



Case Study Short Questionnaire

January 2000

**U.S. Environmental Protection Agency (EPA)
Office of Wastewater Management
Washington, DC**

Notice of Estimated Burden

EPA estimates that completion of the entire *Case Study Short Questionnaire* will require an average of **10** hours per facility. This estimate includes time for reading the instructions and reviewing the information necessary to respond to the questionnaire form. Any comments regarding EPA's need for the information, the accuracy of the provided burden estimate, and suggested methods for reducing respondent burden (including the use of automated collection techniques) should be addressed to: ***Director, Regulatory Information Division, Office of Policy, Mail Code 2137, U.S. EPA, 401 M Street, SW, Washington, DC 20460.*** Please include the OMB Control Number, listed in the left-hand margin on this page, with any correspondence.

FORM APPROVED ♦ OMB CONTROL No. 2040 - 0213 ♦ EXPIRATION DATE: 12/31/02

Certification Statement**Instructions**

The individual responsible for directing or supervising the preparation of the enclosed *Case Study Short Questionnaire* must read and sign the Certification Statement below before returning both documents to the U.S. Environmental Protection Agency. The certifying official must be a responsible corporate official or his (or her) duly authorized representative. The Certification Statement must be completed and submitted in accordance with the requirements contained in the *Code of Federal Regulations* at 40 CFR 122.22.

I certify under penalty of law that the attached questionnaire was prepared under my direction or supervision in accordance with a system designed to ensure 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 have provided best engineering estimates or judgments. 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 (33 U.S.C., Section 1318).

Signature of Certifying Official

Date

Printed Name of Certifying Official

()

Telephone No.

Title of Certifying Official

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General Information and Instructions

Why This Questionnaire?

The U.S. Environmental Protection Agency (EPA) is currently developing regulations under Section 316(b) of the Clean Water Act, 33 U.S.C., Section 1326(b). Section 316(b) provides that any standard established pursuant to Sections 301 or 306 of the Clean Water Act (CWA) and applicable to a point source will require that the location, design, construction, and capacity of cooling water intake structures reflect the best technology available (BTA) for minimizing adverse environmental impact.

In support of the Section 316(b) regulations, EPA will conduct a series of case studies. This questionnaire targets facilities located in particular areas that have been chosen as case study sites. The questionnaire is intended to capture facility-specific information needed to conduct the case studies. The Section 316(b) case studies will be used to do one or more of the following: (1) characterize the baseline, especially with respect to Section 316(b) technologies in place; (2) provide a very detailed and in-depth analysis of the potential costs and benefits of Section 316(b) regulations for specific regions of concern; (3) help demonstrate the site-specific nature of environmental impacts of CWIS and potential benefits of implementing BTA; (4) support the development of a tiering framework for the Section 316(b) regulation; (5) evaluate cumulative impact potential; (6) determine the effectiveness of specific technologies; (7) produce models of national benefits; and (8) provide examples of how a permit writer would analyze a plant when issuing a permit. The actual use of the questionnaire data is likely to differ for different case study locations.

Please note that the data from this questionnaire will **not** be used to make BTA permitting decisions for individual facilities. The questionnaires are tools for characterizing some of the following: type and nature of facilities using cooling water, specific uses of cooling water, design and configuration of cooling water systems and cooling water intake structures, types of technologies being used at intake structures, and whether facilities have previously evaluated the environmental impacts of their cooling water intake structures. Data from the questionnaires will be factored into other research being conducted by EPA that is more specifically designed to determine the nature of adverse impacts and the types of control technologies that might minimize such impacts. All of EPA's research efforts will feed the development of regulatory options, some of which will subsequently be fashioned into a proposed rulemaking that will be put forth for public review and comment.

The enclosed case study questionnaire consists of five main sections. Section 1 requests general facility information, such as facility name, location, and Standard Industrial Classification (SIC) codes. Section 2 requests information from facilities on such topics as National Pollutant Discharge Elimination System (NPDES) permit status, whether cooling water is used and, if so, whether it is withdrawn by the facility from surface water. Finally, information is requested on the types of activities for which the facility uses cooling water directly withdrawn from surface water. The purpose of these two sections is to help EPA determine the nature of facilities within an industry group that use cooling water. Additionally, the information will help EPA identify (i.e., "screen") facilities that are not subject to Section 316(b). These out-of-scope facilities will be exempted from completing the remaining sections of this questionnaire and will be excluded from the pool of facilities chosen to receive a more detailed case study questionnaire.

General Information and Instructions

Facilities that will be considered “out-of-scope” for receiving the detailed questionnaire will include those that (1) are not point sources as defined under Section 502(14) of the Clean Water Act (33 U.S.C., 1362(14)), (2) do not use cooling water as that term is defined for the purposes of this questionnaire, or (3) do not receive any of their cooling water supply from a surface water source.

Section 3 requests facilities to provide basic design and operational data on their cooling water intake structures and cooling water systems. This information will help EPA ensure that it sends the detailed questionnaire to an appropriate number of facilities representing the diverse array of design configurations possible. Many of the questions are in multiple-choice format. The following types of information are being requested: total number of cooling water intake structures, originating sources of cooling water, total cooling water intake flow rates and operating days for a typical calendar year, total number of cooling water systems and their respective configurations, placement of cooling water intake structures in surface water bodies, control technologies being used at intake structures, and whether facility or firm owners have ever conducted or commissioned environmental or ecological studies of the potential impacts of any of their cooling water intake structures.

Section 4 asks for information regarding the estimated numbers of full-time equivalent employees and the estimated annual sales revenue for the Facility’s Fiscal Year 1997. For facilities that are owned by a larger firm, this information is requested for the parent firm as well. This information will enable EPA to send the detailed questionnaire to a broad range of facilities, based on their size. It is especially important that EPA collect sufficient data on a representative sample of qualified small businesses to enable the Agency to comply with the Regulatory Flexibility Act (RFA). This information will also help EPA design its approach for conducting economic impact analyses of Section 316(b) regulatory options, once these options are identified.

