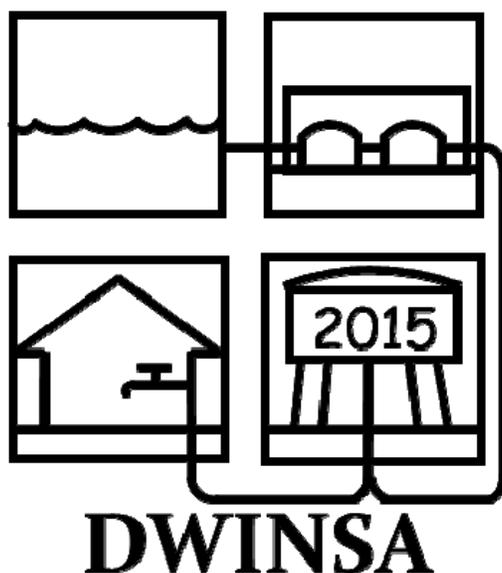# REFERENCE MANUAL

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

Prepared by: The Cadmus Group, Inc.
2620 Colonial Drive, Suite A
Helena, MT 59601

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Reference Manual Contents

1.0 Purpose of the Reference Manual

The purpose of this manual is to provide guidance to states[1] and EPA Regions on the policies and procedures of the 2015 Drinking Water Infrastructure Needs Survey and Assessment (DWINSA or Assessment)[2]. Because states play a significant role in the Assessment, it is critical that each person involved in data collection and review have a clear understanding of the survey instrument, policies, and process. The U.S. Environmental Protection Agency (EPA or Agency) hopes that participating staff will attend trainings, review the content of this manual periodically, and keep abreast of other Assessment correspondence to maximize the effectiveness of their participation.

This Reference Manual has been developed as a desktop aid for persons involved in the implementation of the 2015 Assessment. The 2015 Assessment will include a state survey for those systems that serve more than 3,300 people. State systems serving 3,300 or fewer persons and state systems classified as not-for-profit non-community water systems will not be surveyed in the 2015 Assessment. Also, American Indian and Alaska Native Village systems will not be surveyed for the 2015 Assessment. Therefore, this document does not address data collection for those systems.

The manual includes a summary of the Assessment method including how systems were selected to be in the Assessment, what projects should be included, how to complete the survey instrument, project documentation requirements, state responsibilities, the data-flow and schedule for the Assessment, and use of the interactive website.

> Additional information will be available on an ongoing basis at the 2015 DWINSA Website: www.DWNeeds.com

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1 For the purposes of this document, the term "state" refers to states, the District of Columbia, Puerto Rico, the Virgin Islands, and the Pacific Island Territories (Guam, American Samoa, and the Commonwealth of Northern Mariana Islands).

2 EPA's previous assessments of infrastructure need in 1995 and 1999 were referred to as "Needs Surveys" because the assessment relied primarily on survey methods. In 2003, 2007, and 2011, EPA relied in part on surveys but also on analysis of previous survey data. Accordingly, the term "assessment" is more appropriate. Thus, these studies are referred to as the "Drinking Water Infrastructure Needs Survey and Assessment" (DWINSA or Assessment).

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2.0 Relationship between the DWSRF and the DWINSA

In the1996 Amendments to the Safe Drinking Water Act (SDWA or Act), Congress established the Drinking Water State Revolving Fund (DWSRF). Congress directed EPA to conduct an assessment of the nation's drinking water infrastructure needs every four years and to base the states' and tribes' allocation of DWSRF capitalization funds on the findings of the most recent assessment.

Since fiscal year (FY) 1997, Congress has appropriated funds for the DWSRF each year. American Indian Tribes and Alaska Native Villages receive a percentage (3.0 percent in the most recent allocation) of the total annually appropriated funds. Each state, the District of Columbia, and Puerto Rico receive a minimum of 1 percent of the funds remaining after the American Indian and Alaska Native Village funds have been deducted. In addition, the U.S. Territories (U.S. Virgin Islands, American Samoa, the Commonwealth of the Northern Mariana Islands, and Guam) together receive a shared percentage of the remaining funds (1.5 percent in the most recent allocation.) The remainder of the annual appropriation is distributed to the states based on the results of the most recent DWINSA.

The SDWA also requires EPA to report to Congress the findings of the Agency's assessment. EPA views the assessment as more than just the basis for the state and tribal SRF allotments. The assessment provides the Agency with the opportunity to inform Congress and other stakeholders of the critical issues and trends regarding the infrastructure needs of the nation's drinking water industry.

With these objectives in mind, the Agency, working with stakeholders, has established the following mission statement for the 2015 Assessment:

> *To assess the capital improvement needs of DWSRF-eligible public water systems in the United States for drinking water infrastructure construction, rehabilitation, and replacement for the 20-year period 2015-2034. Needs are limited to those documented at the individual project level as necessary to facilitate compliance with national primary drinking water regulations or otherwise significantly further the public health protection objectives of the Safe Drinking Water Act based on sound drinking water engineering practices.*

The information collected in the Assessment is summarized in a Report to Congress. Reports for the 1995, 1999, 2003, 2007, and 2011 Assessments are available on EPA's website at http://water.epa.gov/infrastructure/drinkingwater/dwns/index.cfm.

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3.0 DWINSA Methods

Through the DWINSA, EPA estimates the total 20-year need of systems eligible to receive DWSRF monies. These include community water systems and not-for-profit non-community systems in each state, the District of Columbia, Puerto Rico, the U.S. Territories, American Indian systems, and Alaska native village systems. This includes both publicly and privately-owned water systems. The need associated with proposed or recently promulgated regulations are taken from the Economic Analysis for each rule and are added to the needs reported by water systems to obtain the total estimated national need.

To assess the needs of states, the District of Columbia, Puerto Rico, and the U.S. Territories (referred to as "states" for the remainder of this manual); EPA will collect data from a stratified random sample of water systems using a survey questionnaire.

For the 2015 Assessment, EPA will not collect new data for small state system (those serving 3,300 or fewer persons) needs or not-for-profit non-community state system needs. Instead, the findings of the 1999 Assessment for not-for-profit non-community water systems in the state survey and the findings of the 2007 Assessment for small state systems will be adjusted to January 2015 dollars and used to estimate the needs of these systems.

For the 2015 Assessment, many states that received a minimum 1 percent of the most recent allotment have chosen not to participate in the state-specific statistical (medium system) portion of the state survey. The needs of systems in these states that serve from 3,301 to 100,000 persons will be estimated based on data from participating states and the inventory of systems in each state. Because this method does not meet the assessment's stringent data quality objectives at a state level, the needs of the non-participating states will contribute to the estimate of the total national need but will not be reported individually by state.

For the 2015 Assessment, EPA will not collect new data for American Indian or Alaska Native Village water systems. Instead, the findings of the 2011 Assessment will be adjusted to January 2015 dollars and used to estimate the needs of these systems.

3.1 Strata

To determine state need, water systems are grouped (stratified) by size (population served including consecutive populations) and by source (surface or ground water) for reporting purposes and statistical precision. As shown in Exhibit 1, there are 12 possible strata for each state.

The population reported for each system is based on data in the Safe Drinking Water Information System (SDWIS) and reviewed by the state representatives. Consecutive populations are included in the system population because in general, critical infrastructure of the selling-system is sized to accommodate the demand of the total population served by the system, both through direct connection and any consecutive connections.

Systems are categorized as surface water if they have at least one source that is surface water or ground water under the direct influence of surface water (GWUDI). Systems are categorized as

ground water if they do not have a surface water or GWUDI source and include ground water systems and systems that purchase treated water. The decision to categorize purchased water systems with ground water systems was made because in general, their needs more closely resemble those of ground water systems than of surface water systems with surface water treatment needs.

Exhibit 1: State Community Water System Stratification

Population			Surface Water	Groundwater
LARGE	>100,000		Census -All systems receive questionnaire	
MEDIUM	50,001-100,000			
	25,001-50,000	or	State-specific samples for participating states	
	10,001-25,000	10,001-50,000*		
	3,301-10,000			

* In some states, precision targets can be met by combining systems serving 10,000-50,000 into one stratum. The most efficient sample is drawn for each state.

3.2   Sampling Large State Community Water Systems

For the 2015 Assessment, systems serving populations of more than 100,000 persons (including consecutive populations) are classified as large. Because of the unique nature of systems in this size category and because they represent the majority of the nation's need, these systems are sampled by census, meaning that all systems receive a questionnaire.

Because all large systems are sampled, each system is given a weight of 1 (*i.e.* it represents only its system in the calculation of total need). These system needs are considered too unique for one system to represent more than its own need. Therefore, when calculating the need contributed by large systems, there is no weight adjustment for non-response. If a large system does not respond to the survey it is assigned a need of zero.

One-percent states that are not participating in the survey of medium systems will still collect data for large systems.

3.3   Sampling Medium State Community Water Systems

Exhibit 2 shows the data collection methods and precision targets for the 2015 Assessment. Systems serving populations of 3,301-100,000 are classified as medium-sized. The 20-year needs are collected from a random sample of systems in each state, unless the state is not participating in the medium system survey.

In order to produce an estimate of need for each state, EPA set a confidence level of 95% with a precision target of ± 10% for the needs of medium and large systems. An adequate number of systems in the medium strata are drawn for each state to achieve this precision.

Each system in the medium system sample is given an initial weight. The initial weight is equal to the total number of systems in the stratum divided by the number of systems sampled. After data collection these weights are adjusted based on the response rate in that stratum and based on the number of systems that have migrated into or out of that stratum. Weights are then recalculated so that all systems in the medium stratum are statistically represented.

Exhibit 2: Data Collection Method and Precision Targets

	State Systems				American Indian Systems	Alaska Native Village Systems
	Large Systems	**Medium Systems**	**Small Systems**	**Not-for-profit Non-Community Systems**	**Community and Not-For-Profit Non-Community Systems**	**Community and Not-For-Profit Non-Community Systems**
Population Definition	>100,000	3,301-100,000	Need from 2007 DWINSA will be adjusted to 2015 dollars	Need from 1999 DWINSA will be adjusted to 2015 dollars	Need from 2011 DWINSA will be adjusted to 2015 dollars	Need from 2011 DWINSA will be adjusted to 2015 dollars
Data Collection	Questionnaires	Questionnaires				
Sample	Census (sampled with certainty)	State Sample in Participating States				
Precision Target	For Each Participating State 95% Confidence +/- 10% Overall*					
Systems Sampled	758 (of 758 systems)	2,098 (of 9,247 systems)				

*The sample design provides a confidence level of 95 percent that the true need is within a range of plus or minus 10 percent of the estimated need. For example, if the total need for a state is estimated to be $2.0 billion, EPA will be 95 percent confident that the actual total need is between $1.8 billion and $2.2 billion.

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4.0 Project Allowability

The goal of the survey is to collect data regarding water systems' 20-year infrastructure needs. To be included in the survey, projects must be SRF-eligible capital improvement needs that are in furtherance of the public health protection objectives of the SDWA. A project must also fall within the prescribed timeframe and be adequately documented.

EPA has worked closely with a workgroup of representatives from states and EPA Regions to develop policies to support the survey goals. The policies for 2015 are minor clarifications of the 2007 Assessment which had been through a peer input and peer review process. Project allowability policies are described in this section of the manual. Because it is easier to list projects that are *not* included in the Assessment, unallowable projects are discussed in more detail than allowable projects. EPA anticipates additional policies and clarifications may be developed as the 2015 Assessment progresses.

4.1   Allowable Projects

As noted above, allowable projects must be SRF-eligible capital improvement needs that are in furtherance of the public health objectives of the SDWA. Allowable projects are needed to construct new infrastructure or to replace, rehabilitate, or expand/upgrade existing infrastructure to allow the water system to continue to provide existing customers with safe drinking water. Projects generally fall in to one of five categories of need: source, treatment, storage, transmission and distribution, and other items such as emergency generators.

> *"Eligible"* refers to projects that may be funded under DWSRF.
>
> *"Allowable"* refers to projects that can be included in the 2015 DWINSA.

Timeframe

All projects must be needed during the 20-year period of January 1, 2015 through December 31, 2034. Systems can include projects, even if funding has already been obtained, as long as construction on the project has not started before January 1, 2015. If the project is planned in phases, any phase of the project initiated after January 1, 2015 and planned for the 20-year survey period, could be included as long as it is an allowable project.

4.2   Unallowable Projects

The needs associated with the following types of projects are considered unallowable. If they are submitted as projects they will be deleted from the questionnaire by EPA.

Projects not eligible for State Revolving Fund (SRF) funding:

- Projects substantially to accommodate future growth - Due to the speculative nature of growth predictions, projects that are substantially driven by future growth predictions are not eligible for SRF funding and are therefore not allowed for the survey. This includes projects to entice

development, encourage growth, or accommodate a projected expansion of the service area or population served.

However, projects to connect existing households currently with inadequate water quality or quantity are allowable. Also, if a need exists or will exist within the 20-year period to accommodate the needs of current customers, then the project can be sized to accommodate a reasonable amount of future growth.

- Projects substantial driven by fire protection needs - The SRF program funds projects related to public health protection. Although water systems often also provide fire suppression, these needs are not related to public health objectives. Projects for increasing pipe diameter, providing additional storage or pump capacity, or looping water mains substantially to meet fire suppression needs are not allowed.

  Projects that meet multiple needs may be allowable. For instance, if a system needs a new tank to meet minimum required pressure, and this tank will also provide fire suppression, this need can be allowed.

- Projects for source water protection - Projects for protecting source water, such as fencing or land purchases to increase buffer zones, are not allowed. These types of projects are funded through SRF set-asides.

- Raw water reservoir or dam-related need - Projects related to raw water reservoirs or dams are not allowed as they are ineligible for SRF funding.

Projects not for capital needs

The purpose of the Assessment is to collect data on capital projects only. Projects that are not for a specific, tangible capital infrastructure need are not allowed. Although these types of needs are often essential factors of a successful water system, they are not capital needs and therefore not allowable for the Assessment.

- Operation and maintenance costs - Costs associated with system operation and maintenance (O&M) are not allowable. Typical O&M projects include water main flushing; painting of equipment as part of routine maintenance (water storage tanks and projects to remove lead-based paints are exceptions); and repair of infrastructure such as pumps, pipe, or other infrastructure repair that is not considered a major rehabilitation.

- Projects solely for conducting studies - Projects solely for conducting studies are not allowed. Some examples include studies for possible development of new well fields, studies related to changes to or addition of treatment technology, studies to determine the advantages and disadvantages of consolidation with another system, and distribution system hydraulic analyses. Although studies cannot be included as projects, they often serve as documentation for other infrastructure projects.

- Water rights or fee payments - Monies used for water rights or fee payments are non-capital expenditures, and are therefore not allowable for the Assessment.

