondents will be expected to answer very basic questions about the physical design of the plant, system configuration, and capital needs. EPA estimates that the burden to assist the EPA Regional Office or Navajo Nation is 2 hours for half of the systems selected and 3 hours for the remaining systems. Thus, the average burden per system is as follows:

$$[(2 \times 0.5) + (3 \times 0.5)] = 2.5 \text{ hrs /system}$$

- **Collect and copy supporting documentation.** Respondents will locate the necessary supporting documentation in system files and copy it. It is anticipated that these systems will have little onsite documentation and that the EPA Regional or Navajo Nation personnel will develop the documentation; therefore, the burden to the system is relatively small. EPA estimates that 25

percent of the systems will not have any documentation, 50 percent will need 30 minutes (0.50 hours), and 25 percent will need 1.0 hour. Thus, the average time per system is as follows:

$$[(0.0 \times 0.25) + (0.5 \times 0.50) + (1.0 \times 0.25)] = 0.5 \text{ hrs/system}$$

Exhibit A-6-3 Estimated Unit Burden for American Indian and Alaskan Native Village Water Systems

| Activity | Estimated Burden (hours) | | | |
|---|--------------------------|-------------|----------|-------------|
| | Management | Technical | Clerical | Total |
| Participate in informational phone call | | 0.25 | | 0.25 |
| Answer questions posed by EPA Regional or Navajo Nation personnel | | 2.5 | | 2.5 |
| Collect and copy supporting documentation | | 0.5 | | 0.5 |
| TOTAL | 0 | 3.25 | 0 | 3.25 |

A.6.a.ii Burden to Primacy Agencies

Participating states and the Navajo Nation will play an important role in conducting the DWINSA—they will help EPA ensure that the 2011 DWINSA is completed and administered consistently nationwide. Note the burden incurred by the EPA Regional Offices for supporting the 2011 Native American DWINSA is not discussed in this section; however, they have the same role as the Navajo Nation. EPA Regional Offices’ burden is discussed in section A.6.c. Most state/Navajo Nation activities will either involve using and reviewing data directly or facilitating EPA’s use and review of data. For example, states and the Navajo Nation will review SDWIS inventory information for the statistical sample and verify that it is correct. States will help ensure a high response rate by telephoning systems serving more than 3,300 persons before the 2011 DWINSA mailout and by making reminder calls to the systems that have not returned their data collection instruments by a specified date. States will help ensure data quality by answering systems’ questions on the data collection instrument and by reviewing completed data collection instruments and accompanying documentation for completeness and accuracy. To minimize the burden on American Indian water systems, Navajo Nation personnel will complete the data collection instrument for the water system using the information from the IHS SDS and any additional information collected from the respondent.

Given varying time and resource constraints, some states will participate in the 2011 DWINSA more fully than others. The burden and cost estimates presented below represent a level of participation that EPA believes will ensure nationally consistent results. EPA encourages all states to participate at least at this level. The unit burden estimates are consistent with what was found to be true in the 2007 DWINSA.

The reader should note that the burden will vary widely by state, even for the same set of activities. A state’s actual burden depends on the number of drinking water systems in the state, the size and sophistication of those systems, the extent to which the state goes beyond the minimum requirements for the 2011 DWINSA, and other factors. Exhibit A-6-4 summarizes the burden estimates for each of the activity categories.

Exhibit A-6-4 Overall State/Navajo Nation Burden Summary

| Activity Category | Estimated Burden |
|---|----------------------------------|
| Up-Front Activities (States & Navajo Nation) | 110 hours, plus 0.2 hours/system |
| State Burden for Systems Serving More Than 50,000 Persons | 6.58 hours per system |
| State Burden for Systems Serving 3,301 – 50,000 Persons | 6.25 hours per system |
| Navajo Nation Burden for Systems | 7.42 hours per system |

Up-Front Burden

This activity category includes the state “fixed burden” for helping EPA prepare for the 2011 DWINSA. The total burden for these activities is 110 hours per state/Navajo Nation, plus 0.2 hour per system assessed. Exhibit A-6-5 summarizes this burden.

- **Participate in training and other pre-mailout efforts.** The burden for this activity is estimated at 80 hours per state and the Navajo Nation and is not expected to depend on the number of systems.
- **Help EPA verify SDWIS data.** Based on past experience, EPA estimates that verifying SDWIS data for systems in the sample will require approximately 12 minutes (0.2 hours) per system.
- **Perform miscellaneous administrative activities.** The burden for these activities should be 30 hours per state and the Navajo Nation.

Exhibit A-6-5 State and Navajo Nation Unit Burden for Up-Front Activities

| Activity | Estimated Burden |
|--|---|
| Participate in training and other pre-mailout activities | 80 hours/state & Navajo Nation |
| Help EPA verify SDWIS data | 0.2 hours/system |
| Perform miscellaneous administrative activities | 30 hours/state & Navajo Nation |
| TOTAL | 110 hours/state & Navajo Nation, plus 0.2 hours/system |

State Burden for CWSs Serving More Than 50,000 Persons

This section estimates the state burden for helping EPA conduct the 2011 State DWINSA for systems serving more than 50,000 persons by providing technical assistance where needed, calling systems that do not return the data collection instrument on time, reviewing the completed data collection instrument and documentation, and discussing the results with EPA. Although most of these systems will be able to answer the questions on the data collection instrument, states will provide them with clarifying

information as necessary. The state burden for activities associated with the systems serving more than 50,000 persons is summarized in Exhibit A-6-6, which follows the activity descriptions.

- **Telephone systems to ensure participation.** EPA estimates that this preliminary phone call will take about 15 minutes (0.25 hours) per system.
- **Provide technical assistance.** In developing a burden estimate for this analysis, EPA made the following assumptions:
 - The number of requests for technical assistance will equal 100 percent of the number of systems. (This estimate accounts for the fact that some systems will call more than once while some will not call at all.)
 - Of those that do require technical assistance, about 50 percent of their questions will be “straightforward,” requiring only 15 minutes (0.25 hours) to answer.
 - About 25 percent of their questions will entail limited research and follow-up, requiring 30 minutes (0.50 hours) to answer, including time to call EPA with questions.
 - About 25 percent of their questions will require the state to perform some research and will require 1.0 hour to answer.

Therefore, the state burden for providing technical assistance is estimated at about 30 minutes (0.50 hours) per request [$0.5 \times 0.25 + 0.25 \times 0.50 + 0.25 \times 1.0$]. This is an average. Some states may choose to provide a much higher or lower level of technical assistance than anticipated by EPA.

- **Call back systems that do not return the data collection instrument by a certain date.** EPA assumes that the number of these “reminder” calls will equal 100 percent of the systems. This assumes that most (but not all) will need at least one reminder call and a few will need two or three. The average time for these calls is 20 minutes (0.33 hours) per system. This does not include answering technical questions, which is accounted for above. Rather, it includes locating the correct contact person and obtaining a brief report on the status of the 2011 DWINSA response.
- **Review completed data collection instruments and documentation.** The data collection instrument will be returned directly to the state for review. For some systems, this documentation is expected to be quite voluminous and reviewing it will be the most burdensome part of the 2011 DWINSA. The time required for this review is difficult to estimate. States that generate their own documentation for the 2011 DWINSA or add projects for distribution or transmission projects are required to ensure that the total pipe inventory section on the 2011 DWINSA is completed. Based on discussions with the states concerning their level of effort in previous assessments, EPA estimates that, on average, states will take 5.0 hours to review each submission. This estimate includes the time required to make follow-up phone calls and gather additional information as necessary.
- **Discuss results with EPA.** To estimate the state burden for resolving questions on the completed data collection instruments, EPA made the following assumptions:

- EPA will have questions on 50 percent of the completed data collection instruments. Some of these questions will actually apply to all systems.
- Each question will take the state 1 hour to resolve.

Therefore, the burden per system is 0.5 times 1 hour, or 0.5 hours per system [0.50 x 1.0].

Exhibit A-6-6 State Unit Burden for Systems Serving More Than 50,000 Persons

| Activity | Estimated Burden (hours per system) |
|---|--|
| Call to ensure participation | 0.25 |
| Provide Technical Assistance | 0.50 |
| Call back systems that do not return the data collection instrument by a certain date | 0.33 |
| Review completed assessment forms and documentation | 5.00 |
| Discuss results with EPA | 0.50 |
| TOTAL | 6.58 |

State Burden for CWSs Serving 3,301 – 50,000 Persons

This section estimates the state burden for helping EPA conduct the 2011 State DWINSA for systems serving 3,301 – 50,000 persons by telephoning systems to ensure participation, calling back systems that did not return the data collection instrument on time, reviewing the completed data collection instrument and the accompanying documentation, and discussing the results with EPA. The state burden for activities associated with systems serving 3,301 – 50,000 persons is summarized in Exhibit A-6-7, which follows the activity descriptions.

- **Telephone systems to ensure participation.** EPA estimates that this preliminary phone call will take about 15 minutes (0.25 hours) per system.
- **Provide technical assistance.** In developing a burden estimate for this analysis, EPA made the following assumptions:
 - The number of requests for technical assistance will equal 150 percent of the number of systems. (This estimate accounts for the fact that some systems make such requests more than once.)
 - Of those that do require technical assistance, about 50 percent of their questions will be “straightforward,” requiring only 15 minutes (0.25 hours) to answer.
 - About 25 percent of their questions will entail limited research and follow-up, requiring 30 minutes (0.50 hours) to answer, including time to call EPA with questions.

- About 25 percent of their questions will require the state to perform some research, and will require 1.0 hour to answer.

Therefore, the state burden is estimated at about 45 minutes (0.75 hours) per request [$1.5 \times ((0.5 \times 0.25) + (0.25 \times 0.50) + (0.25 \times 1.0))$]. This is an average. Some states may choose to provide a much higher or lower level of technical assistance than anticipated by EPA.

- **Call back systems that do not return the data collection instrument by a certain date.** It is assumed that the number of these “reminder” calls will equal 100 percent of the systems. This assumes that most (but not all) will need at least one reminder call and some will need two or three. The average time for these calls is 30 minutes (0.50 hours) per system. This does not include answering technical questions, which is accounted for above. Rather, it includes locating the correct contact person and obtaining a brief report on the status of the 2011 DWINSA response.
- **Review completed data collection instruments and documentation.** The data collection instrument will be returned directly to the state for review. For states, this is the most burdensome part of the 2011 DWINSA and the burden for this review is difficult to estimate. States that generate their own documentation for the 2011 DWINSA or add projects for distribution or transmission projects are required to ensure that the total pipe inventory section on the 2011 DWINSA is completed. For this ICR, EPA assumes that this activity takes states an average of 4.25 hours per system.
- **Discuss results with EPA.** To estimate the state burden for resolving questions on completed data collection instruments, EPA made the following assumptions:
 - EPA will have questions on 50 percent of the completed data collection instruments. Some of these questions will actually apply to all systems.
 - Each question will take the state 1 hour to resolve.

Therefore, the burden per system is 0.5 times 1 hour, or 0.50 hours per system.

Exhibit A-6-7 State Unit Burden for Systems Serving 3,301 – 50,000 Persons

| Activity | Estimated Burden (hours per system) |
|---|--|
| Telephone systems to ensure participation | 0.25 |
| Provide Technical Assistance | 0.75 |
| Call back systems that do not return the data collection instrument by a certain date | 0.50 |
| Review completed data collection instruments and documentation | 4.25 |
| Discuss results with EPA | 0.50 |
| TOTAL | 6.25 |

State Burden for CWSs Serving 3,300 and Fewer Persons

The 2011 State DWINSA will use the 2007 DWINSA need for CWSs serving 3,300 and fewer persons adjusted to 2011 dollars. There will be no state burden for these CWSs.

Navajo Nation Burden

This section estimates the burden for the Navajo Nation to conduct the 2011 Native American DWINSA for systems under their primacy. Activities include telephoning systems to ensure participation, gathering information about the systems' 20-year need, completing the data collection instrument for the system, and discussing the results with EPA. The Navajo Nation's burden for activities associated with the water systems is summarized in Exhibit A-6-7, which follows the activity descriptions.

- **Contact selected water systems.** The Navajo Nation will contact select systems to explain the 2011 DWINSA and to schedule a time for a longer discussion about the water systems 20-year need. The telephone call should take approximately 15 minutes (0.25 hours).
- **Gather Information from IHS and water systems.** To minimize the burden on American Indian water systems, Navajo Nation personnel will complete the data collection instrument for selected water systems under their primacy. EPA estimates that the Navajo Nation will use information from the IHS SDS, any information they have on file regarding infrastructure improvements, and additional information they collect from the water system. EPA estimates that the burden to obtain information for half of the systems selected is 2 hours and 10 minutes (0.17 hours) and 3 hours and 10 minutes (0.17 hours) for the remaining systems. Thus, the average burden per system is as follows:

$$[(2.17 \times 0.5) + (3.17 \times 0.5)] = 2.67 \text{ hrs /system}$$

- **Complete the data collection.** The Navajo Nation will complete the data collection instrument based on the information they collected from IHS and the water system. It is anticipated that these systems will have little onsite documentation and that the Navajo Nation personnel will develop the documentation of need for the system. EPA estimates the average time per system is 4 hours.
- **Discuss results with EPA.** To estimate the Navajo Nation burden for resolving questions on completed data collection instruments, EPA made the following assumptions:
 - EPA will have questions on 50 percent of the completed data collection instruments. Some of these questions will actually apply to all systems.
 - Each question will take Navajo Nation 1 hour to resolve.

Therefore, the burden per system is 0.5 times 1 hour, or 0.5 hours per system [0.50 x 1.0].

Exhibit A-6-8 Navajo Nation Unit Burden for Systems

| Activity | Estimated Burden (hours per system) |
|--|--|
| Participate in informational phone call | 0.25 |
| Gather information on projects from IHS and water system | 2.67 |
| Complete data collection instrument | 4 |
| Discuss results with EPA | 0.5 |
| TOTAL | 7.42 |

A.6.b Respondent Costs

A.6.b.i Costs to Public Water Systems

Exhibit A-6-9 summarizes the burden and costs to water systems. Total costs are estimated at \$802,275, which consists solely of labor costs. There are no operation and maintenance (O&M) costs or capital costs associated with the collection.

PWS labor costs are based on the number of burden hours multiplied by the average hourly wage rate, including overhead. The average hourly wage rate is the rate taken from a 2003 EPA document entitled Labor Costs for National Drinking Water Rules. The quoted rate was \$26.05 in 2003 dollars for systems serving 50,000 and fewer persons and \$31.26 in 2003 dollars for systems serving more than 50,000 persons. This rate has been inflated to 2009 dollars using the Employment Cost Index. The inflated rate is \$31.30 for systems serving 50,000 and fewer persons and \$37.56 for systems serving more than 50,000 persons.

Exhibit A-6-9 Total Burden and Cost to Water Systems

| Respondent | Unit Burden (hours) | | | Total Responses | Total Hours | Hourly Rate | Total Cost |
|--|---------------------|--------------|-------------|-----------------|---------------|-------------|------------------|
| | Management | Technical | Clerical | | | | |
| Systems Serving More Than 50,000 Persons | 0.93 | 6.50 | 3.00 | 916 | 9,544 | \$37.56 | \$358,473 |
| Systems Serving 3,301 – 50,000 Persons | 1.10 | 4.72 | 1.00 | 1,936 | 13,184 | \$31.30 | \$412,659 |
| American Indian and Alaskan Native Village Water Systems | 0 | 3.25 | 0 | 306 | 995 | \$31.30 | \$31,144 |
| TOTAL | 2.02 | 14.46 | 4.00 | 3,158 | 23,723 | | \$802,275 |

Note: The average burden per response is 7.51 hours (23,723/3,158).
Numbers may not add due to rounding.

A.6.b.ii Cost to States and the Navajo Nation

Exhibit A-6-10 shows the annual costs to states and the Navajo Nation. The cost burden for EPA Regional Offices is discussed in section A.6.c. As previously discussed, all states and the Navajo Nation have committed to help EPA administer the 2011 DWINSA with at least the minimum of activities; specifically, the states and Navajo Nation will assist in surveying 2,892 systems. Based on EPA’s projection that all states and the Navajo Nation will participate in the DWINSA, the cost to states and the Navajo Nation is \$1,045,250. The labor costs are based on an average full time equivalent (FTE) cost of \$86,029 including overhead, which equates to approximately \$41.36 per hour.⁶ This rate, which has been inflated to year 2009 dollars, is based on the rate used in the 2007 DWINSA and is consistent with the rates used in ICRs recently developed by the Agency.