Finally, Section 5 requests information from facilities that use cooling water directly withdrawn from surface water to generate electricity. These facilities are asked to indicate the gross amount of electricity they have generated and their total annual sales of electricity for a recent and typical fiscal year. This information will help EPA classify in-scope facilities according to their status as electricity generators. The economic portion of the detailed questionnaire will be tailored to these specific classifications. Given the significant recent changes in the electricity industry, and the importance of cooling water in electricity generation, EPA wants to ensure that it has a full understanding of the potential impacts of regulatory options on electricity generators including nonutility and industrial generators. The economic data from both the questionnaires will support EPA’s economic impact analyses of Section 316(b) regulatory options.

Authority

EPA has authority to administer this questionnaire under Section 308 of the CWA (33 U.S.C., Section 1318). Late filing of the questionnaire, or failure to follow any related EPA instructions, may result in civil penalties, criminal fines, or other sanctions provided by law.

Who Must Complete This Questionnaire?

This questionnaire targets manufacturing facilities located in particular areas that have been chosen by EPA as case study sites. Only facilities that have not yet completed either a Section 316(b) Industry Screener

General Information and Instructions

Questionnaire or a Section 316(b) Detailed Questionnaire will be required to complete this questionnaire. The questionnaire targets facilities in industries that have been identified as using large quantities of cooling water. These industries include the following four major industrial categories: Paper and Allied Products (SIC 26), Chemical and Allied Products (SIC 28), Petroleum and Coal Products (SIC 29), and Primary Metals (SIC 33).

Where to Get Help?

 **Toll-Free Help Line****Case Study Short Questionnaire**

Science Applications International Corporation (SAIC)

Available weekdays, 9:00 a.m. to 5:00 p.m., Eastern Time

Toll-Free Phone No.: 1-800-246-3113

Direct Dial Phone No.: (703) 318-4676 (long distance charges will apply)

Certification Statement

A responsible corporate official or his or her duly authorized representative must verify the accuracy of the facility's responses to the questionnaire by reading and signing the enclosed Certification Statement. This statement needs to be returned to EPA along with the completed questionnaire.

When and How to Return the Questionnaire?

You must complete and return the Case Study Short Questionnaire and Certification Statement to EPA within **45 calendar days** after receiving the materials at your facility or firm. Please return your materials, in the enclosed self-addressed envelope, to:

 **Case Study Short Questionnaire**

316(b) Survey
U.S. Environmental Protection Agency
c/o SAIC (R-1-3)
11251 Roger Bacon Drive
Reston, VA 20190-5201

NOTE: Please **keep a copy** of the completed questionnaire and Certification Statement for your records.

If you have extenuating circumstances that preclude you from meeting the 45 day deadline, please contact Deborah Nagle at the following e-mail address: **Survey.316b@epamail.epa.gov** to discuss your situation.

General Information and Instructions

Confidential Business Information

You may assert a business confidentiality claim for *some* or *all* of your responses to the short technical questionnaire, as described in 40 *CFR* 2.203(b) (*see full text below*). Complete regulations governing confidentiality of business information (CBI) appear in 40 *CFR*, Part 2, Subpart B.

40 *CFR* 2.203(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 employing 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 confidentiality of business information for any of your responses by checking (✓) the circle to the left of certain questions or by one of the methods described above. Alternatively, all eligible questions in this questionnaire may be globally claimed confidential by checking the circle at the end of this paragraph. Note, however, that certain types of information cannot be considered confidential under the CWA (e.g., plant location, water body, water body type, intake flow data). Questions that cannot be claimed as confidential do not have CBI check-off circles. If no check mark appears on this page or in the check-off circles on other pages **and** no other claim of confidentiality has been made with respect to any of your given responses, EPA may make the data available to the public without further notice. Please note that you may be required to justify any claim of confidentiality at a later time.

All eligible data are CBI ○

If EPA reveals information covered by a claim of confidentiality, the Agency will strictly follow the requirements and procedures set forth in 40 *CFR* Part 2, Subpart B. Overall, EPA may reveal submitted information protected by a CBI claim *only* to other employees, officers, or authorized representatives of the United States who are responsible for implementation of the Clean Water Act. EPA has extensive standard operating procedures in place to handle, store, and transmit CBI data and has a long history of successfully managing this type of information. In addition, personnel expected to handle CBI data are required by the Agency to be trained and certified.

Agency contractors will have access to CBI data so that work can be performed under their contracts relative to the Section 316(b) rulemaking. All EPA contracts require that contractor employees must use CBI data *only* to perform work specified by EPA. The information is *not* to be shown to anyone, other than EPA officials, without prior written approval having been received from the affected business or from EPA’s legal office.

Specific Instructions for Completing the Questionnaire


Facility or firm personnel most knowledgeable of the subject areas covered by the questions posed should complete the questionnaire:

- **Please answer the questions in sequence unless you are directed to SKIP forward in the questionnaire.** This is important since many questions are only applicable to some respondents.
- **Clearly mark responses to all questions with a black or blue ink pen, *or* type responses in the spaces provided.**
- For each question, **please read all instructions and definitions carefully.**
- Most key terms are defined at the point where they first appear in the questionnaire. They are also defined in the *Glossary*, which is attached to the back of the questionnaire. **Before responding to a given question, please read the definitions of any key terms used and any question-specific instructions.**
- **Please use the units specified when responding to questions requesting measurement data (e.g., gallons per day).**
- **Please provide responses on the basis of the time period(s) cited in each question.** Note that the time periods under which information is requested varies from question to question.
- **Please indicate whether information provided in any of your responses is confidential.** Such information will be protected under EPA's confidentiality procedures. To claim a particular response as containing confidential business information, simply check (✓) the circle found at the bottom of the page for the applicable question, if one is provided, or follow the other identification procedures described on the previous page and found under 40 *CFR* 2.203(b).

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Section 1: General Facility Information

1. (a) Does the above mailing label reflect the facility's full legal name and address?

☐ Yes (1) 

☐ No (2)

SKIP TO Q.2

- (b) Please provide the complete legal name and mailing address for the facility:

Name of Facility: _____ (1)

Street Address: _____ (2)

P.O. Box (if applicable): _____ (3)

City, State ZIP: _____ (4)

Telephone Number: () _____ (5)

DUNS Number: _ _ _ - _ _ _ - _ _ _ (6)

[☐ Check (✓) here if none.]