- Computer software for routine operations - Software is allowable only when it is part of a project for a new supervisory control and data acquisition (SCADA) system. Projects such as off-the-shelf billing software, GPS software, or maintenance schedule programs are not allowable.

- Employee wages and salaries and other administrative costs - These are on-going operational expenses, but are not capital needs.

- Sample collection or analysis fees - The costs of water quality testing, though regularly required, are not capital improvement needs.

Projects not in furtherance of public health goals of SDWA:

- Projects solely for improving appearances - Projects solely for cosmetic improvements are not allowed, as they are not necessary to providing safe drinking water. Some examples of unallowable projects include landscaping, painting, remodeling, and decorative structures. These costs may be deducted from a project's cost estimate if the rest of the project is allowable.

- Infrastructure demolition - Demolition of infrastructure in and of itself is not an allowable need. Cost of demolition is allowable only if it is integral to an allowable project (e.g., tearing down an old storage tank to accommodate construction of a new tank at the same site).

- Buildings and parking facilities not essential to providing safe drinking water - Aesthetic, convenience-related, or other non-essential projects are not allowable for the Assessment, nor are parking and garage facilities intended solely for use by employees or the public. New buildings and building improvements are allowable when they are a necessary part of providing safe drinking water. Examples of allowable building needs include: new or improved housing facilities for treatment equipment, including garages for vehicles; buildings used to store maintenance equipment or chemicals used in the treatment process; or office buildings that are necessary for the continued operation of the water system.

- Acquisition of land not required for an allowable project - Project costs to purchase land are not allowable unless the land is an integral component of another allowable project, such as for siting a new storage tank or treatment plant. Land purchases for source water protection or wellhead protection are not allowable. Cost models for projects without costs are assumed to include a land component where applicable to the type of project.

- Projects to connect existing homes that currently have an adequate drinking water supply – Projects for connecting homes that currently have an adequate supply of drinking water at the time of the Assessment, such as for a service area expansion, are not allowed, even if the home-owners have chosen to be connected to the system.

Other unallowable project types:

- Projects for which construction has begun by January 1, 2015 - Projects for which construction has begun by January 1, 2015 fall outside the time frame of the 2015 Assessment

and are not allowed. Construction must be needed between January 1, 2015 and December 31, 2034. If a project is planned in multiple phases, early phases that have already begun construction by January 1, 2015 are not allowed, but later phases that are planned to begin construction after January 1, 2015 and before December 31, 2034 can be included as long as the project is an allowable project.

- Recurring infrastructure needs within the 20-year survey period - The Assessment allows each need to be addressed only once for the 20-year survey period.

    Elevated storage tanks may routinely be rehabilitated (sand blasted and painted) multiple times over a given 20-year period; however, only one rehabilitation project per tank is allowable for the Assessment.

    Projects to construct new infrastructure (e.g., installation of a new pump) may not be accompanied by additional projects to rehabilitate or replace the same infrastructure within the 20-year survey period.

- Multiple projects meeting the same need - Two or more projects cannot be included to meet one given need. For instance, if a system provides documentation that a well is contaminated, they could record a project to treat the water or projects to abandon the well and drill a new well.

- Projects for compliance with proposed or recently promulgated regulations - Most systems will not have assessed their needs to comply with proposed or new regulations at the time of the survey. Therefore, EPA uses the cost estimates of each rule's Economic Analysis to include these needs. Because these needs cannot be included twice, system-specific needs are not allowed. Refer to List 3 in the *Lists of Codes* for proposed or recently promulgated regulations.

- Projects driven solely by a non-water-related issue - Projects proposed for a reason other than a direct water system need are not allowed. Common types of projects that are not accepted for this reason include the relocation of water mains required by widening of a highway, the installation of a water canal for environmental protection reasons, or the rerouting of a water main from under a deteriorating bridge.

- Acquisition of existing infrastructure - Acquisition of existing infrastructure is not allowable. Examples of unallowable projects for acquisition of existing infrastructure include the purchase of an existing water system, in whole or in part, or the purchase and relocation of existing infrastructure, such as a water storage tank.

- Acquisition of most vehicles and tools - In most cases, vehicles and tools are not allowable. The exception is for large specialized vehicles or tools used directly for treatment or waste disposal. For example, vehicles used to haul waste or sludge are allowable.

- A project that is not the responsibility of the public water system - Projects in which the water system may be doing the actual work, but not ultimately incurring the cost, are not allowed. For example, a homeowner-funded replacement of their service line from the house to the

curb stop is not allowed even if the water system may perform the actual replacement and reconnection of the piping.

Unallowable costs

- Interest payments and origination fees associated with a loan - Although the project itself may be allowed, the origination fee and interest payments associated with a loan are not allowable and will be deleted from project costs. If the documentation includes itemized costs with interest listed, it will be subtracted from the cost. If the documentation implies interest payments are included, but the amount cannot be identified, the cost for the project will be deleted and the cost will be estimated using a cost model.

- Shared projects - If two or more water systems intend to share the costs (and benefits) of a project, each system can only include their portion of the cost as a need. This is true even if only one system is selected for the Assessment. If the full cost is included on one questionnaire, the cost will be amended to reflect the system's portion (if the documentation is detailed enough to do this), or the cost will be proportioned by population.

- Costs shared by multiple projects - Project costs unrelated to the provision of safe drinking water are not allowable. For instance, if a community is planning concurrent water and sewer improvements, costs that are shared by both projects (e.g., mobilization) should be adjusted so that only the portion associated with the water project is included in the cost. If the appropriate portion of water-related costs cannot be determined, the cost will be removed and EPA will model the costs associated with the water system (if modeling parameters are provided).

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5.0 Documentation of Need and Cost

Each project <u>must be accompanied by documentation of need</u> and adequate information to assign a cost to the project. Ensuring that system responses contain adequate documentation is one of the most important steps in completing and reviewing questionnaires. In addition to making the Report to Congress more credible, good documentation ensures fairness for determining the allotment of the state and the American Indian and Alaska Native Village total need. For the Assessment, there are two different categories of documentation:

- **Independent** – Independent documentation is generated through a process independent of the Assessment. Because of this, there is no intentional bias introduced by inclusion of projects with this type of documentation. Examples include a Master Plan, a Capital Improvement Plan (CIP), or Facilities Plan. Independent documentation may be used to justify project need or cost (or both).

- **Survey-generated** – Survey-generated documentation is written documentation generated specifically for the Assessment by the system or the state representative. This type of documentation relies heavily on the best professional judgment of the person completing the questionnaire. Documentation written by the system is typically based on the system's general knowledge of the condition and history of the system's infrastructure. Documentation provided by the state or other representative may be based on interviews conducted with the system or may be based on the representatives' general knowledge of the system. Survey-generated documentation may only be used to justify project need (cost estimates cannot be survey-generated).

Independent and survey-generated documentation can be combined to justify project need. Independent documentation often does not directly address the allowability of the need; therefore, the survey-generated documentation may be added to clarify the need for the project. For example, independent documentation such as a CIP may include a brief project description with detailed system-specific and project-specific information and cost but may not provide a specific reason for need. In this case, survey-generated documentation could be used to provide the reason for need.

5.1 Documentation of Need

Documentation of need is project-specific documentation that describes the project, provides the scope of the project, and indicates why the project is needed. The documentation must:

- Provide sufficient information for EPA to review the allowability of the project.
- Provide adequate data to check the accuracy of the data entered on the questionnaire.
- Be dated and be less than 4 years old (No older than January 1, 2011).

Two levels of documentation requirements have been set as policy for the Assessment. They are: projects that are reviewed based on a *weight of evidence* that the need meets policies, and projects accepted with *all forms of documentation*. Certain types of projects must include independent documentation in the information submitted for weight of evidence review. The required level of documentation depends on the type of need and whether the project is for new infrastructure, replacement of existing infrastructure, expansion/upgrade of an existing complete plant, or

rehabilitation of existing infrastructure. Projects without adequate documentation of need will not count toward the system's need unless adequate information is provided.

The following sections provide a list of the types of projects that fall under each category of documentation requirement. Exhibit 3 provides a table of acceptable documentation of need by type of need code. Additional details are provided in the Type of Need Dictionary (available in the Assessment Training Binder and as a downloadable link at www.dwneeds.com.

5.1.1 Projects for Which Weight of Evidence Review Is Applied

> **_Weight of evidence_**
>
> _Reviewers will weigh the evidence provided to determine if the submitted project will be accepted._
>
> _Documentation must include sufficient information about the project to verify that the project meets the allowability criteria and is necessary, is feasible, and that there is sufficient implied or stated commitment to implementing the project._

- Wells and springs (documentation must address allowability criteria)
- New surface water intakes and new aquifer storage and recovery wells (independent documentation required)
- Replacement or rehabilitation of any ground or surface water source (documentation must provide specific information such as age and condition)
- New well pumps or new raw water pumps
- New off-stream raw water storage (independent documentation required)
- New, replacement or expansion/upgrade of a complete treatment plant (independent documentation required)
- New disinfection equipment or treatment plant component (independent documentation required)
- New ground or elevated storage tanks (independent documentation required)
- Replacement of ground or elevated storage tanks (documentation must provide specific information such as age and condition)
- New hydropneumatic storage (documentation must indicate project-specific need)
- New pipe (independent documentation required)
- Rehabilitation and replacement of pipe at a rate in excess of 10% total (independent documentation required)
- Valves (documentation must indicate these appurtenances are not included in pipe projects)
- New pump stations (independent documentation required)
- New finished water pumps (address allowability criteria)
- Replacement of pump stations (documentation must provide specific information such as age and condition)
- New emergency power (address allowability criteria)

5.1.2 Projects for Which All Forms of Documentation Are Accepted

- Replacement or rehabilitation of well pumps, raw water pumps, and off-stream raw water storage
- Rehabilitation of a complete treatment plant
- Replacement or rehabilitation of treatment system components and disinfection equipment

- Rehabilitation of ground-level and elevated storage tank
- Tank covers and cisterns
- Replacement or rehabilitation of hydropneumatic tanks
- Replacement or rehabilitation of finished water pumps and rehabilitation of pump stations
- Pipe rehabilitation and replacement within policy limits
- Other projects including service lines, lead service line replacements, control valves, backflow prevention, and meters
- Replacement of emergency power

5.1.3   Projects Resubmitted from Previous Surveys

Systems that participated in the most recent survey may be able to use their previous submittal as a starting point for preparing the current questionnaire. EPA will provide the projects from the previous survey to the states to give to the systems as a starting point. Some projects will need very little documentation to update the project. Others will require more substantial updated documentation. The latter will be identified by an asterisk on the survey project table and in the documentation summary table in Exhibit 3.

Section 7 of this document provides detailed information on how to update projects from a previous submittal.

5.1.4   Guidelines for Submitting Documentation

The following are guidelines for submitting documentation:

- Mark the project number on the documentation to facilitate further review by EPA.

- If a system provides an existing plan or study document, they may provide the entire document or the relevant pages that describe the projects and any options that were considered. If the latter method is used, include the title page that identifies the document and its date.

- Documentation generated expressly for the Assessment must include a description of the project and justification for the need. It should be signed and dated by the water system or state representative. Adequate information (e.g., actual age, condition, date of last rehabilitation), must be included for the reviewer to assess whether the project is allowable and meets the Assessment policies.

- Projects for which documentation of need is more than 4 years old (earlier than January 2011) can be allowed if additional documentation is submitted that indicates that the project is still necessary, the scope has not changed, and construction did not begin before January 1, 2015. This additional documentation must have a current signature and date.

Exhibit 3- Acceptable Documentation of Need by Type of Need Code

Code	Need Type	New	Replacement	Rehabilitation
		SOURCE		
R1	Well	Weight of evidence (∗) − Substantial portion not for growth − Specific deficiency discussed	Weight of evidence (∗) − Age, condition, history − Specific deficiency discussed	Weight of evidence (∗) − Age, condition, history
R10	Spring Collector			
R2	Well Pump	Weight of evidence (∗) − Substantial portion not for growth − Specific deficiency discussed	All forms of documentation accepted	
R8	Raw Water Pump			
R6	Aquifer Storage and Recovery Well	Weight of evidence (∗) − **Independent Documentation Required** − Substantial portion not for growth − Specific deficiency discussed	Weight of evidence (∗) − Age, condition, history − Specific deficiency discussed	Weight of evidence (∗) − Age, condition, history
R7	Surface Water Intake			
R9	Off-Stream Raw Water Storage	Weight of evidence (∗) − **Independent Documentation Required** − Specific deficiency discussed − Cost estimate required	All forms of documentation accepted (cost estimate required) (∗ **Did the project start?**)	
		TREATMENT COMPONENTS		
T1 – T9	Disinfection	Weight of evidence (∗) − **Independent Documentation Required** − Specific deficiency discussed − Not for new/recent regulation	All forms of documentation accepted	All forms of documentation accepted
T30 – T44	Treatment components			
T45	Treatment Unknown		N/A	
T46	Other		All forms of documentation accepted (cost estimate required)	All forms of documentation accepted (cost estimate required)

		COMPLETE TREATMENT PLANTS			
Code	Need type	New	Expansion or Upgrade	Replacement	Rehabilitation
T10 – T24	Complete Treatment Plants	Weight of evidence (∗) − **Independent Documentation Required** − Substantial portion not for growth − Specific deficiency discussed			All forms of documentation accepted

		PUMPING		
Code	Need Type	New	Replacement	Rehabilitation
P1	Finished Water Pump	Weight of evidence (∗) − Substantial portion not for growth − Specific deficiency discussed	All forms of documentation accepted	
P2	Pump Station	Weight of evidence (∗) − **Independent Documentation Required** − Substantial portion not for growth or fire − Specific deficiency discussed	Weight of evidence (∗) − Age, condition, history of pump station or system	All forms of documentation accepted

(∗) Indicates projects accepted for the 2011 DWINSA that must have project-specific validation for the 2015 DWINSA. Projects without an (∗) that are not changed from the 2011 survey can be documented by a simple statement that the project is still needed and is within the same scope as submitted for the 2011 DWINSA. If you changed information, please provide a short explanation.

