

Attach Address Label

U.S. ENVIRONMENTAL PROTECTION AGENCY
WATER TREATMENT PLANT
QUESTIONNAIRE



Form Approved
OMB Control No. 2040-0269
Approval Expires 10/31/2009

The public reporting and recordkeeping burden for this collection of information is estimated to average 11.5 hours per response. Burden means the total time, effort, or financial resources expended by persons to generate, maintain, retain, or disclose or provide information to or for a Federal agency. This estimate includes the time needed to review instructions, develop, acquire, install, and utilize technology and systems for the purposes of collecting, validating, and verifying information, processing and maintaining information, and disclosing and providing information; adjust the existing ways to comply with any previously applicable instructions and requirements; train personnel to be able to respond to a collection of information; search data sources; complete and review the collection of information; and transmit or otherwise disclose information. An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number.

To comment on the Agency's need for this information, the accuracy of the provided burden estimates, and any suggested methods for minimizing respondent burden, including the use of automated collection techniques, EPA has established a public docket for this ICR under Docket ID No. EPA-HQ-OW-2004-0035, which is available for public viewing at the Water Docket in the EPA Docket Center (EPA/DC), EPA West, Room 3334, 1301 Constitution Ave., NW, Washington, DC 20004. The EPA Docket Center Public Reading Room is open from 8:30 a.m. to 4:30 p.m., Monday through Friday, excluding legal holidays. The telephone number for the Reading Room is (202) 566-1744, and the telephone number for the Water Docket is (202) 566-2426. An electronic version of the public docket is available through the Federal Docket Management System (FDMS) at <http://www.regulations.gov>. Use FDMS to submit or view public comments, access the index listing of the contents of the public docket, and access those documents in the public docket that are available electronically. Once in the system, select "search", then key in the docket ID number identified above. Also, you can send comments to the Office of Information and Regulatory Affairs, Office of Management and Budget, 725 17th Street, NW, Washington, DC 20503, Attention: Desk Office for EPA. Please include the EPA Docket ID No. (EPA-HQ-OW-2004-0035) and OMB control number (2040-0269) in any correspondence.

Survey ID: _____

INTRODUCTION

The U.S. Environmental Protection Agency (EPA) is conducting a survey of water treatment plants as part of its effort to evaluate the need for national effluent guidelines regulations for the drinking water treatment point source category. This survey requests information on water treatment plants operating during the 2006 calendar year.

This survey is conducted under the authority of Section 308 of the Clean Water Act (Federal Water Pollution Control Act, 33 U.S.C. Section 1318). **All water treatment systems that receive this survey must respond to it within 45 days** of receiving it. Failure to respond may result in criminal fines, civil penalties, and other sanctions, as provided by law.

This survey is being mailed to a representative number of systems that serve populations greater than 10,000. Since many water treatment systems consist of multiple water treatment plants, EPA is requesting that each system complete a portion of this survey for each of its water treatment plants that generated residuals and served a population of 10,000 or greater in 2006.

EPA will use the technical data collected in this survey to determine rates and characteristics of residuals generation and residuals management and treatment options at water treatment plants. EPA will use this data to evaluate incremental costs and benefits associated with different regulatory options for the effluents identified in the rulemaking. EPA will use the financial information collected to perform an economic achievability analysis. For detailed information on how EPA plans to use the data obtained from each of the questions, see the document titled "Questionnaire Supporting Statement" at <http://www.epa.gov/waterscience/guide/dw>. You can also learn more about the rulemaking, generally, at the same EPA webpage.

WHEN TO RETURN THE SURVEY

The response to this survey is due 45 days after receiving it.

If you wish to request an extension, you must do so **in writing** within 30 days of receipt of this survey. Written requests may be e-mailed to Mr. M. Ahmar Siddiqui at Siddiqui.Ahmar@epa.gov or may be mailed to:

United States Postal Service
Mr. M. Ahmar Siddiqui
U.S. Environmental Protection Agency
Engineering and Analysis Division (4303T)
1200 Pennsylvania Avenue, NW
Washington, DC 20460

One- or Two-Day Delivery (e.g., FedEx)
Mr. M. Ahmar Siddiqui
U.S. Environmental Protection Agency
Engineering and Analysis Division
Room 6231S, EPA West
1301 Constitution Avenue, NW
Washington, DC 20004

Extension requests will be evaluated on a case-by-case basis. Submittal of an extension request to EPA does **not** alter the due date of your survey unless and until EPA agrees to the extension and establishes a new date.

WHERE TO RETURN THE SURVEY

After completing the survey and certifying the information that it contains, use the enclosed mailing label to mail the completed survey to:

U.S. Environmental Protection Agency
Water Treatment Survey
c/o Eastern Research Group, Inc.
14555 Avion Parkway, Suite 200
Chantilly, VA 20151

CONSIDERATIONS WHEN COMPLETING THE QUESTIONNAIRE

Review Quick Start Guide. This survey is being provided to you in an electronic format. Please review the "Quick Start Guide" for completing the survey. An electronic version of the survey is available on the EPA website at <http://www.epa.gov/waterscience/guide/dw>. Please prepare your survey responses using the provided electronic survey. A hardcopy submittal should only be made if you are unable to complete the electronic survey.

Read all question-specific instructions and definitions of key terms. Please carefully read any instructions for specific questions and the definitions of key terms (found on page 26), paying careful attention to the distinction made between systems and utilities.

Enter the Survey ID on ALL Pages. Indicate the Survey ID in the bottom righthand corner of each page. The Survey ID is your 9 character Public Water System Identification Number (PWSID). If your utility has more than one PWSID, please complete the survey for the system identified by the PWSID listed in the survey cover letter. Other PWSIDs should be entered on the "Comments on Survey Questions" table on page 25.

Enter the WT Plant ID on the tops of pages 4 to 18. Questions 2 and 3 on pages 4 to 18 of this survey pertain to individual water treatment plants in your system. Please photocopy pages 4 to 18 and complete these pages for each plant that generated residuals and served a population greater than 10,000 people in 2006. Indicate the water treatment plant (WTP)ID in the upper lefthand corner of each page. The WTP ID is the system's Survey ID, followed by a unique letter for each plant starting with the letter A. For example, the WTP IDs for two water treatment plants owned by a system with a Survey ID of AK1000000 would be AK1000000A and AK1000000B.

Mark responses for each question. Fill in the appropriate response(s) to each question. Please use **black ink** or **type** in the spaces provided. Answer the questions in sequence unless you are directed to SKIP. Do not leave any entry blank. If the answer is zero, write "0" or "zero". If a question is not applicable to your facility, write "NA." If necessary, use the "Comments on Survey Questions" table on page 25 to provide information you think is relevant to the rulemaking but not requested by a specific question.

Include any clarifying attachments. If additional attachments are required to clarify a response, please place the associated question number, the water treatment plant ID, and the Survey ID in the top right corner of each page of the attachments. The following are examples of items that may be included as attachments to this survey: water treatment plant brochure, pamphlet, general description; piping and residuals/wastewater treatment flow diagrams; and hard copy summaries of analytical data collected from monitoring locations.

Provide best estimates when data are not available. EPA intends that responses to all questions be based upon **available** data and information. Please provide best estimates when exact data are not available. *You are not required to perform new or non-routine tests or measurements solely for the purpose of responding to this survey.*

Indicate information that should be treated as confidential. You may claim as confidential all information included in the response to a question by checking the Confidential Business Information (CBI) box next to the question number. See the CONFIDENTIAL BUSINESS INFORMATION section on page iv.

Certification. After completion of this survey, a responsible official or an authorized representative must sign the certification statement on page v. The corporate official or designee responsible for directing or supervising the response to the survey, for the water treatment system, must sign one of the Certification Statements on page v to either (1) verify and validate the information provided, or (2) certify that the system did not perform water treatment operations during the 2006 calendar year.

Questions? If you have any questions regarding the completion of this survey, see the SURVEY ASSISTANCE section on page iii for the e-mail and website addresses. See the WHEN TO RETURN THE SURVEY and WHERE TO RETURN THE SURVEY sections on page i for submission instructions. For terminology questions, see the DEFINITION OF KEY TERMS section starting on page 26.

BE SURE TO RETAIN A COPY OF THE COMPLETED SURVEY FOR YOUR RECORDS.

SURVEY ASSISTANCE

For help in completing this survey, please use the following information resources:

<u>EPA WATER TREATMENT SURVEY E-MAIL ADDRESSES AND WEBSITE</u>	
Information:	
E-mail address for general and technical questions	WTSurvey@erg.com
E-mail address for financial questions	wtsurvey_econsupport@abtassoc.com
Website	http://www.epa.gov/waterscience/guide/dw

HOW TO COMPLETE THE SURVEY

The purpose of this survey is to gather both operational and financial information on drinking water systems. To ensure that the type of information provided by respondents is consistent across systems, EPA is making a distinction between drinking water systems and utilities. For the purpose of this survey effort EPA is using the following definitions.

System - One or more water treatment facilities that produce and deliver finished water to the same customer base over a single distribution network.