1 General Facility Information

2. Please identify the person responsible for questionnaire responses, and please provide the appropriate title and contact information:

NOTE: *The facility contact person provided here should be the person most knowledgeable about the information provided in this survey. This person is not required to be the certifying official.*

Name: _____ (1)

Title: _____ (2)

Employer (full legal name): _____ (3)

Relationship to Facility (e.g., domestic parent firm, contractor, etc.): _____ (4)

Telephone No: () _____ (5a) **Fax No:** () _____ (5b)

Best Time to Contact: _____ (6)

3. Is the facility presently in commercial service?

☐ Yes (1)

NOTE: *To clarify for plants who are not in a commercial business, interpret this question as "Is your plant currently operating?"*

☐ No (2)

STOP

If answer is No, please stop here and return questionnaire with a completed Certification Statement.

4. What are the four-digit **Standard Industrial Classification (SIC) codes** associated with the facility's main lines of business? [Please use the SIC codes contained in the Office of Management and Budget's 1987 *Standard Industrial Classification Manual*. This listing can also be found at the following Internet site: www.osha.gov/cgi-bin/sic/sicser5.]

NOTE: *Since the 1930s, SIC codes have been used to facilitate the collection, tabulation, presentation, and analysis of data relating to U.S. business establishments by Federal statistical agencies (e.g., Office of Management and Budget or OMB, Bureau of the Census, etc.). The system was last updated by OMB in 1987. It was recently replaced by the North American Industry Classification System (NAICS) in 1997; however, it continues to be used by many Federal agencies. EPA believes it would be unnecessarily confusing to ask facilities to classify themselves using NAICS codes for the purposes of this questionnaire.*

Primary __ __ __ __ (1)

Secondary __ __ __ __ (2)

Other __ __ __ __ (3a) __ __ __ __ (3b) __ __ __ __ (3c)

Section 2: General Scoping Data

5. Does the facility presently have or is the facility presently in the process of obtaining a **National Pollutant Discharge Elimination System (NPDES) permit**?

☐ Yes (1)

☐ No (2) 

STOP

If answer is No, please stop here and return questionnaire with a completed Certification Statement.

NOTE: NPDES permits are required to be held under Section 402 of the Clean Water Act (33 U.S.C. 1342 et seq.) by any point source that discharges pollutants directly to waters of the United States. Facilities that discharge 100 percent of their effluent (including storm water) to publicly-owned treatment works, privately-owned treatment works, and/or to ground water injection wells should answer "No" to this question.

6. Since January 1, 1996, has **cooling water** been used for contact or noncontact cooling purposes at the facility? [Please consider all cooling water used regardless of the type of water source or provider from which it has been obtained.]

☐ Yes (1)

☐ No (2) 

STOP

If answer is No, please stop here and return questionnaire with a completed Certification Statement.

DEFINITION

For the purposes of this questionnaire, the term "**cooling water**" refers to both contact and noncontact cooling water, including water used for air conditioning, equipment cooling, evaporative cooling tower makeup, and dilution of effluent heat content. The intended use of the cooling water is to absorb waste heat rejected from the process or processes employed or from auxiliary operations on the facility's premises.

7. Since January 1, 1996, has the facility directly obtained any portion of its cooling water from a **surface water source**?

☐ Yes (1)

☐ No (2) 

STOP

If answer is No, please stop here and return questionnaire with a completed Certification Statement.

NOTE: In order for a facility to directly withdraw cooling water from surface water, it must have an **intake structure**.

DEFINITIONS

For the purposes of this questionnaire, **surface water** includes lakes, ponds, or reservoirs; nontidal rivers or streams; tidal rivers; estuaries; fjords; oceans; and bays/coves. A **cooling water intake structure** is the total structure and associated technologies used to direct water from a water body into a facility up to the point of the first intake pump or series of pumps. The intended use of the cooling water is to absorb waste heat rejected from processes employed or from auxiliary operations on the facility's premises. Single cooling water intake structures might have multiple intake bays. If a facility has an intake structure that withdraws water for other purposes in addition to cooling, the entire intake structure should be considered a cooling water intake structure for the purposes of this questionnaire.

2 General Scoping Data

8. In the matrix below, please indicate the activities for which your facility has used cooling water directly withdrawn from surface water since January 1, 1996? [Please check (✓) all applicable activities.]

Activities Requiring Cooling Water Directly Withdrawn by Facility From Surface Water Since January 1, 1996	
Item No.	Activities
8(a)	<p>Electricity Generation (including equipment cooling) <input type="radio"/> (1)</p> <p><input type="radio"/> Check (✓) here if any of facility's generating units that use cooling water are part of a combined cycle unit.]</p> <p>Definition: For the purposes of this questionnaire, a combined cycle unit is an electric generating unit that has one or more gas turbines or internal combustion engines and one or more steam boilers. Part of the required input to the boiler(s) is provided by the exhaust gas (waste heat) of the combustion turbines(s).</p>
8(b)	<p>Air Conditioning (Cooling and Heating of Indoor Air) <input type="radio"/> (2)</p> <p>Definition: For the purposes of this questionnaire, air conditioning refers to the process and equipment used to control the temperature and humidity of indoor air. Cooling water is used in some types of air conditioning systems.</p>
8(c)	<p>Production Line (or Process) Contact or Noncontact Cooling <input type="radio"/> (3)</p> <p>(for uses other than electricity generation and excluding air conditioning)</p> <p>Definition: For the purposes of this questionnaire, the term production line refers to each of the successive steps taken at a facility to produce a product, except the production line's use of electricity.</p>
8(d)	<p>Other (please describe below): <input type="radio"/> (4)</p>

Section 3: Design and Operational Data for Cooling Water Intake Structures and Cooling Water Systems

9. How many intake structures does the facility have that directly withdraw surface water to support, at least in part, contact or noncontact cooling operations within the facility? [Consider only those intake structures presently operating or temporarily offline (i.e., expected to operate again in the future). Do *not* include intake structures planned or under construction or permanently offline.]
10. For each intake structure reported under Q.9, please indicate in the matrix below all surface water sources from which the facility has directly withdrawn contact or noncontact cooling water since January 1, 1996 (or from the date the intake structure became operational if that date was later than January 1, 1996). [Please check (✓) all water sources that apply per intake structure. If cooling water has been withdrawn from an intake canal/channel or constructed intake embayment/bay/cove, please indicate the *originating* source(s) of the water.]