Code	Need Type	New	Replacement	Rehabilitation
PIPE				
X1	Raw Water Transmission	Weight of evidence (∗) − **Independent Documentation Required** − Substantial portion not for growth − Specific deficiency discussed	All forms of documentation accepted within 10% limit (∗) Independent documentation required over 10% limit (∗) If any project relies on survey-generated documentation, the total system-wide rehab and replacement rate may not exceed 10% for the 20-year period.	
X2	Finished Water Transmission			
M1	Distribution Mains			
M2	Lead Service Lines	N/A	All forms of documentation accepted (∗ **Update the number needed**)	N/A
M3	Service Lines	All forms of documentation accepted (∗) (statement of system's responsibility required if for service lines between the curb stop and the building; statement that not included in pipe projects if from pipe to the curb stop.) Weight of evidence if significant amount of new backflow or replacing over 10% of service lines (∗)		(Rehabilitation not allowed – considered O&M)
M7	Backflow Prevention			
M8	Water Meters	Weight of evidence if more than one meter per connection All forms of documentation accepted if ≤ 1 meter per connection		
M5	Valves	Weight of evidence (∗) − Clear indication not included in pipe − Specific deficiency and history of replacement if over 10% of existing or significant amount of new		(Rehabilitation not allowed – considered O&M)
M6	Control Valves	All forms of documentation accepted		(Rehabilitation not allowed – considered O&M)
FINISHED / TREATED WATER STORAGE				
S1	Elevated Storage	Weight of evidence (∗) − **Independent Documentation Required** − Substantial portion not for growth/fire − Specific deficiency discussed	Weight of evidence (∗) − Age, condition, history of tank − Specific deficiency discussed	All forms of documentation accepted
S2	Ground-level Storage			
S3	Hydropneumatic Storage	Weight of evidence (∗) − Substantial portion not for growth − Specific deficiency discussed	All forms of documentation accepted	
S5	Cover for Existing Finished / Treated Water Storage	All forms of documentation accepted (includes rehab of the tank) (∗ **Did the project start?**)		N/A
OTHER				
W2	SCADA	All forms of documentation accepted		(Rehabilitation not allowed – considered O&M)
W4	Emergency Power	Weight of evidence (∗) − Clear indication of need (necessary to operate critical infrastructure to maintain pressure and provide water)	All forms of documentation accepted	(Rehabilitation not allowed – considered O&M)
W10	Other	Weight of evidence (∗) -- System-specific cost estimate required		(Rehabilitation not allowed – considered O&M)

Type of Need codes not applicable to the 2015 DWINSA but used in the 2011 State DWINSA: R3 Well House, R4 Eliminate Well Pit, R5 Abandon Well, R11 Destratification, M4 Hydrants, W1 Laboratory Capital Costs, W3 Pump Controls/Telemetry, W5-W9 Fencing and Security-related codes.

Codes R99, S99, T99, and M99 may be added by EPA to assign a category of need. They are in some 2011 DWINSA projects but do not affect cost or allowability of the project.

5.2   Documentation of Cost

There are two primary methods for assigning costs to a project:

>   1) An independent cost estimate, or
>   2) Adequate information for EPA to estimate a cost using a cost model.

5.2.1   Independent Cost Estimate

The most accurate option for assigning a cost to a project is for the system to provide an existing independent cost estimate. These are typically in the form of an excerpt from a CIP or Master Plan, bid tabulation, or an engineer's estimate. Cost estimates should include all aspects necessary for construction of the project including design, engineering, labor, materials, and contingencies. Cost estimates should not be generated for the survey. If no cost estimate exists, EPA will model the costs as discussed below.

Some cost components are not allowable and will be deleted from the cost. These include loan origination fees, legal fees, finance charges, bond issuance fees or costs, and interest payments on a loan. In addition, inflationary multipliers for future projects are not accepted. Cost estimates must include the date they were prepared. EPA will use this to adjust the cost to January 2015 dollars.

If a cost estimate is given as a range, the lower end of the range is used.

Documentation of cost that is more than 10 years old (earlier than January 1, 2005) will not be accepted because it is assumed construction techniques and treatment technologies may have significantly changed within the last 10 years.

Projects that have adequately documented costs are the basis of the cost models. EPA requests that systems provide both cost and modeling parameters for as many projects as possible so that the data can be used to build new cost models.

5.2.2   EPA Models Cost

The second option for assigning a cost to a project is to provide adequate information for EPA to model the cost. Information that is used for modeling includes the type of need, whether the project is for new infrastructure; or the replacement, rehabilitation or expansion/upgrade of existing infrastructure; and the appropriate modeling parameter. The required modeling parameter(s) for each project depend(s) on the type of need. For example, finished water storage tanks are modeled based on the storage volume while distribution pipe is modeled based on pipe diameter and length. Refer to the Type of Need Dictionary in the Assessment Training Binder (also available at www.dwneeds.com) for complete information on required modeling parameters.

EPA is not able to model all possible types of infrastructure projects. Some projects are too site-specific for cost models to be applied; others are too unique for a cost model to be developed. Infrastructure projects that require documented costs be provided are identified in the Type of Need Dictionary.

6.0 Survey Instrument

6.1 Questionnaire

The 2015 Assessment questionnaire is the data collection instrument for reporting all needs. A copy of the questionnaire is included as Appendix B. Survey data are obtained in a coded format for entry into a computer database. Codes are provided in a separate document referred to as the *Lists of Codes* (see Appendix A). Although data collection occurs using the questionnaire, documentation of need for all projects must be submitted along with every questionnaire.

6.1.1 Cover Page, System Information

Cover pages for questionnaires are populated using information from the Safe Drinking Water Information System (SDWIS) database, as verified by the state representatives. The water system indicates if the information is correct by checking the appropriate box. If inaccurate, the system should provide the correct information in the right hand column. Any changes are maintained in a database for the Assessment. Changes are *not* made to SDWIS. While most cover page information is self-explanatory, some information is described in Exhibit 4.

Exhibit 4: Information Requested on Cover Page

Contact Information	Name and address of primary contact at the water system.
Ownership Type	Ownership type options include: Public, Investor Owned or Private Non-Profit, Native American and Federal Government. The system should check all that apply. This information is used to help ensure that water systems owned by federal government entities are not included in the survey.
Population Served	Population served is based on the total population served directly by the system and by consecutive systems purchasing water from the system. By using total population served, systems are appropriately stratified. *Example: A wholesaler may be recorded in SDWIS with a population of 25 people, but it may sell water to another system that serves 100,000 people. If the population was not changed to 100,000, this wholesaler would be inappropriately part of the small system survey.*
Number of Connections	Total number of connections for the system includes all residential and industrial connections. A connection to a consecutive system counts as one connection. *Example: A wholesale water system that sells to five consecutive systems may serve a population of 35,000 through only five connections.*
Total Design Capacity	The flow in million gallons per day (MGD) the system produces with all sources and treatment on-line. The flow must be recorded in MGD. This information is not available through SDWIS and is not preprinted on the questionnaires. If the system or state representative does not report a design capacity, the field is left blank in the final data set.
Total Length of Pipe in System	This field is an estimate of the system's total length of pipe, including distribution and transmission, but not including individual connection service lines. This information is required if there is one or more pipe rehab or replacement projects that rely solely on survey-generated documentation to support the need.
Source	This field is printed with "Ground," "Purchased Ground," "Surface/GWUDI," or "Purchased Surface/GWUDI." Ground water systems include systems that use only ground water. Surface water systems are systems that use surface water or ground water under the direct influence of surface water (GWUDI) in whole or in part. Purchased systems buy either treated ground water or treated surface/GWUDI, but do not include systems that buy raw water. Systems are to check all of the boxes that apply to their type of source water.

6.1.2   Project Table

The questionnaire is designed with a master project table. The project table addresses the following project types:

- Source, Treatment, Storage, and Pumping Projects
- Transmission and Distribution Projects
- Meters, Service Lines, Backflow Prevention Devices/Assemblies, Valves, etc.

The information requested for the project table is shown in Exhibit 5. Each project will be assigned a need based on the information provided.

Exhibit 5: Information Requested on Project Table

Column	Required	Single or Multiple Entry	Description
Project Number	Yes	Unique entry needed	This field is used to record a unique project number for each project. Projects should generally be numbered in sequence, except that project numbers from the 2011 survey that are deleted for the 2015 survey should not be reused. Project numbers should also be recorded on project documentation.
Project Name	Yes	Descriptive name	This field is used to record a descriptive project name for each project. The project name and number are used to track the project and facilitate communication about the project.
Type of Need	Yes	Multiple codes acceptable if cost provided	This field is used to record a code from List 1-Type of Need (in the *Lists of Codes*) and identifies the type of project. The type of need is required to assign the project to a category of need, define documentation requirements, and to model cost estimates.
Reason for Need	Yes	Multiple codes acceptable	This field is used to record a code from List 2-Reason for Need that indicates the reason(s) a system needs the listed project. This code is not a substitute for written documentation of need.
New, Replace, Rehab, or Expand/ Upgrade	Yes	Single entry	This code is used to record whether the project is to: • Install entirely new ("N") infrastructure (e.g., install a new storage tank); • Replace ("R") existing infrastructure (e.g., replace pump, abandon existing water mains and install new); • Rehabilitate ("H") existing infrastructure (e.g., clean and line water mains, sand blast and paint storage tank); or • Expand or upgrade ("E") an existing complete treatment plant (e.g., add a treatment train for more capacity, add major unit process such as membrane filtration). This information is used when modeling costs.
Current or Future	Yes	Single entry	This column is used to identify whether the project is a current ("C") or future ("F") need. A current need is one that is needed now, even if funding is not currently available. A future need is not needed at the present time, but the system anticipates needing to address the issue within the 20-year timeframe of the survey.
Reg or Secondary Purpose	No	Multiple codes acceptable	This column is used to identify projects related to a regulatory requirement or Secondary Purpose. Codes are in List 3-Regulation or Secondary Purpose. If no code applies the entry can be left blank or the 4A code can be used.
Design Para-meters	Yes, if cost not provided	Single entry	The design parameters are dependent on project type: • *Source/Treatment/Storage/Pumping* – Design capacity in MG, MGD, or kW. • *Transmission/Distribution* – Diameter of pipe in inches and length of pipe in feet. • *Meters/Service Lines/Backflow Prevention Devices/Valves* – Number and size (i.e., diameter in inches) of new devices Although parameters are not required, if a documented cost is provided, when available, provide parameters for input into the cost model.
Cost Estimate	No	Single entry	This field is used to record an existing documented independent cost estimate, if available. Systems are not expected to develop costs specifically for the Assessment. If no cost is available, EPA will model the cost where possible.
Date of Cost Estimate	Yes, if cost estimate provided	Single entry	This is the month and year of which the cost estimate was derived. It is not the date the project is expected or planned. This information is needed so that all costs can be standardized to January 2015 dollars.
Documen-tation	Yes	Multiple codes acceptable	A code from List 4-Documentation indicates the type(s) of documentation used to justify the need and cost (if provided) of the project. Copies of the documentation must be submitted with the questionnaire.

6.1.3   Inventory Tables

Inventory tables are provided to be used as a tool to help systems identify all potential projects. Completion of the inventory tables is not a required part of the questionnaire.

One piece of inventory information necessary for the survey is total length of pipe in the system. This is required if there is one or more pipe rehab or replacement projects that rely solely on survey-

generated documentation to support the need. The total length of pipe in the system should be entered on the front page of the questionnaire or on the pipe inventory table.

Exhibit 6 describes the information requested in each inventory table.

Exhibit 6: Summary of Information Requested by Inventory Tables

	Inventory	Needing Replacement	Needing Rehabilitation (or Expansion/Upgrade)	Needing New
Source, Treatment, Storage, and Pumping Projects	Total inventory of wells, or intakes; the number of locations where treatment is applied; and the total number of storage tanks	Number that need to be replaced (based on inventory)	Number that need to be rehabilitated (based on inventory); number of complete plants that need to be expanded/upgraded	Additional sources, treatment, or storage/booster pumping capacity needed to address a deficiency facing existing customers.
Transmission and Distribution Projects	Total length (in feet or miles) of transmission and distribution mains by type and percentage of total pipe	Length or percentage of the mains that are in poor condition or beyond their useful life (by size and type of pipe)		
Meters, Service Lines, Backflow Prevention Devices/Assemblies, Valves, etc.	Water meters, lead service lines, backflow prevention devices/assemblies, and valves	Number that need to be replaced (based on inventory)	N/A – rehabilitation of these items is considered O&M	Additional valves, water meters, and backflow prevention devices/assemblies needed to address a deficiency facing existing customers.

6.1.4   Respondent Information

The last page of the questionnaire is completed to identify the person who can provide additional information regarding the submittal and how they can be reached. State representatives may also contact the systems by using this information.

6.2 Lists of Codes

The *Lists of Codes* booklet (included in Appendix A) contains descriptions of information requested on the questionnaire and four subject specific tables with codes to be entered on the questionnaire. The codes indicate pertinent details of each project and are listed by: (1) type of need; (2) reason for need; (3) regulation or secondary purpose; and (4) documentation.

List 1 – Type of Need
The types of need associated with a project are grouped into seven major categories. Under each category are several types of projects, each with a specific code. Exhibit 7 describes the various projects that fall under each type of need.

Exhibit 7: Descriptions of Types of Need Codes

Raw/Untreated Water Source (Codes R1–R11)	This category includes needs for ground and surface water sources.
Treatment: Disinfection (Codes T1–T9)	This category includes disinfection that may be at the source, treatment plant, or within the distribution system.
Treatment: Complete Plants (Codes T10–T24)	This category includes complete treatment plants which includes all components from raw water pumps through finished water pumps.
Treatment: Other Components/Equipment/ Processes (Codes T30–T46)	This category includes components of the treatment process, such as corrosion control, aeration, and waste handling. Note that a system cannot include a project for a complete treatment plant and then also a project for one of the components of the plant.
Transmission (Codes X1–X2)	This category includes needs for raw or finished water transmission pipes. Finished water transmission mains are considered to be piping up to the point at which a distribution grid is encountered.
Distribution (Codes M1–M8)	This category includes needs for water mains, flow control valves, pressure reducing valves, backflow prevention devices, service lines, and meters.
Finished/Treated Water Storage (Codes S1–S5)	This category includes elevated, ground level, and hydropneumatic water storage tanks. It also includes covering uncovered finished/treated water storage.
Pumping Station and Finished Water Pump (Codes P1–P2)	This category includes finished water pumps and booster pump stations. *Note the code for a well pump and raw water pump are in the source category as R2 and R8 codes, respectively.*
Other Infrastructure Needs (Codes W2, W4, W10)	Some capital infrastructure needs such as emergency power, and infrastructure improvements for natural disaster protection cannot be classified in the above categories. These are counted as "other needs." It is often difficult for cost models to be developed for these types of needs. Therefore, a documented cost estimate is needed for most of these projects.

List 2 - Reason for Need

The Reason for Need List provides options describing why a project is necessary. More than one code may apply to a single project. A description of each reason for need code is provided in Exhibit 8.