There are no O&M or capital costs for states or the Navajo Nation under this ICR.

Exhibit A-6-10 Total Burden and Cost to States

| Activity | Number of States/ Systems | Unit Burden | Total Burden (hours) | Hourly Rate | Total Cost |
|--|------------------------------|---------------------------------------|-------------------------|-------------|--------------------|
| Up-front | 57 ⁷ | 110 hours/state & Navajo Nation | 6,270 | \$41.36 | \$259,327 |
| | 2,892 ⁸ | 0.20 hours/system | 578 | \$41.36 | \$23,906 |
| State burden for systems serving more than 50,000 persons assessment | 916 | 6.58 hours/system | 6,027 | \$41.36 | \$249,277 |
| State burden for systems serving 3,301 – 50,000 persons assessment | 1,936 | 6.25 hours/system | 12,100 | \$41.36 | \$500,456 |
| Navajo Nation burden for systems | 40 | 7.42 hours/system | 297 | \$41.36 | \$12,284 |
| TOTAL | | | 25,272 | | \$1,045,250 |

⁶ According to the *ICR Handbook*, an employee is paid an average of 2,080 hours in 1 year.

⁷ Fifty-seven includes the 50 states plus the District of Columbia, Puerto Rico, Northern Mariana Islands, American Samoa, Guam, the U.S. Virgin Islands, and the Navajo Nation.

⁸ The total number of systems in the 2011 DWINSA is 3,158 systems. The number of systems shown is the number of total systems selected for the 2011 DWINSA minus the American Indian and Alaskan Native Village systems supported by the EPA Regional offices; the burden for these systems is addressed in the Agency burden section in A.6.c. The number, however, includes the 40 American Indian water systems to be surveyed by the Navajo Nation primacy agency.

A.6.c Agency Burden and Cost

The Agency burden and cost reflects the burden and cost directly incurred by EPA Headquarters, EPA Regions, and IHS, and is summarized in Exhibit A-6-11. EPA will also bear the cost of contractor activities as detailed in Exhibit A-6-11. Both exhibits distribute burden/costs among Fiscal Years 2010, 2011, 2012, and 2013, reflecting that Agency and contractor activities will vary substantially over the 4-year period.

EPA made the following assumptions in developing its estimate of Agency and contractor burden and cost⁹:

EPA Headquarters

- Over the 4-year period, EPA Headquarters will expend a total of 2.8 FTEs (e.g., an average of 0.7 FTEs per year over the 4 years). Assuming 2,080 hours per year, this equates to 5,824 hours.
- The average salary and benefits (i.e., personnel compensation and benefits [PC&B]) of the FTEs is at the GS 13, Step 5 level of \$157,629. Assuming 2,080 hours per year, this equates to \$75.78 per hour.

EPA Regional Offices

- Over the 4-year period, EPA Regions will expend a total of 1.4 FTEs (i.e., an average of 0.35 FTE per year) providing support to the 2011 State DWINSA. Assuming 2,080 hours per year, this equates to 2,912 hours.
- Over the 4-year period, EPA Regions will expend a total of 1.5 FTEs (i.e., an average of 0.38 FTE per year) providing support to the 2011 Native American DWINSA. Assuming 2,080 hours per year, this equates to 3,127 hours.
- The average salary and benefits (i.e., PC&B) of the 2.8 FTEs is at the GS 11, Step 5 level of \$112,524. Assuming 2,080 hours per year, this equates to \$54.10 per hour.

Indian Health Service

- Over the 4-year period, IHS Headquarters will expend a total of 0.1 FTEs (e.g., an average of 0.03 FTEs per year over the 4 years). Assuming 2,080 hours per year, this equates to 208 hours.
- The average salary and benefits (i.e., PC&B) of the FTEs is at the GS 13, Step 5 level of \$157,629. Assuming 2,080 hours per year, this equates to \$75.78 per hour.

EPA Contractor(s)

- Over the 4-year period, the EPA contractor(s) will expend a total of 36,510 hours of direct labor.

⁹ Hourly rates are from U. S. Office of Personnel Management, 2010 General Schedule (GS) Locality Pay Tables (<http://opm.gov/flsa/oca/10tables/indexGS.asp>) and overhead rates are from *Information Collection Request for Public Water Supply Program*, December 20, 1993.

- The EPA contractor(s) will provide this professional labor at a total hourly rate, including all applicable indirect costs, of \$78.06.

Based on these assumptions, EPA estimates that the total burden/cost to EPA and IHS for the DWINSA over the 4-year period is 48,581 hours and \$3,633,788. Over the 3-year ICR, the average annual hours would be 16,194 hours per year and \$1,211,263 per year. Exhibits A-6-11 and A-6-12, however, provide greater detail on the estimated yearly expenditures for the actual 4-year effort

Exhibit A-6-11 Burden/Cost to EPA (Excluding Contractor Activities) and IHS

| Fiscal Year | EPA Headquarters | | EPA Regions | | IHS | | Total | |
|--------------|------------------|------------------|--------------|------------------|------------|-----------------|---------------|------------------|
| | Hours | Cost | Hours | Cost | Hours | Cost | Total Hours | Total Cost |
| FY 2010 | 892 | \$67,596 | 1,599 | \$86,506 | 60 | \$4,547 | 2,551 | \$158,649 |
| FY 2011 | 2,020 | \$153,076 | 2,490 | \$134,709 | 64 | \$4,850 | 4,574 | \$292,635 |
| FY 2012 | 2,020 | \$153,076 | 1,504 | \$81,366 | 64 | \$4,850 | 3,588 | \$239,292 |
| FY 2013 | 892 | \$67,596 | 446 | \$24,129 | 20 | \$1,516 | 1,358 | \$93,241 |
| TOTAL | 5,824 | \$441,344 | 6,039 | \$326,710 | 208 | \$15,763 | 12,071 | \$783,817 |

Exhibit A-6-12 Burden/Cost of Contractor Activities

| Activities | FY 10 | | FY 11 | | FY 12 | | FY 13 | | Total | |
|----------------------|--------------|------------------|---------------|--------------------|--------------|------------------|--------------|------------------|---------------|--------------------|
| | Hours | Cost | Hours | Cost | Hours | Cost | Hours | Cost | Hours | Cost |
| Planning | 5,100 | \$398,106 | 2,000 | \$156,120 | 1,500 | \$117,090 | 300 | \$23,418 | 8,900 | \$694,734 |
| Survey Design | 200 | \$15,612 | 0 | \$0 | 0 | \$0 | 0 | \$0 | 200 | \$15,612 |
| Peer Review | 140 | \$10,928 | 0 | \$0 | 0 | \$0 | 0 | \$0 | 140 | \$10,928 |
| Modeling | 0 | \$0 | 282 | \$22,013 | 1,994 | \$155,652 | 960 | \$74,938 | 3,236 | \$252,602 |
| Data Development | 300 | \$23,418 | 800 | \$62,448 | 300 | \$23,418 | 300 | \$23,418 | 1,700 | \$132,702 |
| Survey Production | 500 | \$39,030 | 945 | \$73,767 | 0 | \$0 | 0 | \$0 | 1,445 | \$112,797 |
| Data Analysis | 0 | \$0 | 11,729 | \$915,566 | 2,533 | \$197,726 | 0 | \$0 | 14,262 | \$1,113,292 |
| Report Writing | 0 | \$0 | 208 | \$16,236 | 1,459 | \$113,890 | 700 | \$54,642 | 2,367 | \$184,768 |
| Statistical Analysis | 0 | \$0 | 94 | \$7,338 | 656 | \$51,207 | 750 | \$58,545 | 1,500 | \$117,090 |
| Tech Assistance | 0 | \$0 | 960 | \$74,938 | 200 | \$15,612 | 200 | \$15,612 | 1,360 | \$106,162 |
| Training | 500 | \$39,030 | 900 | \$70,254 | 0 | \$0 | 0 | \$0 | 1,400 | \$109,284 |
| Total | 6,740 | \$526,124 | 17,918 | \$1,398,679 | 8,642 | \$674,595 | 3,210 | \$250,573 | 36,510 | \$2,849,971 |

A.6.d Estimating Respondent Universe and Total Burden and Costs

Respondents for this ICR include CWSs, NPNCWSs (in the 2011 Native American DWINSA), states, and the Navajo Nation. This ICR estimates that the number of CWS and NPNCWSs respondents is 3,158. In addition to the CWS and NPNCWSs respondents, this ICR assumes 56 states (50 states plus the District of Columbia and the U.S. Territories) and the Navajo Nation. Therefore, the total number of respondents is 3,215. The total costs and burden for these respondents are detailed in Exhibits A-6-13 and A-6-14.

A.6.e Bottom Line Burden Hours and Costs

Exhibit A-6-13 summarizes the bottom line burden hours and costs for CWSs, NPNCWSs, states, and the Navajo Nation for this collection. The total burden is 48,995 hours at a cost of \$1,847,525.

Exhibit A-6-13 Bottom Line Respondent Burden

| Respondent Type | Burden Hours | Total Cost |
|--------------------------|---------------------|--------------------|
| Water Systems | 23,723 | \$802,275 |
| States and Navajo Nation | 25,272 | \$1,045,250 |
| TOTAL | 48,995 | \$1,847,525 |

Over the 3-year ICR, the average annual burden would be 16,332 hours and the average annual cost would be \$615,842 per year. However, Exhibit A-6-14 summarizes more specifically the estimated burden hours and costs for CWSs, NPNCWSs, states, and the Navajo Nation for each year of the 4-year survey. It is estimated that the CWSs and NPNCWSs will complete the data collection instrument in 2011. It is estimated that states and the Navajo Nation will conduct the Up-Front Activities in 2010 and the Data Collection Activities in 2011.

Exhibit A-6-14 Burden Hours and Costs for Respondents per Year

| Respondent Type | Total Hour Burden (per year) | | | | Total Cost (per year) | | | |
|-------------------------------|-------------------------------------|---------------|-------------|-------------|------------------------------|--------------------|-------------|-------------|
| | 2010 | 2011 | 2012 | 2013 | 2010 | 2011 | 2012 | 2013 |
| Water systems | 0 | 23,723 | 0 | 0 | \$0 | \$802,275 | \$0 | \$0 |
| States and the Navajo Nation | 6,848 | 18,424 | 0 | 0 | \$283,233 | \$762,017 | 0 | \$0 |
| TOTAL | 6,848 | 42,147 | 0 | 0 | \$283,233 | \$1,564,292 | 0 | \$0 |
| Average per Respondent | 2.13 | 13.11 | 0 | 0 | \$88 | \$487 | 0 | \$0 |

Exhibit A-6-15 summarizes the bottom line burden hours and costs for EPA for this collection. The total burden for EPA (including EPA Regional Offices), IHS, and EPA's contractor is 48,581 hours at a cost of \$3,633,788.

Exhibit A-6-15 Bottom Line Burden Hours and Costs for EPA (including EPA's contractor)

| Respondent Type | Burden Hours | Total Costs |
|------------------------|---------------------|--------------------|
| EPA | 11,863 | \$768,054 |
| IHS | 208 | \$15,763 |
| Contractor | 36,510 | \$2,849,971 |
| TOTAL | 48,581 | \$3,633,788 |

Exhibit A-6-16 shows the bottom line hour and dollar burden estimate by the Information Collection (IC) Entities. IC Entities covered by this ICR include publicly-owned CWSs, privately/investor owned CWSs, state owned CWSs, tribal owned CWSs and NPNCWSs, state government agencies and tribal authorities (the Navajo Nation).

Exhibit A-6-16 Disaggregated Burden by Affected Information Collection (IC) Entities

| | | Total Number Of IC Entities | Burden Per Response | Total Hour Burden | Hourly Rate | Total Cost | Cost Per Response |
|--|-----------------------------|--|--------------------------------|------------------------------|------------------------|-------------------|------------------------------|
| <i>Water Systems Respondents</i> | | | | | | | |
| Serving More than 50,000 Persons | Publicly Owned CWSs | 773 | 10.42 | 8,054 | \$37.56 | \$ 302,508 | \$391 |
| | Private/Investor Owned CWSs | 105 | | 1,094 | | \$ 41,091 | |
| | State Owned CWSs | 38 | | 396 | | \$ 14,874 | |
| | Tribal Owned CWSs & NPNCWSs | - | | - | | \$ - | |
| | <i>Subtotal</i> | <i>916</i> | | 9,544 | | \$ 358,473 | |
| Serving 3,301 to 50,000 Persons | Publicly Owned CWSs | 1,736 | 6.68 | 11,822 | \$31.30 | \$ 370,029 | \$209 |
| | Private/Investor Owned CWSs | 173 | | 1,178 | | \$ 36,871 | |
| | State Owned CWSs | 27 | | 184 | | \$ 5,759 | |
| | Tribal Owned CWSs & NPNCWSs | 75 | | 244 | | \$ 7,637 | |
| | <i>Subtotal</i> | <i>2,011</i> | | 13,428 | | \$ 420,296 | |
| Serving 3,300 and Fewer Persons | Publicly Owned CWSs | - | 3.25 | - | \$31.30 | \$ - | \$102 |
| | Private/Investor Owned CWSs | - | | - | | \$ - | |
| | State Owned CWSs | - | | - | | \$ - | |
| | Tribal Owned CWSs & NPNCWSs | 231 | | 751 | | \$ 23,506 | |
| | <i>Subtotal</i> | <i>231</i> | | 751 | | \$ 23,506 | |
| <i>Total Water System Respondents</i> | | | | | | | |
| | Publicly Owned CWSs | 2,509 | 7.92 | 19,876 | | \$ 672,537 | \$ 268 |
| | Private/Investor Owned CWSs | 278 | 8.17 | 2,272 | | \$ 77,962 | \$ 280 |
| | State Owned CWSs | 65 | 8.92 | 580 | | \$ 20,633 | \$ 317 |
| | Tribal Owned CWSs & NPNCWSs | 306 | 3.25 | 995 | | \$ 31,144 | \$ 102 |
| | <i>Subtotal</i> | <i>3,158</i> | <i>7.51</i> | 23,723 | | \$ 802,275 | \$ 254 |

| | | Total Number Of IC Entities | Burden Per Response | Total Hour Burden | Hourly Rate | Total Cost | Cost Per Response |
|---|--|--|--------------------------------|------------------------------|------------------------|---------------------|------------------------------|
| <i>Total State Government Respondents</i> | | 56 | 443.88 | 24,857 | \$ 41.36 | \$1,028,086 | \$ 18,359 |
| <i>Total Tribal Authority Respondents</i> | | 1 | 415.00 | 415 | | \$ 17,164 | \$ 17,164 |
| Total Respondents | | 3,215 | 15.24 | 48,995 | | \$ 1,847,525 | \$ 575 |

Note: Numbers may not total due to rounding.

A.6.f Reasons for Change in Burden

This ICR does not modify an existing ICR.

A.6.g Burden Statement

The public reporting burden for collections included in this ICR is detailed above. The total public reporting burden over the 4-year length of the 2011 DWINSA is estimated to be 48,995 hours, of which 23,723 hours are attributable to water systems and 25,272 hours to states and the Navajo Nation. These estimates include time for gathering information as well as developing and maintaining records. Public reporting burden for this collection of information is estimated to average 15.24 hours per response.¹⁰ Respondent burden for the water system is 7.51 hours.¹¹

Burden means the total time, effort, or financial resources expended by people to generate, maintain, retain, disclose, or provide information to or for a Federal agency. This includes the time needed to review instructions, adjust the existing ways to comply with any previously applicable instructions and requirements, train personnel to respond to the information collection request, search data sources, complete and review the collection of information, and transmit or otherwise disclose the information. An agency may not conduct or sponsor, and a person is not required to respond to, a request for information collection unless it displays a currently valid OMB control number. The OMB control numbers for EPA's regulations are listed in 40 CFR Part 9 and 48 CFR Chapter 15.

Please send comments on the Agency's need for this information, accuracy of the burden estimates, and any suggested methods for minimizing respondent burden, including the use of automated collection techniques to Director, Office of Environmental Information, Collection Strategies Division, U.S. Environmental Protection Agency (2822T), Ariel Rios Building, 1200 Pennsylvania Ave., N.W., Washington, D.C. 20460; and to the Office of Information and Regulatory Affairs, Office of Management and Budget, 725 17th Street, NW, Washington, DC 20503, Attention: Desk Officer for EPA. Please include the EPA ICR number and OMB control number in any correspondence.