Utility - The public or private entity managing the business aspects of the production and distribution of finished water from one or more water treatment systems (e.g., billing customers for water service, paying utility employees and third-party vendors for services and products provided to the utility, paying servicing fees for any outstanding debts).

For many survey recipients, this distinction is not important because the utility manages only a single system. However, to conduct a thorough and accurate economic achievability analysis, EPA needs to know how the utility might distribute costs incurred at a particular facility. This requires a clear understanding of the relationship between the utility responding to the survey and the system identified by the PWSID listed in the survey cover letter. Most survey recipients will likely be a utility managing a single system that can be identified by the PWSID listed in the cover letter. However, EPA realizes that there may be cases where this basic relationship does not directly apply. In these cases, EPA asks respondents to please use the Comments Table on page 25 to clarify the relationship between the utility and the system identified by the PWSID listed in the cover letter.

Some utilities receiving the survey may manage multiple systems or may have recently merged two previously separate systems. If there is more than one PWSID associated with your utility, complete the survey information for only the system identified by the PWSID listed in the cover letter and use the Comments Table on page 25 to list the other PWSIDs. If for any reason the PWSID listed in the cover letter is not the most appropriate one for identifying the system managed by your utility, please indicate what the most appropriate PWSID for your system is in the Comments Table on page 25 and complete the survey for your system.

Some utilities may combine costs from multiple systems and distribute these costs across their combined customer base, making it difficult to provide financial information for a single system. If this is the case for your utility, please use the Comments Table on page 25 to list the PWSIDs for all systems covered by the financial information that you are providing.

If your utility is one of multiple utilities owned and/or managed by a parent entity, such as a private corporation or regional authority, please use the Comments Table on page 25 to provide the name and contact information for the parent entity and a brief description of your utility's relation to this entity.

CONFIDENTIAL BUSINESS INFORMATION

If no business confidentiality claim accompanies the information when it is received by EPA, EPA may make the information available to the public without further notice.

Regulations governing the confidentiality of business information are contained in the Code of Federal Regulations (CFR) at Title 40 Part 2, Subpart B. You may assert a business confidentiality claim covering part or all of the information you submit, other than: (1) effluent data; and (2) information or data that is otherwise publicly available, as described in 40 CFR 2.203(b):

“(b) Method and time of asserting business confidentiality claim. A business which is submitting information to EPA may assert a business confidentiality claim covering the information by placing on (or attaching to) the information, at the time it is submitted to EPA, a cover sheet, stamped or typed legend, or other suitable form of notice complying language such as ‘trade secret,’ ‘proprietary,’ or ‘company confidential.’ Allegedly confidential portions of otherwise nonconfidential documents should be clearly identified by the business, and may be submitted separately to facilitate identification and handling by EPA. If the business desires confidential treatment only until a certain date or until the occurrence of a certain event, the notice should so state.”

You may claim as confidential all information included in the response to a question by checking the Confidential Business Information (CBI) box next to the question number. This includes information for which public disclosure may present security concerns, e.g., make difficult the protection of your drinking water supplies from terrorism. Note that you may be required to justify any claim of confidentiality at a later time. Note also that water treatment plant effluent data are not eligible for confidential treatment, pursuant to Section 308(b) of the Clean Water Act, and thus will be treated as non-confidential even if the CBI box is checked. In addition, information that is publicly-available should not be claimed confidential. Note also that information claimed confidential cannot be accessed or used by the industry to evaluate data and analyses supporting the national effluent guidelines regulations.

Information covered by a claim of confidentiality will be disclosed by EPA only to the extent of, and by means of, the procedures set forth in 40 CFR Part 2, Subpart B. In general, submitted information protected by a business confidentiality claim may be disclosed to other employees, officers, or authorized representatives of the United States concerned with implementing the Clean Water Act.

Information covered by a claim of confidentiality will be made available to EPA contractors to enable the contractors to perform the work required by their contracts with EPA. All EPA contracts provide that contractor employees use the information only for the purpose of performing the work required by their contracts and will not disclose any CBI to anyone other than EPA without prior written approval from each affected business or from EPA's legal office.

CERTIFICATION STATEMENT

The individual responsible for directing or supervising the preparation of the survey must read and sign the Certification Statement listed below. The certifying official must be a responsible official or an authorized representative.

Check (✓) Certification Statement #1 if the water treatment plant(s) in this system performed water treatment operations during the 2006 calendar year and the system has completed the survey.

Check (✓) Certification Statement #2 if all water treatment plants in this system did not perform water treatment operations during the 2006 calendar year. If you check this box, do not use the eSurvey.

Respondents completing the survey electronically must print, review, sign, and return the Survey Certification Report generated by the eSurvey. Do not use this Certification Statement.

Sign the bottom of this Certification Statement page after checking the appropriate certification statement.

Certification Statement #1

I certify under penalty of law that the attached survey was prepared under my direction or supervision in accordance with an approach designed to assure that qualified personnel properly gathered and evaluated the information submitted. The information submitted is, to the best of my knowledge and belief, accurate and complete. In those cases where we did not possess the requested information, we provided best estimates. We have to the best of our ability indicated what we believe to be company confidential business information as defined under 40 CFR Part 2, Subpart B. We understand that we may be required at a later time to justify our claim in detail with respect to each item claimed confidential. I am aware that there are significant penalties for submitting false information, including the possibility of fines and imprisonment as explained in Section 308 of the Clean Water Act.

Certification Statement #2

I certify under penalty of law that this system did not perform water treatment operations during the 2006 calendar year. I am aware that there are significant penalties for submitting false information, including the possibility of fines and imprisonment as explained in Section 308 of the Clean Water Act.

Signature of Certifying Official

Date

Printed Name of Certifying Official

()

Telephone Number

Title of Certifying Official

Water Treatment Utility Name

TECHNICAL INFORMATION

- 1.a.** Please print your utility name, mailing address, and your system's Public Water System Identification Number (PWSID). Please note that the PWSID is your Survey ID which should be entered in the bottom righthand corner of each page of your survey response. If there is more than one PWSID associated with your utility, complete the survey information for only the system identified by the PWSID listed in the cover letter and use the Comments Table on page 25 to list the other PWSIDs. If for any reason the PWSID listed in the cover letter is not the most appropriate one for identifying the system managed by your utility, please indicate what the most appropriate PWSID for your system is in the Comments Table on page 25 and complete the survey for your system.

Utility Name

Street Address or Post Office Box

City

State

Zip Code

PWSID

- 1.b.** Provide the following information for the primary contact at the utility for the technical information supplied in this questionnaire:

Primary Contact Name

(_____) _____
Telephone Number

Title

(_____) _____
Fax Number

E-mail Address

Convenient time to call:
between ___ am/pm and ___ am/pm
(Eastern Time)

Street Address or Post Office Box

City

State

Zip Code

CBI?
 Yes

1.c. Did any of the water treatment plants in your system generate residuals in 2006? *Residuals refer to the solid, liquid, or mixed solid/liquid materials generated during water treatment. Examples of residuals include: sludges and wastewaters generated from pre-sedimentation, coagulation, flocculation, sedimentation, clarification, precipitative softening, and filter backwash operations; membrane reject wastewaters; ion exchange resins and brine wastewaters; activated carbon wastes; and other miscellaneous residuals. For the purposes of this survey, non-contact stormwater is not considered a residual.*

Yes

No **(If you answered “No” to this question, you do not need to complete the remainder of the questions in this survey. Complete and sign Certification Statement #1 on page v and return this survey and the signed certification statement to the return address on page i.)**

CBI?
 Yes

1.d. Did any of the water treatment plants in your system serve a population greater than 10,000 people in 2006? *To estimate the population served by each water treatment plant (here and Question 2.b), use the total population served by the system and multiply by the production of the water treatment plant as a percentage of the total production of the system. For example, a system serves a population of 100,000 and owns two water treatment plants with annual average production volumes of 25 MGD and 5 MGD, respectively. The larger plant produces 83 percent of the system’s total annual average production volume (25 MGD/30 MGD) and the smaller plant produces 17 percent (5 MGD/30 MGD). Thus, the population served by the larger plant is 83,000 (100,000 persons x 83%) and the population served by the smaller plant is 17,000 (100,000 persons x 17%). Note that both estimates are rounded to the nearest 1,000 persons and sum to the total population served by the system.*

Yes

No **(If you answered “No” to this question, you do not need to complete the remainder of the questions in this survey. Complete and sign Certification Statement #1 on page v and return this survey and the signed certification statement to the return address on page i.)**

CBI?
 Yes

1.e. Was your water treatment system classified as a community water system in 2006? *A community water system is defined as a system that is connected to at least 15 year-round residences or serves at least 25 persons in a residential setting on a year-round basis.*

Yes

No **(If you answered “No” to this question, you do not need to complete the remainder of the questions in this survey. Complete and sign Certification Statement #1 on page v and return this survey and the signed certification statement to the return address on page i.)**

CBI?
 Yes

1.f. Has your system conducted or participated in any monitoring or other studies to assess the potential impact of discharges from your water treatment plant(s) to receiving waters or other locations? *For example, a Total Maximum Daily Load (TMDL) analysis, an environmental impact (e.g., a fish kill, residuals accumulation in sediments) analysis, or an analysis of the potential of water treatment residuals discharges to negatively affect POTW operations.*

- Yes *(Please provide an appropriate point of contact for additional information below. If the point of contact is the same as that listed in Question 1.b, you do not need to fill out this information again.)*
- No

_____ (_____) _____
Contact Name Telephone Number

_____ (_____) _____
Title Fax Number

E-mail Address

Street Address or Post Office Box

Convenient time to call:
between ___ am/pm and ___ am/pm
(Eastern Time)

_____ - _____
City State Zip Code

WTP ID _____

Questions 2 and 3 on pages 4 to 18 of this survey pertain to individual water treatment plants in your system. Please photocopy pages 4 to 18 **and complete these pages for each plant that generated residuals and served a population greater than 10,000 people in 2006**. Indicate the water treatment plant (WTP) ID in the upper lefthand corner of each page. The WTP ID is the system's Survey ID, followed by a unique letter for each plant starting with the letter A. For example, the WTP IDs for two water treatment plants owned by a system with a Survey ID of AK1000000 would be AK1000000A and AK1000000B.