Exhibit 8: Descriptions of Reason for Need Codes

Code	Description	Example
A1	Project is for existing infrastructure that is or will be old or deteriorated by 12/31/2034.	An elevated storage tank is expected to reach the end of its useful life and require sand blasting, repainting and minor structural rehabilitation within the next 20 years.
A2	Project is to correct a deficiency in source water quantity caused by current user demand.	Existing sources are currently unable to meet max day demand. An additional well is planned to meet demand.
A3	Project is to correct a deficiency in storage capacity caused by current user demand.	The system does not have adequate storage to meet peak demand during summertime. The system has implemented a water conservation program but additional storage is needed to correct this problem.
A4	Project is to correct existing pressure problems (not related to fire flow).	Part of town experiences loss of pressure during peak flows on a regular basis.
A5	Project needed as a result of or in preparation for a natural disaster.	A storage reservoir has sustained major structural damage as a result of an earthquake.
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).	Lead service lines must be replaced for the system to be in compliance with the Lead and Copper Rule.
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).	Customers regularly complain about taste and odor problems in their water and the system has a treatment plant planned (independent documentation must be provided for all complete treatment plants).
A8	Project is for consolidation with and/or connection to an existing public water system.	The system's water supply has become contaminated and they must connect to a neighboring water system to provide safe drinking water to their customers.
A9	Project is for extending service to existing homes without adequate water quantity or quality.	Existing homes that currently use private wells have experienced contamination problems. The system will install transmission and distribution pipe to the homes.
~~A10~~	*A10 is not applicable to the 2015 DWINSA but may appear in 2011 DWINSA data. A10 referred to security-related needs*	
A11	This code should be used if codes A1-A10 do not apply.	A description of the project including the reason it is needed must be provided and clearly identified by project number.

List 3 – Regulation or Secondary Purpose

If a project is necessary to obtain or maintain compliance with a regulation or is for a secondary purpose, codes are provided to tie the project to that regulation or secondary purpose. Codes 1A through 1H are for specific drinking water regulations and codes 2A and 2B are for secondary contaminants or state regulations (Exhibit 9).

Projects for compliance with proposed and recently promulgated regulations should not be included on the questionnaire. Because systems cannot be expected to know what their needs will be for compliance with these regulations, EPA estimates the need associated with these rules based on data from Economic Analyses. For the 2015 Assessment, only the Proposed Radon Rule falls within this category.

Not all projects that are necessary for the continued supply of an adequate quantity and quality of water will be associated with one of the regulations or secondary purposes on the list. If no code applies (but the project is in furtherance of other objectives of the Safe Drinking Water Act), the 4A code can be used or the entry can be left blank.

Exhibit 9: Regulation Codes

EXISTING SDWA REGULATIONS			
1A	Surface Water Treatment Regulations (SWTR, IESWTR, FBRR, LT1ESWTR, and LT2ESWTR)	1E	Arsenic Rule (10 µg/L Arsenic Standard)
		1F	Stage 1 and Stage 2 Disinfectants/Disinfection Byproducts Rule
1B	Total Coliform Rule and Revised Total Coliform Rule		
1C	Nitrate or Nitrite Standard	1G	Other Regulated VOCs, SOCs, IOCs, or Radionuclides (excludes Radon)
1D	Lead and Copper Rule	1H	Ground Water Rule
OTHER REQUIREMENTS OR SECONDARY PURPOSES			
2A	Secondary Contaminants (e.g., iron, taste and odor, and color)	2B	State Requirement
PROPOSED AND RECENTLY PROMULGATED SDWA REGULATIONS Needs associated **solely** with the Proposed Radon Rule are not allowable.			
If None of the Above Applies Use Code 4A or leave column blank (project is in furtherance of other objectives of the Safe Drinking Water Act)			

List 4 – Documentation

List 4 provides codes for the types of acceptable documentation used to justify the need and/or estimate of cost. The main types of documentation acceptable for the 2015 Assessment are described in Exhibit 10.

Exhibit 10: Types of Acceptable Documentation

	Justification	Code	Documentation
INDEPENDENT	**For Need and/or Cost Documentation**	1	Capital Improvements Plan
		1	Master Plan
		2	Facilities Plan or Preliminary Engineering Report
		3	Grant or Loan Application Form
		4	Engineer's Estimate
		4	Bid Tabulation
	For Need Documentation Only	5	Intended Use Plan/State Priority List
		6	Sanitary Survey
		6	Comprehensive Performance Evaluation Results
		7	Monitoring Results
		8	Other Independent Documentation
	For Cost Documentation Only	9	Cost of Previous Comparable Construction
SURVEY-GENERATED	**For Need Documentation Only**	10	Written by State
		11	Written by System
	For Need Documentation Only	20	***Project Relied on 2007 DWINSA Documentation****. Code not applicable to the 2015 DWINSA. Resubmit documentation if it is needed.*
		21	Project Relies on 2011 DWINSA Documentation. Submit project-specific validation statement. Other documentation codes also apply if additional documentation is submitted for the 2015 DWINSA.

Other forms of documentation will be considered on a case-by-case basis. For instance, customer complaint reports or violation notices can be useful as independent documentation to support other survey-generated documentation. These "other" types of documentation are coded Documentation Code 8.

6.3   Applying Codes to a Project

Exhibit 11 provides an example of how to apply the codes to a project. In this example, a system intends to construct a new treatment plant within the next year because they are exceeding the maximum contaminant level for arsenic. Their intention is to install Activated Alumina. The project is documented in their Capital Improvement Plan.

Exhibit 11: Example of Applying Codes

Type of Need Code	T19	**The appropriate type of need is T19 – Activated Alumina complete plant.**
Reason for Need Code	A6	Because the system is providing this treatment to comply with a regulation, t**he appropriate reason for need code is A6 – Project is to obtain or maintain compliance with an existing regulation.**
New, Replace Rehabilitate, or Expand/Upgrade	N	Since the system is installing new infrastructure, **the appropriate description is N for new.**
Current or Future	C	The system currently needs the treatment plant and will be installing it within a year. **The appropriate code is C for current.**
Regulation or Secondary Purpose Code	1E	In this situation, a regulation directly applies so **the appropriate regulation code is 1E – Arsenic Rule.** If no regulatory code had applied, the 4A code can be used.
Documentation Code	1	The project is included in the system's CIP so **the appropriate documentation code is 1.**

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7.0 Updating Questionnaire from 2011

For water systems in the state's sample that were surveyed in the 2011 DWINSA, the system and state will be able to start from the projects accepted in 2011 and update the survey based on its status as of 2015. The state will be provided with an Excel file for each system in the sample. For those systems that were in the 2011 survey, the project table will be completed with data as it appeared at the end of the 2011 survey (as amended by EPA).

In addition to the project data from 2011, the project table will have a new column at the far right titled "Remove, Modify, or Validate." This column will help states determine which projects will require updated documentation to demonstrate to EPA that the project should still be included with no changes, modified, or removed.

Also, the comment codes used by EPA to communicate changes to the projects in 2011 will be provided to the right of the project table. States can use these codes along with the comment code text (provided in Appendix C to this guide) to determine what changes (if any) were made to their original projects and to decide if further follow up on those projects is warranted.

7.1   Projects with <u>no Asterisk</u> in the "Remove, Modify, or Validate" Column

Projects with no asterisk in the "Remove, Modify, or Validate" column are generally assumed to be needed in each 20-year survey period. For this reason, <u>if these projects are unchanged</u> from the 2011 survey, they can remain in the survey with minimal documentation of need. A simple statement such as "project needed within 20 years and is within the same scope" will suffice.

The exception to this is that if other projects in the survey are changed or added, and those projects are related to the project with no asterisk, the related projects and/or the project with no asterisk may be affected.

> Example: The 2011 survey had a project to rehabilitate three 1-MG storage tanks. A new project is added to the survey to replace one of the 1-MG storage tanks. In this situation, the rehabilitated project must be reduced to two tanks to avoid counting the needs of the same tank twice.

7.2   Projects <u>with an Asterisk</u> in the "Remove, Modify, or Validate" Column

Projects with an asterisk in the "Remove, Modify, or Validate" column are not assumed to be needed in each 20-year survey period. The assumption is that these projects have started within the last 4 years, or are no longer needed by the system, or that the scope of the project may have changed. Unless the system or state provides adequate evidence to the contrary, the project will be deleted by EPA.

7.2.1   Remove Project

If a project that was accepted in 2011 will not be needed by the system in the 20-year period from January 2015 through December 2034, completely remove the project from the projects table and do not reuse the project number.

Example: The 2011 survey had a project to construct a new well. This project has been completed and the well is expected to last more than 20 years. The project can be removed from the survey altogether.

7.2.2 Modify Project

If a project has started or construction has been completed, but the infrastructure will have needs within the next 20 years, the system or state may consider changing the project to reflect the system's modified need. If this is the case, the survey must include documentation (survey-generated and/or independent) supporting the change. Refer to the documentation summary table (Exhibit 3 of this document) for the required level of documentation for the project type.

Example: The 2011 survey had a project to construct a new water treatment plant, and that plant has been completed. The system or state may consider changing that project to a future rehab of the new plant. Below is an example of adequate survey-generated documentation for such a project.

"This water treatment plant was completed in 2013. It is expected to need rehabilitation within 20 years."

7.2.3 Validate Project

If a project with an asterisk is still needed, the project may remain on the survey, but must be validated by the system or the state. A project-specific validation that the project has not been started as of January 1, 2015, is still needed, and the scope is the same must be provided.

Example: The 2011 survey had a project to construct a new pump station and, due to budget constraints, the system has not yet started the project. The system indicates that they still need the pump station at the same capacity. The system or state can provide a statement validating that the project is still needed. Below is an example of an adequate project-specific statement for validating a project.

"I spoke with Jim Smith, the DPW director, and he indicated that they have not yet started on the pump station project, but the pressure deficiencies that prompted the need for this project still exist and the system still intends to build the station when funding permits. The project is still planned for a 0.75 MGD station."

7.3 Projects Changed from 2011 Survey

The system or the state may decide that a project should be modified from how it appeared at the end of the 2011 Survey. A project may have changed in scope since the 2011 survey or a project may have been modified or deleted by EPA due to a lack of documentation to support the project.

If project data is changed from how it appeared in 2011, regardless of whether there is an asterisk in the Remove, Modify, or Validate column, the project must have updated documentation to support the change. Refer to the documentation summary table (Exhibit 3 of this document) for the required level of documentation for the project type.

Keep in mind that changes to the projects as they were approved in 2011 may have an impact on other projects.

7.3.1   Change in Scope

Projects that change in scope from what was accepted in 2011 can be updated for 2015 as long as adequate documentation of need for the project type is provided.

> Example: The 2011 survey had a project to construct a new water treatment plant at a capacity of 2 MGD, but the current CIP indicates that they have decided to decommission 2 of the system's wells due to lowering water levels and, therefore, increase the capacity of the plant to 3 MGD. The treatment plant project is changed from a capacity of 2 MGD to 3 MGD, and independent documentation of need is provided. In addition, 2 well rehab projects for the existing wells are removed from the survey.

7.3.2   Modified by EPA in 2011

Projects that were modified by EPA in 2011 due to a lack of adequate documentation of need can be updated for 2015 as long as adequate documentation of need for the project type is provided in 2015. The best way to identify projects that had been modified by EPA is through the comment codes provided in the 2011 project data file or by comparing what is in the 2011 project data file to what the state originally sent from their records.

> Example: The original 2011 survey had a project for a storage tank replacement, but due to inadequate documentation of need, EPA changed the project to a tank rehab. If the system or state provides more information meeting the weight-of-evidence criteria, they can change the project back to a replacement.

7.3.3   Deleted by EPA in 2011

Projects that were deleted by EPA in 2011 due to a lack of adequate documentation of need can be resinstated for 2015 as long as adequate documentation of need for the project type is provided in 2015. The best way to identify projects that had been deleted by EPA is by looking for projects that have data in the first four columns of the project table but no data in any of the remaining columns.

> Example: The 2011 survey had a project for a water main extension that was deleted by EPA in 2011 because there was insufficient documentation indicating that the water main was not driven primarily by growth issues. The system or state may gather additional information to reinstate this project. Sufficient documentation could be documentation that the extension is to serve homes that are served by shallow individual wells that have microbiological contamination.

7.4   Additional Projects for 2015 Survey (not in 2011 Survey)

Projects added to the 2015 survey that were not in the 2011 survey need to follow documentation requirements in the documentation summary table (Exhibit 3 of this document). Additional projects must be assigned new project numbers. Please do not reuse project numbers from 2011.

Keep in mind that additional projects for 2015 may have an impact on other projects.

> Example: In 2015, the system's current CIP indicates that due to water quality issues related to reservoir levels, there is a need for an additional surface water intake so the system can draw from a lower level of the reservoir when water levels are low. A project is added for an additional intake. No other projects are affected.

8.0 Encouraging System Participation

Water systems face many competing priorities, and it is often difficult for completion of the questionnaire to rise to the top of the priority list. In addition, systems that do not intend to apply for DWSRF monies may lack the incentive to complete a questionnaire. This may be a significant problem for privately-owned systems, even in states that lend money to such systems. Systems may also be disinclined to participate because of concerns about public reaction to the data, or because they lack the time and expertise to complete the survey.

It is in the state's best interest to encourage systems to participate as each response reflects on the total national need as well as the state need. EPA has solicited comments on ways to motivate water systems that do not want to participate in the Assessment. The following are some suggested ways to encourage water system participation:

- Ensure that the surveys reach the right person at the water system (i.e., someone with the ability to complete the questionnaire).
- Initiate frequent communication about the Assessment with water systems.
- Conduct site visits to assist systems that do not respond.
- Emphasize the importance of the fund and the SRF set-asides to the overall success of drinking water programs.
- Examine options for coordinating the Assessment with capacity development, source water protection, or consumer awareness initiatives.
- Encourage positive reinforcement from other water systems in the area.
- Discuss the relationship between the Assessment and public availability of information. Systems may want to notify their customers of their participation in the Assessment to show their commitment to quality drinking water.
- Work with local chambers of commerce or other municipal organizations to encourage system participation.
- Work with public utility commissions to encourage responses from systems they regulate.

EPA will also engage in some activities to encourage water system participation:

- EPA will work with trade associations to help motivate systems, including the American Water Works Association (AWWA), the Association of Metropolitan Water Agencies (AMWA), and the National Association of Water Companies (NAWC).
- EPA will publish articles in trade newsletters about the importance of the 2015 Assessment.

8.1   Conducting Follow-Up Site Visits

This section contains information that may help state representatives plan and conduct site visits, if needed. A 1997 study, as follow-up to the 1995 survey, showed that systems did not always report all of their needs on the questionnaire. The follow-up survey also discovered several reasons why water systems did not identify needs:

- Belief that the needs were not allowable.
- Lack of existing documentation to support the needs (e.g., CIPs).

- Lack of time to complete the questionnaire.
- Lack of involvement by all necessary personnel.