¹⁰ For this ICR, the number of responses is calculated at 3,215 (916 systems serving more than 50,000 people, 2,011 systems serving 3,301 – 50,000 people, 231 serving 3,300 and fewer people, 1 tribal authority, and 56 states and U.S. Territories). The burden per response is calculated as the total respondent burden (48,995) divided by the number of responses (3,215).

¹¹ See Exhibit A-6-9.

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PART B OF THE SUPPORTING STATEMENT (FOR STATISTICAL SURVEYS)

INTRODUCTION TO PART B

The Environmental Protection Agency (EPA) proposes to conduct the following type of statistical survey for the 2011 State Drinking Water Infrastructure Needs Survey and Assessment (DWINSA). EPA proposes a mail assessment of community water systems (CWSs) serving populations of more than 3,300. EPA is proposing the same methodology for collecting data for CWSs serving more than 3,300 persons as was used in the 2007 DWINSA. No revision to that methodology has taken place. Due to budgetary constraints, EPA is not currently proposing to collect additional data from CWSs serving 3,300 and fewer. For the 2011 Native American DWINSA, EPA proposes a national sample for American Indian systems and a separate sample for Alaskan Native Village water systems. EPA also proposes EPA Regions and the Navajo Nation collect the information for these systems.

2011 STATE DWINSA

B.1 SURVEY OBJECTIVES, KEY VARIABLES AND OTHER PRELIMINARIES

B.1.a Survey Objectives

The primary objective of the 2011 DWINSA is to collect information from water systems on the infrastructure they need to continue to provide safe drinking water to consumers. These data are used to produce a national estimate as well as state, Navajo Nation, or EPA Regional specific estimates of water systems' 20-year need. EPA has established policies to ensure that the overarching goals of the survey are met:

- Estimate the total national 20-year need.
- Estimate the total 20-year need for each participating state/Navajo Nation/EPA Region.
- Provide complete and accurate data to Congress.
- Provide a tool to fairly distribute DWSRF capitalization funds to states and the Tribal Set-Aside (TSA) Program.
- Maintain the credibility of the DWINSA findings.

EPA proposes to collect information on the cost of systems' infrastructure needs. If cost data are not available from systems, EPA proposes to collect information that will enable the Agency to model costs. In the data collection instrument, the respondent will identify needs on a project-by-project basis and list the "type(s) of need" that the project will meet. The "types of need" include raw water source, transmission, source water treatment, storage, distribution, pumping stations, and other needs. EPA will also collect information on "green" and climate readiness infrastructure projects.

EPA will use the information from the DWINSA to project capital investment requirements of drinking water systems. The information will be used to allot DWSRF monies among states and as part of an allotment formula for the DWSRF TSA Program.

EPA is proposing the same methodology as used in previous DWINSAs. No significant changes were made for the 2011 State DWINSA from the approach used in 2007. The sampling design will be discussed in detail below. The sampling design for the 2011 Native American DWINSA is discussed in a separate section below.

B.1.b Key Variables

Several key variables are available from the Safe Drinking Water Information System (SDWIS). To ensure accuracy, the 2011 DWINSA will verify these data by asking respondents to confirm existing information (pre-printed on the data collection instrument), or correct it. These variables include population served, total design capacity, number of service connections, primary source of supply, ownership type (private or public), and whether the system purchases water from, or sells water to, another public water system (PWS).

Information on capital needs will be collected from respondents on a project-by-project basis. For each project, respondents will be asked to provide the following types of information: type of need; reason for need; documentation of need and cost (if necessary); if the project is a new project or to replace, rehabilitate or expand existing infrastructure; if the project is needed now to protect public health or if it is needed over the next 20 years to continue to provide safe drinking water; the federal regulation or state requirement if the project is to meet a current regulation, state requirement, or is for “green” or climate readiness; design capacity of source, storage, and treatment projects; length and diameter of pipe projects; diameter for projects such as water meters; cost of the project; and date of the cost estimate. For most of these variables, respondents will choose the appropriate “documentation,” “type of need,” “reason for need” or “regulation or requirement” from a Lists of Codes. EPA will also collect information on “green” and climate readiness infrastructure projects. For each project, the respondent will identify if it is considered a “green” project or if it is a climate readiness infrastructure project by selecting a code from List 3 in the Lists of Codes. In addition, the data collection instrument includes additional questions for systems that include climate readiness projects in their data collection instrument.

The principal variable of interest is total projected capital needed for each water system in the 2011 DWINSA for the time period 2011 – 2030. The total capital need for all systems in each state/Navajo Nation/EPA Region (to be derived from the statistical sample of systems) is the key variable that decision-makers at EPA use to allocate funds to states and the TSA Program based on need.

The method of data collection has been designed to minimize burden on respondents while ensuring that information is collected in a consistent manner. Collecting information on a project-by-project basis, for example, will be particularly helpful in reducing burden since most respondents develop Capital Improvement Plans (CIPs) on a project-by-project basis.

Information on type of need will be used to disaggregate total capital needs for EPA’s Report to Congress. Information on the reason for need will be used to verify the public health benefit of the need. Information on the date of the cost estimate will be used to provide a consistent basis for cost estimates across systems. Information on a regulation or requirement will be used to determine the reported project costs related to Federal regulations, state requirements, and/or identify if the project is “green” or for a climate readiness need.

If a system cannot provide cost estimates, additional data are necessary so that the Agency can impute costs. Each of these variables will be described in greater detail later in this document.

B.1.c Statistical Approach

The 2011 State DWINSA is being designed to achieve a desired level of precision for state-level estimates of total capital needs for systems serving more than 3,300 persons. EPA proposes a survey of a statistical sample to estimate total capital needs. This statistical approach minimizes burden while achieving the desired level of precision.

The 2011 State DWINSA design divides CWSs serving populations of more than 3,300 into two groups: CWSs serving populations of more than 100,000, and systems serving populations of 3,301 – 100,000. EPA proposes to sample with certainty systems serving more than 100,000 persons. These systems have the largest capital needs and they have the staff to respond efficiently to the 2011 State DWINSA. EPA proposes to draw a random sample of systems serving 3,301 – 100,000 persons. This methodology can reduce burden and still achieve the DWINSA data quality objectives. To meet the state-level precision

targets, EPA will first determine the total sample size for each state to meet the target level of precision. EPA will then allocate the sample to strata in order to maximize the efficiency of their design.

EPA is designing and conducting the 2011 DWINSA with the assistance of a contractor:

Contractor

The Cadmus Group, Inc.
57 Water Street
Watertown, MA 02472
(617) 673-7000

Contractor Roles

- Technical oversight for all contractor activities
- Oversight of data collection instrument design and testing.
- Oversight of statistical sample design
- Training
- Mailings; logistics
- Technical support for respondents and states
- Model development
- Data processing
- Statistical sample design

B.1.d Feasibility

The 2011 DWINSA data collection instrument has been designed with the capabilities of the typical respondent in mind. To fully assess feasibility, the Agency undertook the following steps. EPA convened a workgroup (see Section A.5.b) to comment on the proposed data collection and its feasibility. The data collection instrument to be used for the 2011 DWINSA is generally the same form as used for the past DWINSA. For those assessments, EPA met with individual CWS operators and discussed the proposed survey. System operators were asked to comment on all proposed data elements and the feasibility of collecting information by a mail survey. The Agency recognizes that most systems serving fewer than 50,000 persons and some that serve 50,000 or more may not have cost data or documentation of costs for some projects. In those cases, the 2011 DWINSA data collection instrument requests other readily-available information that EPA can use to model costs. EPA will make it very clear to respondents that they are not expected to develop cost estimates for the purposes of the 2011 DWINSA. In addition, EPA (or states) will provide systems with a helpline to assist them in completing the data collection instrument.

EPA has developed cost models for most of the infrastructure needs included in the 2011 DWINSA based on the size and capacity of a project. These cost models were developed during the 2007 DWINSA and will be used again for the 2011 DWINSA. New cost models may be developed for weak cost models, influential cost models, and new technology.

The time frame for the 2011 DWINSA is acceptable to the users of data within the Office of Ground Water and Drinking Water (OGWDW) and sufficient to complete a report to Congress by its anticipated due date of early 2013. The schedule also is acceptable to other users of the data.

B.2 SURVEY DESIGN

This section contains a detailed description of the statistical survey design including a description of the sampling frame, sample identification, precision requirements, data collection instrument, pre-test, collection methods, and follow-up procedures.

The sample design for the 2011 State DWINSA is stratified random sampling within each state. In cases where the state is not participating in the data collection for systems serving 3,301 – 100,000 persons, EPA will only be able to provide state specific results for systems serving more than 100,000 persons and systems serving 3,300 and fewer persons (using the results from the 2007 DWINSA). EPA will include an overall national result for the systems serving 3,301 – 100,000 persons using the average need by strata of the systems in states that are participating in the full 2011 State DWINSA.

Stratification increases the precision of estimates compared with a simple random sample of the target population of systems. In stratified samples, the target population is divided into non-overlapping groups, known as strata, from which separate samples are drawn. The goal of stratified sampling is to choose sample sizes within each stratum in a manner designed to obtain maximum precision in the overall estimate for the population. Stratification variables for this study include: population size (populations of: 3,301 – 10,000; 10,001 – 25,000; 25,001 – 50,000; 50,001 – 100,000; and populations of more than 100,000), and primary sources of supply (surface and ground). Systems serving more than 100,000 persons are selected with certainty. The size of each state's sample of systems serving populations of 3,301 – 100,000 is set to meet the 2011 DWINSA's data quality objectives.

EPA's precision target for the 2011 State DWINSA is to be 95 percent confident that the true need lies within an interval, the upper and lower bounds of which do not exceed 10 percent of the sample mean (or estimated need). Once the total size of the sample of systems serving more than 3,300 persons has been determined for each state, the number of samples to be taken in each stratum within each state will be allocated in a manner that minimizes the variance of the estimated total capital costs. EPA will use a Neyman allocation to determine the number of systems to select from each stratum. The Neyman allocation is described in detail in Section B.2.b.ii.

B.2.a Target Population and Coverage

The target population for the 2011 State DWINSA is the number of CWSs in the nation. A CWS is a PWS that serves at least 15 service connections used by year-round residents or regularly serves at least 25 year-round residents (40 CFR 141.2). The 2011 State DWINSA is designed to produce estimates of the capital need of systems serving more than 3,300 persons for each participating state. In non-participating states, EPA will be able to provide state specific results for systems serving 100,000 or more persons. EPA will include an overall national result for the systems serving 3,301 – 100,000 persons using the average need by strata of the systems in participating states and the total number of systems by strata in the non-participating state. The 2011 State DWINSA is designed to produce estimates of the capital need of systems serving 3,300 and fewer persons for the nation as a whole using the results of the 2007 DWINSA.

B.2.b Sample Design

This section describes the sample design. It includes a description of the sampling frame, target sample size, stratification variables, and sampling method. The sampling design employed is a stratified random sample of CWSs. The strata employed in the design are discussed in Section B.2.b.iii. Neyman allocation is used to efficiently allocate the sample of water systems among the strata.

B.2.b.i Sampling Frame

The sampling frame is developed from SDWIS. SDWIS is a centralized database for information on PWSs, including their compliance with monitoring requirements, maximum contaminant levels (MCLs), and other requirements of the Safe Drinking Water Act (SDWA) Amendments of 1996. The following information will be extracted from SDWIS for the statistical survey and verified by participating states:

- Name of system
- Contact person
- Address of system
- Population served
- Total design capacity
- Number of connections
- Primary source (surface water or ground water)
- PWS identification number (PWSID)
- Ownership type
- Consecutive system (i.e., does system purchase or sell water)

From these data, EPA will develop the frame from which EPA will (1) calculate summary statistics (e.g., number of systems per state in pre-defined strata) for use in calculating sample size, and (2) randomly choose systems within the design strata to take part in the 2011 DWINSA.

Justification for the Use of SDWIS

The following criteria are often used in assessing a proposed sampling frame:

- It fully covers the target population.
- It contains no duplication.
- It contains no foreign elements (i.e., elements that are not members of the population).
- It contains information for identifying and contacting the units selected in the sample.
- It contains other information that will improve the efficiency of the sample design.

The units of observation for this survey are CWSs, a subset of PWSs. SDWIS is the ideal choice for a sample frame because of its inclusive coverage of all units of observation for the 2011 DWINSA. In addition, SDWIS has two other advantages: it contains information that will facilitate contacting the respondents, and it contains other information that is useful in stratifying the sample, thereby improving the efficiency of the sample design.

In previous surveys where SDWIS was used as a sample frame, there have been criticisms of its utility. Since 1989, EPA has conducted audits of the quality of SDWIS data. As a result, EPA is aware of the problems with SDWIS. The audits, however, show that errors in classification of systems by strata proposed for the 2011 DWINSA are rare. The audits show that systems are misclassified by population or source in less than 1 percent of all cases.

To mitigate any potential problems with the sample frame, the 2011 DWINSA design anticipates substantial state/Navajo Nation/EPA Region involvement in the 2011 DWINSA process. They, for example, will be checking the sample frame of systems that will be used to determine the final sample. In EPA's experience, they often have in-house data systems with very accurate data. Even if these data are

not transmitted to SDWIS, they are available and can be used by states/Navajo Nation/EPA Regions to check the sample frame.

B.2.b.ii Sample Size

Exhibit B-2-1 at the end of this subsection shows the preliminary sample sizes for the 2011 State DWINSA. As shown on this exhibit, the sampling design will be implemented to achieve state-level precision targets for CWSs serving more than 3,300 persons. Precision targets are discussed in Section B.2.c.

The task of determining the sample size for each stratum requires two steps. The first step determines the sample size for each state that achieves the precision targets for that state. The second step allocates the sample across the relevant strata in the state. The strata are described in section B.2.b.iii.

The first step in determining the sample size is calculating the total number of samples required at the state level to meet the precision requirements. The sample size is given by:

$$n_{0g} = \frac{\left(\sum_{h=1}^H N_{gh} S_{gh} \right)^2}{V_g}$$

Where: n_{0g} = the sample size (prior to the finite population correction)

N_{gh} = the total number of systems in the h^{th} stratum in the g^{th} state (taken from SDWIS)

s_{gh} = the standard deviation of the variable of interest for the h^{th} stratum in the g^{th} state (estimated using data from the 2007 DWINSA)

H = the number of strata defined in the sample design for the g^{th} state

V_g = the desired sampling variance for the total system (those serving more than 3,300 persons) capital needs estimate for state g .

The desired error in the sample is expressed as a relative error. In the above equation, $V_g = (d/Z_\alpha * \hat{Y}_g)^2$. \hat{Y}_g is an estimate of the total capital needs for a given state. \hat{Y}_g is computed for each state by calculating the mean total capital needs for stratum h (from the 2007 DWINSA) and multiplying by the actual number of systems in each stratum for that state (N_{gh}). Summing across strata provides an estimate of \hat{Y}_g . d is the half-width of the desired confidence interval (0.10 for the Assessment). Z_α is the value of a standard normal distribution for a confidence level of $1 - \alpha$, (1.96 for the Assessment).

Because the number of water systems is known and finite, the following population correction is applied:

$$n_g = \frac{n_{0g}}{1 + \frac{1}{V_g} \sum_{h=1}^H N_{gh} s_{gh}^2}$$

The second step allocates the total sample to each of the strata. EPA will randomly draw this number of samples from each of these strata. The Neyman allocation formula is used for the allocation:¹²

$$n_{gh} = n_g \left(\frac{N_{gh} s_{gh}}{\sum_{h=1}^H N_{gh} s_{gh}} \right)$$

(Because systems serving populations more than 100,000 are to be sampled with certainty, H is reduced by the number of system serving more than 100,000 strata in the sample design.)

In order to implement these sample size and sample allocation equations, EPA needs estimates for V_g , N_{gh} , s_{gh} , and mean total capital needs by stratum. Information on mean total capital needs by stratum and s_{gh} were estimated using data from the 2007 DWINSA.

¹² J. Neyman, "On the Two Different Aspects of the Representative Method: The Method of Stratified Sampling and the Method of Purposive Selection," *Journal of the Royal Statistical Society*, Vol. 97 (1934), pp. 558-606; as cited in William G. Cochran, *Sampling Techniques* (New York: John Wiley & Sons), 1977.