Matrix 10		Matrix ____ of ____	
Originating Surface Water Sources of Cooling Water Since January 1, 1996 by Cooling Water Intake Structure (CWIS) <i>Response space has been provided for two CWISs. If your facility has more than this number of intake structures, please copy the matrix and change the CWIS code names or numbers as appropriate. Insert any additional matrices into this section of the questionnaire, and identify individual matrix sheets as Matrix "1 of 3," "2 of 3," etc.</i>			
Water Source Code	Originating Surface Water Source [Please check (✓) all sources that apply per CWIS.] <i>Note: If cooling water has been withdrawn from an intake canal/channel or constructed intake embayment/bay/cove, please indicate the originating source of the water.</i>	CWIS _____ [Please indicate facility-designated name or no. of CWIS.]	CWIS _____ [Please indicate facility-designated name or no. of CWIS.]
A	Lake, Pond, or Reservoir Definitions: <i>For the purposes of this questionnaire, a lake is an expanse of water, usually fresh, surrounded by land or by land and a manmade retainer. Lakes may be fed by rivers, streams, springs, and/or local precipitation. A pond is a still body of water generally smaller than a lake. A reservoir is an artificial body of surface water retained by a dam.</i> NOTE: <i>These terms are not to be confused with the terms cooling lake or cooling pond. The primary purpose of these water bodies is to absorb waste heat rejected from a facility's wastewater discharge.</i>	<input type="radio"/> (1)	<input type="radio"/> (1)
B	Nontidal River or Stream Definition: <i>For the purposes of this questionnaire, a river or stream is nontidal when no significant inflow of water from an ocean or bay due to tidal action occurs.</i>	<input type="radio"/> (2)	<input type="radio"/> (2)

See next page for continuation of Matrix 10.

3 Design and Operational Data

Matrix 10 (Continued)

Matrix ____ of ____

Originating Sources of Cooling Water Since January 1, 1996 by Cooling Water Intake Structure (CWIS)

Response space has been provided for two CWISs. If your facility has more than this number of intake structures, please copy the matrix and change the CWIS code names or numbers as appropriate. Insert any additional matrices into this section of the questionnaire, and identify individual matrix sheets as Matrix "1 of 3," "2 of 3," etc.

Water Source Code	Originating Water Source [Please check (✓) all sources that apply per CWIS.] <i>Note: If cooling water has been withdrawn from an intake canal/channel or constructed intake embayment/bay/cove, please indicate the originating source of the water.</i>	CWIS _____ [Please indicate facility-designated name or no. of CWIS.]	CWIS _____ [Please indicate facility-designated name or no. of CWIS.]
C	Tidal River Definition: For the purposes of this questionnaire, a tidal river is the portion of river above the river's mouth that receives a regular, significant inflow of water from an ocean or bay due to tidal action.	<input type="radio"/> (3)	<input type="radio"/> (3)
D	Estuary Definition: For the purposes of this questionnaire, an estuary is a semi-enclosed coastal body of water that has a free connection with the open sea and is strongly affected by tidal action. In an estuary, sea water is mixed (and usually measurably diluted) with fresh water inflow from rivers. NOTE: The Chesapeake Bay and the San Francisco Bay are examples of estuaries even though the term bay appears in their names.	<input type="radio"/> (4)	<input type="radio"/> (4)
E	Ocean Definition: For the purposes of this questionnaire, an ocean is defined as marine open coastal waters other than those water bodies classified as estuaries, embayments, or fjords, which are semi-enclosed and have readily identifiable geographic boundaries.	<input type="radio"/> (5)	<input type="radio"/> (5)
F	Bay or Cove (natural, saline water) Definition: For the purposes of this questionnaire, a bay or cove is an inlet created when the shoreline of a water body is indented. Bays are generally larger than coves but are smaller than gulfs. Coves are generally sheltered. [Do not mark this response if the bay or cove is constructed; see column note above.]	<input type="radio"/> (6)	<input type="radio"/> (6)
G	Bay or Cove (natural, fresh water) [See definition and instructions directly above.]	<input type="radio"/> (7)	<input type="radio"/> (7)

- CBI? ☐ **11.** Please complete the matrix below for each of the plant's cooling water intake structures reported under Q.9. In this matrix, EPA is requesting plants to provide, for a **typical calendar year** since January 1, 1996, the total number of days the structure was operational (Item a), its average daily intake flow rate in gallons per day (GPD) (Item b), the latitude and longitude of the structure (in degrees, minutes, and seconds) (Items c and d), the surface water sources used (Item e), the design through-screen velocity in feet per second (Item f), and the source water flow basis used for developing the design through-screen velocity (Item g). [Please provide actual data to the extent they are readily available; otherwise, best engineering estimates may be provided.]

DEFINITION

For the purposes of this questionnaire, a **typical/calendar year** is one in which the plant and its cooling water intake structures are operated in a normal, routine, regular, or otherwise standard fashion. The data provided should be similar to data from other recent calendar years of operation or from projected, near future years of operation (i.e., 1999 to 2001).

3 Design and Operational Data

Total No. of Operating Days, Average Daily Intake Flow Rate, and Originating Water Sources for a *Typical* Calendar Year Since January 1, 1996 by Cooling Water Intake Structure (CWIS) Matrix ____ of ____

Response space has been provided for two CWISs. If your plant has more than this number of intake structures, please copy the matrix and change the CWIS code names or numbers as appropriate. Insert any additional matrices into this section of the questionnaire, and identify individual matrix sheets as Matrix "1 of 3," "2 of 3," etc.