Site visits or phone interviews are effective ways to encourage responses and ensure that water systems have identified all their infrastructure needs. The ability to review files and system drawings and discuss needs with the appropriate staff makes site visits the most valuable communication tool available. Time and cost, however, are substantial. Phone interviews will be less costly and can be a useful tool for improving questionnaire response.

8.2   Suggestions for Targeting Site Visits

EPA estimates that 8 to16 hours may be necessary to conduct a site visit and complete the questionnaire (excluding travel time). This includes 2 to 3 hours of preparation and logistics, 3 to 5 hours at the system, and 3 to 8 hours to complete the questionnaire and compile the documentation.

In order to use time most efficiently, systems that will receive site visits should be prioritized. Some of the issues discussed below can help determine which sites would be beneficial to visit.

Target High Need Systems

The goal should be to collect the best data available from all systems in the sample. However, if time and resource limitations allow for conducting only a few site visits, the systems with known substantial needs or less robust records may be high on the list.

The Potential for Underreporting

Another consideration in choosing which systems would benefit from a site visit is to target systems suspected of underreporting needs. To help identify where underreported needs are likely, consider previous knowledge of the system, the system's CIP (if it exists), the overall condition of the water system, its age, and whether the system is rural or urban. Underreporting of needs is often a more pronounced issue with rural systems.

Combine Efforts

States should consider whether systems on the survey list are also due for a sanitary survey. If so, efforts can be combined and both tasks completed at the same time.

8.3   Procedures for Conducting Site Visits

It may be beneficial to conduct site visits to follow up on data provided by systems or to collect the data. The section below describes the procedures that have been used to conduct site visits to small systems in previous Assessments. The general approach also may be useful when organizing site visits to larger systems.

Assistance with Generating Documentation of Need

EPA has developed a Needs Evaluation Guide (included in the Assessment Training Binder) to help assess needs through site visits or telephone interviews. The guide will assist in identifying all of the

system's components and needs, starting with the source and ending with the distribution system. The guide is divided into different categories of need and can be used to develop survey-generated documentation of needs. The guide itself, when completed and signed, can be submitted as survey-generated documentation of need.

Steps for Conducting a Site Visit

Site visits should be conducted by engineers or other professionals with extensive experience working with water systems. The various steps for conducting a site visit are summarized in Exhibit 12.
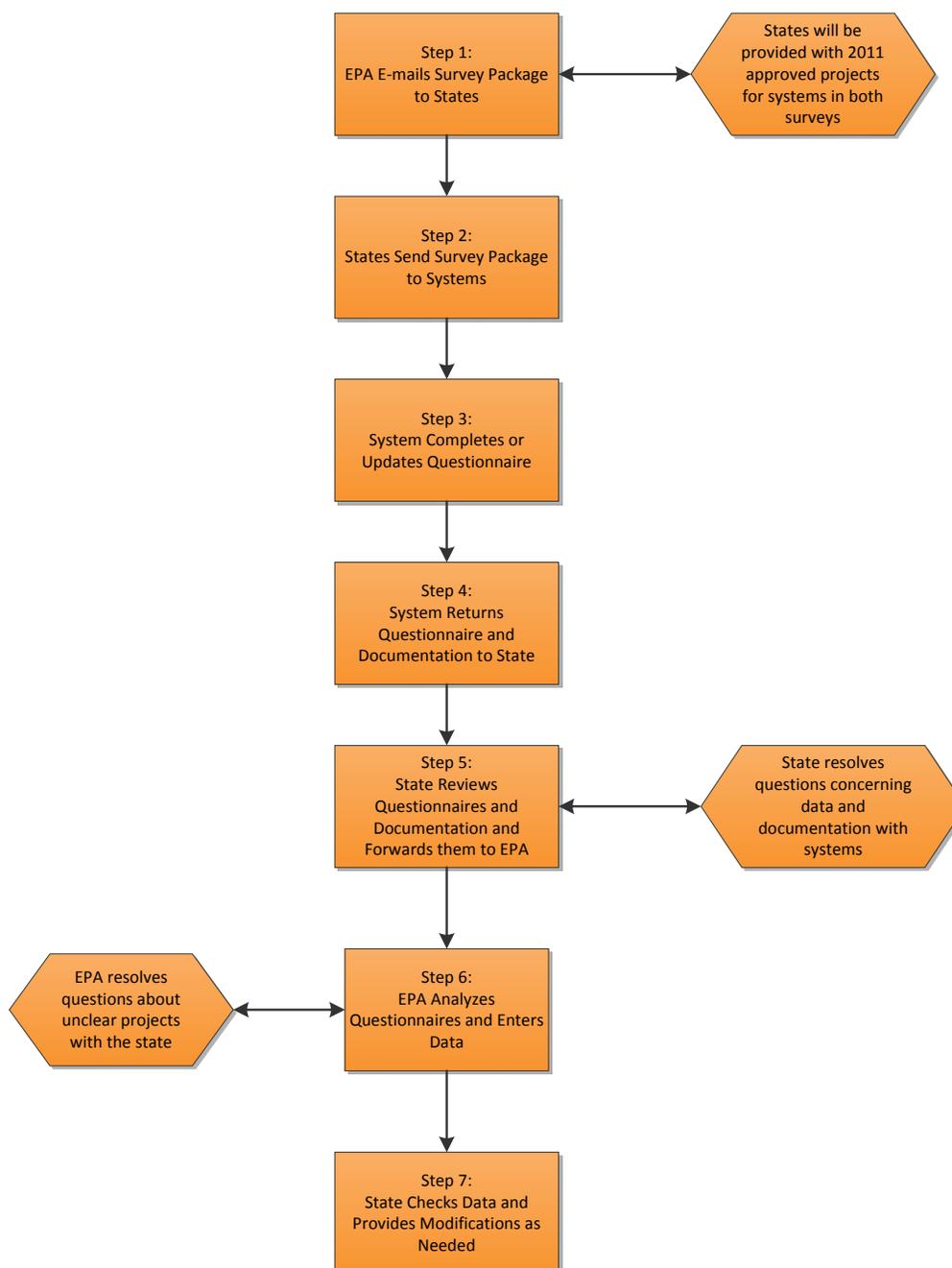
Exhibit 12: Steps for Conducting a Site Visit

Preparation and Final Scheduling for the Site Visit	
Step 1	**Contact.** Contact the system to explain the purpose of the site visit and provide general information on the 2015 Assessment and DWSRF. A typical procedure for the preliminary contact follows: • Identify the person with whom the site visitor should meet. • Provide an estimate of how long the visit will take. • Schedule the site visit within the time frame provided, and consider the location and complexity of the system. • Explain to the contact person what kind of documentation should be made available.
Step 2	**Gather Information.** Ask the system to gather information from their central files. In addition, refer to your files. Typically, sanitary surveys, plans, specifications, and master plans (when available) contain the most useful information.
Conducting the Site Visit	
Step 3	**Explain Purpose.** Arrive at the system and explain the purpose of the visit and the typical procedures used, and provide information on DWSRF and the Assessment.
Step 4	**Explain Assessment Policies.** Explain the 20-year planning horizon and some important rules (e.g., only address a piece of infrastructure once for the 20-year period). Also mention O&M needs are not allowable, but major rehabilitation such as rehabilitation of a storage tank should be included in the Assessment.
Step 5	**Interview the System Contact and Review Planning Documents.** Begin assessing the system's needs by talking the contact through their inventory of infrastructure assets and any additional or overlapping projects in their planning documents or sanitary survey reports. You may want to use the *Needs Evaluation Guide*.
Step 6	**Tour System.** After completing the *Needs Evaluation Guide*, tour the system and view the major components. Then make an independent assessment of condition and needs.
Step 7	**Review Projects.** Review the list of projects that were identified with the system. In the documentation explain the basis for including and excluding projects—a discussion that typically works best if the representative participates. Together modify, add, or delete projects as appropriate.
Preparing the Report	
Step 8	**Prepare Documentation.** Obtain as much independent documentation as possible. If costs are available, take copies of these. Prepare survey-generated documentation for each project that still needs documentation. The system's written documentation should be referenced when available. This is usually done with the system representative.
Step 9	**Prepare Schematic.** A schematic drawing showing key system components should be included with the survey form. Prepare the drawing if it is not available from the system contact(s). This is helpful when back in the office for remembering the specific details of different systems that may have been visited.

9.0 Data Flow and Schedules

9.1 Data Flow for 2015 DWINSA

The data flow for the 2015 DWINSA is outlined in Exhibit 13 and applies to all water systems selected to participate in the DWINSA. The steps outlined in the flow chart are described below. In this diagram, "state" refers to states, territories, Puerto Rico, and the District of Columbia representatives.

Exhibit 13: 2015 DWINSA Data Flow for Participating Systems

```
Step 1:                           States will be
EPA E-mails Survey Package  <-->  provided with 2011
to States                         approved projects
                                  for systems in both
                                  surveys
      |
      v
Step 2:
States Send Survey Package
to Systems
      |
      v
Step 3:
System Completes or
Updates Questionnaire
      |
      v
Step 4:
System Returns
Questionnaire and
Documentation to State
      |
      v
Step 5:                           State resolves
State Reviews              <-->    questions concerning
Questionnaires and                data and
Documentation and                 documentation with
Forwards them to EPA              systems
      |
      v
EPA resolves              Step 6:
questions about    <-->   EPA Analyzes
unclear projects          Questionnaires and Enters
with the state            Data
                              |
                              v
                          Step 7:
                          State Checks Data and
                          Provides Modifications as
                          Needed
```

Step 1: EPA E-mails Survey Instrument to State

The questionnaire packages will be assembled and e-mailed to the states by the EPA contractor. States will send the survey to the systems. The state may decide to include the EPA cover letter, a state cover letter, or both. The workgroup believes that systems may be more responsive to cover letters that are in addition to the EPA letters.

Step 2: State Sends Survey to System

The state will send the survey instrument to the system. This can be done via e-mail or by sending hard copies of the survey and instructions.

Step 3: System Completes or Updates Questionnaire

Each system is asked to complete the questionnaire and return the results to the state by a date or a set time frame specified by the state. Technical assistance will be available from a state representative. Alternatively, the survey may be completed by a site visitor, as previously discussed.

Step 4: System Returns Questionnaire

Systems will return the survey and associated documentation to the state. If a water system does not return the questionnaire, the state is encouraged to work with the system to complete the questionnaire or complete the questionnaire and documentation for the system.

Step 5: State Reviews Questionnaire and Documentation

State personnel will review all questionnaires and documentation to ensure that projects are allowable, documented appropriately, and coded correctly. Reviewers should contact the systems to obtain missing information. Reviewers can generate documentation of need for projects that do not have adequate documentation. See Appendix B for a sample questionnaire. States send completed questionnaires and documentation to the EPA contractor.

Step 6: EPA Analyzes Questionnaires and Enters Data

The EPA contractor will perform a second level of quality assurance by checking to see that all needs are documented and allowable, and that all costs are documented. Project coding will be verified and the questionnaire will be prepared for data entry. Data entry of project information will occur after EPA contractor review. Projects that are unallowable or have inadequate documentation will be deleted, leaving only the project number, name, and type of need for reference. All changes to the questionnaires by the EPA contractor will be identified through the use of comment codes. The list of comment codes is included in Appendix C of this guide.

Step 7: State Representatives Check System and Project Status

Each state will have access to its own data through the www.DWNeeds.com website (see Section 11.0). If questions arise, representatives can contact the EPA contractor. States can also provide additional project information (modifications) for the EPA contractor review through the website.

9.2   Project and Data Collection Schedules

The schedule for completing the 2015 DWINSA is shown in Exhibit 14. To improve the efficiency of the questionnaire review, EPA will ask that states return the questionnaires in a series of shipments, beginning in March 2015. This schedule will allow the EPA contractor to balance the workload, provide analysts sufficient time to review each questionnaire, help the states identify overarching problems early, and ensure that the Report to Congress is completed on time.

Exhibit 14: Schedule for Completing the 2015 DWINSA

Task	Date
Survey Design	January – June 2014
States Review and Correct Inventories	June-August 2014
Information Collection Request Submitted to OMB	September 2014
Training Sessions for States	September – October 2014
Data Collection Instrument Sent to States	April 2015
States Return First Few Questionnaires to EPA for Review and Comment	April - June 2015
1/3 of Sent Data Collection Instruments Returned to EPA contractor	August 2015
2/3 of Sent Data Collection Instruments Returned to EPA contractor	October 2015
All Sent Data Collection Instruments Returned to EPA contractor	December 2015
Last Modifications Submitted	February 2016
All Information in the Data System Finalized	April 2016

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10.0   Questionnaire Analysis

10.1 Coordination of Efforts between States and EPA Headquarters

In an effort to facilitate good communication and realize the best possible data collection results, the following procedures will be implemented.

- **State Coordinator.** EPA will ask each state to assign a lead person to serve as the coordinator. In some cases, other staff (e.g., those from state area offices or counties) may be more appropriate to provide certain information and review surveys, but EPA has found that a central contact aids communication.
- **Senior Contractor Contact.** The EPA contractor will provide each coordinator with the name of a senior contractor contact. The coordinator may contact this person if there are questions or issues related to survey reviews. In addition, EPA Headquarters staff will be available to address state concerns.
- **Communication Procedures.** The coordinator and EPA contractor will establish procedures for communications at the beginning of the data collection period.
- **First Few Questionnaires.** States are encouraged to return to EPA the first few questionnaires they have reviewed within the first few months of the data collection period. If requested by the state, the EPA contractor will provide a detailed written comment on each of the surveys' contents, completeness, and coordinator analysis. This will allow the EPA contractor to provide feedback to the coordinator early in the process. EPA will host a workgroup meeting in May 2015 to discuss the status of the project and the issues that became evident during the first-few review process.
- **Website.** The EPA contractor will provide the state with regular updates on the status of questionnaire analysis through the website (see Section 11). State representatives will be able to identify which questionnaires have been received, if changes were made (e.g., changes to codes or costs), and which projects were deleted and why. If a representative cannot access the data system (e.g., because it lacks Internet access), the EPA contractor will provide the information through other means.
- **EPA Regions.** The EPA Regional coordinator will be contacted periodically by the EPA contractor regarding state response rates and participation, and will be involved with resolving response rate issues as necessary.

10.2 State Review of Survey Responses

State participation in questionnaire analysis is critical to obtaining a full and accurate measure of the total need reported for each state and EPA Region. Questionnaire analysis includes reviewing the questionnaire for completeness (e.g., to see if any categories or types of needs were overlooked), ensuring that the coding is accurate, and most importantly, reviewing the adequacy of documentation. If the reviewer finds that documentation is inadequate, they should obtain or generate additional documentation if appropriate. The key is to provide a reasonable, logical explanation of why the project is needed with sufficient project-specific information to describe the extent of the project.