Exhibit B-2-1 State Sample Sizes

| State | Total Number Of Systems Serving More Than 3,300 Persons | Estimated Sample Size For Systems Serving More Than 3,300 Persons |
|--------------------------|--|--|
| Alaska * | 19 | 1 |
| Alabama | 348 | 131 |
| Arkansas | 181 | 83 |
| American Samoa | 1 | 1 |
| Arizona | 130 | 39 |
| California | 688 | 169 |
| Colorado | 169 | 61 |
| Connecticut | 57 | 36 |
| District of Columbia | 1 | 1 |
| Delaware * | 30 | 3 |
| Florida | 387 | 128 |
| Georgia | 237 | 66 |
| Guam | 3 | 3 |
| Hawaii * | 30 | 2 |
| Iowa | 138 | 53 |
| Idaho * | 50 | 1 |
| Illinois | 460 | 98 |
| Indiana | 214 | 82 |
| Kansas | 117 | 65 |
| Kentucky | 259 | 141 |
| Louisiana | 231 | 65 |
| Massachusetts | 253 | 73 |
| Maryland | 59 | 26 |
| Maine | 35 | 25 |
| Michigan | 303 | 63 |
| Minnesota | 181 | 91 |
| Missouri | 216 | 121 |
| Northern Mariana Islands | 2 | 2 |
| Mississippi | 202 | 105 |
| Montana * | 35 | 1 |

| State | Total Number Of Systems Serving More Than 3,300 Persons | Estimated Sample Size For Systems Serving More Than 3,300 Persons |
|------------------|---|---|
| North Carolina | 274 | 80 |
| North Dakota * | 32 | - |
| Nebraska * | 43 | 2 |
| New Hampshire * | 39 | 1 |
| New Jersey | 242 | 61 |
| New Mexico * | 60 | 1 |
| Nevada * | 35 | 15 |
| New York | 362 | 50 |
| Ohio | 320 | 90 |
| Oklahoma | 165 | 86 |
| Oregon | 116 | 54 |
| Pennsylvania | 349 | 83 |
| Puerto Rico | 118 | 58 |
| Rhode Island * | 28 | 3 |
| South Carolina * | 159 | 9 |
| South Dakota * | 45 | 2 |
| Tennessee | 288 | 158 |
| Texas | 986 | 138 |
| Utah | 109 | 50 |
| Virginia | 157 | 56 |
| Virgin Islands | 2 | 2 |
| Vermont * | 34 | - |
| Washington | 213 | 58 |
| Wisconsin | 181 | 58 |
| West Virginia * | 110 | 1 |
| Wyoming * | 27 | - |
| Total | 9,530 | 2,852 |

*Fifteen states will not participate in the statistical portion of the survey (i.e., collecting data from systems serving 3,301 – 100,000 persons). However, those states that have systems that serve more than 100,000 people will participate in the census portion of the survey (i.e., collecting data from systems serving more than 100,000 persons). For those 15 states, the number in the “Estimated Sample Size for Systems Serving More Than 3,300 Persons” represents the total number of systems in the state that serve more than 100,000 persons.

B.2.b.iii Stratification Variables

The objective of stratification is to increase the efficiency of the sampling design (thereby reducing the number of samples required at any level of precision) by the creation of independent strata. Stratified sampling may produce a gain in precision in the estimates of the characteristics of the target population as compared to simple random sampling. In stratified sampling, the target population (i.e., CWSs) is divided into non-overlapping strata that are internally homogeneous, in that the measurements vary little from one unit to another (i.e., the within-strata variance is minimized). If the within-stratum variance is relatively small, then a precise estimate of the variable of interest can be obtained with a relatively small number of samples. Each of the strata estimates can be combined to obtain a precise estimate for the target population. If the strata are constructed correctly, the target population estimate can be achieved with greater precision and with fewer samples than the estimate obtained from simple random sampling.

EPA’s drinking water programs have historically evaluated CWSs based on (1) size (number of persons served), and (2) primary source (ground water and surface water).¹³ Using total capital need information obtained from the 2007 DWINSA, EPA evaluated several classification schemes. This analysis showed that the stratification scheme selected for the 2011 State DWINSA (10 strata based on size and source) was reasonable. Some states may have a different number of strata; this accommodated using their data as it is currently organized. Varying strata will be permitted only when the 2011 State DWINSA’s overall precision is not reduced. The proposed strata for systems serving more than 3,300 persons are as follows:

| Size of Population Served | Source | Sample Methodologies |
|---------------------------|---------|--|
| 3,301 – 10,000 | Ground | Random sample. |
| 3,301 – 10,000 | Surface | |
| 10,001 – 25,000 | Ground | Random sample. In some states the number of strata will be reduced based on analysis of optimal stratum boundaries. Specifically, in some states systems serving between 10,001 and 50,000 will be in one group rather than two. |
| 10,001 – 25,000 | Surface | |
| 25,001 – 50,000 | Ground | |
| 25,001 – 50,000 | Surface | |
| 50,001 – 100,000 | Ground | Random sample |
| 50,001 – 100,000 | Surface | |
| More than 100,000 | Ground | Sampled with certainty |
| More than 100,000 | Surface | |

B.2.b.iv Sampling Method

As indicated above, all CWSs serving populations of more than 100,000 will be sampled with certainty.

For systems serving 3,301 – 100,000 persons, all CWSs will be allocated to eight strata, based on population served and primary source. The sample size for each stratum in each state will be determined

¹³ For the purposes of the 2011 DWINSA, purchased surface water systems are included with ground water systems. This design yields lower within-stratum variance.

by the sampling strategy outlined above. The sampling method will be an equal probability random sample within each stratum. Anticipating a level of non-response, EPA will over-sample to achieve the desired number of completed data collection instruments. Since the expected response rate for systems serving 3,301 – 100,000 persons is 90 percent, EPA will draw a sample of 2,241. However, as discussed below, the DWINSA has consistently achieved a higher response rate than estimated. Therefore EPA has included the full sample size estimate in the burden estimate of this ICR.

B.2.c Precision Requirements

B.2.c.i Precision Targets

The sampling design for the 2011 State DWINSA will be implemented at the state level. EPA's goal is to be 95 percent confident that the margin of error, when estimating the total capital needs facing these systems in each state, will be plus or minus 10 percent of the total need for these systems. For example, if the total need for these systems in a state is estimated to be \$2 billion, EPA will be 95 percent confident that the actual total need is between \$1.8 billion and \$2.2 billion.

B.2.c.ii Nonsampling Error

EPA has developed an assessment approach that will employ several quality assurance techniques to maximize response rates, response accuracy, and processing accuracy to minimize nonsampling error.

Particular emphasis will be placed on maximizing response rates. Standard methods that have proved effective in other surveys of water systems will be used, including the following:

- States will review the sample of systems to receive the mail data collection instrument and will ensure that the best person to receive the data collection instrument is determined in advance.
- EPA and the states will coordinate in the production of a cover letter for the 2011 DWINSA. EPA's opinion (shared by state drinking water administrators, trade associations, and PWSs) is that surveys on state letterhead will be better received than surveys on EPA letterhead. Therefore, states can use state-level cover letters signed by a senior state official instead of the EPA letter.
- The data collection instrument design, content, and format have been reviewed by organizations representing water systems. In addition, the data collection instrument design, content, and format were reviewed by states that participated in the 1995, 1999, and 2003, and 2007 DWINSAs.
- Items being asked are those that owners or operators of systems should know. EPA does not ask for items that require monitoring, research, or calculations on the part of the respondent.
- The data collection instrument design is limited to 8 pages. By limiting the information requested, EPA believes that the average water system respondent can complete the data collection instrument in approximately 7.51 hours.
- Toll-free phone numbers will be provided to help respondents with questions or problems. In addition, respondents will be encouraged to call state personnel who will be trained to answer questions.

- Pre-paid return envelopes will be provided to respondents to make returning the data collection instrument convenient.

Standard methods to reduce other sources of non-sampling error also will be used:

- EPA expects complete coverage of the target population using SDWIS, supplemented by state agency/Navajo Nation/EPA Regional Office review of all systems.
- Data will be 100 percent independently keyed and verified.
- The data collection instrument is pre-coded to improve accuracy by eliminating unnecessary processing steps.

Supplementing these standard methods, EPA proposes several unique steps to eliminate non-sampling error, which have been developed in concert with organizations representing the states and water systems. These organizations believe that the 2011 DWINSA is important and that a high level of participation by all water systems is essential to its success. Because of the substantial commitment being made by states and water systems to the 2011 DWINSA, EPA believes that response rates will be higher than most surveys of similar respondents. To ensure success, states and organizations representing water systems are taking the following steps.

- ***Participation of the states/Navajo Nation/EPA Regions.*** Because the DWINSA will be used to allocate DWSRF funds to states and TSA monies to the Navajo Nation and EPA Regions, each entity has a strong interest in achieving a high response rate. EPA believes that their participation will be a key factor in guaranteeing high response rates and low item non-response. Personnel who work with water systems every day are in a strong position to encourage systems to complete the 2011 DWINSA form. These states, the Navajo Nation, and EPA Regions have committed to assisting EPA in achieving a high response rate by participating in follow-up activities. The states, the Navajo Nation, and EPA Regions also will be available for technical assistance for any system that has questions about the 2011 DWINSA.
- ***Participation of Organizations Representing Water Systems.*** EPA anticipates public support of organizations representing water systems. The prior assessments were supported by groups such as the American Water Works Association (AWWA), the National Association of Water Companies (NAWC), and the Association of Metropolitan Water Agencies (AMWA).

This support by the organizations representing the respondents for the 2011 DWINSA can be helpful in many ways to minimize non-sampling errors. For example,

- In past DWINSAs, national water associations sent letters to each system in their membership, stressing the importance of surveying drinking water infrastructure needs. These letters, along with the letter from the states, helped convince water systems to respond. EPA will seek similar support from these associations for the 2011 Survey effort.
- In the past DWINSAs, the largest association representing water systems serving populations greater than 3,300—AWWA— provided support through its national organization. To improve the response rate, the AWWA enlisted the support of its state

affiliates (called “Sections”) to conduct telephone follow-up calls to encourage response. AWWA assisted in past DWINSAs to help achieve the overall response rate of 94 percent. EPA will seek similar support from AWWA in support of the 2011 DWINSA.

- **Communications Strategy.** EPA has developed a comprehensive communications strategy that will inform likely respondents of the need for their participation. This strategy includes articles in magazines, newsletters, and bulletins of all major organizations that represent (or communicate with) water systems. This includes publications of all of the organizations mentioned above, plus the state and local affiliates of these organizations. The strategy is designed to develop widespread peer-group support for participation in the 2011 DWINSA.

B.2.d Data Collection Instrument Design

Questions about system characteristics (name, population served, number of connections, and other customary business information) will be pre-printed on all data collection instruments. The respondent needs only to enter accurate information if any pre-printed information is not correct.

The 2011 DWINSA is based on matrices that request a list of capital projects that the system plans for the period 2011 through 2030. For each project listed, the system is asked to provide: type of need; reason for need; documentation of need and cost (if necessary); if the project is for new infrastructure or to replace, rehabilitate or expand existing infrastructure; if the project is needed now to protect public health or if it is needed over the next 20 years to continue to provide safe drinking water; the federal regulation or state requirement if the project is to meet a current regulation, state requirement, or is for “green” or climate readiness; design capacity of source, storage, and treatment projects; length and diameter of pipe projects; diameter for projects such as meters; cost of the project; and date of the cost estimate. EPA will also collect information on “green” and climate readiness infrastructure projects. For most of these variables, respondents will choose the appropriate “documentation,” “type of need,” “reason for need,” or “regulation or requirement,” from the Lists of Codes. All matrices have been designed to be concise, to avoid jargon, and to avoid ambiguous words or instructions. Terms and formats have been standardized to the extent possible. There is no intentional bias in the ordering of the items.

B.3 PRE-TESTS AND PILOT TEST

B.3.a Pre-tests

For the 2007 DWINSA the data collection instrument and some policies were modified substantially. Since the only significant modification to the 2011 data collection instrument was the addition of questions and codes to gather information on “green” and climate readiness infrastructure projects, EPA will conduct a limited peer review of these new questions, however, EPA will not conduct a pre-test of the 2011 DWINSA data collection instrument.

EPA conducted two pre-tests of the data collection instrument for the 2007 DWINSA. The 2007 DWINSA pre-tests were conducted by EPA’s contractor, The Cadmus Group, Inc. The pre-tests gathered feedback on the effectiveness of the data collection instrument, highlighted imprecise, ambiguous, or redundant questions, and indicated where further inquiry is needed. A pre-test was held in both Maine (four participants) and Montana (three participants). These states were chosen because they were both non-participating states and because most of their systems did not participate in the 2007 DWINSA. Also, the contractor conducting the pre-tests has offices in both these states and by conducting the pre-test in

these states they were able to reduce costs. The names of the seven systems were provided to EPA by the 2007 DWINSA state contacts. Based on the comments received, EPA made modifications to the data collection instrument.

B.3.b Pilot Test

To eliminate unnecessary burden on states and water systems, it has been decided that no pilot test for the 2011 DWINSA will be conducted. A pilot test was conducted for the 1995 DWINSA and consisted of 60 CWSs from New York and Texas. The procedures for mailing the data collection instruments and collecting the data are the same as those used for the 1995, 1999, 2003, and 2007 DWINSAs. EPA believes these procedures are well tested and have proven to be successful; therefore, it is not necessary to repeat this testing step.

B.4 COLLECTION METHODS AND FOLLOW-UP

B.4.a Collection Method

The proposed collection method is a mail survey. The data collection instrument and Lists of Codes will be mailed to all systems in the sample. State drinking water agencies will begin follow-up if the mail data collection instrument has not been returned in 30 days. For a complete description of the follow-up procedures proposed to increase the response rate, see section B.2.c.ii.

B.4.b Survey Response and Follow-up

The target response rate (defined as the ratio of responses to eligible respondents) for the 2011 DWINSA is 90 percent. EPA realizes that this is an ambitious target, but EPA believes that there are special circumstances that warrant such a target. Also, overall response rates of 94, 97, 96, and 93 percent were achieved in the 1995, 1999, 2003, and 2007 surveys, respectively. In the first four surveys, EPA conducted the following proposed activities to achieve that high response rate.

- ***Seek Support from the Respondent Population.*** This is a national survey of infrastructure needs for drinking water systems. EPA will work to bring to the attention of water systems, as well as all national organizations representing these systems, the importance of the DWINSA results. As with the previous four surveys, all national organizations will be contacted by EPA to seek their endorsement of the DWINSA and to communicate to their members the importance of a high response rate to their members. As discussed in Section B.2.c, in past surveys, organizations have provided access to their newsletters and magazines to publicize and endorse participation in the DWINSA; for the 2011 Survey, EPA will seek similar efforts by these organizations.
- ***Follow-up by States and Respondent Peer Groups.*** Since a majority of participating states have indicated their willingness to participate in follow-up activities, EPA has requested that state personnel, most of whom are personally familiar with the respondents, conduct follow-up procedures including the use of reminder letters and telephone calls. In states that elect not to participate in follow-up, the EPA contractor will conduct these activities. If the follow-up fails after three attempts (one reminder letter plus two telephone follow-up calls), EPA is planning to shift to a second approach of peer-group follow-up by members of a trade association, such as AWWA.

B.5 ANALYZING AND REPORTING SURVEY RESULTS

B.5.a Data Preparation

State personnel will check all cost data and documentation to ensure that it is consistent with state and national standards. States will then send the completed and reviewed data collection instruments to EPA for a second round of review by EPA contractor staff.

Once data have been checked, the contractor will key and verify the data. Senior data entry staff will be used for the verification process to improve quality control. Editing will include automated logic and range checks and checks for missing data. Missing cost data will be modeled, using other information provided by the respondents on the data collection instrument. When modeling is insufficient, missing data will be imputed using the standard methods such as cell means and regression. The sample of water systems will be weighted so that stratum estimates can be summed to prepare state-level estimates for the 2011 State DWINSA and national estimates for the 2011 Native American DWINSA.

B.5.b Analysis

EPA will prepare a report that tabulates the results of the 2011 DWINSA and explains the precision of the estimates of total capital needs. Examples of statistics that will be produced include:

- Total capital needs by state/Navajo Nation/EPA Region and by types of need.
- Total capital needs by domains within the total population, e.g., systems serving populations greater than 100,000.
- Standard errors calculated for key statistics.

The analysis will be similar to that of previous DWINSAs.

B.5.c Reporting Results

The 2011 DWINSA results will be made available to EPA and the public through:

- A printed report that is submitted to Congress on drinking water infrastructure needs. This report will be made available to all participants in the 2011 DWINSA and the public through EPA's Safe Drinking Water website.
- Desktop computer access to state/Navajo Nation data on the DWINSA Web site without modeled project costs (each state/Navajo Nation can access only its own data).
- Desktop computer access to the entire data system (EPA only).