Item No.	Data Requested [For each CWIS, please provide responses for the same typical calendar year for each item in the matrix. Actual data should be provided if available; otherwise, best engineering estimates may be provided.]	CWIS _____ [Please insert same no. or name as under Matrix 10, page 5.]	CWIS _____ [Please insert same no. or name as under Matrix 10, page 5.]
11(a)	<p>No. of Operating Days for Each CWIS in Typical Calendar Year (rounded to the nearest day)</p> <p>Definition: For the purposes of this questionnaire, the term operating days refers to the total number of days (1 day = 24 hours) a cooling water intake structure was operational during a calendar year, excluding any days the intake structure was offline for routine maintenance or otherwise was not operational.</p> <p>NOTE: Operating days should be determined by adding the number of hours the CWIS was operational during the year and then dividing the total by 24 hours per day to get the total number of operating days. For example, if a plant has operated 5,840 hours during the calendar year, the total hours divided by 24 hours per day are equal to 243 calendar days.</p>	_____ days	_____ days
11(b)	Average Daily Intake Flow Rate (in GPD) for Each CWIS in Typical Calendar Year	_____ GPD	_____ GPD
11(c)	<p>Latitude at Point of Intake Structure Openings (in degrees, minutes, and seconds)</p> <p>NOTE: For CWISs with intake bays, please provide latitude for the central point of the intake bay openings.</p>	____° ____' ____"	____° ____' ____"
11(d)	<p>Longitude at Point of Intake Structure openings (in degrees, minutes, and seconds)</p> <p>NOTE: For CWISs with intake bays, please provide longitude for the central point of the intake bay openings.</p>	____° ____' ____"	____° ____' ____"

See next page for continuation of Matrix 11.

Total No. of Operating Days, Average Daily Intake Flow Rate, and Originating Water Sources for a Typical Calendar Year Since January 1, 1996 by Cooling Water Intake Structure (CWIS)

Matrix ____ of ____

Response space has been provided for two CWISs. If your plant has more than this number of intake structures, please copy the matrix and change the CWIS code names or numbers as appropriate. Insert any additional matrices into this section of the questionnaire, and identify individual matrix sheets as Matrix "1 of 3," "2 of 3," etc.

Item No.	Data Requested [For each CWIS, please provide responses for the same typical calendar year for each item in the matrix. Actual data should be provided if available; otherwise, best engineering estimates may be provided.]	CWIS _____ [Please insert same no. or name as under Matrix 10, page 5]	CWIS _____ [Please insert same no. or name as under Matrix 10, page 5]
11(e)	Source Water Flow Basis for Design Through-Screen Velocity	Critical Low Flow <input type="radio"/> (1) Mean Flow <input type="radio"/> (2) Don't Know <input type="radio"/> (8)	Critical Low Flow <input type="radio"/> (1) Mean Flow <input type="radio"/> (2) Don't Know <input type="radio"/> (8)
11(f)	Name of Originating Surface Water Source(s) from Which Each CWIS Withdrew Cooling Water in Typical Calendar Year		
11(g)	Design Through-Screen Velocity (in fps). NOTE: For CWISs that do not employ a screen technology only, please provide a design through-technology velocity at the technology where impingement or entrainment of aquatic organisms is most likely to occur. For example, at a submerged intake structure that employs a velocity cap, provide the velocity going through the velocity cap.	_____ fps	_____ fps

3 Design and Operational Data

12. (a) In the space provided below, please indicate the total number of **cooling water systems** that are presently operating or temporarily offline (expected to operate again in the future) at the facility. Do **not** consider cooling water systems that are planned or under construction or permanently offline.

NOTE: Please consider your facility as having only **one** cooling water system **unless** your facility has systems that are physically separated (e.g., have separate water intake **and** outlet structures) and can be operated independently. If the facility has several intake structures, but only **one** outlet structure, or vice-versa, please consider the facility as having only **one** cooling water system. An intake structure with multiple bays counts as one intake structure.

DEFINITION

For the purposes of this questionnaire, a **cooling water system** is a system that provides water to/from a facility to transfer heat from equipment or processes therein. The system includes, but is not limited to, water intake and outlet structures, cooling towers, ponds, pumps, pipes, and canals/channels. For facilities that use surface water for cooling, the system begins at the first barrier to ingress and/or egress by fish and other aquatic wildlife (e.g., at the trash rack, etc.) and ends at the discharge outlet(s).

Total Number of Cooling Water Systems _____

- (b) Please provide the general profile data requested in the matrix below for each of the facility's cooling water systems. [Please check (✓) all applicable design configuration types per system.]

Profile of Facility's Cooling Water Systems (CWSs)		Matrix ____ of ____
Response space has been provided for two CWSs. If your facility has more than this number of systems, please copy the matrix and change the CWS code numbers as appropriate. Insert any additional matrices into this section of the questionnaire, and identify individual matrix sheets as Matrix "1 of 3," "2 of 3," etc.		
Data Requested	CWS #1	CWS #2
Configuration of CWS [Please check (✓) all applicable configuration types per system.] NOTE: Refer to the Glossary for definitions of the design configurations and system components listed.	Once-Through CWSs Once-Through Only <input type="radio"/> (1) Once-Through with Nonrecirculating Cooling Canals/Channels, Lakes or Ponds <input type="radio"/> (2) Once-Through with Nonrecirculating Cooling Towers <input type="radio"/> (3)	Once-Through CWSs Once-Through Only <input type="radio"/> (1) Once-Through with Nonrecirculating Cooling Canals/Channels, Lakes or Ponds <input type="radio"/> (2) Once-Through with Nonrecirculating Cooling Towers <input type="radio"/> (3)
	Recirculating CWSs Recirculating Only <input type="radio"/> (4) Recirculating with Cooling Canals/Channels, Lakes, or Ponds <input type="radio"/> (5) Recirculating With Cooling Towers <input type="radio"/> (6)	Recirculating CWSs Recirculating Only <input type="radio"/> (4) Recirculating with Cooling Canals/Channels, Lakes, or Ponds <input type="radio"/> (5) Recirculating With Cooling Towers <input type="radio"/> (6)
	Other <input type="radio"/> (7) (please describe below):	Other <input type="radio"/> (7) (please describe below):

13. Which of the following terms best describe the configuration of your facility's intake structures (as reported under Q.9 above) that are being used to withdraw some portion of surface water for contact or noncontact cooling purposes? [Please check (✓) all design configurations that apply.]

NOTE: Schematics of the design configurations listed can be found in the **Glossary** accompanying the questionnaire.