Reminder: Please enter your PWSID in the bottom righthand corner of each page of your survey response.

- CBI?**
 Yes **2.a.** Please print the name and address of the water treatment plant.

Plant Name

Street Address or Post Office Box

City

State

Zip Code

- CBI?**
 Yes **2.b.** Please indicate the number people served by the water treatment plant in 2006. *Report your estimate to the nearest thousand (e.g., round 21,854 people served to 22,000). If you do not have this data readily available, see the instructions and example in Question 1.d on page 2 to learn how to estimate the population served by your water treatment plant.*

_____, _____, 0 0 0 people

- CBI?**
 Yes **2.c.** Please indicate the total amount of **finished** water produced at the water treatment plant in 2006. *Report your estimate to the nearest million gallons (e.g., round 6,432,100 gallons produced to 6,000,000).*

_____, _____, _____, 0 0 0, 0 0 0 gallons of finished water produced in 2006

Number of days in operation in 2006:

365 days

_____ days

- CBI?**
 Yes **2.d.i.** Please indicate the year that this plant was first built (e.g., 1956).

Year

- CBI?**
 Yes **2.d.ii.** Please indicate the year of the last treatment upgrade or significant expansion of water treatment operations at this plant. *A significant expansion is one that increases capacity by 50% or more.*

Year

WTP ID _____

CBI?
 Yes

2.e. Please describe the type(s) of water used as the drinking water source in 2006.

Type of Source Water	Percentage of Total Source Water
Surface Water	
Ground Water	
Purchased Water	
Other (specify): _____	
Total	100 %

CBI?
 Yes

2.f. Please indicate (✓) the type(s) of water treatment operations performed at the plant in 2006 and the primary type(s) and amount(s), including units, of chemicals added to the water during treatment (if applicable) in 2006. *If, for example, your usage of a particular chemical in 2006 was 20 tons, write "20" in the Amount cell and check "tons" in the Units cell. Note that the table continues onto the next two pages. Note also that 1 ton = 2,000 lbs (pounds).*

Type of Water Treatment Operations	Chemical Usage in 2006	
<input type="checkbox"/> Conventional Filtration (i.e., coagulation, flocculation)	Average Amount Per Day (number, e.g., 20)	Units
<input type="checkbox"/> Aluminum sulfate (alum, $Al_2(SO_4)_3$)		<input type="checkbox"/> tons <input type="checkbox"/> lbs
<input type="checkbox"/> Aluminum chloride ($AlCl_3$)		<input type="checkbox"/> tons <input type="checkbox"/> lbs
<input type="checkbox"/> Aluminum chlorohydrate		<input type="checkbox"/> tons <input type="checkbox"/> lbs
<input type="checkbox"/> Sodium aluminate ($Na_2Al_2O_4$)		<input type="checkbox"/> tons <input type="checkbox"/> lbs
<input type="checkbox"/> Ferric chloride ($FeCl_3$)		<input type="checkbox"/> tons <input type="checkbox"/> lbs
<input type="checkbox"/> Ferric sulfate ($Fe_2(SO_4)_3$)		<input type="checkbox"/> tons <input type="checkbox"/> lbs
<input type="checkbox"/> Ferrous chloride ($FeCl_2$)		<input type="checkbox"/> tons <input type="checkbox"/> lbs
<input type="checkbox"/> Ferrous sulfate ($FeSO_4$)		<input type="checkbox"/> tons <input type="checkbox"/> lbs
<input type="checkbox"/> Polyaluminum chloride (PACl)		<input type="checkbox"/> tons <input type="checkbox"/> lbs
<input type="checkbox"/> Polymer coagulant		<input type="checkbox"/> tons <input type="checkbox"/> lbs
<input type="checkbox"/> Potassium permanganate ($KMnO_4$)		<input type="checkbox"/> tons <input type="checkbox"/> lbs
<input type="checkbox"/> Powder activated carbon		<input type="checkbox"/> tons <input type="checkbox"/> lbs
<input type="checkbox"/> Other (specify) _____		<input type="checkbox"/> tons <input type="checkbox"/> lbs
<input type="checkbox"/> Precipitative Softening	Average Amount Per Day (number, e.g., 20)	Units
<input type="checkbox"/> Hydrated lime ($Ca(OH)_2$)		<input type="checkbox"/> tons <input type="checkbox"/> lbs
<input type="checkbox"/> Quick lime (CaO)		<input type="checkbox"/> tons <input type="checkbox"/> lbs
<input type="checkbox"/> Sodium carbonate (soda ash, Na_2CO_3)		<input type="checkbox"/> tons <input type="checkbox"/> lbs
<input type="checkbox"/> Other (specify) _____		<input type="checkbox"/> tons <input type="checkbox"/> lbs

WTP ID _____

Type of Water Treatment Operations (continued)	Chemical Usage in 2006	
<input type="checkbox"/> Primary Disinfection (Please indicate type)		
<input type="checkbox"/> Free chlorine		
<input type="checkbox"/> Chloramination		
<input type="checkbox"/> Ozone		
<input type="checkbox"/> Ultraviolet light		
<input type="checkbox"/> Hydrogen peroxide (H ₂ O ₂)		
<input type="checkbox"/> Other (specify) _____		
<p>Note: Primary disinfection is intended to remove or inactivate harmful microorganisms at the treatment plant, often conducted at the head of the plant or prior to filtration. This disinfection treatment is different from secondary disinfection, which is conducted as one of the final steps prior to distribution of the finished water. Secondary disinfection provides a residual level of disinfection to help protect finished water as it travels through the system's distribution network.</p>		
What type of disinfection residual is in the filter backwash? (Please indicate type)		
<input type="checkbox"/> Free chlorine		
<input type="checkbox"/> Chloramination		
<input type="checkbox"/> Other (specify) _____		
<input type="checkbox"/> No filter backwash at this plant		
What type of disinfection residual is in the filter-to-waste? (Please indicate type)		
<input type="checkbox"/> Free chlorine		
<input type="checkbox"/> Chloramination		
<input type="checkbox"/> Other (specify) _____		
<input type="checkbox"/> No filter-to-waste at this plant		
Please indicate below the type and amount of the chemicals used for primary disinfection.	Average Amount Per Day (number, e.g., 20)	Units
<input type="checkbox"/> Chlorine dioxide (ClO ₂)		<input type="checkbox"/> tons <input type="checkbox"/> lbs
<input type="checkbox"/> Chlorine gas (Cl ₂ , gas)		<input type="checkbox"/> tons <input type="checkbox"/> lbs
<input type="checkbox"/> Calcium hypochlorite (Ca(OCl) ₂)		<input type="checkbox"/> tons <input type="checkbox"/> lbs
<input type="checkbox"/> Sodium hypochlorite (NaOCl)		<input type="checkbox"/> tons <input type="checkbox"/> lbs
<input type="checkbox"/> Ammonia (Please indicate form)		<input type="checkbox"/> tons <input type="checkbox"/> lbs
<input type="checkbox"/> Anhydrous (NH ₃)		<input type="checkbox"/> tons <input type="checkbox"/> lbs
<input type="checkbox"/> Ammonium sulfate ((NH ₄) ₂ SO ₄)		<input type="checkbox"/> tons <input type="checkbox"/> lbs
<input type="checkbox"/> Aqua ammonia (NH ₄ ⁺)		<input type="checkbox"/> tons <input type="checkbox"/> lbs
<input type="checkbox"/> Other (specify) _____		<input type="checkbox"/> tons <input type="checkbox"/> lbs
<input type="checkbox"/> Other (specify) _____		<input type="checkbox"/> tons <input type="checkbox"/> lbs

WPT ID _____

Type of Water Treatment Operations (continued)	Chemical Usage in 2006	
<input type="checkbox"/> Presedimentation	Average Amount Per Day (number, e.g., 20)	Units
<input type="checkbox"/> Polymer coagulant		<input type="checkbox"/> tons <input type="checkbox"/> lbs
<input type="checkbox"/> Other (specify) _____		<input type="checkbox"/> tons <input type="checkbox"/> lbs
<input type="checkbox"/> Dechlorination	Average Amount Per Day (number, e.g., 20)	Units
<input type="checkbox"/> Sodium metabisulfite (Na ₂ S ₂ O ₅)		<input type="checkbox"/> tons <input type="checkbox"/> lbs
<input type="checkbox"/> Other (specify) _____		<input type="checkbox"/> tons <input type="checkbox"/> lbs
<input type="checkbox"/> Reverse osmosis		
<input type="checkbox"/> Microfiltration		
<input type="checkbox"/> Ultrafiltration		
<input type="checkbox"/> Electrodialysis		
<input type="checkbox"/> Nanofiltration		
<input type="checkbox"/> Ion exchange		
<input type="checkbox"/> Other (specify) _____		

CBI?
 Yes

2.g. Is the primary water treatment objective of the plant to remove salt from the source water (i.e., desalination)?