A report providing the cost models used to develop costs for the 2011 DWINSA will be made available to EPA and the public through EPA's Safe Drinking Water Web site.

2011 NATIVE AMERICAN DWINSA

Introduction

In the following paragraphs, we present information on the survey of American Indian and Alaskan Native Village water systems. This discussion includes only those sections of Part B where the approach is different from the approach being used for the 2011 State DWINSA as previously discussed.

B.1 SURVEY OBJECTIVES, KEY VARIABLES AND OTHER PRELIMINARIES

B.1.c Statistical Approach

The 2011 Native American DWINSA is designed to estimate the total capital needs of American Indian systems for the nation as a whole and for Alaskan Native Village systems. EPA proposes a survey of a statistical sample to estimate total capital needs. This statistical approach minimizes burden while achieving the desired level of precision.

However, a mail survey is not an effective approach to the collection of data from these water systems. Experience with mail surveys for these systems suggests that total non-response and item non-response would be very high. Also, EPA believes that the absence of knowledgeable respondents at these systems limits the general reliability of the responses. The best way to gather information from these systems is through direct contact by the EPA Regions or the Navajo Nation.

B.2 SURVEY DESIGN

The design for the 2011 Native American DWINSA, like that for the 2011 State DWINSA, is stratified random sampling. The stratification variables for these systems are the same as those for other systems: size of population served and primary source of supply. However, unlike the 2011 State DWINSA, the 2011 Native American DWINSA will select two separate samples: 1) American Indian systems in the continental U.S., and 2) Alaskan Native Village systems. Stratification variables for both samples include population size (populations of: 25 – 500; 501 – 1,000; 1,001 – 3,300; 3,301 – 10,000; and populations of more than 10,000), and primary sources of supply (surface and ground). Systems serving more than 10,000 persons are selected with certainty.

B.2.a Target Population and Coverage

The target population is CWSs and not-for-profit noncommunity water systems (NPNCWSs) that have been designed as Native American. A CWS is a public water system that serves at least 15 service connections used by year-round residents or regularly serves at least 25 year-round residents. A NCWSs is a “public water system that is not a community water system and that regularly serves at least 25 of the same persons over 6 months per year” (nontransient noncommunity water system) or is a public water system that is not a community water system and “does not regularly serve at least 25 of the same persons over six months per year” (transient noncommunity water system). (40 CFR 141.2)

B.2.b Sample Design

B.2.b.ii Sample Size

The procedures proposed for designing a sample size for the 2011 Native American DWINSA is the same as that proposed for 2011 State DWINSA. Equations 1, 2, and 3 still apply, except that a national sample size will be selected instead of state-by-state samples and data from the 1999 DWINSA will be used instead of data from the 2007 DWINSA for the standard deviation of the variable of interest.

B.2.b.iii Stratification Variables

As with the design for the 2011 State DWINSA, the sample design for the 2011 Native American DWINSA is stratified on the basis of (1) size (number of persons served by the CWS or NPNCWS), and (2) primary source (ground water and surface water).

The proposed strata are as follows:

| Size of Population Served | Source | Sample Methodologies |
|----------------------------------|---------------|-----------------------------|
| 25 – 1,000 | Ground | Random sample. |
| 25 – 1,000 | Surface | |
| 1,001 – 3,300 | Ground | |
| 1,001 – 3,300 | Surface | |
| 3,301 – 10,000 | Ground | |
| 3,301 – 10,000 | Surface | |
| More than 10,000 | Ground | Sampled with certainty |
| More than 10,000 | Surface | |

B.2.b.iv Sampling Method

As indicated above, all systems serving populations of more than 10,000 will be sampled with certainty.

For systems serving 25 – 10,000 persons, all systems will be allocated to six strata based on population served and primary source. The sample size for each stratum will be determined by the sampling strategy outlined above. The sampling method will be an equal probability random sample within each stratum. Anticipating a level of non-response, EPA will over-sample to achieve the desired number of completed data collection instruments. Since the expected response rate is 90 percent, EPA will draw a sample of 206 American Indian water systems and 86 Alaskan Native Village water systems. However, the DWINSA has consistently achieved a higher response rate than estimated. Therefore EPA has included the full sample size estimate in the burden estimate of this ICR.

B.2.c Precision Requirements

B.2.c.i Precision Targets

The sampling design for the 2011 Native American DWINSA will be implemented at the national level for American Indian water system and for the State of Alaska for Alaskan Native Village water systems. EPA's goal is to be 95 percent confident that the margin of error, when estimating the total capital needs facing these systems nationally (for American Indian water systems) and at the state (for Alaskan Native Village water systems), will be plus or minus 10 percent of the total need for these systems.

B.4 COLLECTION METHODS AND FOLLOW-UP

B.4.a Collection Method

The proposed collection method for the 2011 Native American DWINSA is for the EPA Region or the Navajo Nation to first preliminarily fill out the data collection instrument for each system in the sample based on information obtained from IHS and the water systems records. The Navajo Nation or EPA Region will then contact each system and interview the respondent to identify possible additional projects and to concur on the final set of identified infrastructure investment needs. By having the EPA Regions and the Navajo Nation conducting the survey in this manner for American Indian and Alaskan Native Village water systems, the information collection burden on these water system respondents will be minimized.

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Appendix A
Public Notice Required Prior to ICR Submission to OMB

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Appendix B
Data Collection Instrument and Lists of Codes

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2011 Drinking Water Infrastructure Needs Survey and Assessment

U.S. Environmental Protection Agency
Washington, DC 20460

OMB No.: _____
Approval Expires: _____
Federal PWSID No.: _____

Please verify or correct the following information:

| | Check if Correct as Printed | Corrected Information <i>(Fill in only if preprinted information is missing or incorrect)</i> | | | | |
|---|--|--|---------------------------------|---|---|---|
| Name of System (Community): | <input type="checkbox"/> | | | | | |
| Name of Contact for Water System: <small>(Record name of person completing survey on page 8; may be same person)</small> | <input type="checkbox"/> | | | | | |
| Street Address: | <input type="checkbox"/> | | | | | |
| City, State, and Zip: | <input type="checkbox"/> | | | | | |
| Population Served (if wholesale seller, include population of systems sold to): | <input type="checkbox"/> | | | | | |
| Number of Connections (not including those in consecutive systems): | <input type="checkbox"/> | | | | | |
| Total System Design Capacity: _____ MGD | | | | | | |
| Source Water Type (Ground, Surface/GWUDI, etc.): | Check All That Apply: <table style="display: inline-table; vertical-align: top; margin-left: 10px;"> <tr> <td><input type="checkbox"/> Ground</td> <td><input type="checkbox"/> Surface/GWUDI</td> </tr> <tr> <td><input type="checkbox"/> Purchased Ground</td> <td><input type="checkbox"/> Purchased Surface/GWUDI</td> </tr> </table> | | <input type="checkbox"/> Ground | <input type="checkbox"/> Surface/GWUDI | <input type="checkbox"/> Purchased Ground | <input type="checkbox"/> Purchased Surface/GWUDI |
| <input type="checkbox"/> Ground | <input type="checkbox"/> Surface/GWUDI | | | | | |
| <input type="checkbox"/> Purchased Ground | <input type="checkbox"/> Purchased Surface/GWUDI | | | | | |
| Ownership Type: | Check All That Apply: <table style="display: inline-table; vertical-align: top; margin-left: 10px;"> <tr> <td><input type="checkbox"/> Public</td> <td><input type="checkbox"/> Federal Government</td> </tr> <tr> <td><input type="checkbox"/> Native American</td> <td><input type="checkbox"/> Investor-Owned or Private Non-Profit</td> </tr> </table> | | <input type="checkbox"/> Public | <input type="checkbox"/> Federal Government | <input type="checkbox"/> Native American | <input type="checkbox"/> Investor-Owned or Private Non-Profit |
| <input type="checkbox"/> Public | <input type="checkbox"/> Federal Government | | | | | |
| <input type="checkbox"/> Native American | <input type="checkbox"/> Investor-Owned or Private Non-Profit | | | | | |
| <p><small>Public reporting burden for this collection of information is estimated to average 8.2 hours per response. This estimate includes time for reviewing the instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the information collected. Burden means the total time, effort, or financial resources expended by person(s) 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; adjust the existing ways to comply with any previously applicable instructions; search data sources; complete and review the collection of information; and transmit or otherwise disclose the information. An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number. The OMB control numbers for EPA's regulations are listed in 40 CFR Part 9 and 48 CFR Chapter 15.</small></p> <p><small>Send comments on the Agency's need for this information, the accuracy of the provided burden estimates, and any suggested methods for minimizing respondent burden, including through the use of automated collection techniques to the Director, OPPI, Regulatory Information Division, U.S. Environmental Protection Agency (1804A), Ariel Rios Building, 1200 Pennsylvania Ave., NW, Washington, DC 20460; and Office of Information and Regulatory Affairs, Office of Management and Budget, 725 17th Street, N.W., Washington, DC 20503.</small></p> | | | | | | |
| State Use Only State Reviewer: _____ | | Telephone Number: _____ | | | | |

Information provided for this survey can be requested by the public. It is our experience that survey information is rarely requested.

Source, Treatment, Storage, and Pumping Inventory

To ensure all potential source, treatment, storage, and pumping projects are considered, it may be helpful to complete some or all of this inventory table. However, completion of this table is not required.

- **Source Projects** are all projects related to collecting and pumping raw water. This includes wells, surface water intakes, springs, off-stream raw water storage, pumps, and well houses.
- **Treatment Projects** are all projects related to disinfection, filtration, or other treatment processes for ground or surface water sources, or for treatment applied in the distribution system.
- **Storage and Pumping Projects** are related to finished or treated water storage, and booster pump stations.

| Source Water | | | |
|---|---|--|--|
| Inventory | Needing Replacement | Needing Rehabilitation | New Infrastructure Needs |
| Total Number and Capacity of Existing Wells or Springs: | Wells (pumps included) or Springs: | Wells (pumps included) or Springs: | Does your system have additional source water capacity needs to meet the needs of current users? (check one) Yes ___ No _____ If yes, how many additional sources are necessary? And what are the design capacities? |
| Total Number and Capacity of Existing Surface Water Sources: | Existing Surface Water Intakes (excluding pumps): | Existing Surface Water Intakes (excluding pumps): | |
| Total Number and Capacity of Existing Pumps (excluding booster pump stations): | Existing Groundwater Pumps (if wells not listed): | Existing Groundwater Pumps (if wells not listed): | |
| | Existing Raw Surface Water Pumps: | Existing Raw Surface Water Pumps: | |
| Treatment | | | |
| Inventory | Needing Replacement | Needing Expansion/Upgrading or Rehabilitation | New Infrastructure Needs |
| For the sources identified above, enter the number of locations where the following treatment is applied: | | | |
| Disinfection (including booster disinfection): | Disinfection: | Disinfection: | Does your system have additional treatment needs for provision of additional public health protection or for aesthetic concerns? (check one) Yes ___ No ___ If yes, what additional treatment is necessary? |
| Filtration: | Filtration: | Filtration: | |
| Chemical removal or addition: | Chemical treatment: | Chemical treatment: | |
| Storage and Pump Stations | | | |
| Inventory | Needing Replacement | Needing Rehabilitation | New Infrastructure Needs |
| Total Number and Capacity of Existing Storage Tanks: | Number of Existing Storage Tanks: | Number of Existing Elevated or Ground-Level Storage Tanks: | Does your system have additional storage capacity and/or booster pumping needs to meet the needs of current users? (check one) Yes ___ No ___ If yes, how much additional finished water storage or booster pumping capacity is necessary? |
| Total Number and Capacity of Existing Booster Pump Stations: | Number of Existing Booster Pump Stations: | Number of Existing Booster Pump Stations: | |

Source, Treatment, Storage, and Pumping Projects

| Project Number | Project Name | Type of Need (List 1) | Reason for Need (List 2) | New, Replace, ReHab, Expand/upgrade | Current or Future | Reg or Secondary Purpose (List 3) | Design Capacity (MG, MGD, kW) | Number Needed (if applicable) | Cost Estimate (if available) | Date of Cost Estimate (Month/Year) | Documentation (List 4) |
|----------------|---|-----------------------|--------------------------|-------------------------------------|-------------------|-----------------------------------|-------------------------------|-------------------------------|------------------------------|------------------------------------|------------------------|
| Ex. 1 | Replace Wells 3 and 8 at 0.5 MGD each | R1 | A1 | R | C | 4A | 0.5 | 2 | - | - | 6, 10 |
| Ex. 2 | Rehab Treatment Plant and Booster Station | T10, P2 | A1,A6 | H | F | 1A | 5.0 | 1 | \$6,027,000 | 12/2009 | 4 |
| 1000 | | | | | | | | | | | |
| 1001 | | | | | | | | | | | |
| 1002 | | | | | | | | | | | |
| 1003 | | | | | | | | | | | |
| 1004 | | | | | | | | | | | |
| 1005 | | | | | | | | | | | |
| 1006 | | | | | | | | | | | |
| 1007 | | | | | | | | | | | |

If a project is coded 2G for "climate readiness" from List 3, please refer to page 7 for supplemental questions.

If you have more source, treatment, storage, or pumping projects check this box and continue on a supplemental sheet (included in this package or downloadable at www.DWNeeds.com). Project numbers for these types of projects are 1000-1999, and should be numbered in sequence.

EPA requires documentation of all projects provided. Applicable types of documentation are presented in List 4 of the Lists of Codes. Use only existing documentation of cost. We do not expect you to develop new cost estimates.

Transmission and Distribution Inventory

Transmission and distribution projects are the piping needs of a water system. **Projects for valves, backflow prevention devices and assemblies, hydrants, and meters** that are not part of a transmission or distribution project listed in this table should be recorded in the table on page 6.

On the table below, please provide an estimate of the total feet or miles of pipe in your system, if possible. Completion of this table is not required, but it may be helpful to ensure all potential transmission and distribution pipe projects are considered.

| Note: The total feet or miles of pipe in your system is required information if any pipe projects are submitted based solely on survey-generated documentation (documentation codes 10 or 11). | | Total feet or miles of pipe in system <i>(Circle or underline feet or miles)</i> | | | |
|---|-----------------------|---|---------------------|---------------------|---------------------|
| <u>Total Pipe in System</u> <i>(Circle or underline feet or miles)</i> | | <u><=6 inch</u> | <u>8-12 inch</u> | <u>15-42 inch</u> | <u>>=48 inch</u> |
| <u>Plastic</u> | _____ Feet or miles | Amount of PVC by pipe size | _____ feet or miles | _____ feet or miles | _____ feet or miles |
| | _____ % of total pipe | % of this category/size pipe currently in poor condition or beyond useful life | _____ % | _____ % | _____ % |
| <u>Ductile Iron</u> | _____ Feet or miles | Amount of ductile iron by pipe size | _____ feet or miles | _____ feet or miles | _____ feet or miles |
| | _____ % of total pipe | % of this category/size pipe currently in poor condition or beyond useful life | _____ % | _____ % | _____ % |
| <u>Cast Iron</u> | _____ Feet or miles | Amount of cast iron by pipe size | _____ feet or miles | _____ feet or miles | _____ feet or miles |
| | _____ % of total pipe | % of this category/size pipe currently in poor condition or beyond useful life | _____ % | _____ % | _____ % |
| <u>Asbestos Cement</u> | _____ Feet or miles | Amount of asbestos cement by pipe size | _____ feet or miles | _____ feet or miles | _____ feet or miles |
| | _____ % of total pipe | % of this category/size pipe currently in poor condition or beyond useful life | _____ % | _____ % | _____ % |
| <u>Other</u> | _____ Feet or miles | Amount of other by pipe size | _____ feet or miles | _____ feet or miles | _____ feet or miles |
| | _____ % of total pipe | % of other currently in poor condition or beyond useful life | _____ % | _____ % | _____ % |

Transmission and Distribution Projects

| Project Number | Project Name | Type of Need (List 1) | Reason for Need (List 2) | New, Replace, or ReHab | Current or Future | Reg or Secondary Purpose (List 3) | Diameter of Pipe (Inches) | Length of Pipe (Feet) | Cost Estimate (if available) | Date of Cost Estimate (Month/Year) | Documentation (List 4) |
|----------------|---|-----------------------|--------------------------|------------------------|-------------------|-----------------------------------|---------------------------|-----------------------|------------------------------|------------------------------------|------------------------|
| Ex. 1 | Cleaning and Lining Old Cast Iron Mains | M1 | A1 | H | C | 4A | 12 | 18,000 | - | - | 11 |
| Ex 2 | Replace Deteriorated Transmission Main | X2 | A1 | R | C | 4A | 24 | 20,000 | \$4,200,000 | 06/2008 | 1 |
| 2000 | | | | | | | | | | | |
| 2001 | | | | | | | | | | | |
| 2002 | | | | | | | | | | | |
| 2003 | | | | | | | | | | | |
| 2004 | | | | | | | | | | | |
| 2005 | | | | | | | | | | | |
| 2006 | | | | | | | | | | | |
| 2007 | | | | | | | | | | | |

If a project is coded 2G for "climate readiness" from List 3, please refer to page 7 for supplemental questions.