As the documentation is reviewed, highlight key information and mark-up the document with comments and information such as project number. This will facilitate the subsequent review by EPA and make it more likely that the documentation will be identified and the project will be understood.

10.2.1 Review Considerations

The review should consider the following issues.

☑ **Ensure that needs are documented and allowable.** Documentation of need explains why the project is needed and gives enough detail to ensure that the size and type of project are accurately recorded. The documentation must demonstrate that the project is allowable and meets the Assessment policies. If the documentation provided by the system is not completely clear, the reviewer may add additional project-specific documentation to clarify allowability or the scope of a project. However, the reviewer should supplement, not override, the system's assessment of their infrastructure needs.

☑ **Ensure that projects cover all areas of need.** Systems are generally able to assess their near-term needs. Many have short term planning documents and most have a good grasp of what infrastructure needs they are facing in the near term. Systems are often limited to these shorter term planning documents, however, and may not have a complete grasp of longer term needs. Reviewers should ensure that all infrastructure areas have been considered and obtain or provide additional documentation for projects that have been missed. Inventory tables located in the questionnaire may be helpful for identifying projects that may not have been considered.

☑ **Ensure that documentation of need is less than 4 years old.** If documentation is dated before January 1, 2011, provide a signed and dated statement or other certification (from the system or state) indicating that the project is still necessary, is within its original scope, and that construction was not started by January 1, 2015. Phases of a multi-phase project that have not yet begun may be included.

☑ **If costs are provided, ensure that they are adequately documented.** Documentation of project costs provides an accurate basis for cost estimates. The cost estimate should include all aspects of the infrastructure project including design, engineering, materials, construction, and contingency costs. However, if a documented cost estimate for an allowable project is more than 10 years old it cannot be used. Please delete the cost and provide modeling parameters so the cost can be modeled.

☑ **If costs are not provided, include modeling parameters that allow EPA to assign modeled costs.** If a project does not have a documented cost estimate, make sure the system has provided modeling parameters that allow EPA to estimate costs. If modeling parameters are not included, the reviewer should contact the water system to obtain the necessary information.

☑ **"Unlump" combined projects if necessary.** In some situations, projects may combine more than one type of need on a single line (e.g. booster pump station and tank). Consider the following when deciding if these should be separated into multiple projects, or "unlumped":

- • If the project does not have a cost estimate:

- The project <u>must</u> be unlumped so that the cost models can be applied. EPA can apply models for individual types of need only.
- If the project has a cost estimate:
  - Projects should be unlumped when costs are provided and can be separated into the project components. This will allow EPA to use the costs to build the new cost models.
  - Projects should be unlumped when there are multiple categories of need (categories are source, treatment, storage, transmission and distribution, and other) and the costs separated by category of need. This assists data reporting. EPA reports the amount of need in each general category in the Report to Congress.
  - It is not necessary to unlump projects whose components are closely related (such as filter media and sedimentation basin upgrades).

Reviewers should also note the following special circumstances:

- **Multiple responses from the same system.** In some systems, more than one department is involved with the water system (e.g., one group deals with treatment while another is responsible for distribution). In these cases, the system may submit more than one questionnaire. The reviewer does not have to combine these onto one questionnaire, but should submit the survey as one package. Also, review the submittals to ensure that no needs were reported more than once and all projects have unique project numbers.

- **Multiple systems that combine their responses on one questionnaire.** In some cases one entity owns or manages multiple systems, or water systems may have consolidated after the review of the SDWIS inventory data was completed. If two or more systems wish to submit a combined questionnaire, <u>and all of the system are in the census portion of the survey (large state CWSs serving more than 100,000 persons)</u>, the needs can be reported on one questionnaire. If only one system is included in the survey, then only the needs for that system can be included.

- **Shared projects.** If a water system lists a project that is planned in cooperation with another system, the recorded cost or modeling parameters should represent the portion of the project for which the system in the survey is responsible.

10.2.2 Survey Submittal

Once review is complete, the state is responsible for submitting the questionnaire and all appurtenant documentation to the EPA contractor.

The primary format for submitting questionnaires and documentation is via e-mail to the following address:
NeedsSurveySubmittals@CadmusGroup.com

States can also use the upload process on the DWINSA website to submit project data. This process is discussed in more detail in Section 12.

Hard copy documents can be mailed to this address:

> The Cadmus Group, Inc.
> 2620 Colonial Drive
> Suite A
> Helena, MT 59601
>
> Attention: Linda Hills
> (406) 443-9194

10.3 EPA Review of Survey Responses

When submittals are sent to EPA, the contractor will conduct a review similar to the state review discussed above. In general, the steps below outline this process.

10.3.1   Initial Analysis

As questionnaires are submitted, each will be reviewed in detail by an analyst to ensure that each project is allowable, need is appropriately documented, costs can be assigned, and coding is accurate. Surveys from systems that participated in 2011 that are updating their submittal to reflect their status in 2105 have already gone through both an initial and senior review and therefore may not need to have an initial analysis for the 2015 survey.

10.3.2   Senior Review

After the initial analysis, each questionnaire receives a senior-level review to help ensure consistency in the data analysis. This analysis is conducted by personnel with a background in water supply and treatment as well as extensive knowledge of the Needs Assessment policies and procedures.

10.3.3   Changes and Comment Codes

Analysts and senior reviewers will edit the questionnaire as necessary based on their review. Every change applied to a project is given a comment code so that states representatives can see what changes have been made and how the change impacts the project. Appendix C has a complete list of the comment codes used. The general categories of comments include:

- Comments pertaining to the submittal as a whole
- Comments addressing the allowability of a project
- Comments addressing adequacy of documentation of need
- Comments indicating that a project or portion of a project is included in another project
- Comments indicating that a project has been disaggregated ("unlumped") to model the cost or to capture cost data
- Comments indicating that two or more projects have been aggregated ("lumped") for modeling or other purposes
- Comment that address the cost or modeling parameters for a project
- Comments that indicate other changes have been made based on the submitted documentation
- Comments in response to modifications submitted by the state

10.3.4   Upload to Database

Reviewed submittals received by mail, Federal Express, or e-mail are sent to a data entry house that provides "dual data entry" for each submittal. Data is then uploaded to the database and website for review by the state.

10.3.5   Project Status

When the review and upload is complete, each project is assigned one of the following status categories based on the changes it received. Coordinators can use this information to determine which projects need follow-up modifications or additional documentation.

- Project allowed as submitted
  - Displayed as a green check ✅

- Project allowed with changes that do not impact cost
  - Displayed as a green check ✅
  - Edits or comments may include:
    - Change of project description from current to future or vice versa
    - Change from new to replace or vice versa
    - Change of modeling parameter when a cost is provided

- Project allowed with changes that do impact cost
  - Displayed as a yellow exclamation mark ⚠️
  - Edits or comments may include:
    - Change or deletion of cost estimate
    - Change of modeling parameters when no cost is provided
    - Change of new, replace, rehabilitate, or expand/upgrade

- Project allowed but EPA is unable to apply a cost
  - Displayed as a red dollar sign 💲
  - Edits or comments may include:
    - No cost or design parameters provided
    - Costs or design parameters deleted for lack of documentation
    - No cost provided and project cannot be modeled

- Project deleted
  - Displayed as a red "x" ❌
  - Edits or comments may include:
    - Project does not meet allowability criteria
    - Project not accompanied by sufficient documentation of need

10.4 Modifications

The final step in the process is for the state to view the data after it has been reviewed by EPA and is available on-line. If projects have been deleted or amended and the state is not in agreement with the changes, they may submit modification requests along with supporting documentation.

Modification requests and supporting documentation may be sent through the website, by e-mail, or in hard copy format, depending on the type of modification and the preference of the state. Modifications for projects requiring independent documentation must be sent as hard copies or scanned email attachments, as these documents must be received in their original form to be included. Survey-generated documentation may be submitted in any form, including directly through the website (see Section 12.0 for details).

States may find it most efficient to discuss any modifications with their assigned EPA contractor analyst prior to submitting modifications in order to clarify the reason a project was deleted or amended, documents needed, and the submission process.

Submitted modifications will be reviewed by either the analyst that performed the initial review, or another analyst dedicated to reviewing modifications. The entire questionnaire, along with all documentation submitted, will be reviewed. The decision to accept or deny the request will be made based on all the information submitted and the assessment policies. If a modification request is accepted, changes will be made directly to the online database. If the modification request is denied, the appropriate comment code will be given to the project in the online database. Modifications that are simply a comment (e.g., "Agree with deletion") are discouraged as they must be addressed by an analyst and no change will result.

11.0   DWINSA Website

To provide an efficient way of tracking and monitoring questionnaire responses for states, EPA supports a 2015 DWINSA website. As the states return survey questionnaires to EPA, the responses will be entered into the 2015 Assessment database. In addition, some systems will be able to enter or upload their questionnaires and electronic documentation to the website. Access to the Website is secured by a password.

States will have access to all data for their state. EPA Regional offices will have access to the data of states within their region.

11.1 Accessing the Website

To access the 2015 Assessment website, users need a computer with Netscape Navigator, Firefox, or Microsoft Internet Explorer web browser. The website home page is located at www.DWNeeds.com.

Important documents related to the survey are available on this page. These include the survey instrument and associated materials, a mail-out package for states to use when sending the survey instrument to systems, and training materials. They can be downloaded without logging into the website. The site also provides links to related documents on other sites.

A link to the Adobe Acrobat Reader website is also provided for users that need to download the reader to view files.

When users initially open the page, they will be taken to a login page, where they should enter the user name and password provided by EPA. If you do not have a user ID and password, contact the webmaster at webmaster@dwneeds.com.

11.2 Home Page

After logging in, users will be taken to the 2015 Assessment Home Page. The home page contains various features to help users navigate their data on the website:

- Tabs at the top of the screen that users can click to browse the website.
    - System Stats
    - Projects Page
    - Progress Meter
    - Contacts
    - Hot List
    - Unread Messages
    - Log Out

- Filters by project status.
    - ❌ = Deleted projects
    - 💲 = Accepted projects without cost
    - ⚠️ = Accepted projects with adjusted cost
    - ☑️ = Accepted projects with cost
    - ❓ = Projects that have not been processed

- Filters by system size (small, medium, large).

- A "quick find" option that allows users to search the database for a particular PWSID number and project number.

Users can log out of the website by clicking on the "Log Out" tab. The following sections describe information that is provided on the remaining website pages.

11.3 System Stats Page

The System Stats Page shows the status of the survey in the review process and the status of projects by PWSID number. It can be filtered by system size. This is a very useful view of the states' survey status.

The system stats list shows the preliminary weight of each system as well as the number of projects in each status category (deleted, accepted without cost, accepted with adjusted cost, and accepted with cost). The projects can be sorted by the following categories by clicking on the appropriate column header:

- Status
- PWSID
- System Name
- Date received by EPA
- Initial weight
- Date of last update
- Stratum
- Number of projects in each project status category
- Survey batch number

The page also contains links to detailed information and the message board for each system listed. Clicking on a specific PWSID number brings the user to System View, described in Section 11.4.1. By clicking on a project status icon (☑️, ⚠️, 💲, ❌, or ❓), users can view all projects (in System View) that fall under that category (accepted, accepted with an adjusted cost, accepted without a cost, deleted, and projects that have not been processed).

11.4 Projects Page

The Projects Page shows all of the projects a user has access to and can be filtered by system size and project status (deleted, accepted without cost, accepted with adjusted cost, and accepted with cost).

There is a substantial amount of information on this page, and therefore it can be cumbersome and time-consuming to use.

Note that users with access to multiple PWSIDs may have many screens of projects. If the user wants to limit the quantity of data viewed, the user can apply a filter. The projects can be sorted by the following categories by clicking on the appropriate column header:

- PWSID
- Project number (and project status)
- Date of last update
- Who last updated the project
- Unresolved messages (represented by a numerical code)
- EPA's response to the last modification (represented by a numerical code)
- Survey batch number
- State notes

Users can obtain details on specific projects from this page by clicking on specific PWSID numbers, project numbers, or other fields.

11.4.1 System View

By clicking on a specific PWSID number, the user can see all the projects submitted for that PWSID under System View. From this view, users with editor access can add new projects one at a time by clicking on the "Add" button under the Projects Table tab or the "Add New Project" link under the Projects tab. There are five sub-tabs provided in this view, which are summarized in Exhibit 15. Note that this view is available from any page that provides PWSID links.

Exhibit 15: Information Provided by Sub-tabs in System View

Projects Tab	Provides same information as the general Projects Page, but is limited to a specific PWSID number. Clicking on a project number will take users to the Details tab under Project View. Clicking on any other number will take users to the Message tab under Project View.
Details Tab	Provides information on the system's preliminary weight, survey received date, source, population, respondent information, state contact, and other basic data.
Messages Tab	Provides all comments on a given system. Each comment opens a dialog between the EPA contractor and the state. The state can respond to comments and request project modifications from this page.
Tracking Tab	Lists important dates, such as date survey was received, ready for QA, and ready for data entry.
Projects Table Tab	Shows all information provided on the questionnaire, including type of need code, reason for need code, modeling parameters, cost estimate, and documentation code.
Upload Tab	Provides user with options for uploading data from an Excel spreadsheet and displays uploaded data and validation errors. Users can modify project data in the web-based data grid.

11.4.2 Project View

By clicking on a specific project number, unresolved message, or last EPA response, the user can obtain details about a project under Project View. There are two sub-tabs provided in this view,

which are summarized in Exhibit 16. Note that this view is available from any page that provides links for project information.

Exhibit 16: Information Provided by Sub-tabs in Project View

Messages Tab	Provides all comments on a given project. Each comment opens a dialog between the EPA contractor and the state representatives. The representatives can respond to comments and request project modifications from this page.
Details Tab	Provides details on the project including project name, when it was last updated, unresolved comments, type of need code, reason for need code, modeling parameters, cost estimate, documentation code, and threads (i.e., messages from EPA contractor or representatives). Users can browse through other projects and PWSID numbers using the function the bottom of the screen. Users may also edit this data given the appropriate user permissions.

11.5 Progress Meter Page

The Progress Meter shows the status of the state's progress to date. It includes response rate compared to the expected rate, project acceptance rate, and status of the state's use of contractor support compared to the response rate. The following meters are presented on this page:

1) **Response Meter –** Shows the number and percentage of surveys returned as compared to the expected progress.
2) **Accepted Projects Meter** – Shows the number and percentage of Accepted with Cost ✅ projects and Accepted with Adjusted Cost ⚠️ projects compared to the national average.
3) **Adjusted Accepted Projects Meter** – Shows the number and percentage of Accepted with Cost ✅ projects and Accepted with Adjusted Cost ⚠️ projects compared to the national average, but excludes duplicate projects.
4) **Allotted Time Meter –** Shows the state's total allocated hours of contractor support and the number of hours and percentage used to date. It also compares the percentage of support used to the percentage of surveys reviewed and uploaded to the site.