Configuration of Facility's Cooling Water Intake Structures	
Item No.	Design Configurations [Please check (✓) all design configurations that apply.]
13(a)	<p>Intake Canal or Channel (<i>natural or constructed</i>) <input type="radio"/> (1)</p> <p>Definition: For the purposes of this questionnaire, an intake canal or channel is a channelized conduit that directs water through screens or other filtering devices up to the intake pump or series of pumps.</p>
13(b)	<p>Submerged Intake Structure Flush with Shoreline <input type="radio"/> (2)</p> <p>Definition: For the purposes of this questionnaire, a submerged intake structure flush with the shoreline is an intake structure whose opening is closely aligned with the shoreline and that always withdraws water from below the surface of the water body.</p>
13(c)	<p>Surface Intake Structure Flush with Shoreline <input type="radio"/> (3)</p> <p>Definition: For the purposes of this questionnaire, a surface intake structure flush with the shoreline is an intake structure whose opening is evenly aligned with the shoreline and that generally withdraws water from the surface of a water body.</p>
13(d)	<p>Intake Embayment, Bay, or Cove (<i>natural or constructed</i>) <input type="radio"/> (4)</p> <p>Definition: For the purposes of this questionnaire, an intake embayment, bay, or cove is a natural or constructed inlet along the shoreline of a water body that serves to direct water through screens or other filtering devices up to the intake pump or series of pumps.</p>
13(e)	<p>Submerged Offshore Intake Structure <input type="radio"/> (5)</p> <p>Definition: For the purposes of this questionnaire, a submerged offshore intake structure is an intake structure that extends from a facility outward into a water body. The intake opening is submerged, and the water withdrawn is always from below the surface of the water body.</p>
13(f)	<p>Other <input type="radio"/> (6)</p> <p>[Please briefly describe the configuration of any cooling water intake structure that does not fit the above categories and explain why it is unique.]</p>

3 Design and Operational Data

14. What types of technologies are being used at the facility's intake structures, as reported under Q.9, that are intended to protect the facility's cooling water systems and/or reduce environmental impacts posed by the intake structures themselves? [Please check (✓) all technology categories that apply.]

Technology Types Being Used at Facility's Cooling Water Intake Structures	
Item No.	Control Technology Types [Please check (✓) all technology categories that apply.]
14(a)	Fish Diversion or Avoidance Systems <input type="radio"/> (1) Definition: For the purposes of this questionnaire, fish diversion or avoidance systems are mechanisms designed to divert or induce fish to swim away from a water intake structure. Examples: Louver Barrier ❖ Velocity Cap ❖ Fish Net Barrier ❖ Air Bubble Barrier ❖ Electrical Barrier ❖ Light Barrier ❖ Sound Barrier ❖ Cable & Chain Barrier ❖ Water Jet Barrier
14(b)	Passive Intake Systems <input type="radio"/> (2) Definition: For the purposes of this questionnaire, passive intake systems are devices placed at or near the opening of an intake structure that, with little or no mechanical activity, stop debris and/or organisms from entering a facility's water system. Most passive intake systems achieve very low withdrawal velocities at the screening medium. Examples: Wedge Wire Screen ❖ Perforated Pipe ❖ Perforated Plate ❖ Porous Dike ❖ Artificial Filter Bed ❖ Leaky Dam
14(c)	Fish Handling and/or Return Systems <input type="radio"/> (3) Definition: For the purposes of this questionnaire, a fish handling system includes any system that collects and/or transports live organisms and debris away from an intake structure. Examples: Fish Conveyance Systems (troughs or pipes) ❖ Fish Basket ❖ Fish Elevator (lift basket) ❖ Fish Bypass System ❖ Fish Holding Tank
14(d)	Intake Screen Systems <input type="radio"/> (4) Definition: For the purposes of this questionnaire, intake screen systems are devices placed at or near the opening of an intake structure to mechanically stop debris and/or organisms from entering a facility's water system. Examples: Revolving Drum ❖ Screen (Horizontal or Vertical) ❖ Rotating Disk ❖ Screen ❖ Fixed Screen ❖ Traveling Screen
14(e)	Other <input type="radio"/> (5) [Please denote any technology that does not fit one of the above technology categories and briefly describe why the technology(ies) is/are unique.]
14(f)	No Technologies <input type="radio"/> (6)

15. (a) Has your facility or its firm owner ever conducted or commissioned a study of the ecological or environmental effects of any of the facility's intake structures that have withdrawn surface water for contact or noncontact cooling purposes (i.e., those intake structures reported under Q.9)?

☐ Yes ⁽¹⁾

☐ No ⁽²⁾

**SKIP TO Q.16,
Page 15**

(b) Please provide the name of the most recent study completed. In addition, please provide the name and telephone number of the individual(s) we should contact if we require additional information regarding the study.

Name of Most Recent Study: _____ (1)

Contact Name: _____ (2)

Telephone Number: () _____ (3)

3 Design and Operational Data

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Section 4: Facility and Firm-Level Economic Data

- CBI? ☐ 16. Please complete the matrix below with the facility's number of employees and total annual sales revenue for the facility's Fiscal Year 1997.

Full-Time Equivalent (FTE) Employees and Annual Sales Revenue for Facility (for Facility's Fiscal Year 1997)		
Item No.	Data Requested	Response
16(a)	<p>Number of FTE Employees, Including Full-Time and Part-Time Employees [You may round to the nearest 10 employees.]</p> <p>Definition: For the purposes of this questionnaire, one FTE employee equals one person-year or 2,000 hours.</p>	_____
16(b)	<p>Total Annual Sales Revenue (in whole U.S. dollars) [If the facility operates as a cost center for a larger parent firm and facility-level revenue is not available, indicate NA (for not applicable).]</p> <p>Definition: For the purposes of this questionnaire, total annual sales revenue is the total amount of money received by a firm from sales of its products and/or services over 365 days. The value does not include gains from investments or extraordinary gains, such as increases in owners' equity from capital adjustments or gains from the sale or exchange of assets.</p>	<p>\$ _____</p> <p>NA..... <input type="radio"/> (9)</p>

17. (a) As of the last day of the facility's Fiscal Year 1997, was the facility owned by another entity? ☐ Yes (1)

NOTE: Please answer "yes" to this question if your facility was owned by an entity, other than the facility itself, such as another firm or organization, a limited partnership, a joint venture, or a government entity."