- Yes
- No

WTP ID _____

CBI?
 Yes

2.h. Please indicate (✓) below which residual treatment options were performed at the water treatment plant in 2006. *Treatment of residuals refers to any activity designed to change the character or composition of liquid and solid residuals streams from water treatment processes as needed to render it amenable to recycle/recovery, reduce its volume, or prepare it for transportation, storage, disposal, or discharge.*

- | | | |
|---|--|---|
| <input type="checkbox"/> No treatment | <input type="checkbox"/> Thickening | <input type="checkbox"/> Aeration |
| <input type="checkbox"/> Drying | <input type="checkbox"/> Mechanical dewatering | <input type="checkbox"/> Hydrogen sulfide removal |
| <input type="checkbox"/> pH adjustment | <input type="checkbox"/> Non-mechanical dewatering | <input type="checkbox"/> Evaporation ponds |
| <input type="checkbox"/> Equalization of residuals prior to treatment or disposal | | <input type="checkbox"/> Dechlorination |
| <input type="checkbox"/> Sedimentation tanks and ponds | | |
| <input type="checkbox"/> Other (specify): _____ | | |

CBI?
 Yes

2.i. Please indicate (✓) below which pollution prevention practices were performed at the water treatment plant in 2006. *Pollution prevention refers to the use of materials, processes, or practices that reduce or eliminate the creation of pollutants or residuals.*

- No pollution prevention
- Recovery of treatment chemicals
- Recycling filter backwash
- Optimizing surface water intake to reduce suspended solids intake
- Reuse of precipitative softening chemicals by recycling softening residuals to head of the plant
- Recycling filter-to-waste
- Other (specify): _____

CBI?
 Yes

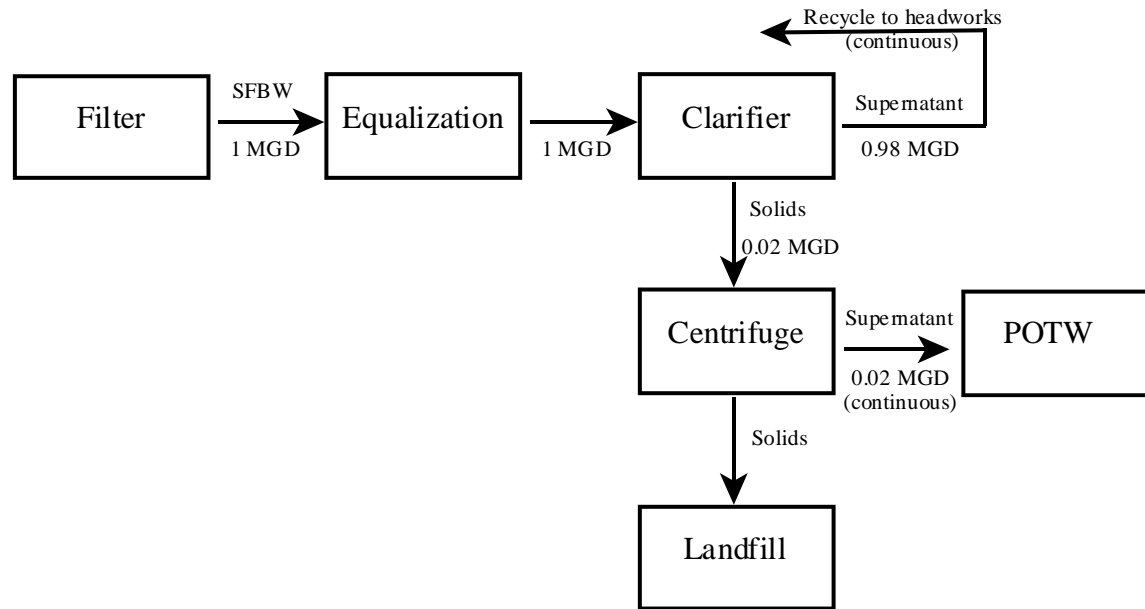
2.j For each type of residual generated at the water treatment plant in 2006, describe the residual, amount of residuals generated, and treatment, discharge, and/or disposal practice or process used to manage the stream. The table to be filled out is on page 13.

- Please use the table on pages 11 and 12 for descriptions and codes for the residual streams and treatment, management, and disposal practices.
- If you have the same residual stream (e.g., untreated SFBW) coming from multiple units (e.g., filters) and going to a single treatment or disposal unit (e.g., equalization basin), please add the flows together and present as one residual stream from water or residuals treatment in the table on page 13.
- Please indicate the quality of the data provided for the amount of residuals generated as follows:
 - “H” (high), indicating a known value from existing data;
 - “M” (medium), indicating a value derived, at least partially, using existing data; or
 - “L” (low), indicating an estimate made using best professional judgment.
- See examples on pages 9 and 10 to learn how to fill out the table on page 13. **Please note, you do not need to provide process schematics. They are used here strictly for illustration purposes.**

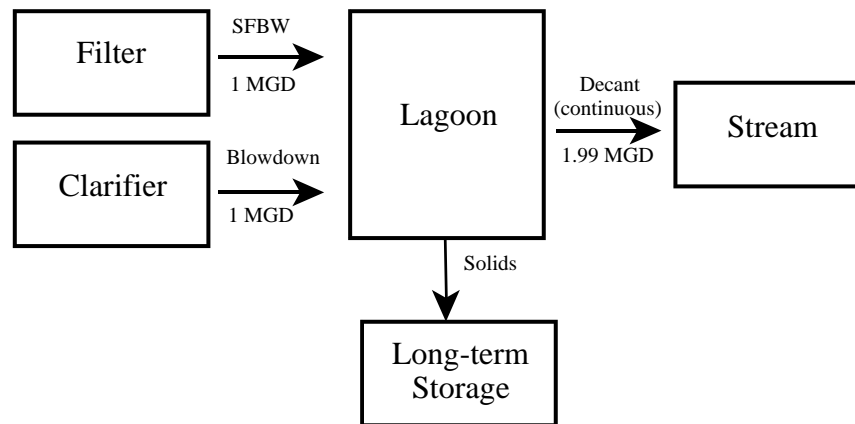
EXAMPLE RESIDUAL STREAM TABLE :

Residuals Stream from Water or Residuals Treatment		Amount of Residuals Generated				Treatment, Management, Disposal Practices	
Description	Code	Flow (mgd)	Solids (dry tons/day)	Percent Solids (%)	Data Quality (H/M/L)	Description	Code
<i>Example 1: A facility that clarifies equalized spent filter backwash (SFBW), recycles clarified SFBW, and dewater SFBW clarifier solids in a centrifuge or other mechanical dewatering device.</i>							
Untreated SFBW	S100	1	--	0.1	M	Equalization	T101
Equalized SFBW	S100	1	--	0.1	M	SFBW clarifier (continuous)	T102
SFBW clarifier supernatant	S101	0.98	--	0.001	L	Recycle to head of DW process (continuous)	D106C
SFBW clarifier solids	S102	0.02	--	1	L	Centrifuge	T103
Centrifuge supernatant	S101	0.02	--	0.01	M	Sewer to POTW (continuous)	D103C
Centrifuge concentrated solids	S102	--	1	20	H	Off-site non-hazardous landfill	D202
<i>Example 2: A facility that sends untreated SFBW and clarified lime-softening solids to a lagoon, with decant discharged to a stream and solids remaining in lagoon for long-term storage (>50 years), meaning the lagoon is essentially "disposal" for solids.</i>							
Untreated SFBW	S100	1	--	0.1	M	Lagoon (same as for blowdown)	T105
Clarifier blowdown	S110	1	--	1	M	Lagoon (same as for SFBW)	T105
Decant from lagoon	S101 & S111	1.99	--	0.001	L	Discharge to stream (continuous)	D101C
Concentrated solids from lagoon	S102 & S112	--	1	20	L	Long-term storage/disposal in lagoon	D211