If you have more transmission or distribution projects check this box and continue on a supplemental sheet (included in this package or downloadable at www.DWNNeeds.com). Project numbers for transmission or distribution projects are 2000-2999, and should be numbered in sequence.

EPA requires documentation of all projects provided. Applicable types of documentation are presented in List 4 of the Lists of Codes. Use only existing documentation of cost. We do not expect you to develop new cost estimates.

Meters, Service Lines, Backflow Prevention Devices/Assemblies, Hydrants, Valves, etc

Projects for meters, service lines, backflow prevention devices and assemblies, valves, hydrants and other miscellaneous projects are recorded in this section to accommodate entries of multiple identical items on one line in the project table. **Record only projects that are not a part of another project (e.g., water main replacement projects will already include valves, hydrants, and other appurtenances).** EPA requires documentation of all projects provided. Applicable types of documentation are presented in List 4 of the Lists of Codes. Use only existing documentation of cost. We do not expect you to develop new cost estimates.

| Inventory | Needing Replacement | New Infrastructure Needs |
|--|---|---|
| Total Number of Existing Water Meters: | Number of Water Meters: | Number of Water Meters: |
| Total Number of Existing Backflow Prevention Devices/Assemblies: | Number of Backflow Prevention Devices/Assemblies: | Number of Backflow Prevention Devices/Assemblies: |
| Total Number of Existing Valves: | Number of Valves: | Number of Valves: |
| Total Number of Existing Hydrants: | Number of Hydrants: | Number of Hydrants: |
| Total Number of Lead Service Lines: | | |

| Project Number | Project Name | Type of Need (List 1) | Reason for Need (List 2) | New, Replace, or ReHab | Current or Future | Reg or Secondary Purpose (List 3) | Size (Diameter in Inches) | Number Needed | Cost Estimate (if available) | Date of Cost Estimate (Month/Year) | Documentation (List 4) |
|----------------|-----------------------------------|-----------------------|--------------------------|------------------------|-------------------|-----------------------------------|---------------------------|---------------|------------------------------|------------------------------------|------------------------|
| <i>Ex. 1</i> | <i>Replace Lead Service Lines</i> | <i>M2</i> | <i>A6</i> | <i>R</i> | <i>C</i> | <i>1D</i> | <i>-</i> | <i>100</i> | <i>\$100,000</i> | <i>05/2010</i> | <i>9, 11</i> |
| 3000 | | | | | | | | | | | |
| 3001 | | | | | | | | | | | |
| 3002 | | | | | | | | | | | |
| 3003 | | | | | | | | | | | |
| 3004 | | | | | | | | | | | |

| Project Number | Project Name | Type of Need (List 1) | Reason for Need (List 2) | <u>N</u> ew, <u>R</u> eplace, or <u>R</u> e <u>H</u> ab | <u>C</u> urrent or <u>F</u> uture | Reg or Secondary Purpose (List 3) | Size (Diameter in Inches) | Number Needed | Cost Estimate (if available) | Date of Cost Estimate (Month/Year) | Documentation (List 4) |
|----------------|--------------|-----------------------|--------------------------|---|-----------------------------------|-----------------------------------|---------------------------|---------------|------------------------------|------------------------------------|------------------------|
| 3005 | | | | | | | | | | | |
| 3006 | | | | | | | | | | | |
| 3006 | | | | | | | | | | | |
| 3008 | | | | | | | | | | | |

If a project is coded 2G for "climate readiness" from List 3, please refer to page 7 for supplemental questions.

If you have more of these types of projects check this box and continue on a supplemental sheet (included in this package or downloadable at www.DWNNeeds.com). Project numbers for these types of projects are 3000-3999, and should be numbered in sequence.

Climate Readiness Supplemental Questions

If you used code 2G from List 3, in the "Regulation or Secondary Purpose" column of the survey, indicating that you have one or more projects that are related to climate readiness, please answer the following questions. Only one response is requested; do not provide a response for each project.

Projects that included a climate ready component [Project #(s)]: _____

Which of the following secondary consequences of climate change have contributed to your system's need for climate readiness projects? (check all that apply)

- Source water quality (e.g., water quality degradation affecting treatment processes, alternate sources, etc.)
- Source water quantity (e.g., availability affected by snowmelt or weather patterns, or hydraulic patterns)
- Infrastructure Vulnerability (e.g., facility locations affected by sea level rise, increased precipitation intensity)
- Other (please explain) _____

Please describe the data you are relying on to determine climate change consequences and implications.

- Model developed from state-specific data.
- Model developed from region-specific data.
- Other (please describe) _____

Respondent Information

Please provide the following information in case we need to contact you for clarification or additional explanation of any of your responses.

Contact Person (Person who completed this questionnaire):

Signature: _____

Name (please print): _____

Title: _____

Mailing Address:
(Street Address) _____

Telephone Number: _____

Fax Number: _____

E-mail Address: _____

Best Time to Reach You: _____

If you have any questions, contact your state coordinator (contact information can be found at www.dwneeds.com) or call the U.S. EPA toll-free Needs Survey Helpline at X-XXX-XXX-XXXX.

CLOSING: Thank you for your help. Did you remember to:

- Attach all additional project tables to the questionnaire?
- Identify, by project number, available documentation for all needs and costs reported above?
- Put the questionnaire and the documentation in the pre-paid, pre-addressed Federal Express Pak provided and return this questionnaire and the documentation to the address below? (See the pink enclosure for further return instructions.)

Jane Q. Official
Division of Water
One Capital Street
Capital, XX 99999

LIST 4 - DOCUMENTATION

Code Independent Documentation of Need and/or Cost

- 1 **Capital Improvement Plan or Master Plan:** The plan must address why the project is needed and/or provide a cost.
- 2 **Facilities Plan or Preliminary Engineering Report:** Excerpts justifying need and/or cost from the plan or report are acceptable if project-specific.
- 3 **Grant or Loan Application Form:** An application form is acceptable if it specifically describes a problem requiring capital expenditures.
- 4 **Engineer's Estimate or Bid Tabulation:** These must be project specific and independently generated. They must also be accompanied by an explanation of why the project is needed.

Code Independent Documentation of Need Only

- 5 **Intended Use Plan/State Priority List:** The excerpts must include a description of why the project is needed. Costs from IUPs will not be used - modeling parameters or other cost documentation must be provided.
- 6 **Comprehensive Performance Evaluation (CPE) or Sanitary Survey Results:** The results or recommendations may be used to justify need if the state concurs.
- 7 **Monitoring Results:** Monitoring results indicating an MCL exceedance or a trending towards an exceedance can demonstrate a need for a project if accompanied by a written statement explaining how the results demonstrate the need.
- 8 **Other Independent Document:** Use this code if documentation is independent but none of the codes listed above apply. Examples include: state enforcement order/notice of violation, engineering studies, watermain break report, repair reports, and distribution system studies.

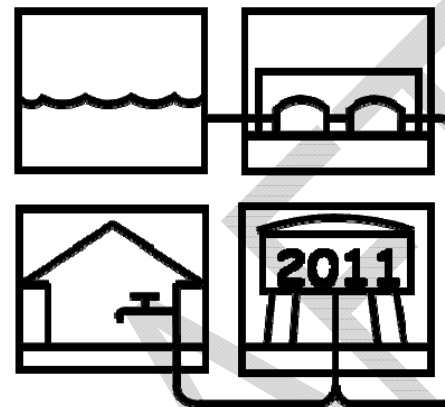
Code Independent Documentation of Cost Only

- 9 **Cost of Previous Comparable Construction:** This may be used to justify costs if the costs are project-specific. It must include documentation of how the costs were derived.

Code Survey-generated Documentation of Need Only

- 10 **Written by State:** Brief description and statement of need written by state.
- 11 **Written by System:** Brief description and statement of need written by system.

Lists of Codes



Drinking Water Infrastructure Needs Survey and Assessment

Use these instructions and lists of codes when you fill out the Needs Survey and Assessment questionnaire. In your documentation please be sure to include project descriptions. Also include copies of the breakdown of cost estimates, if available.

Instructions for Each Column on the 2011 Drinking Water Infrastructure Needs Survey and Assessment Questionnaire

The following instructions apply to columns on all tables in the questionnaire.

| Column Title | Instructions |
|--|---|
| Project Number | Number the projects in each category in sequence, using the range of numbers specified for each category of need. |
| Project Name | Provide a name that briefly describes and identifies the project. |
| Type of Need | Refer to List 1 in the Lists of Codes and enter the code(s) that best identifies the project. More than one code may apply to a project if a cost is provided. Use only one code if no cost is available. |
| Reason for Need | Refer to List 2 in the Lists of Codes and enter the code(s) that best justifies the project. More than one code may apply to a project if a cost is provided. Use only one code if no cost is available. |
| New, Replace, Expand/Upgrade, or Rehabilitate | Identify whether the project is for: -New infrastructure installation where none exists, enter 'N' Resulting infrastructure is entirely new. -Replacement of existing infrastructure, enter 'R' Existing infrastructure is replaced with new infrastructure. -Expansion or Upgrade of a complete treatment plant, enter 'E' Major improvements to an existing complete plant. May add or change unit processes. May result in an increase in capacity. Use for complete treatment plants only. -Rehabilitation of existing infrastructure, enter 'H' Restore existing infrastructure to near new condition. |
| Current or Future | Identify whether the project is: - Needed now, enter C= (even if you cannot start construction now) - Not needed now, enter F= (but will be necessary before 12/31/2030) |
| Regulation or Secondary Purpose | If the project is needed to maintain or obtain compliance with a regulation, secondary MCL, or if one or more of the secondary purpose codes (green or climate readiness) apply, refer to List 3 in the Lists of Codes and enter the appropriate code. Enter '4A' if no code applies. |
| Cost Estimate | If available, enter the documented cost estimate for this project. Use only existing cost estimates. If no cost estimate is provided and modeling parameters are recorded, EPA will use models to estimate the cost. |
| Date of Cost Estimate | Enter the month and year (MM/YYYY) of the cost estimate. EPA will adjust cost estimates to current-year dollars. |
| Documentation | Refer to List 4 in the Lists of Codes and enter the code(s) that applies to the type of documentation provided that explains why the project is needed. If a cost estimate is provided, also enter the code that applies to the type of cost documentation. More than one code may apply to a project if a cost is provided. Use only one code if no cost is available. Please enclose the appropriate pages of need and cost documentation, identified by project number. |

LIST 3 REGULATION OR SECONDARY PURPOSE

Code Regulation or Secondary Purpose

EXISTING SDWA REGULATIONS

- 1A Surface Water Treatment Regulations (Surface Water Treatment Rule, Interim Enhanced Surface Water Treatment Rule, Filter Backwash Recycling Rule, Long Term 1 Enhanced Surface Water Treatment Rule, or Long Term 2 Enhanced Surface Water Treatment Rule)
- 1B Total Coliform Rule (published June 1989)
- 1C Nitrate or Nitrite Standard
- 1D Lead and Copper Rule
- 1E Arsenic Rule (10 µg/L Arsenic Standard)
- 1F Stage 1 Disinfectants/Disinfection Byproducts Rule (for compliance with the 80 µg/L for TTHMs and 60 µg/L for HAA5s as a running annual average)
- 1G Other Regulated VOCs, SOCs, IOCs, or Radionuclides (excludes Radon)
- 1H Ground Water Rule

OTHER REQUIREMENTS OR SECONDARY PURPOSES

- 2A Secondary Contaminants (e.g., iron, taste and odor, and color)
- 2B State Requirements
- 2C Green – Green Infrastructure (e.g., porous pavement, green roofs, etc.)
- 2D Green – Water Efficiency (e.g., meters, pressure reducing valves, etc.)
- 2E Green – Energy Efficiency (e.g., pump rehab, VFDs, SCADA, etc.)
- 2F Green – Environmentally Innovative (e.g., LEED buildings, etc.)
- 2G Climate Readiness (e.g., source quality degradation, source quantity availability, or infrastructure vulnerability)

PROPOSED AND RECENTLY PROMULGATED SDWA REGULATIONS

Needs associated **solely** with the following proposed or recently promulgated regulations are not allowable and should not be included. The costs for these needs, estimated for each rule's Economic Analysis, will be added to the total national need. These regulations include:

- Stage 2 Disinfectants/Disinfection Byproducts Rule (for compliance with the 80 µg/L for TTHMs and 60 µg/L for HAA5s as a locational running annual average)
- Proposed Revisions to the 1989 Total Coliform Rule
- Proposed Radon Rule

If None of the Above Codes Applies

- 4A Use this code if none of the codes above apply

LIST 2 REASON FOR NEED

| Code | Reason the Project is Needed |
|-------------|--|
| A1 | Project is for existing infrastructure that is or will be old or deteriorated by 12/31/2030. |
| A2 | Project is to correct a deficiency in source water quantity caused by current user demand. |
| A3 | Project is to correct a deficiency in storage capacity caused by current user demand. |
| A4 | Project is to correct existing pressure problems (not related to fire flow). |
| A5 | Project needed as a result of, but not in preparation for, a natural disaster. |
| A6 | Project is to obtain or maintain compliance with an existing regulation (enter the regulation code from List 3 in the Lists of Codes in the regulation column of the questionnaire). |
| A7 | Project is to obtain or maintain compliance with a secondary standard (e.g., iron, taste and odor, and color) (enter regulation code 2A in the regulation column of the questionnaire). |
| A8 | Project is for consolidation with and/or connection to an existing public water system. |
| A9 | Project is for extending service to existing homes without adequate water quantity or quality. |
| A10 | Project is to prevent, detect, or respond to a security event (e.g., fence, locks, protective structures, gates, on-line sensors, motion sensors, alarm systems, generators, communications equipment, analytical equipment) |
| A11 | Use this code if codes A1-A10 do not apply. |

Important Notes:

A description of each project or a copy of the documentation must also be clearly identified by project number and submitted with the completed questionnaire.

Projects **primarily** for meeting expected future population growth or for fire flow are unallowable.

The following instructions apply to columns on specific tables in the questionnaire.

| Column Title | Instructions |
|-------------------------|---|
| Design Capacity | On the <i>Source, Treatment, Storage, and Pumping</i> project table enter the design capacity when applicable million gallons per day (MGD) for source, treatment, and pumping; million gallons (MG) for storage; and kilowatts (kW) for emergency power. For this survey, “design capacity” is the total volume or the flow that can be produced when all components of the project are operating. |
| Diameter of Pipe | On the <i>Transmission and Distribution</i> project table enter the diameter of pipe (in inches) that must be rehabilitated, replaced, or installed as new. Use a separate project number and line for different sizes of pipe. |
| Length of Pipe | On the <i>Transmission and Distribution</i> project table enter the length of pipe (in feet) that must be upgraded, replaced, or installed as new for each diameter identified in the previous column. |
| Size | On the <i>Backflow Prevention Devices/Assemblies, Hydrants, Service Lines, Valves, Water Meter, and Other</i> project table enter the diameter (in inches) for infrastructure that must be upgraded, replaced, or installed as new. Use a separate project number and line for different diameters of the same type of need. Diameter is not needed for service line projects. |
| Number Needed | On the <i>Source, Treatment, Storage, and Pumping</i> project table indicate the total number of components if you have multiple identical projects at the same capacity (e.g., rehabilitate 10 wells each with a 0.5 MGD capacity). On the <i>Backflow Prevention Devices/Assemblies, Hydrants, Service Lines, Valves, Water Meter and Other</i> project table indicate the total number of components. For example, a future project to install four 8” diameter valves would include the size (diameter in inches) of the valves and the number “4” would be entered as the number needed. If you use this column and provide a project cost, the cost should reflect the entire project (i.e., <i>all</i> 10 wells or <i>all</i> 400 meters, not the cost of an individual well or meter). |

- **What is a “need?”** – Installation or rehabilitation of capital infrastructure needed over the next 20 years.
- **What is “independent documentation?”** – Documents generated through a process independent of the survey (e.g., CIP, master plan, sanitary survey report, etc.).
- **What is “survey-generated documentation?”** – Documents generated specifically for the survey written by the system or the state.