☐ No (2) ►

**SKIP TO Q.21,
Page 19**

- CBI? ☐ (b) Please provide the complete legal name, address, and DUNS number for the **domestic parent firm** that owned the facility as of the last day of the facility's Fiscal Year 1997.

DEFINITION

For the purposes of this questionnaire, a **domestic parent firm** is the **highest level** domestic business entity in the facility's organizational structure. A firm that is owned by another U.S. firm is **not** a domestic parent firm. A U.S. firm that is owned by a foreign firm **is** a domestic parent firm.

NOTE: If the facility was owned by a joint venture or is under another type of joint ownership, please provide the information for the owner that held the largest share in the facility. If the facility was owned by a **foreign** entity, please put "foreign" under "Name of Domestic Parent Firm" and skip to Q. 21(a).

4 Facility and Firm-Level Economic Data

Name of Domestic Parent Firm: _____ (1)

Street Address: _____ (2)

P.O. Box (if applicable): _____ (3)

City, State ZIP: _____ (4)

DUNS Number: _____ (5)

[☐ Check (✓) here if none.]

18. What are the four-digit SIC codes associated with the *domestic parent firm's* main lines of business? [Please use the SIC codes contained in the Office of Management and Budget's 1987 *Standard Industrial Classification Manual*. This listing can also be found at the following Internet site: www.osha.gov/cgi-bin/sic/sicser5.]

Primary _____ (1)

Secondary _____ (2)

Other _____ (3a) _____ (3b) _____ (3c)

19. (a) Is the *domestic parent firm's* primary SIC code 4911?

☐ Yes (1)

☐ No (2) 

SKIP TO Q.20,
Page 17

CBI? ☐

- (b) During the facility's Fiscal Year 1997, what were the *total annual sales of electricity* by all facilities owned by the domestic firm (*in megawatt hours or MWh*)? [Please check (✓) only one response.]

DEFINITION

For the purposes of this questionnaire, the **total annual sales of electricity** is the sum of electricity sales to ultimate consumers and sales of electricity for resale.

Less than 150,000 MWh: ☐ (1)

150,000 to 4 million MWh: ☐ (2)

More than 4 million MWh: ☐ (3)

 SKIP TO Q.21,
Page 19

Facility and Firm-Level Economic Data **4**

CBI? ☐ **20.** Please complete the following matrix with the *domestic parent firm's* number of employees and total annual sales revenue for the facility's Fiscal Year 1997.

FTE Employees and Annual Sales Revenue for Domestic Parent Firm (for Facility's Fiscal Year 1997)		
Item No.	Data Requested	Response
20(a)	Number of FTE Employees, Including Full-Time and Part-Time Employees [You may round to the nearest 10 employees.]	_____
20(b)	Total Annual Sales Revenue (in whole U.S. dollars)	\$ _____

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Section 5: Facility Production and Electricity Generation Data

CBI? ☐ **21. (a)** Did your facility generate electricity at any time during the facility's Fiscal Years 1995, 1996, or 1997?

☐ **Yes** (1)

☐ **No** (2) ►

STOP

If answer is No, please stop here and return questionnaire with a completed Certification Statement.

(b) Did your facility generate electricity using cooling water directly withdrawn by the facility from surface water at any time during the facility's Fiscal Years 1995, 1996, or 1997?

☐ **Yes** (1)

☐ **No** (2) ►

STOP

If answer is No, please stop here and return questionnaire with a completed Certification Statement.

NOTE: Cooling water may be derived from several sources and can be commingled before being used for cooling purposes. If any portion of commingled cooling water was derived from surface water through the facility's own intake structures, it should be considered cooling water directly withdrawn from surface water for the purposes of this questionnaire.

CBI? ☐ **22.** Please provide the information requested in the matrix below for the facility's Fiscal Year 1997. [If FY 1997 was not a typical year in terms of the facility's electricity generation activities, please provide the requested information for a *typical* fiscal year in the previous two years. Please also note the fiscal year for which the data are being provided.]

**Facility Electricity Generation and Sales for Facility's Fiscal Year 1997
or Other Recent Typical Fiscal Year**

Item No.	Data Requested	Response
22(a)	Typical Facility Fiscal Year for Which Data in Matrix Are Being Provided [Please check (✓) one fiscal year only.]	Fiscal Year 1995 <input type="radio"/> (1) Fiscal Year 1996 <input type="radio"/> (2) Fiscal Year 1997 <input type="radio"/> (3)
22(b)	Gross Electricity Generated by Facility Using Cooling Water Directly Withdrawn by Facility from Surface Water (in kilowatt hours or kWh)	_____ kWh
22(c)	Total Annual Sales of Electricity Generated Using Cooling Water Directly Withdrawn from Surface Water by Facility (including sales to ultimate consumers and sales for resale (in kWh)) [Use the formula below to calculate your response.] $\frac{\text{Gross Electricity Generated by Facility Using Cooling Water Withdrawn Surface Water}}{\text{Total Electricity Generated by Facility}} \times \text{Facility's Total Sales of Electricity (in kWh)}$	_____ kWh



THANK YOU FOR COMPLETING EPA'S CASE STUDY SHORT QUESTIONNAIRE. WE APPRECIATE YOUR COOPERATION. PLEASE RETURN THE QUESTIONNAIRE WITH A SIGNED CERTIFICATION STATEMENT IN THE ENVELOPE PROVIDED.

5 Facility Production and Electricity Generation Data

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Glossary of Terms

NOTE: The following terms are defined for purposes of this questionnaire only. The definitions at present do not have any legal meaning with respect to Section §316(b).

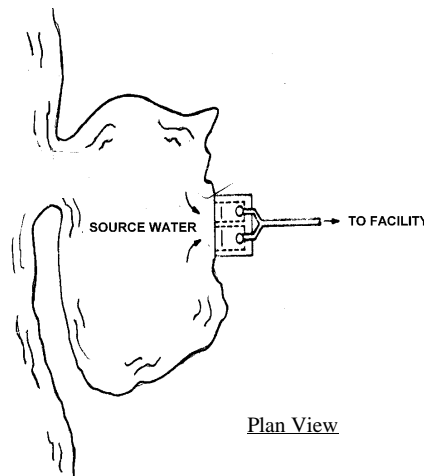
Air Conditioning: The process and equipment used to control the temperature and humidity of indoor air. Cooling water is used in some types of air conditioning systems.