11.6 Contacts Page

The Contacts section provides names, mailing addresses, phone numbers and e-mails for the following types of questions:

- How to use the website
- General survey questions
- Statistics, system lists, and logistics
- Problems with the website

The site also provides a link to a complete list of EPA contacts and state coordinators.

11.7 Hot List Page

The Hot List is a tool that allows users to flag projects on which they are currently working. When viewing the details of a project in project view, users have the option to add the project to the Hot

List by clicking on the plus-sign icon , available on the Projects View and on the Hot List page. To remove items from the Hot List, click on the minus-sign icon , available on the Hot List page.

11.8 Unread Messages Page

The Unread Messages section is used to alert users of comments or modifications that have been posted to projects that have not been read. Messages can be filtered by system size. To open an unread message, users should click on the envelope icon. To mark an unread message as read, users should click on the clipboard icon.

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12.0   Submitting Modifications on the Website

Modifications to a project can be submitted via the DWINSA website. Submitting a modification via the website requires the user to log in to the website and locate the system and project that has been deleted or amended. Once in the Project View, the user can access the messages tab to view the project's comments (Exhibit 17).

Exhibit 17: Project Specific Messages for Modification
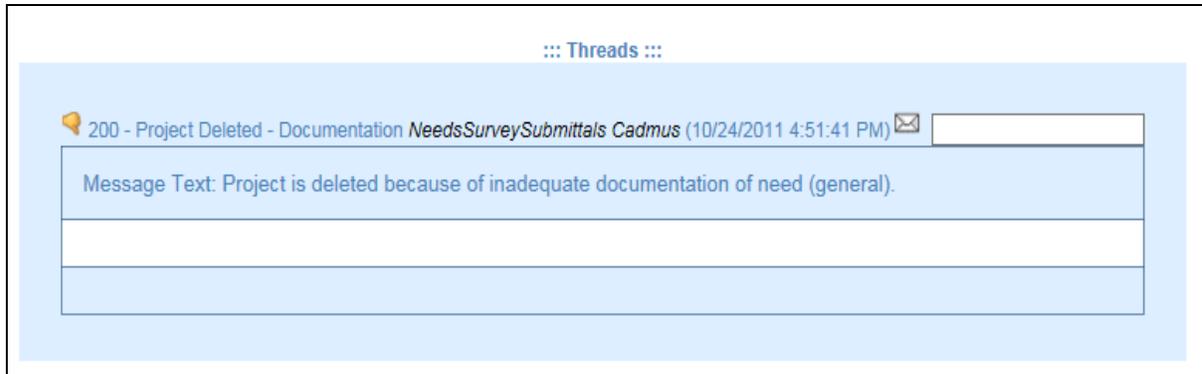
Clicking on the envelope icon associated with the comment code to be addressed will open a reply box that will enable the user to type in a response to the comment (Exhibit 18). The user may write a request for modification by providing additional information to address the project's allowability. Users are not able to submit independent documentation via the website modification process. Independent documentation can be sent to the EPA contractor in hard copy or submitted electronically via e-mail.

Exhibit 18: Modifications Reply Box

The modification message submitted is then reviewed by an analyst along with the original questionnaire, documentation, and initial reviewer's notes. Once the modification has been reviewed, a comment code is added to the project indicating whether the project has been accepted or continues to be deleted and any necessary changes to the project are made on the website.

When possible, the same EPA analyst that reviewed the initial questionnaire will also review the modification requests. Otherwise, modifications will be reviewed by another analyst dedicated to reviewing modifications.

As previously stated, there is no limit to the number of modification requests that can be submitted for a project. For instance, the first modification request may not have included all the information necessary to change a project's status to "accepted." EPA can communicate this via comment codes applied to the project. A follow-up modification request should provide the additional information. However, EPA may reject repeated attempts to modify a project for which a decision has already been made.

Appendix A. List of Codes

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Lists of Codes

DWINSA

2015
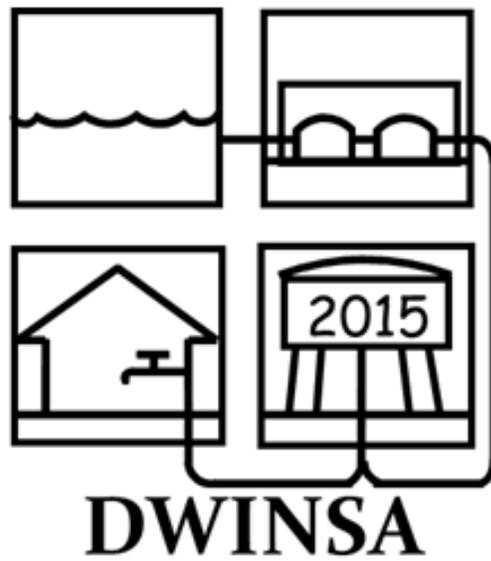
Use these instructions and lists of codes when you fill out the Drinking Water Infrastructure Needs Survey and Assessment (DWINSA) questionnaire. In your documentation, please be sure to include project descriptions. Also include copies of the breakdown of cost estimates, if available.

Instructions for Each Column on the 2015 Drinking Water Infrastructure Needs Survey and Assessment Questionnaire

Column Title	Instructions
Project Number	Number the projects in each category in sequence, using the following range of numbers for each category of need: - 1000's Source, treatment, storage, and pumping projects - 2000's Transmission and distribution projects - 3000's Meters, service lines, backflow prevention, valves, etc.
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. Codes not applicable to the 2015 DWINSA but that may appear in 2011 DWINSA data are shown in List 1 in italics and with strike-through to indicate they should not be used.
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.

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 similar infrastructure.
	 - Expansion/Upgrade of a complete treatment plant, enter 'E'
	      Major improvements to an existing complete plant that adds or changes unit processes or results in an increase in capacity. Only use for complete treatment plants.
	 - 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 12/31/2034)

Regulation or Secondary Purpose	If the project is needed to maintain or obtain compliance with a regulation, secondary MCL, or state requirement, refer to List 3 in the Lists of Codes and enter the appropriate code. Enter '4A' if no code applies.
Design Capacity	Enter the design capacity when applicable: - million gallons per day (MGD) for source, treatment, and pumping; - million gallons (MG) for storage; - 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 (e.g., for disinfection, record the volume of water treated in MGD).

Column Title	Instructions
Diameter	Enter the diameter (in inches, using decimals) if the project is for pipe, valves, backflow prevention, or meters. Use a separate project number and line for different sizes of infrastructure if a documented cost is not available. Diameter is not needed for service lines.
Length	Enter the length of pipe (in feet) that must be rehabilitated, replaced, or installed as new. Use a separate project number and line for different sizes of pipe if a documented cost is not available.
Number Needed	If you have multiple identical projects at the same capacity or multiple identical items, indicate the total number needed (e.g., rehabilitate 10 wells each with a 0.5 MGD capacity, or replace 1,000 0.625-inch meters). If you use this column and provide a project cost, the cost should reflect the entire project (i.e., *all* 10 wells or *all* 1,000 meters, **not** the cost of an individual well or meter).
Cost Estimate	If an existing cost estimate is available, enter the documented cost estimate for this project. Do not use cost estimates that were prepared prior to January 1, 2005. If no cost estimate is provided and modeling parameters are recorded, EPA will use models to estimate the cost. Do not develop a cost estimate for this survey.
Cost Date	If a documented cost estimate is provided, enter the month and year (MM/YYYY) of the cost estimate. EPA will adjust costs 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.
Remove, Modify, or Validate	This column appears for systems that participated in the 2011 DWINSA. An asterisk (*) indicates the project must be removed, modified, or have a project-specific validation for the 2015 DWINSA.

Important Notes:
- o **What is a "need"?** Installation or rehabilitation of capital infrastructure needed over the next 20 years to obtain or maintain service to existing customers or to existing homes with inadequate or unsafe water that are not currently connected. Projects <u>substantially</u> for meeting anticipated future population growth or for fire flow are not allowed for the DWINSA.
- o **What is "independent documentation"?** Documents generated through a process independent of the DWINSA (e.g., CIP, master plan, sanitary survey report).
- o **What is "survey-generated documentation"?** Documents generated specifically for the survey that are written by the system or the state.

Please use the **Documentation Summary** tab of the Questionnaire to provide survey-generated documentation of need and/or provide information on the independent documentation for the project. A description of each project or a copy of the documentation must be provided and be clearly identified by project number.

LIST 1 - TYPE OF NEED

Code	Type of Need

RAW/UNTREATED WATER SOURCE

R1	Well (including pump and appurtenances)
R2	Well Pump
R3	*Well House* [1]
R4	*Eliminate Well Pit* [1]
R5	*Abandon Well* [1]
R6	Aquifer Storage and Recovery Well
R7	Surface Water Intake
R8	Raw Water Pump
R9	*Off-Stream Raw Water Storage* [2]
R10	Spring
R11	*Destratification* [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

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

Code	Type of Need

TREATMENT: *Other Components / Equipment / Processes*

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)* [2]

TRANSMISSION MAINS: *(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~~ [1]
M5	Valves (gate, butterfly, etc.) (not included in a 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~~ [1]
W4	Emergency Power (enter design capacity as kilowatts)
~~W5-W9~~	~~Fencing and Security-related needs~~ [1]
W10	*Other (Please include an explanation)* [2]

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[1] *These codes are not applicable to the 2015 DWINSA but may appear in 2011 DWINSA data.*
[2] *Cost must be provided; cost of this infrastructure cannot be modeled.*

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 12/31/2034.
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 or 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	*[A10 is not applicable to the 2015 DWINSA but may appear in 2011 DWINSA data. A10 referred to security-related needs]*
A11	Use this code if codes A1-A9 do not apply.

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 or Revised Total Coliform Rule

1C   Nitrate or Nitrite Standard

1D   Lead and Copper Rule

1E   Arsenic Rule

1F   Stage 1 or Stage 2 Disinfectants/Disinfection Byproducts Rules

1G   Other Regulated VOCs, SOCs, IOCs, or Radionuclides (excludes Radon)

1H   Ground Water Rule

OTHER

2A   Secondary Contaminants (e.g., iron, taste and odor, or color)

2B   State Requirements

IF NONE OF THE ABOVE CODES APPLY

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

PROPOSED AND RECENTLY PROMULGATED SDWA REGULATIONS

Needs associated **solely** with the **Proposed Radon Rule** are not allowable and should not be included. The costs for these needs, estimated for the rule's Economic Analysis, will be added to the total national need.

As of January 1, 2015, there were no other proposed rules or recently promulgated rules applicable to the 2015 DWINSA.

	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 toward 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 the state.
11	**Written by System**. Brief description and statement of need written by the system.

Code	*Documentation Submitted for Previous DWINSA*
~~20~~	~~**Project Relied on 2007 DWINSA Documentation**~~. *Code not applicable to the 2015 DWINSA. Resubmit documentation if it is needed.*
21	**Project Relies on 2011 DWINSA Documentation**. Submit project-specific validation statement. Other documentation codes also apply if additional documentation is submitted for the 2015 DWINSA.

Appendix B. DWINSA Questionnaire

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2015 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 (Fill in only if preprinted information is missing or incorrect)	
Name of System (Community):	☐		
Name of Contact: Street Address: City, State, and Zip:	☐		
Population Served (if wholesaler, include consecutive population as appropriate):	☐		
Number of Connections (not including consecutive systems):	☐		
Total System Design Capacity (in MGD):	☐		
Total Length of Pipe in System (in Feet):	☐		
Source Water Type (Ground, Surface/GWUDI, etc.):	Check All That Apply:	☐ Ground ☐ Purchased Ground	☐ Surface/GWUDI ☐ Purchased Surface/GWUDI
Ownership Type:	Check All That Apply:	☐ Public ☐ Federal Government	☐ Investor-Owned or Private Non-Profit

State Use Only

State Reviewer: _____   Telephone Number: _____

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

EPA Form 6100-01

Draft September 2014

Project Table

Federal PWSID No.:   0

Project Number	Project Name	Type of Need	Reason for Need	N,E,R,H	C or F	Regula-tion	Design Capacity	Diameter	Length	Number Needed	Cost Estimate	Cost Date	Documen-tation	Remove Modify or Validate		Comment Codes

Summary of Survey-Generated and Independent Documentation for Each Project   Federal PWSID No.:   0

Project Number	Project Name	Documen-tation Code(s)	State/System Survey-Generated Statement	Independent Document Name	Independent Documentation Page Number(s)

Source, Treatment, Storage, and Pumping Inventory

To ensure all potential source, treatment, and storage 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, and pumps.
- **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? ☐ Yes ☐ No
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):	If yes, how many additional sources are necessary?
	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:			Does your system have additional treatment needs for provisions of additional public health protection or for aesthetic concerns?
Disinfection (including booster disinfection):	Disinfection:	Disinfection:	
Filtration:	Filtration:	Filtration:	☐ Yes ☐ No
Chemical removal or addition:	Chemical treatment:	Chemical treatment:	If yes, how much additional treatment is necessary?

Storage and Pump Stations			
Inventory	**Needing Replacement**	**Needing Rehabilitation**	**New Infrastructure Needs**
Total Number and Capacity of Existing Storage Tanks:	Number of Existing Elevated or Ground-Level 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? ☐ Yes ☐ No
Total Number and Capacity of Existing Booster Pump Stations:	Number of Existing Booster Pump Stations:	Number of Existing Booster Pump Stations:	If yes, how much additional finished water storage or booster pumping capacity is necessary?

Transmission and Distribution Inventory

Transmission and distribution projects are the piping needs of a water system. Projects for **valves, backflow prevention devices and assemblies, and meters** that are not part of a transmission or distribution project listed in this table should be recorded in the table under the tab titled "Inventory Table 3".