LIST 1 TYPE OF NEED

Code Type of Need

RAW/UNTREATED WATER SOURCE

- R1 Well (including pump and appurtenances, not including a well house)
- R2 Well Pump
- R3 Well House (may include a chemical feed room)
- R4 Eliminate Well Pit
- R5 Abandon Well
- R6 Aquifer Storage and Recovery Well
- R7 Surface Water Intake
- R8 Raw Water Pump
- R9 *Off-Stream Raw Water Storage*¹
- R10 Spring Collector
- R11 *De-stratification*¹

TREATMENT: *Disinfection*

- T1 Chlorination
- T2 Chloramination
- T3 Chlorine Dioxide
- T4 Ozonation
- T5 Mixed Oxidant Type Equipment
- T6 Ultraviolet Disinfection
- T7 Contact Basin for CT
- T8 Dechlorination of Treated Water
- T9 Chlorine Gas Scrubber

TREATMENT: *Complete Plants (N/R/E require independent documentation)*

- T10 Conventional Filter Plant (includes CAC technologies)
- T11 Direct or In-line Filter Plant
- T12 Slow Sand Filter Plant
- T13 Diatomaceous Earth Filter Plant
- T14 Membrane Technology for Particulate Removal
- T15 Cartridge or Bag Filtration Plant
- T16 Lime Softening
- T17 Reverse Osmosis
- T18 Electrodialysis
- T19 Activated Alumina
- T20 Manganese Green Sand (or other oxidation/filtration technology)
- T21 Ion Exchange
- T22 Groundwater Chemical-feed
- T23 Iron Adsorption
- T24 Aeration (complete plant)

TREATMENT: *Other Components / Equipment / Processes*

- T30 Zebra Mussel Control
- T31 Corrosion Control (chemical addition)
- T32 Powdered Activated Carbon
- T33 Aeration (component)
- T34 Sequestering for Iron and/or Manganese

¹ Cost must be provided. Infrastructure cannot be modeled.

LIST 1 TYPE OF NEED (cont.)

Code Type of Need

- T35 Chemical Feed
- T36 Chemical Storage Tank
- T37 Fluoride Addition
- T38 Presedimentation Basin
- T39 Sedimentation/Flocculation
- T40 Granular Activated Carbon
- T41 Membrane Filtration (not complete plant)
- T42 Media Filters
- T43 Waste Handling/Treatment: Mechanical (not included in another project)
- T44 Waste Handling/Treatment: Nonmechanical or Connection to a Sanitary Sewer (not included in another project)
- T45 Type of Treatment Unknown
- T46 *Other (Please include an explanation)*¹

TRANSMISSION: *(Any mains that transport raw water to the treatment plant, or treated water from the plant to the distribution system grid)*

- X1 Raw Water Transmission
- X2 Finished Water Transmission

DISTRIBUTION

- M1 Distribution Mains (Any mains that transport water through a piping grid serving customers - see "transmission" above)
- M2 Lead (Pb) Service Line Replacement
- M3 Service Lines (other than lead service lines)
- M4 Hydrants Used for Flushing (not included in another pipe project)
- M5 Valves (gate, butterfly, etc.) (not included in another pipe project)
- M6 Control Valves (PRVs, altitude, etc.)
- M7 Backflow Prevention Devices/Assemblies
- M8 Water Meters

FINISHED/TREATED WATER STORAGE

- S1 Elevated Finished/Treated Water Storage
- S2 Ground-level Finished/Treated Water Storage
- S3 Hydropneumatic Storage
- S5 Cover for Existing Finished/Treated Water Storage

PUMP STATION AND FINISHED WATER PUMP

- P1 Finished Water Pump
- P2 Pump Station (booster or raw water pump station-may include clearwell, pumps, housing)

OTHER INFRASTRUCTURE NEEDS

- W1 *Laboratory Capital Costs for Labs Owned by the System*¹
- W2 Computer and Automation Costs (SCADA)
- W3 Pump Controls/Telemetry
- W4 Emergency Power (enter design capacity as kilowatts)
- W5 Security: Fencing
- W6 *Security: Other Physical (lights, wall, manhole locks, other locks)*¹
- W7 *Security: Electronic/Cyber (computer firewall, closed circuit TV)*¹
- W8 *Security: Monitoring Tools (used to identify anomalies in process streams or finished water)*¹
- W9 *Security: Other Security (describe in documentation)*¹
- W10 *Other (Please include an explanation)*¹

LIST 4 - DOCUMENTATION

Code Independent Documentation of Need and/or Cost

- 1 **Capital Improvement Plan or Master Plan:** The plan must address why the project is needed and/or provide a cost.
- 2 **Facilities Plan or Preliminary Engineering Report:** Excerpts justifying need and/or cost from the plan or report are acceptable if project-specific.
- 3 **Grant or Loan Application Form:** An application form is acceptable if it specifically describes a problem requiring capital expenditures.
- 4 **Engineer's Estimate or Bid Tabulation:** These must be project specific and independently generated. They must also be accompanied by an explanation of why the project is needed.

Code Independent Documentation of Need Only

- 5 **Intended Use Plan/State Priority List:** The excerpts must include a description of why the project is needed. Costs from IUPs will not be used - modeling parameters or other cost documentation must be provided.
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- 8 **Other Independent Document:** Use this code if documentation is independent but none of the codes listed above apply. Examples include: state enforcement order/notice of violation, engineering studies, watermain break report, repair reports, and distribution system studies.

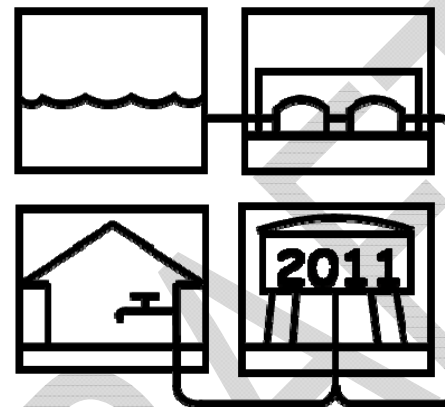
Code Independent Documentation of Cost Only

- 9 **Cost of Previous Comparable Construction:** This may be used to justify costs if the costs are project-specific. It must include documentation of how the costs were derived.

Code Survey-generated Documentation of Need Only

- 10 **Written by State:** Brief description and statement of need written by state.
- 11 **Written by System:** Brief description and statement of need written by system.
- 12 **Written by EPA Region/Navajo Nation:** Brief description and statement of need written by EPA Region/Navajo Nation based on site visit or other data collection means.

Lists of Codes



Drinking Water Infrastructure Needs Survey and Assessment

Use these instructions and lists of codes when you fill out the Needs Survey and Assessment questionnaire. In your documentation please be sure to include project descriptions. Also include copies of the breakdown of cost estimates, if available.

For American Indian and Alaskan Native Village Water Systems

Instructions for Each Column on the 2011 Drinking Water Infrastructure Needs Survey and Assessment Questionnaire

The following instructions apply to columns on all tables in the questionnaire.

| Column Title | Instructions |
|--|---|
| Project Number | Number the projects in each category in sequence, using the range of numbers specified for each category of need. |
| Project Name | Provide a name that briefly describes and identifies the project. |
| Type of Need | Refer to List 1 in the Lists of Codes and enter the code(s) that best identifies the project. More than one code may apply to a project if a cost is provided. Use only one code if no cost is available. |
| Reason for Need | Refer to List 2 in the Lists of Codes and enter the code(s) that best justifies the project. More than one code may apply to a project if a cost is provided. Use only one code if no cost is available. |
| New, Replace, Expand/Upgrade, or Rehabilitate | Identify whether the project is for: -New infrastructure installation where none exists, enter 'N' Resulting infrastructure is entirely new. -Replacement of existing infrastructure, enter 'R' Existing infrastructure is replaced with new infrastructure. -Expansion or Upgrade of a complete treatment plant, enter 'E' Major improvements to an existing complete plant. May add or change unit processes. May result in an increase in capacity. Use for complete treatment plants only. -Rehabilitation of existing infrastructure, enter 'H' Restore existing infrastructure to near new condition. |
| Current or Future | Identify whether the project is: - Needed now, enter C= (even if you cannot start construction now) - Not needed now, enter F= (but will be necessary before 12/31/2030) |
| Regulation or Secondary Purpose | If the project is needed to maintain or obtain compliance with a regulation, secondary MCL, or if one or more of the secondary purpose codes (green or climate readiness) apply, refer to List 3 in the Lists of Codes and enter the appropriate code. Enter '4A' if no code applies. |
| Cost Estimate | If available, enter the documented cost estimate for this project. Use only existing cost estimates. If no cost estimate is provided and modeling parameters are recorded, EPA will use models to estimate the cost. |
| Date of Cost Estimate | Enter the month and year (MM/YYYY) of the cost estimate. EPA will adjust cost estimates to current-year dollars. |
| Documentation | Refer to List 4 in the Lists of Codes and enter the code(s) that applies to the type of documentation provided that explains why the project is needed. If a cost estimate is provided, also enter the code that applies to the type of cost documentation. More than one code may apply to a project if a cost is provided. Use only one code if no cost is available. Please enclose the appropriate pages of need and cost documentation, identified by project number. |

LIST 3 REGULATION OR SECONDARY PURPOSE

Code Regulation or Secondary Purpose

EXISTING SDWA REGULATIONS

- 1A Surface Water Treatment Regulations (Surface Water Treatment Rule, Interim Enhanced Surface Water Treatment Rule, Filter Backwash Recycling Rule, Long Term 1 Enhanced Surface Water Treatment Rule, or Long Term 2 Enhanced Surface Water Treatment Rule)
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- 1C Nitrate or Nitrite Standard
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- 1E Arsenic Rule (10 µg/L Arsenic Standard)
- 1F Stage 1 Disinfectants/Disinfection Byproducts Rule (for compliance with the 80 µg/L for TTHMs and 60 µg/L for HAA5s as a running annual average)
- 1G Other Regulated VOCs, SOCs, IOCs, or Radionuclides (excludes Radon)
- 1H Ground Water Rule

OTHER REQUIREMENTS OR SECONDARY PURPOSES

- 2A Secondary Contaminants (e.g., iron, taste and odor, and color)
- 2B State Requirements
- 2C Green – Green Infrastructure (e.g., porous pavement, green roofs, etc.)
- 2D Green – Water Efficiency (e.g., meters, pressure reducing valves, etc.)
- 2E Green – Energy Efficiency (e.g., pump rehab, VFDs, SCADA, etc.)
- 2F Green – Environmentally Innovative (e.g., LEED buildings, etc.)
- 2G Climate Readiness (e.g., source quality degradation, source quantity availability, or infrastructure vulnerability)

PROPOSED AND RECENTLY PROMULGATED SDWA REGULATIONS

Needs associated **solely** with the following proposed or recently promulgated regulations are not allowable and should not be included. The costs for these needs, estimated for each rule's Economic Analysis, will be added to the total national need. These regulations include:

- Stage 2 Disinfectants/Disinfection Byproducts Rule (for compliance with the 80 µg/L for TTHMs and 60 µg/L for HAA5s as a locational running annual average)
- Proposed Revisions to the 1989 Total Coliform Rule
- Proposed Radon Rule

If None of the Above Codes Applies

- 4A Use this code if none of the codes above apply

LIST 2 REASON FOR NEED

| Code | Reason the Project is Needed |
|-------------|--|
| A1 | Project is for existing infrastructure that is or will be old or deteriorated by 12/31/2030. |
| A2 | Project is to correct a deficiency in source water quantity caused by current user demand. |
| A3 | Project is to correct a deficiency in storage capacity caused by current user demand. |
| A4 | Project is to correct existing pressure problems (not related to fire flow). |
| A5 | Project needed as a result of, but not in preparation for, a natural disaster. |
| A6 | Project is to obtain or maintain compliance with an existing regulation (enter the regulation code from List 3 in the Lists of Codes in the regulation column of the questionnaire). |
| A7 | Project is to obtain or maintain compliance with a secondary standard (e.g., iron, taste and odor, and color) (enter regulation code 2A in the regulation column of the questionnaire). |
| A8 | Project is for consolidation with and/or connection to an existing public water system. |
| A9 | Project is for extending service to existing homes without adequate water quantity or quality. |
| A10 | Project is to prevent, detect, or respond to a security event (e.g., fence, locks, protective structures, gates, on-line sensors, motion sensors, alarm systems, generators, communications equipment, analytical equipment) |
| A11 | Use this code if codes A1-A10 do not apply. |

Important Notes:

A description of each project or a copy of the documentation must also be clearly identified by project number and submitted with the completed questionnaire.

Projects **primarily** for meeting expected future population growth or for fire flow are unallowable.

The following instructions apply to columns on specific tables in the questionnaire.

| Column Title | Instructions |
|-------------------------|---|
| Design Capacity | On the <i>Source, Treatment, Storage, and Pumping</i> project table enter the design capacity when applicable million gallons per day (MGD) for source, treatment, and pumping; million gallons (MG) for storage; and kilowatts (kW) for emergency power. For this survey, “design capacity” is the total volume or the flow that can be produced when all components of the project are operating. |
| Diameter of Pipe | On the <i>Transmission and Distribution</i> project table enter the diameter of pipe (in inches) that must be rehabilitated, replaced, or installed as new. Use a separate project number and line for different sizes of pipe. |
| Length of Pipe | On the <i>Transmission and Distribution</i> project table enter the length of pipe (in feet) that must be upgraded, replaced, or installed as new for each diameter identified in the previous column. |
| Size | On the <i>Backflow Prevention Devices/Assemblies, Hydrants, Service Lines, Valves, Water Meter, and Other</i> project table enter the diameter (in inches) for infrastructure that must be upgraded, replaced, or installed as new. Use a separate project number and line for different diameters of the same type of need. Diameter is not needed for service line projects. |
| Number Needed | On the <i>Source, Treatment, Storage, and Pumping</i> project table indicate the total number of components if you have multiple identical projects at the same capacity (e.g., rehabilitate 10 wells each with a 0.5 MGD capacity). On the <i>Backflow Prevention Devices/Assemblies, Hydrants, Service Lines, Valves, Water Meter and Other</i> project table indicate the total number of components. For example, a future project to install four 8” diameter valves would include the size (diameter in inches) of the valves and the number “4” would be entered as the number needed. If you use this column and provide a project cost, the cost should reflect the entire project (i.e., <i>all</i> 10 wells or <i>all</i> 400 meters, not the cost of an individual well or meter). |

- **What is a “need?”** – Installation or rehabilitation of capital infrastructure needed over the next 20 years.
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- **What is “survey-generated documentation?”** – Documents generated specifically for the survey written by the system or the state.

LIST 1 TYPE OF NEED

Code Type of Need

RAW/UNTREATED WATER SOURCE

| | |
|-----|---|
| R1 | Well (including pump and appurtenances, not including a well house) |
| R2 | Well Pump |
| R3 | Well House (may include a chemical feed room) |
| R4 | Eliminate Well Pit |
| R5 | Abandon Well |
| R6 | Aquifer Storage and Recovery Well |
| R7 | Surface Water Intake |
| R8 | Raw Water Pump |
| R9 | <i>Off-Stream Raw Water Storage</i> ¹ |
| R10 | Spring Collector |
| R11 | <i>De-stratification</i> ¹ |

TREATMENT: *Disinfection*

| | |
|----|---------------------------------|
| T1 | Chlorination |
| T2 | Chloramination |
| T3 | Chlorine Dioxide |
| T4 | Ozonation |
| T5 | Mixed Oxidant Type Equipment |
| T6 | Ultraviolet Disinfection |
| T7 | Contact Basin for CT |
| T8 | Dechlorination of Treated Water |
| T9 | Chlorine Gas Scrubber |

TREATMENT: *Complete Plants (N/R/E require independent documentation)*

| | |
|-----|---|
| T10 | Conventional Filter Plant (includes CAC technologies) |
| T11 | Direct or In-line Filter Plant |
| T12 | Slow Sand Filter Plant |
| T13 | Diatomaceous Earth Filter Plant |
| T14 | Membrane Technology for Particulate Removal |
| T15 | Cartridge or Bag Filtration Plant |
| T16 | Lime Softening |
| T17 | Reverse Osmosis |
| T18 | Electrodialysis |
| T19 | Activated Alumina |
| T20 | Manganese Green Sand (or other oxidation/filtration technology) |
| T21 | Ion Exchange |
| T22 | Groundwater Chemical-feed |
| T23 | Iron Adsorption |
| T24 | Aeration (complete plant) |

TREATMENT: *Other Components / Equipment / Processes*

| | |
|-----|--|
| T30 | Zebra Mussel Control |
| T31 | Corrosion Control (chemical addition) |
| T32 | Powdered Activated Carbon |
| T33 | Aeration (component) |
| T34 | Sequestering for Iron and/or Manganese |
| T35 | Chemical Feed |
| T36 | Chemical Storage Tank |
| T37 | Fluoride Addition |

¹ Cost must be provided. Infrastructure cannot be modeled.