PROCESS FLOW DIAGRAM FOR EXAMPLE 1 :



PROCESS FLOW DIAGRAM FOR EXAMPLE 2 :



Residuals Streams, Treatment, Disposal, and Discharge Codes (table continues on next page)

Residual Streams		Treatment, Management, Disposal Practices		
Description	Code	Description	Code	
Untreated SFBW	S-100	Equalization	T-101	
Supernatant, centrate, or filtrate from dewatering or clarification of SFBW	S-101	Clarification	T-102	
Concentrated solids after dewatering or clarification of SFBW	S-102	Mechanical dewatering	T-103	
Untreated filter-to-waste	S-103	Nonmechanical dewatering (drying/evaporation)	T-104	
Supernatant, centrate, or filtrate from dewatering or clarification of filter-to-waste	S-104	Lagoon	T-105	
Concentrated solids after dewatering or clarification of filter-to-waste	S-105	Thickening	T-106	
Untreated coagulation basin blowdown	S-110	pH adjustment	T-107	
Supernatant, centrate, or filtrate from dewatering/clarification of clarifier blowdown	S-111	Lime recovery	T-108	
Concentrated solids after dewatering/clarification of clarifier blowdown	S-112	Coagulant recovery	T-109	
Supernatant, centrate, or filtrate from dewatering/clarification of combined residuals (e.g., SFBW, clarifier, filter-to-waste, precipitative softening, etc.)	S-121	Dechlorination	T-110	
Concentrated solids after dewatering/clarification of combined residuals (e.g., SFBW, clarifier, filter-to-waste, precipitative softening, etc.)	S-122	Other treatment (specify)	T-300	
Untreated precipitative softening basin blowdown	S-130	Discharge to surface water	D-101B (Batch)	D-101C (Continuous)
Supernatant, centrate, or filtrate from dewatering/clarification of precipitative softening basin blowdown	S-131	Discharge to municipal storm sewer	D-102B (Batch)	D-102C (Continuous)
Concentrated solids after dewatering/clarification of precipitative softening basin blowdown	S-132	Discharge to POTW	D-103B (Batch)	D-103C (Continuous)
Sedimentation tank or lagoon cleaning	S-140	Discharge to PrOTW	D-104B (Batch)	D-104C (Continuous)
Untreated filter-to-waste	S-150	Discharge to FOTW	D-105B (Batch)	D-105C (Continuous)

Water Treatment Plant Questionnaire

Residual Streams		Treatment, Management, Disposal Practices		
Description	Code	Description	Code	
Supernatant, centrate, or filtrate from dewatering or clarification of filter-to-waste	S-151	Recycle (return to WTP, pre-coagulation)	D-106B (Batch)	D-106C (Continuous)
Concentrated solids after dewatering or clarification of filter-to-waste	S-152	Evaporation in disposal lagoon		D-107
Membrane cleaning solution	S-161	On-site spray irrigation		D-108
Membrane (desalination) reject	S-162	Off-site spray irrigation		D-109
Membrane backwash	S-163	Off-site underground injection - Class I		D-110
Solids from pre-sedimentation basins with added coagulant	S-170	Off-site underground injection - Class II		D-111
Supernatant, centrate, or filtrate from dewatering/clarification of presedimentation blowdown with added coagulant	S-171	Off-site underground injection - Class V		D-112
Concentrated solids from dewatering/clarification of presedimentation blowdown with added coagulant	S-172	Other off-site disposal of liquids		D-113
Solids from pre-sedimentation basins without added coagulant	S-180	On-site landfill disposal		D-201
Supernatant, centrate, or filtrate from dewatering/clarification of presedimentation blowdown without added coagulant	S-181	Off-site municipal non-hazardous landfill disposal		D-202
Concentrated solids from dewatering/clarification of presedimentation blowdown without added coagulant	S-182	Off-site hazardous landfill disposal		D-203
Exhausted IX or other sorptive media	S-190	Off-site low-level radioactive waste disposal		D-204
Residual regenerant (with desorbed materials from sorptive media)	S-200	On-site land application (e.g., soil amendment)		D-205
Salt recovered from dried regenerant brine	S-201	Off-site land application (e.g., soil amendment)		D-206
Other residual stream (specify)	S-300	On-site composting		D-207
		Off-site composting		D-208
		Off-site disposal with POTW biosolids		D-209
		Off-site recovery of chemicals		D-210
		Lagoon storage		D-211
		Other disposal (specify)		D-300

WTP ID _____

2.k. Please indicate (✓) in 2.k.i, 2.k.ii, and 2.k.iii below the method(s) of residuals discharge performed in 2006 at the water treatment plant and identify the year that this discharge method started. Please select all categories that apply. (See Definitions of Key Terms on page 26 for explanations of discharge types, pollutants, and residuals.)

CBI?
 Yes

- i. Direct discharge of treated and/or untreated residuals. **Do not select direct discharge if your plant only discharges non-contact stormwater to surface waters. Select direct discharge if your plant has a permit that regulates or monitors the discharge of treated and/or untreated residuals to surface waters.**

____ Year practice started

If the water treatment plant directly discharged its residuals to surface water bodies in 2006, please indicate (✓) below the frequency of the discharge. In the blank spaces below the batch and emergency discharge categories, please specify the number of times residuals were discharged to surface waters in 2006. Please indicate (✓) below both 'Continuous discharge' and 'Batch (intermittent) discharge' if you are doing both types of discharges (e.g., continuous filter backwash and batch discharge of residuals in settling basins).

- Continuous discharge
- Batch (intermittent) discharge
 Residuals were discharged _____ times in 2006.
- Emergency discharge only
 Residuals were discharged _____ times in 2006.

Please provide the water treatment plant's NPDES/SPDES permit number(s), the name of the receiving water or the coordinates (latitude/longitude) for its discharge outfall, and the type of receiving water below.

Also, please **ATTACH** a copy of the plant's NPDES/SPDES permit and fact sheet (if available) to this survey.

In addition, please **ATTACH** copies of the plant's Discharge Monitoring Reports for 2004, 2005, and 2006. If these reports are available electronically, please submit them in any convenient electronic form (e.g., attached CD with files). Submission of electronic files (e.g., spreadsheets) containing the data from the Discharge Monitoring Reports is preferable to submission of hardcopy reports.

 Name of receiving water

 NPDES/SPDES Permit Number

OR coordinates of outfall discharge

 Latitude

 Longitude

Type of Receiving Water (See Definitions of Key Terms on page 26 for explanations of types.)

- River Creek Wetland Ocean Lake
- Other (specify): _____

WTP ID _____

Types of Residuals Directly Discharged in 2006. *Please check all that apply.*

- Residuals from water treatment operations including coagulation, filter backwashing operations, filter-to-waste, precipitative softening, iron and manganese removal, and slow sand and diatomaceous earth filtration. These include accumulated residuals for batch discharge.
- Residuals from presedimentation water treatment operations.
- Discharges from residuals treatment including mechanical dewatering (e.g., thickener decant, centrate, and filtrate from belt or plate-and-frame presses) and non-mechanical dewatering (e.g., discharges from dewatering lagoons).
- Concentrate (brines) from ion exchange regeneration and salt water conversion, membrane reject water and spent backwash, activated alumina waste regenerate, and membrane cleaning fluid.
- Stormwater collected from areas associated with water treatment operations.
- Stormwater collected from areas not associated with water treatment operations.
- Ion exchange resins, spent GAC, and spent filter media.
- Other (specify): _____
- Other (specify): _____
- Other (specify): _____

CBI?
 Yes

- ii. Indirect discharge of treated and/or untreated residuals. **Select indirect discharge if your plant has a permit that regulates or monitors the discharge of treated and/or untreated residuals to a treatment works (POTW, PrOTW, FOTW). Indirect discharge does not include spent filter backwash discharged to surface water.**

____ Year practice started

If the water treatment plant indirectly discharged its residuals to a treatment works (POTW, PrOTW, FOTW) in 2006, please indicate (✓) below the frequency and volume of the discharge to the nearest 1,000 gallons. In the blank spaces below the batch and emergency discharge categories, please specify the number of times residuals were discharged in 2006.

- Continuous discharge
 Volume of discharge _____ gallons per day.
- Batch (intermittent) discharge
 Residuals were discharged _____ times in 2006.
 Volume of discharge _____ gallons per day.
- Emergency discharge only
 Residuals were discharged _____ times in 2006.
 Volume of discharge _____ gallons per day

WTP ID _____

Please provide the name and location of the treatment works (POTW, PrOTW, FOTW, etc.), the number for the water treatment plant's permit/agreement with the treatment works, and the types of water regulated by this permit/agreement below.

Also, please **ATTACH** a copy of the plant's permit/agreement with the treatment works (if available) to this survey.