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).	☐ feet ☐ miles **Total Pipe in System** (Check feet or miles)

Total Pipe in System (Check feet or miles)		<=6 inch	8-12 inch	15-42 inch	>=48 inch
Plastic _____ ☐ feet ☐ miles % of total _____ pipe	Amount of PVC by pipe size % of this category/size pipe currently in poor condition or beyond useful life	_____ ☐ feet ☐ miles _____ %	_____ ☐ feet ☐ miles _____ %	_____ ☐ feet ☐ miles _____ %	_____ ☐ feet ☐ miles _____ %
Ductile Iron _____ ☐ feet ☐ miles % of total _____ pipe	Amount of ductile iron by pipe size % of this category/size pipe currently in poor condition or beyond useful life	_____ ☐ feet ☐ miles _____ %	_____ ☐ feet ☐ miles _____ %	_____ ☐ feet ☐ miles _____ %	_____ ☐ feet ☐ miles _____ %
Cast Iron _____ ☐ feet ☐ miles % of total _____ pipe	Amount of cast iron by pipe size % of this category/size pipe currently in poor condition or beyond useful life	_____ ☐ feet ☐ miles _____ %	_____ ☐ feet ☐ miles _____ %	_____ ☐ feet ☐ miles _____ %	_____ ☐ feet ☐ miles _____ %
Asbestos Cement _____ ☐ feet ☐ miles % of total _____ pipe	Amount of asbestos cement by pipe size % of this category/size pipe currently in poor condition or beyond useful life	_____ ☐ feet ☐ miles _____ %	_____ ☐ feet ☐ miles _____ %	_____ ☐ feet ☐ miles _____ %	_____ ☐ feet ☐ miles _____ %
Other _____ ☐ feet ☐ miles % of total _____ pipe	Amount of other by pipe size % of other currently in poor condition or beyond useful life	_____ ☐ feet ☐ miles _____ %	_____ ☐ feet ☐ miles _____ %	_____ ☐ feet ☐ miles _____ %	_____ ☐ feet ☐ miles _____ %

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

Projects for meters, service lines, backflow prevention devices and assemblies, valves, 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 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.

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

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 Valves:	Number of Valves:	Number of Valves:
Total Number of Lead Service Lines:		

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:	_____	Telephone Number:	_____
Name (please print):	_____	Fax Number:	_____
Title:	_____	E-mail Address:	_____
Mailing Address:	_____	Best Time to Reach You:	_____
(Street Address)	_____		
	_____		

If you have any questions, contact your state coordinator.

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

☐ Identify, by project number, available documentation for all needs and costs reported?

☐ Email the questionnaire and email or mail the documentation to your state?

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Appendix C. Comment Codes

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	Code	Comments for States — Printed Comments	2015 Website Status Code
Overall Questionnaire	80	System reported as inactive.	Info
	82	System reported as a federal facility. It will not be included in the 2015 Needs Survey.	Info
	84	System reported as inactive due to consolidation with another system.	Info
	86	System reported as a noncommunity water system.	Info
	88	System consolidating with another system after Jan. 1, 2015	Info
	90	System reported no needs.	Info
	92	System not participating.	Info
	94	System needs reported with another system.	Info
	96	System should not have been selected - will be removed from database.	Info
	98	Correction made to system information (name, address, ownership, population, connections, capacity or source)	Info
Allowability		**Allowability**	
Allowability	100	Project accepted as submitted with no changes.	ACC
	110	Project is recorded as unallowable (general).	Del
	112	*Portion* of project is recorded as unallowable (general).	Acost
	114	Project is recorded as unallowable because it appears that a substantial portion is for future growth.	Del
	116	*Portion* of project is recorded as unallowable because it appears that a substantial portion is for future growth.	Acost
	118	Project is recorded as unallowable because it appears that a substantial portion is for fire protection.	Del
	120	*Portion* of project is recorded as unallowable because it appears that a substantial portion is for fire protection.	Acost
	122	Project is recorded as unallowable because it appears that construction had begun or funds were expended by 1/1/15 or is scheduled after 12/31/34.	Del
	124	*Portion of project is recorded as unallowable because it appears that construction had begun or funds were expended by 1/1/15 or is scheduled after 12/31/34.*	Acost
	126	Project is recorded as unallowable because it appears to be solely for O&M.	Del
	128	*Portion* of project is recorded as unallowable because it appears to be solely for O&M.	Acost
	130	Project is recorded as unallowable because it appears to be solely for obtaining water rights.	Del
	132	*Portion* of project is recorded as unallowable because it appears to be solely for obtaining water rights.	Acost
	134	Project is recorded as unallowable because it appears to be solely for land acquisition.	Del
	136	*Portion* of project is recorded as unallowable because it appears to be solely for land acquisition.	Acost
	138	Project is recorded as unallowable because it appears to be solely for conducting studies.	Del
	140	*Portion* of project is recorded as unallowable because it appears to be solely for conducting studies.	Acost
	142	Project is recorded as unallowable because it appears to be solely for demolition of abandoned facilities.	Del
	144	*Portion* of project is recorded as unallowable because it appears to be solely for demolition of abandoned facilities.	Acost
	146	Project is recorded as unallowable because it appears to be solely for improving appearances.	Del

Allowability	148	*Portion* of project is recorded as unallowable because it appears to be solely for improving appearances.	Acost
	150	Project is recorded as unallowable because it appears to be solely for interest payments or legal fees.	Del
	152	*Portion* of project is recorded as unallowable because it appears to be solely for interest payments or legal fees.	Acost
	154	Project is recorded as unallowable because it appears that more than one project meets the same need.	Del
	156	*Portion* of project is recorded as unallowable because it appears that more than one project meets the same need.	Acost
	158	Project is recorded as unallowable because it appears to be solely for acquisition of infrastructure.	Del
	160	*Portion* of project is recorded as unallowable because it appears to be solely for acquisition of infrastructure.	Acost
	162	Project is recorded as unallowable because infrastructure can only be addressed once in the 20-year survey period.	Del
	164	*Portion* of project is recorded as unallowable because infrastructure can only be addressed once in the 20-year survey period.	Acost
	166	Project is recorded as unallowable because it appears to be a non-capital infrastructure need.	Del
	168	*Portion* of project is recorded as unallowable because it appears to be a non-capital infrastructure need.	Acost
	170	Project is recorded as unallowable because documentation did not indicate that existing homes to be connected currently have an inadequate supply.	Del
	172	*Portion* of project is recorded as unallowable because documentation did not indicate that existing homes to be connected currently have an inadequate supply.	Acost
	174	Project appears to be a need for source water protection.	Del
	176	Project is recorded as a raw water reservoir or dam-related need.	Del
	180	Project is recorded as unallowable because it appears to not be the responsibility of the PWS.	Del
	182	*Portion* of Project is recorded as unallowable because it appears to not be the responsibility of the PWS.	Acost
	184	Project is deleted because it is driven solely by a non-water-related issue such as highway relocation	Del
	186	*Portion of* project is deleted because it is driven solely by a non-water-related issue such as highway relocation	ACost
	188	Project is deleted because all pipe projects exceed 0.5% per year. Documented only with survey-generated documentation.	Del
	190	*Portion* of project is deleted because all pipe projects exceed 0.5% per year. Documented only with survey-generated documentation.	ACost
	192	Project deleted because no total pipe amount reported for system. Documented only with survey-generated documentation. Cannot determine if pipe project exceeds 10% of pipe in the system over 20 years.	Del
	194	*Portion* of project deleted because no total pipe amount reported for system. Documented only with survey-generated documentation. Cannot determine if pipe project exceeds 10% of pipe in the system over 20 years.	ACost

		Documentation	
		Documentation	
Documentation	200	Project is deleted because of inadequate documentation of need (general).	Del
	202	*Portion* of project is deleted because of inadequate documentation of need (general).	Acost
	204	Project is deleted because documentation is over 4 years old and no validation statement provided indicating construction has not started, scope has not changed, and project is still needed.	Del
	206	*Portion* of project is deleted because documentation is over 4 years old and no validation statement provided indicating construction has not started, scope has not changed, and project is still needed.	Acost
	208	Project is deleted because of inadequate documentation of need (no signature or date).	Del
	210	*Portion* of project is deleted because of inadequate documentation of need (no signature or date).	Acost
	212	Project is deleted because independent documentation required, but none submitted.	Del
	214	*Portion* of project is deleted because independent documentation required, but none submitted.	Acost
	216	Project is deleted because weight of evidence not met.	Del
	218	*Portion* of project is deleted because weight of evidence not met.	Acost
	220	Project is deleted because of inadequate documentation of feasibility	Del
	222	*Portion* of project is deleted because of inadequate documentation of feasibility	Acost
	224	Project is deleted because of inadequate documentation of commitment	Del
	226	*Portion* of project is deleted because of inadequate documentation of commitment	Acost
	228	Project is deleted because of inadequate documentation of commitment (early planning stages)	Del
	230	*Portion* of project is deleted because of inadequate documentation of commitment (early planning stages)	Acost
	232	Project is deleted because of inadequate documentation of commitment (drought)	Del
	234	*Portion* of project is deleted because of inadequate documentation of commitment (drought)	Acost
	236	Project is deleted because of inadequate documentation of commitment (redundancy)	Del
	238	*Portion* of project is deleted because of inadequate documentation of commitment (redundancy)	Acost
	244	*Portion* of project is deleted because weight of evidence not met. Project amended to include allowable portion or alternate project.	Acost
		Included Elsewhere	
Included Elsewhere	246	Project is deleted because it is reported on another system's questionnaire.	Del
	248	*Portion* of project is deleted because it is reported on another system's questionnaire.	Acost
	250	Project is deleted because it appears to be included in another project based on the documentation.	Del
	252	*Portion* of project is deleted because it appears to be included in another project based on the documentation.	Acost
	254	Project is deleted because it is now lumped with another project.	Del
	256	*Portion* of project is deleted because it is now lumped with another project.	Acost
	258	Project is deleted because this type of need is allocated to another system due to the consolidation of systems.	Del
	260	*Portion* of project is deleted because this type of need is allocated to another system due to the consolidation of systems.	Acost
	262	Project was deleted because it will be included in the cost modeling of another type of need.	Del
	264	*Portion* of project was deleted because it will be included in the cost modeling of another type of need.	Acost

	266	Project is deleted because it appears the interconnection will be a shared cost with the other system(s).	Del
	268	*Portion* of project is deleted because it appears the interconnection will be a shared cost with the other system(s).	Acost
	Unlumping		
Unlumping	272	Project was unlumped to capture cost information for modeling parameters.	Info
	274	Project was unlumped to allocate costs to type of need (T&D, Storage, etc.).	Info
	276	Project was unlumped to allocate costs by regulation.	Info
	278	Project was unlumped so project costs can be modeled.	Info
	280	Project was created by unlumping another project.	Info
	282	Project was unlumped to separate components (general).	Info
	284	Project is deleted because it is now unlumped into other projects.	Del
	Lumping		
Lumping	288	Project was lumped (now includes other projects) (general).	Info
	290	Project was lumped (now includes other projects) to allow use of cost data.	Info
	292	When modeling costs, this project will include other projects.	Info
	Project Cost		
Project Cost	296	Cost will be included as documented or modeled as documented.	Cost
	298	Project cost will not be included unless additional documentation of total cost or modeling parameters are provided (no cost or design capacity).	Ncost
	300	Project cost will not be included unless additional documentation of total cost or modeling parameters are provided (no date for cost estimate and no modeling parameters).	Ncost
	302	Project cost will not be included unless additional documentation of total cost or modeling parameters are provided (cost estimate is over 10 years old and no modeling parameters).	Ncost
	304	Project cost will not be included unless additional documentation of total cost is provided (EPA cannot model this cost).	Ncost
	306	Project cost will not be included unless additional documentation of total cost or modeling parameters is provided. Project is unlumped to list components.	Ncost
	308	Reported project cost will not be used because of lack of documentation or date of documentation, but costs can be modeled. No additional documentation is needed.	Acost
	310	Project costs for future regulations are modeled based on data from Regulatory Impact Analyses and applied to all community water systems.	Del
	312	*Portion* of project cost will not be included because cost documentation does not support reported cost.	Acost
	314	Project cost will not be included unless additional documentation of total cost is provided (costs deleted and EPA cannot model cost.)	Ncost
	316	Project cost will not be included unless additional documentation of total cost or modeling parameters is provided (costs deleted and no parameters were provided.)	Ncost

		Changes to Match Documentation	
	320	Information changed to match documentation may also affect modeled costs.	Acost
	322	Information changed to match documentation (general).	Info
	324	Documentation type changed to match documentation.	Info
	326	Type of need changed to match documentation.	Info
	328	Description of project (new or rehab) changed to match documentation.	Info
	330	Description of project (current or future need) changed to match documentation.	Info
	332	Regulation or secondary purpose changed to match documentation.	Info
Changes to Match Documentation	334	Reason for Need changed to match documentation.	Info
	336	Cost estimate changed to match documentation.	Acost
	338	Date of cost estimate changed to match documentation.	Info
	340	Design Capacity or Modeling parameter data changed to match documentation.	Acost
	342	No documented cost or modeling parameters given; modeling parameters estimated based on documentation.	Acost
	344	Modeling parameters given as a range; the lower number was recorded.	Acost
	346	Changes made to the project impact the project's cost. (use only if no more specific code applies)	Acost
	348	Modeling parameters changed or deleted; EPA will use cost provided.	Info
	350	Type of Need Changed - Treatment technology changed to the Best Available Technology for the contaminant of concern.	Acost
		Revised Documentation	
	400	Project is now included based on additional/revised documentation.	ACC
	402	*Portion* of project is now included based on additional/revised documentation.	Acost
	404	Project cost or modeling information is now included based on additional/revised documentation.	Cost
	406	Information changed to match additional/revised documentation.	Info
	408	Cost estimate changed to match additional/revised documentation.	Acost
	410	This project was added based on additional/revised documentation provided with this water system survey.	Info
Revised Documentation/Modification	412	Additional/revised documentation did not clarify that project is allowable.	Info
	414	Additional/revised documentation did not provide acceptable cost data or modeling parameters.	Info
	416	Review of additional/revised documentation did not seem to support a revision to data.	Info
	420	This issue which was affecting the allowability of this project has now been corrected and cleared. However there may be other issues affecting the allowability of this project. (Pair with another Del code - not a lump code)	ACC
	425	This issue which was affecting the allowability of this project has now been corrected and cleared. However there may be other issues affecting the cost of this project. (Pair with a Ncost or Acost code)	ACC
	430	This issue which was affecting the cost or modeling of this project has now been corrected and cleared. However there may be other issues affect the cost or modeling of this project. (Pair with a Ncost or Acost code.)	Cost
	444	The disallowed portion of this project has now been allowed based on revised documentation.	Cost

500	Modification message constituted a question, no reply available.	Info
502	Modification message constituted a comment, no reply needed.	Info
504	Modification has no substantial impact to project.	Info
510	The modification to this project included additional information that constituted a new project. The new project information will not be added because the deadline for new projects has passed.	Info
512	The modification submitted for this project was submitted past the deadline for new modifications. As a result, no changes will be made to this project.	Info
514	Modification has already been considered for this project. No further modifications will be accepted.	Info
604	Project cost or modeling parameters now changed based on modification of another project (will be paired with 298, 304, 306, 308, 314, 316, 336, 340, 342, 348)	Info
606	Project information now changed based on modification of another project (will probably be paired with 322, 324, 326, 328, 330, 332, 334, 338)	Info
608	Cost estimate now deleted based on modification of another project (will probably be paired with 298, 304, 308)	Info
612	Project is now deleted based on modification of another project (will be paired with a Del code)	Info
700	A correction was made to the project after the data entry period closed. See accompanying code for more details.	Info