LIST 1 TYPE OF NEED (cont.)

Code Type of Need

| | |
|-----|---|
| T38 | Presedimentation Basin |
| T39 | Sedimentation/Flocculation |
| T40 | Granular Activated Carbon |
| T41 | Membrane Filtration (not complete plant) |
| T42 | Media Filters |
| T43 | Waste Handling/Treatment: Mechanical (not included in another project) |
| T44 | Waste Handling/Treatment: Nonmechanical or Connection to a Sanitary Sewer (not included in another project) |
| T45 | Type of Treatment Unknown |
| T46 | <i>Other (Please include an explanation)</i> ¹ |
| T50 | Streaming Current Monitors |
| T51 | Particle Counters |
| T52 | Turbidity Meters |
| T53 | Chlorine Residual Monitors |

TRANSMISSION: *(Any mains that transport raw water to the treatment plant, or treated water from the plant to the distribution system grid)*

| | |
|----|-----------------------------|
| X1 | Raw Water Transmission |
| X2 | Finished Water Transmission |

DISTRIBUTION

| | |
|----|--|
| M1 | Distribution Mains (Any mains that transport water through a piping grid serving customers - see "transmission" above) |
| M2 | Lead (Pb) Service Line Replacement |
| M3 | Service Lines (other than lead service lines) |
| M4 | Hydrants Used for Flushing (not included in another pipe project) |
| M5 | Valves (gate, butterfly, etc.) (not included in another pipe project) |
| M6 | Control Valves (PRVs, altitude, etc.) |
| M7 | Backflow Prevention Devices/Assemblies |
| M8 | Water Meters |

FINISHED/TREATED WATER STORAGE

| | |
|----|---|
| S1 | Elevated Finished/Treated Water Storage |
| S2 | Ground-level Finished/Treated Water Storage |
| S3 | Hydropneumatic Storage |
| S4 | Cisterns |
| S5 | Cover for Existing Finished/Treated Water Storage |

PUMP STATION AND FINISHED WATER PUMP

| | |
|----|--|
| P1 | Finished Water Pump |
| P2 | Pump Station (booster or raw water pump station-may include clearwell, pumps, housing) |

OTHER INFRASTRUCTURE NEEDS

| | |
|-----|--|
| W1 | <i>Laboratory Capital Costs for Labs Owned by the System</i> ¹ |
| W2 | Computer and Automation Costs (SCADA) |
| W3 | Pump Controls/Telemetry |
| W4 | Emergency Power (enter design capacity as kilowatts) |
| W5 | Security: Fencing |
| W6 | <i>Security: Other Physical (lights, wall, manhole locks, other locks)</i> ¹ |
| W7 | <i>Security: Electronic/Cyber (computer firewall, closed circuit TV)</i> ¹ |
| W8 | <i>Security: Monitoring Tools (used to identify anomalies in process streams or finished water)</i> ¹ |
| W9 | <i>Security: Other Security (describe in documentation)</i> ¹ |
| W10 | <i>Other (Please include an explanation)</i> ¹ |

Appendix C
Comments and Response to Comments Received on the First Federal Register
Notice

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**American Water Works
Association**

The Authoritative Resource on Safe Water SM

Government Affairs Office
1300 Eye Street NW
Suite 701W
Washington, DC 20005-3314
T 202.628.8303
F 202.628.2846

Headquarters Office
6666 W. Quincy Avenue
Denver CO 80235
T 303.794.7711
F 303.347.0804

November 9, 2010

Water Docket
U.S. Environmental Protection Agency
EPA West, Room B102
1301 Constitution Avenue, N.W.
Washington, D.C. 24640

RE: Agency Information Collection Activities: Proposed Collection; Comment Request; 2011 Drinking Water Infrastructure Needs Survey Agency Information Collection; EPA ICR No. 2234.03, OMB Control No. 2040-0274 (Docket ID. No. EPA-HQ-OW-2010-0689)

Dear Sir or Madam:

The American Water Works Association (AWWA) appreciates the opportunity to submit these comments on the U.S. Environmental Protection Agency's (EPA's) notice on the Drinking Water Infrastructure Needs Survey 2011 Agency Information Collection (September 10, 2010, 75 *Federal Register* 55324). AWWA is an international, nonprofit, scientific and educational society dedicated to the improvement of water quality and supply. Founded in 1881, the association is the largest organization of water supply professionals in the world. Our more than 55,000 members represent the full spectrum of the drinking water community: treatment plant operators and managers, environmental advocates, engineers, scientists, academicians, and others who hold a genuine interest in water supply and public health. Our membership includes more than 4,100 water systems that supply roughly 80 percent of the nation's drinking water. AWWA and its member utilities are dedicated to safe water, and are committed to assisting in the development of science-based regulations that provide meaningful risk reduction to protect public health.

AWWA's comments on the proposed survey are attached. AWWA appreciates and supports the collection of data when the effort is appropriately structured and the data collected can be used to support sound decisions. The Needs Survey is an important part of Safe Drinking Water Act implementation that should be

Water Docket

Docket Id. No. EPA-HQ-OW-2010-0689

Page 2

undertaken regularly and organized in a fashion that is both statistically sound and represents as small a response burden as possible on individual drinking water utilities.

AWWA appreciates the agency's consideration of our concerns and recommendations. If there are any questions, please direct them to me or Steve Via at (202) 326-6130.

Best regards,

A handwritten signature in black ink that reads "Tom Curtis". The signature is written in a cursive style with a horizontal line extending from the end.

Thomas W. Curtis
Deputy Executive Director
AWWA Government Affairs

cc: Robert Barles, EPA/OW/OGWDW
Charles Job, EPA/OW/OGWDW
Cynthia Dougherty, EPA/OW/OGWDW

**COMMENTS ON
DRAFT DRINKING WATER INFRASTRUCTURE NEEDS SURVEY
AGENCY INFORMATION COLLECTION**

(September 10, 2010, 75 *Federal Register* 55324, Docket ID. No. EPA–HQ–OW–
2010–0689)

AWWA Supports Needs Survey

Support documentation for the Drinking Water Infrastructure Needs Survey and Assessment (Needs Survey) notes that AWWA has supported previous Needs Surveys by direct mail contact and through outreach by AWWA sections. AWWA provides this support because a robust and accurate Needs Survey is important. A current and accurate assessment of infrastructure needs facing drinking water systems will enable the agency to properly administer the drinking water revolving loan fund and implement the nation's overall regulatory program for drinking water. AWWA will happily provide its support for this survey once it is clear that it is constructed in a manner that will provide a robust and accurate estimate of need in each State

Setting Objectives for the Needs Survey

AWWA agrees with the agency that the survey should identify needs captured by long-term water system planning rather than simply focusing on near-term capital investments. This longer-term view will by necessity introduce some inaccuracy into the survey response.

AWWA recommends that the survey clearly state concise objectives and how those objectives will be met. There is a good example of such a statement on page 49 of the support document (Information Collection Request for the 2011 Drinking Water Infrastructure Needs Survey and Assessment (DWINSA) (Supporting Statement for ROCIS)). Page 49 states that:

“...EPA's precision target for the 2011 State DWINSA is to be 95 percent confident that the true need lies within an interval, the upper and lower bounds of which do not exceed 10 percent of the sample mean (or estimated need)..”

This type of objective statement should be brought forth earlier in the document.

AWWA recommends the agency report the goals for survey accuracy within individual system size categories. AWWA also encourages the agency to set stringent objectives for the accuracy of the survey results at the individual state level in designing the Needs Survey.

Improvements to Survey Approach Over 2007 Survey

The 2007 Needs Survey relied on an inappropriate analytical approach to estimate the impact of the Long-Term 2 Enhanced Surface Water Treatment Rule (LT2ESWTR). In 2007, EPA based the estimate of need associated with LT2ESWTR on the agency's economic analysis for the rule. AWWA supports the current survey approach which is to use available utility documentation to understand the cost of implementing the LT2ESWTR.

The proposed survey effort will also include an assessment of infrastructure needs on Native American lands. This population of systems has not been captured in the past two Needs Surveys. AWWA applauds the agency's proposed effort to capture infrastructure needs on Native American lands.

Transparency

The detailed survey contains questions that do not comport with the purpose of the survey. In AWWA's judgment such questions (e.g., enumerating valve, meter, hydrant, service line, and backflow prevention device replacement programs) will consequently increase response burden without contributing to the survey objectives. Similarly, the distribution of pipe materials and the sizes and numbers of lead service lines are information that may be useful to the agency for the purpose of targeting research funding, developing guidance, and informing regulatory actions, but these data are not pertinent to the needs assessment. If EPA is going to collect this type of information the agency should clearly document why this information is needed and how such data will be used both in its justification of the survey and in the survey questionnaire.

Supplemental questions regarding climate readiness also lack a clear relevance to the stated purpose of the Needs Survey and AWWA recommends their deletion. The site-specific nature of efforts to enhance system resiliency must consider a variety of site-specific challenges – the degree to which any particular action is clearly documented as being based on “climate readiness” will vary widely. Due to the site-specific nature of the questions and degree of uncertainty in available climate-ready planning tools, the data generated from these questions are unlikely to generate reliable data to inform public policy in a useful way.

Burden

The current estimate of 10.42 hours per system is inadequate to undertake the data collection reflected in the draft survey questionnaire. Compiling inventories of pipe, assigning individual projects to specific rule requirements and other activities will require a number of different individuals to be involved in assembling the information, providing oversight and quality control. These activities will require staff with relevant technical skills (e.g., accounting, engineering, water quality) and senior staff. Additional time will likely be needed for administrative staff to copy requested documents and prepare the transmission for EPA. According to the

proposed survey, EPA expects PWS staff will spend on average roughly one half hour interacting with State staff (obtaining technical support). Based on the proposed questions, documentation requirements, and historical experience it is likely that a significant number of utilities will be contacted by States for clarification of responses. Consequently, the estimated number of hours required to conduct the survey will be considerably higher. Completing the survey and related research will require substantially more time and resources than is reflected in the current burden estimate. The burden estimate should be adjusted accordingly.

Small Systems

It is important that the 2011 Needs Survey collect information about the needs of small systems. The cumulative costs of SDWA regulations and other pressures are overwhelming small systems. AWWA does not support the proposed approach of extrapolating large system costs to small systems. The agency approach does not capture the unique challenges of small systems or the degree to which new regulations impact small systems (e.g., Ground Water Rule, Arsenic Rule, etc.). Nor does this approach capture the inter-state variability in the number of small systems per capita served. In 2007 the Needs Survey included a survey of small systems. The methodology used in 2007, or a larger small system survey, would be more effective approaches than the proposed 2011 effort.

EPA Response to Comments Received from AWWA Regarding the 2011 DWINSA

Below is a summary of the comments received from the American Water Works Association regarding the Draft Information Collection Request for the 2011 DWINSA and EPA's responses to each comment.

- *AWWA suggested that the survey clearly state concise objectives and how those objectives will be met.*
 - EPA's primary goal is to achieve the most accurate survey possible. The two sources of potential inaccuracy in the survey result from "measurement error" in determining the need for each individual infrastructure investment and "sampling error" in estimating the needs of all water systems from a representative sub-sample of those systems.

EPA strives to reduce "measurement error" by relying on the information and judgment of those individuals most familiar and directly responsible for the infrastructure, the owners and operators of water systems, and assuring that their estimates of investment needs are within the context of historic best engineering practices. EPA addresses the "sampling error" by identifying and specifying statistical precision targets for the Survey and determining the necessary sample and sub-sample sizes to achieve those targets, including a census of systems with the largest need, and by selecting the sample randomly.

It is important to note that while greater statistical precision can be achieved by increasing the size of the sample to be surveyed, the additional burden that a larger sample size creates for collecting data and assuring its quality can result in substantially increasing measurement errors and reducing the overall accuracy of the survey. EPA strives to create a balance between achieving statistical precision and avoiding measurement errors within the constraints of reasonable budget and manpower available not only to the Agency but to the states' and water systems' personnel.

A statement to this effect has been placed in the ICR for clarification.

- *AWWA recommended that the goals for survey accuracy within individual system size categories be reported. AWWA recommended that stringent objectives for the accuracy of the survey results at the individual state level be set.*
 - The statistical approach for the 2011 DWINSA stratifies by system size and state-specific samples will be drawn for the survey. The precision target and statistical approach for the survey are discussed in Section B.2 of the ICR.

- *AWWA was concerned that providing system inventory information would be too burdensome for many of the surveyed water system operators.*
 - It will be made further clear that in the final questionnaire that the inventory tables are simply provided as a helpful tool for the optional use by each system to assess any asset investment needs that are not yet part of their formal planning documents.
 - In addition the ICR was updated to make it clearer that the inventory tables are intended to be helpful worksheets for water systems' optional use.

- *AWWA was concerned that the supplemental questions regarding climate readiness lacked a clear relevance to the stated purpose of the Needs Survey.*
 - In addition to the primary goal of an accurate survey of investment needs to underpin EPA's allotment of the DWSRF to the states, the Agency also believes the Survey should take the opportunity to identify and assess emerging trends and issues related to infrastructure in the Nation's water supply industry and report this to Congress. While it may be early in the industry's understanding of the potential impacts of possible climate change, EPA believes the significance of those impacts on the water infrastructure needs warrants an early reading on the thinking within the industry.
 - The data collection instrument was updated to include an addendum to the instructions on the green and climate readiness questions. The ICR was updated to include this information.

- *AWWA was concerned that the burden estimate was likely too low.*
 - EPA has reviewed the assumptions made regarding burden and believes they are sound. EPA's estimates of burden are based on the experience of four previous DWINSAs and the input of survey respondents and state coordinators during those efforts and after in reviews to determine the strengths and weaknesses of those DWINSAs. The burden estimate was revised substantially from the estimate from the last DWINSA primarily taking into account greater efforts to ensure consistency across systems and states in determining long-term infrastructure rehabilitation and replacement needs.
 - In addition, the 2011 DWINSA ICR estimates includes burden for all the systems in selected for the survey. In past DWINSA ICRs the burden estimates were adjusted for non-response. However, the DWINSA has consistently achieved a higher response rate than estimated. Therefore EPA has included the full sample size estimate in the burden estimate of this ICR.

- *AWWA was concerned that data was not being collected from small systems.*
 - The proposed approach is similar to the approach taken for the 2003 DWINSA in which the needs from the 1999 DWINSA small systems were used to determine the need by states for the 2003 DWINSA. EPA will use the small system results of the 2007 DWINSA to determine the small system needs for participating states. The full survey cannot be fielded due to budgetary constraints and the EPA believes surveying the American Indian and Alaskan Native Village water system is an important step. They were last surveyed in 1999.

From: Dave Emme <demme@ndep.nv.gov>
To: Robert Barles/DC/USEPA/US@EPA
Date: 11/08/2010 01:31 PM
Subject: Drinking Water Needs survey.

Mr. Barles,

Nevada wishes to opt in to the 2011 DWINSA and is committed to allocating the resources necessary to complete the survey.

David Emme, Chief
Bureau of Administrative Services
Nevada Division of Environmental Protection
901 S Stewart St, Suite 4001
Carson City, NV 89706
tel. 775.687.9307
fax.775.687.5856

*EPA Response to Comments Received from Nevada Division of Environmental
Protection Regarding the 2011 DWINSA*

Below is a summary of the comment received from the Nevada Division of Environmental Protection regarding the Draft Information Collection Request for the 2011 DWINSA and EPA's responses to each comment. Both the comment and response were originally submitted through email.

- *Nevada wishes to opt in to the 2011 DWINSA and is committed to allocating the resources necessary to complete the survey.*
 - Nevada will be included in the 2011 DWINSA, pending approval from OMB.