_____		_____
Name of Treatment Works		Treatment Works Contact Name
_____		(_____) _____
Street Address		Telephone Number
_____	_____	_____
City	State	Zip Code
_____		_____
Indirect Discharge Permit/Agreement Number		Date of Permit/Agreement

Types of Residuals Indirectly Discharged in 2006. *Please check all that apply.*

- Residuals from water treatment operations including coagulation, filter backwashing operations, filter-to-waste, precipitative softening, iron and manganese removal, and slow sand and diatomaceous earth filtration. These include accumulated residuals for batch discharge.
- Residuals from presedimentation water treatment operations.
- Discharges from residuals treatment including mechanical dewatering (e.g., thickener decant, centrate, and filtrate from belt or plate-and-frame presses) and non-mechanical dewatering (e.g., discharges from dewatering lagoons).
- Concentrate (brines) from ion exchange regeneration and salt water conversion, membrane reject water and spent backwash, activated alumina waste regenerate, and membrane cleaning fluid.
- Stormwater collected from areas associated with water treatment operations.
- Stormwater collected from areas not associated with water treatment operations.
- Ion exchange resins, spent GAC, and spent filter media.
- Other (specify): _____

WTP ID _____

CBI?
 Yes

- iii. Zero discharge
_____ Year practice started

If the water treatment plant operated as a zero-discharge plant in 2006, please identify (✓) the disposal method(s) for the residuals.

- Recycle (i.e., return to water treatment plant pre-coagulation)
- Evaporation
- Composting
- Landfill disposal
- Spray irrigation
- Underground injection
- Land application (e.g., soil amendment)
- Other (specify): _____
- Other (specify): _____
- Other (specify): _____

Types of Residuals Disposed of by the Specified Residuals Management Option(s) in 2006. *Please check all that apply.*

- Residuals from water treatment operations including coagulation, filter backwashing operations, filter-to-waste, precipitative softening, iron and manganese removal, and slow sand and diatomaceous earth filtration. These include accumulated residuals for batch discharge.
- Residuals from presedimentation water treatment operations.
- Discharges from residuals treatment including mechanical dewatering (e.g., thickener decant, centrate, and filtrate from belt or plate-and-frame presses) and non-mechanical dewatering (e.g., discharges from dewatering lagoons).
- Concentrate (brines) from ion exchange regeneration and salt water conversion, membrane reject water and spent backwash, activated alumina waste regenerate, and membrane cleaning fluid.
- Stormwater collected from areas associated with water treatment operations.
- Stormwater collected from areas not associated with water treatment operations.
- Ion exchange resins, spent GAC, and spent filter media.
- Other (specify): _____
- Other (specify): _____
- Other (specify): _____

WTP ID _____

Please provide the name of the residuals disposal location, contact information for the disposal location, and the permit/agreement number of the disposal facility, e.g., RCRA ID, **if applicable**.

_____		_____
Name of Residuals Disposal Location		Contact Name
_____		(____) _____
Street Address		Telephone Number
_____	_____	_____
City	State	Zip Code
_____		_____
Permit/Agreement Number		Date of Permit/Agreement

CBI?
 Yes

3. Were copper-based chemicals used at the plant to treat the source water in 2006?

- Yes
- No (*Skip to Question 4.*)

Please indicate (✓) the type(s) of chemical(s) used at the plant to promote a better source of drinking water (e.g., control nuisance algae).

- Copper sulfate (CuSO₄)
- Chelated copper complexes (i.e., copper citrate, copper ethanolamine, copper ethylene)
- Other (specify): _____
- Other (specify): _____
- Other (specify): _____

If more than one chemical was selected above, please photocopy this page and provide the following information for each chemical.

Name of chemical or product _____

Amount of this chemical used at this plant in 2006: _____ lbs

Volume of treatment reservoir: _____ acre-feet

Percent of metallic copper (label will note as Cu⁺⁺ or Cu⁺²): _____ % by weight
 volume
(check one)

Minimum number of applications per year: _____

Typical number of applications per year: _____

Maximum number of applications per year: _____

Financial Data Section

The remaining questions in this survey request financial and service information from the system (represented by the survey ID) not from individual plants.

Some utilities may combine costs from multiple systems and distribute these costs across their combined customer base, making it difficult to provide financial information for a single system. If this is the case for your utility, please use the Comments Table on page 25 to list the PWSIDs for all systems covered by the financial and service information that you are providing.

- CBI?**
 Yes
- 4.** The following questions ask you to provide financial information for your water treatment system for the 2006 calendar year. If you are unable to provide financial information for 2006, then please provide this information for the 12-month period that most closely approximates calendar year 2006. Please specify below whether data is provided for 2006 or another 12-month period.

2006 data _____ / _____ / _____ start date for data provided
 (mm / dd / yy)

_____ / _____ / _____ end date for data provided
 (mm / dd / yy)

- CBI?**
 Yes
- 5. A.** Please complete the table below for the 12-month period indicated in Question 4, following the instructions for each of the four columns.

Column A: What was the amount of water that was produced and delivered to each of the following customer categories? *Report the amount in millions of gallons per year (MGY). Unaccounted for water includes system losses and uncompensated uses (e.g., fire flow).*

Columns B and C: How many connections and people did your water treatment system serve year-round? Please indicate the number of connections and number of people served by your system for all customer types that apply.

Column D: What were your water treatment system's revenues from water sales for each of the following customer categories? *(If zero, enter "0".)*

Customer Type	Column A Water Quantity Produced and Delivered	Column B Number of Connections Served	Column C Number of People Served	Column D Water Sales Revenues
a. Sold to Other Water Systems				
1. Finished Water	MGY			\$
2. Partially Treated Water	MGY			\$
3. Untreated Water	MGY			\$
b. Residential Customers	MGY			\$
c. Non-Residential Customers (Industrial, Agricultural, Commercial)				
1. Finished Water	MGY			\$
2. Partially Treated Water	MGY			\$
3. Untreated Water	MGY			\$
d. Unaccounted for water not included above	MGY			\$
e. Total, all customer types (including unaccounted for water)	MGY			\$

B. Please provide the PWSID or name of each public water supplier included in the response to part A.a above:

1. Finished Water

_____	_____
_____	_____
_____	_____

2. Partially Treated Water

_____	_____
_____	_____
_____	_____

3. Untreated Water

_____	_____
_____	_____
_____	_____

CBI?
 Yes

6. Please indicate your water treatment system's revenues from other water-related revenue sources. Report for the 12-month period indicated in Question 4.

- a. Connection and/or Development Fees \$ _____
- b. Revenue from the Government (e.g., General Fund of Municipal Government, public systems only) \$ _____
- c. Other water-related revenues not reported in the categories above (e.g., fines, penalties, other fees) \$ _____
- d. **Total other water-related revenues (sum of parts a-c)** \$ _____
- e. Revenues from non-water-related business, not included above, including rental income and the sale of other goods and services \$ _____

CBI?
 Yes

7. Please indicate your water system's total revenues, including water sales, other water-related revenues, and non-water-related revenues (*this should be equal to the sum of Question 5, col. D, line e, and Question 6, parts d and e*). In subpart i, please provide this value for the 12-month period indicated in Question 4. In addition, in subparts ii and iii, please provide the same information for the two preceding 12-month periods (i.e., calendar years 2005 and 2004, or closest 12-month periods).

- i. (2006 or closest 12-month period) \$ _____
- ii. (2005 or closest 12-month period) \$ _____
- iii. (2004 or closest 12-month period) \$ _____

CBI?
 Yes

8. Please report the total number of residential connections and the total residential sales revenues (your responses should match the answers given in Question 5.A.b). In subpart i, please provide these values for the 12-month period indicated in Question 4. In addition, in subparts ii and iii, please provide the same information for the two preceding 12-month periods (i.e., calendar years 2005 and 2004, or closest 12-month periods).

	Residential Customer Connections	Residential Customer Sales Revenue
i. (2006 or closest 12-month period)	_____	\$ _____
ii. (2005 or closest 12-month period)	_____	\$ _____
iii. (2004 or closest 12-month period)	_____	\$ _____

CBI?
 Yes

9. Please list the zip codes associated with the **residential** customers served by your water treatment system (ranges are acceptable, e.g., 12345 to 12350). If these zip codes are not readily available, then please list the counties served (e.g., Washington County; Jefferson County).

CBI?
 Yes

10. Please identify your water system's billing structure. (Please check all that apply. EPA anticipates that some systems may have separate rates or rate structures for residential and non-residential customers. If this is the case, please **do not** use the All Customers column.)

	<u>Residential Customers</u>	<u>Non- residential Customers</u>	<u>All Customers</u>
A. Metered charges			
1. Uniform rate	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Declining block rate	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Increasing block rate	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Peak season rate	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B. Unmetered Charges			
1. Separate flat fee for water	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Annual connection fee	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Combined flat fee for water and other services (e.g. rental fees, association fees, pad fees)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
C. Other billing methods (please specify): _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Water Treatment Plant Questionnaire

CBI?
 Yes

11. A. Does your water treatment system have a program that lowers the cost of drinking water for low- or fixed-income households (e.g., lifeline rates)?

Yes No (*Skip to Question 12*)

B. If you answered **Yes** to part A of Question 11, please answer the following:

1. How many households receive these rates? _____
2. What is the highest annual income that qualified for these rates?
 \$ _____ per year
3. If income does not determine whether a household is eligible for the program, what are the eligibility requirements for these rates?

4. How much does it cost your system to provide these rate reductions (i.e., what's the total dollar amount of the reductions)? \$ _____ per year

CBI?
 Yes

12. This question is intended to account for all of your water expenses related to the revenues referred to in Questions 5 and 6. Please provide the requested information for the 12-month period indicated in Question 4.

A. Please enter the number of operators, managers, and administrative staff and the average numbers of hours they work in the water system each week. Please include contract employees that operate the system. For staff employed directly by the system, enter the average hourly wage of each. Enter the cost of fringe benefits provided as a percentage of wages or salaries. (Fringe benefits include pension and other retirement contributions, health insurance contributions, vacation, and sick leave.) For contract employees that operate the system, provide the average hourly cost to the system of the contract employees (including wages, salaries, benefits, and fees).

Staff	Number of Employees in the Water System	Average Hours Worked per Week per Employee in the Water System	Employees of the System:	
			Average Hourly Wage/ Salary	Benefits as a Percentage of Salary or Wages
1.a. Directly-employed Operators			\$	%
1.b. Contract Operators			\$	
2.a. Directly-employed Managers			\$	%
2.b. Contract Managers			\$	
3.a. Directly-employed Administrative Staff			\$	%
3.b. Contract Administrative Staff			\$	

B. Please enter the following routine operating expenses during the 12-month period indicated in Question 4:

- 1 Expenses for purchased water: \$ _____
- 2 Security related expenses (spending for security only, e.g., gates, locks, or guards): \$ _____
- 3 Other routine operating expenses (including expenses for labor, chemicals, power, materials and supplies, and contractor expenses): \$ _____
- 4 Depreciation expenses: \$ _____
- 5 Income taxes (privately owned systems): \$ _____
- 6 Payments in lieu of taxes and other payments to the general fund (Publicly owned systems): \$ _____
- 7 **Total** routine operating expense \$ _____

C. Please enter the amount of annual debt service expenditures

- 1 Interest payments: \$ _____
- 2 Principal payments: \$ _____
- 3 **Total** debt service expenditures \$ _____

D. Please enter the amount of other expenses

- 1 Capital improvements: \$ _____
- 2 Payments to reserve funds: \$ _____
- 3 **Total** other expenses \$ _____

E. Please indicate your system's total expenses (*this should be equal to the sum of the totals in parts B through D above*). *In subpart i, please provide this value for the 12-month period indicated in Question 4. In addition, in subparts ii and iii, please provide the same information for the two preceding 12-month periods.*

- i. (2006 or closest 12-month period) \$ _____
- ii. (2005 or closest 12-month period) \$ _____
- iii. (2004 or closest 12-month period) \$ _____

CBI?
 Yes

- 13. A.** If you have paid for major capital improvements, repairs, or expansions in the last five years ending on the date reported in Question 4, please indicate the total amount spent on these capital expenditures
- 1. a. Land \$ _____
 - b. Amount of land (acres) _____
 - 2. Water Source \$ _____
 - 3. Transmission and distribution system \$ _____
 - 4. Treatment \$ _____
 - 5. Storage \$ _____
 - 6. All other not included above \$ _____
 - 7. Total amount spent on capital expenditures in the last five years
 (Sum of 13.A.1 - 13.A.6) \$ _____

B. How were the total capital expenditures from part A funded and what was the average interest rate paid on borrowed funds?

	Percent of Capital Expenses Funded from each Source (Should sum to 100%)	Average Interest Rate	Average Length of Loan Period (Years)
Current Revenues (including payments from reserve funds)	%		
Equity or other funds from private investors	%		
Department of Homeland Security Grant	%		
Other Government Grants	%		
Drinking Water State Revolving Fund			
a. Principal Repayment Forgiveness	%		
b. Loans	%	%	
Other borrowing from public sector sources (e.g., state or regional authorities)	%	%	
Borrowing from private sector sources (e.g., banks or the bond market)	%	%	
Other (please specify) _____	%	%	

DEFINITIONS OF KEY TERMS

Aeration - Process that mixes air and water, normally by injecting air into water, spraying water into the air, or allowing water to pass over an irregular surface, to release compounds from the water through oxidation, precipitation, or evaporation.

Batch (Intermittent) Discharge - A discrete volume or mass of liquid or solid residuals are collected and discharged periodically.

Clarification - Separation and concentration of solids from liquid/solid mixtures that are mostly liquid (contrast with dewatering and thickening). Examples for residuals treatment include plate settlers used to clarify spent filter backwash.

Clean Water Act (CWA) - Federal legislation enacted by Congress to “restore and maintain the chemical, physical, and biological integrity of the Nation’s waters” (Federal Water Pollution Control Act of 1972, as amended, 33 U.S.C. 1251 et seq.).

Community Water System (CWS) - A system that is connected to 15 year-round residences or serves 25 persons in a residential setting on a year-round basis.

Continuous Discharge - A volume or mass of liquid or solid residuals are discharged at constant flow without significant interruption.

Conventional Filtration - A method of water treatment with the primary goal of removing particulates. The method consists of the addition of coagulant chemicals, flash mixing, coagulation/flocculation, sedimentation, and filtration.

Creek - A small, natural stream that is often a shallow or intermittent tributary to a river.

Dewatering - Separation of liquid from liquid/solid mixtures that are predominantly solids, often containing very low moisture content to start with (contrast with clarification and thickening).

Direct Discharge - The discernible, confined, and discrete conveyance of pollutants to United States surface waters such as rivers, lakes, and oceans. See 40 CFR 122.2.

Discharge - The discernible, confined, and discrete conveyance of pollutants to: (1) United States surface waters such as rivers, lakes, and oceans (“direct discharge”), or (2) a publicly owned, privately owned, federally owned, combined, or other treatment works (“indirect discharge”). See 40 CFR 122.2.

Disposal - Intentional placement of residuals into or on any land, in either a permitted waste disposal facility (e.g., landfill) or land application for agricultural or other purposes. Does not include direct or indirect discharge of residuals.

Electrodialysis - A method of water treatment that utilizes electric current applied to permeable membranes to remove minerals and salts from water.

Emergency Discharge - A volume or mass of liquid or solid residuals are discharged only during extenuating circumstances (i.e., a treatment process malfunction).

Equalization - A tank or other device to collect residuals streams for later treatment or discharge. Note that a lagoon can also provide equalization, but is defined separately.

Evaporation - The process by which water or other liquid becomes a gas. Water from land areas, bodies of water, and all other moist surfaces is absorbed into the atmosphere as a vapor.

Evaporation Ponds - Dewatering and concentration of brines using evaporation.

Filter-To-Waste - Provision in a filtration process to allow the first filtered water, after backwashing a filter, to be washed or reclaimed.

FOTW (Federally Owned Treatment Works) - Any device or system owned and/or operated by a United States federal agency to recycle, reclaim, or treat liquid wastes or residuals. The wastes or residuals being treated may be directly delivered to the treatment works via contract haul or discharged into a sewer connected to the treatment works.

Freeze-Assisted Sand Beds - A structure used to freeze and thaw residuals to change the characteristics to a more granular consistency that is easier to dewater. Most commonly used with alum residuals.

FTE - Full-time employee

Groundwater - Water in a saturated zone or stratum beneath the surface of land or water.

Indirect Discharge - The discernible, confined, and discrete conveyance of pollutants to a publicly owned, privately owned, federally owned, combined, or other treatment works. See 40 CFR 122.2.

Ion Exchange (IX) - Process using a resin formulated to have capability to adsorb cationic or anionic species, such as arsenate.

Lagoon - Water is decanted from liquid/solid mixtures in lagoons due to long periods (e.g., 10 to 20 years) of compressive settling, though the lagoons are exposed to atmosphere and therefore lose some water via evaporation. Solids are often collected and stored for long periods within the lagoon, and in fact can be considered "disposal" as defined in this survey if there are not direct or indirect discharges of pollutants.

Lake - A body of freshwater or saltwater surrounded by land.

Mechanical Dewatering Device - A device that operates mechanically to remove water from residuals and produce a non-flowing residual. Examples include centrifuges, filter presses, belt presses, plate press, and vacuum filters. Contrast with non-mechanical dewatering.

Microfiltration - A method of water treatment that utilizes a membrane to separate micrometer or submicrometer particles from a solution. The method clarifies water by trapping particles and microorganisms in the membrane, while passing dissolved substances with the permeate.

Miscellaneous Residuals - Residuals produced by peripheral water treatment processes (e.g., laboratory wastewater, regeneration wastewater for boiler make-up, chlorine analyzer wastewater, equipment wash-down wastewater, contact and non-contact cooling water, boiler blow-down, and raw water pumping from sample collection).

Nanofiltration - A method of water treatment that utilizes membranes and has the primary goal of removing hardness, bacteria, viruses, and organic-related color.

Non-contact Stormwater - Stormwater runoff that does not come into direct contact with any water treatment raw material, product, byproduct, or residual.

Non-mechanical Dewatering - Structure to separate solids from liquids in liquid/solid mixtures without the use of mechanical devices, examples include sand or similar drying beds, dewatering lagoons (lagoons designed for routine solids clearing), and freeze-assisted sand beds. Contrast with mechanical dewatering and disposal, which includes long-term lagoons (i.e., lagoons that are cleaned of solids every 10 to 20 years or more).

NPDES (National Pollutant Discharge Elimination System) - National program for issuing, modifying, revoking and reissuing, terminating, monitoring and enforcing permits, and imposing and enforcing pretreatment requirements, under sections 307, 318, 402, and 405 of the Clean Water Act. The state enforced version is called the SPDES program. See 40 CFR 122.2.

Other Treatment Works - Any facility that recycles, reclaims, or treats any hazardous or nonhazardous waste received from off site and/or waste generated on site by the facility, including liquid and solid residuals streams from water treatment plants, and is not defined as a POTW, PrOTW, or FOTW (e.g., a centralized waste treater).

Pollutant - Under the Clean Water Act, a dredged spoil, solid waste, incinerator residue, filter backwash, sewage sludge, munitions, chemical waste, biological material, certain radioactive material, heat, wrecked or discarded equipment, rock sand, cellar dirt, and industrial, municipal, and agricultural waste. This definition includes residuals (including miscellaneous residuals) generated by water treatment plants. See 40 CFR 122.2.

Pollution Prevention - The use of materials, processes, or practices that reduce or eliminate the creation of pollutants or residuals.

POTW (Publicly Owned Treatment Works) - Any device or system owned by a state or municipality that is used to recycle, reclaim, or treat liquid municipal sewage and liquid wastes or residuals. The wastes or residuals being treated may be directly delivered to the treatment works via contract haul or discharged into a sewer connected to the treatment works.

Precipitative Softening - A method of water treatment with the primary goal of reducing water hardness. The method may include lime softening, sedimentation/precipitation, filtration, and disinfection.

Presedimentation - This water treatment operation is at the head of the plant. Its primary purpose is to remove a significant percentage of suspended solids and other contaminants in the water prior to other water treatment operations (e.g., conventional filtration, precipitative softening). This water treatment operation may require a small addition of water treatment chemicals, such as polymer coagulants (e.g., 0.5 to 1 mg/L), to aid sedimentation. For this survey, the term "presedimentation" does not include conventional filtration or precipitative softening water treatment operations.

PrOTW (Privately Owned Treatment Works) - Any device or system owned and operated by a private company that is used to recycle, reclaim, or treat liquid wastes or residuals not generated by that company. The wastes or residuals being treated may be directly delivered to the treatment works via contract haul or discharged into a sewer connected to the treatment works.

Purchased Water - Water obtained from a third-party vendor.

RCRA ID - Identification number used by EPA to track entities regulated under the Federal Resource Conservation and Recovery Act's hazardous waste regulations. For more information, see http://www.epa.gov/enviro/html/rcris/rcris_query_java.html.

Recovery - The process of extracting some other useable constituent from one or more residuals streams, for example, recovery of alum or lime.

Recycle - The principle use of the term "recycle" associated with water and residuals treatment is the process of returning liquid or combined liquid/solid residuals streams back to the water treatment process (e.g., filter backwash recycling).

Residuals - The solid, liquid, or mixed solid/liquid materials generated during water treatment. Examples of residuals include: sludges and wastewaters generated from pre-sedimentation, coagulation, flocculation, sedimentation, clarification, precipitative softening, filter backwash operations, and filter-to-waste; membrane reject wastewaters; ion exchange resins and brine wastewaters; activated carbon wastes; and other miscellaneous residuals. Residuals include accumulated solids, liquids, or solid-liquid mixtures accumulated for batch discharge. For the purposes of this survey, non-contact stormwater is not considered a residual.

Residuals Treatment - Any activity designed to change the character or composition of liquid and solid residuals streams from water treatment processes as needed to render it amenable to recycle, recovery, reduce its volume, or prepare it for transportation, storage, disposal, or discharge. For example, this would include "equalization," as well as "thickeners," "mechanical dewatering devices," "non-mechanical dewatering," and other processes defined separately.

Reverse Osmosis - A method of water treatment that involves the application of pressure to a concentrated solution which causes the passage of a liquid from the concentrated solution to a weaker solution across a semipermeable membrane. The membrane allows the passage of the solvent (water) but not the dissolved solids (solutes). This method is typically used for desalinization and the removal of ions, radionuclides, bacteria, and viruses.

River - Water which flows in a channel from high ground to low ground and ultimately to a lake or sea.

Sand Drying Beds - Similar to evaporation ponds, and mostly utilize evaporation to dewater and concentrate liquid/solid residuals mixtures. One difference is that these structures are also engineered to filter out solids so that a portion of the liquid is removed via subsurface infiltration into groundwater or the vadose zone.

SDWIS (Safe Drinking Water Information System) - Database containing information about drinking water treatment systems and plants that is maintained by EPA's Office of Ground Water and Drinking Water. SDWIS identification numbers (SDWIS IDs) are nine characters in length, with the first two digits usually composed of the state abbreviation. SDWIS IDs correspond directly to PWSIDs and for the purpose of this survey they are the same number. A water treatment utility may have more than one SDWIS ID.

Sedimentation - Separation of solids and liquids from mixtures. Discrete and hindered settling principally involves separation of solids from mixtures that are predominantly liquids, and these processes are referred to as "clarification." Sedimentation refers to the physical separation process, in contrast to non-mechanical dewatering, which is a residuals treatment process, and disposal, which is a residuals destination.

Sludge - The accumulated solids separated from liquids during processing.

Source Reduction - Any practice prior to recycling, treatment, or disposal that reduces the amount of any hazardous substance, pollutant, or contaminant entering any residuals stream or otherwise released into the environment. Source reduction can include equipment or technology modifications, process or procedure modifications, substitution of raw materials, and improvements in housekeeping, maintenance, training, or inventory control.

Stormwater - Any surface runoff related to storm events or snow melt; street wash waters related to street cleaning; or maintenance, infiltration, and drainage.

Surface Waters - Waters including, but not limited to, oceans and all interstate and intrastate lakes, rivers, streams, creeks, mudflats, sand flats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, and natural ponds.

System - One or more water treatment facilities that produce and deliver finished water to customers over the same distribution network.

Thickening - Concentration of liquid/solid mixtures from residuals streams. In general, clarification removes solids from liquids, thickening further concentrates these clarification solids, and dewatering removes water from clarified or thickened solids. A "thickener" refers to a liquid-solids separation process using gravity.

Ultrafiltration - A method of water treatment that utilizes membranes in a pressure-driven process for concentrating solutions containing colloids and higher molecular weight materials. The method typically removes viruses, colloids, clays, bacteria, humic acids, and fulvic acids.

Underground Injection - The technology of placing fluids underground, in porous formations of rocks, through wells or other similar conveyance systems.

Utility - The public or private entity managing the business aspects of the production and distribution of finished water from one or more water treatment systems (e.g., billing customers for water service, paying utility employees and third-party vendors for services and products provided to the utility, paying servicing fees for any outstanding debts).

Vacuum-Assisted Drying Beds - Dewatering technology in which a vacuum is applied to the underside of porous media plates to remove the water from residuals.

Water Treatment (WT) - Any activity associated with altering the character or composition of source water prior to storage, transmission, distribution, and consumption by public water utility consumers. This treatment takes place at a water treatment plant (see definition).

Water Treatment Plant - A water treatment facility (see also definition for “water treatment”) where untreated groundwater, surface water, or other source water is processed to produce potable water for storage, transmission, distribution, or consumption by public water utility consumers. For the purposes of this survey, this term does not encompass off-facility treatment stations (e.g., booster chlorination stations, fluoridation stations, corrosion control treatment stations) or off-site water transfer infrastructure (e.g., tunnel transferring turbid water from one watershed body to another waterbody upstream of the facility, water towers that are downstream of the facility).

Water Treatment System - One or more water treatment facilities that produce and deliver finished water to customers over the same distribution network.

Water Treatment Utility - The public or private entity managing the business aspects of the production and distribution of finished water from one or more water treatment systems (e.g., billing customers for water service, paying utility employees and third-party vendors for services and products provided to the utility, paying servicing fees for any outstanding debts).

Wedgewire/Wedgewater Beds - Dewatering process in which residuals are placed on a septum with wedge-shaped slots and water is drained via suction.

Wetland - A tidal or nontidal area characterized by saturated or nearly saturated soils the majority of the year that form an interface between terrestrial and aquatic environments. Examples include freshwater marshes, brackish marshes, and salt marshes.

Zero Discharge - Disposal of process and/or miscellaneous residuals other than by direct discharge to a surface water or by indirect discharge to a publicly owned, privately owned, federally owned, combined, or other treatment works.