Average Daily Intake Flow Rate: The total volume of cooling water withdrawn by a specific intake structure over a 24-hour day.

Bar Rack/Trash Rack: A device placed at or near the opening of an intake structure to mechanically stop debris and /or large organisms from entering a facility's water system.

Bay or Cove (*natural*): An inlet created when the shoreline of a water body is indented. Bays are generally larger than coves but are smaller than gulfs. Coves are generally sheltered. *See Figure 1 for a graphical view of an intake structure incorporating a bay or cove.* [See also definition for **intake embayment/bay/cove**.]

Figure 1. Example of an Intake Structure Incorporating a Bay or Cove



Combined Cycle Unit: An electric generating unit that has one or more gas turbine or internal combustion engines and one or more steam boilers. Part of the required input to the boiler(s) is provided by the exhaust gas (waste heat) of the combustion turbine(s).

Cooling Canal/Channel: An artificial, channelized waterway used to transfer heat added to water from operations within a facility to the atmosphere.

Cooling Lake: An expanse of water, generally surrounded by land and an artificial retainer such as a dam. It is used to transfer heat added to water from operations within a facility to the atmosphere. Cooling lakes are used with both once-through and recirculating cooling water systems.

Cooling Operations: Activities that transfer heat from one medium or activity to cooling water (with the exception of nonprocess air conditioning).

Cooling Pond: A still body of water generally constructed on dry land. Its primary purpose is to transfer heat added to water from operations within a facility to the atmosphere. Constructed cooling ponds are often larger than many natural lakes. They are used with both once-through and recirculating cooling water systems.

Cooling Tower: A framed structure that is typically higher than its width. It can stand apart or be attached to a larger structure. Cooling towers are used to transfer heat added to water from operations within a facility to the atmosphere. Cooling towers can be used with recirculating cooling water systems where the entire discharge flow is returned to the facility. They can also be used with nonrecirculating systems to treat all or a portion of the discharge flow from a facility where it is ultimately returned to the receiving water body.

Cooling Water: Water used for both contact and noncontact cooling purposes, including water used for air conditioning, equipment cooling, evaporative cooling tower makeup, and dilution of effluent heat content. The intended use of the cooling water is to absorb waste heat rejected from the process or processes employed or from auxiliary operations on the facility's premises.

Cooling Water Intake Structure: The total structure and associated technologies used to direct water from a water body into a facility up to the point of the first intake pump or series of pumps. The intended use of the cooling water is to absorb waste heat rejected from processes employed or from auxiliary operations on the facility's premises. Single cooling water intake structures might have multiple intake bays. If a facility has an intake structure that withdraws water for other purposes in addition to cooling, the entire intake structure should be considered a cooling water intake structure for purposes of this questionnaire.

Cooling Water System: A system that provides water to/from a facility to transfer heat from equipment or processes therein. The system includes, but is not limited to, water intake and outlet structures, cooling towers, ponds, pumps, pipes, and canals/channels. For facilities that use surface water for cooling, a system begins at the first barrier to ingress and/or egress by fish and other aquatic wildlife (e.g., at the trash rack, etc.) and ends at the discharge outlet(s). *See also Cooling Water Intake Structure.*

Design Through-Screen Velocity: The value assigned during the design phase of a CWIS to the speed at which intake water passes through the cooling water intake screen (or other technology) against which organisms may be impinged or where they may be entrained.

Discharge: Outflow of wastewater from a facility to waters of the United States.

Domestic Parent Firm: The highest level domestic business entity in a facility's organizational structure. A firm that is owned by another U.S. firm is *not* a domestic parent firm. A U.S. firm that is owned by a foreign firm *is* a domestic parent firm.

DUNS Number: A number assigned to a business using the Data Universal Numbering System (DUNS) developed by the Dun and Bradstreet Corporation.

Effluent: Outflow of wastewater from a facility to waters of the United States.

Estuary: A semi-enclosed coastal body of water that has a free connection with the open sea and is strongly affected by tidal action. In an estuary, sea water is mixed (and usually measurably diluted) with fresh water inflow from rivers. (NOTE: *The Chesapeake Bay and the San Francisco Bay are examples of estuaries even though the term bay appears in their names.*)

Fish Diversion or Avoidance System: Mechanisms designed to divert or induce fish to swim away from a water intake structure.

Fish Handling and/or Return System: Any system that collects and/or transports live organisms and debris away from an intake structure.

Full-Time Equivalent Employee (FTE): The normalized unit for counting employees at a facility. One FTE equals 2,000 hours of work (8 hours per day for 250 days) during a calendar year. As such, two part-time employees, each working 1,000 hours per year, would be counted together as one FTE.

Generating Unit: A combination of physically connected generator(s), reactor(s), boiler(s), combustion turbine(s), or other prime mover(s) operated together to produce electric power.

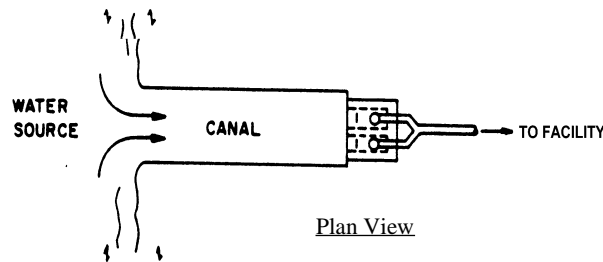
Gross Electricity Generation: The total amount of electric energy produced by the generating units of a given facility.

Groundwater Injection Well: A man-made or improved “hole” in the ground that is deeper than its widest surface dimension and is used to discharge or dispose of fluids to groundwater (the supply of water found beneath the earth’s surface; it is usually held in aquifers and is often the source of water for streams, springs, or wells from which it may be withdrawn). There are many types of injection wells, but they are all similar in their basic function. The Federal Underground Injection Control Program has grouped injection wells into five categories—Class I through V wells.

Intake Bays: Temporary holding areas designed to direct water toward the pump well of a specific intake structure.

Intake Canal/Channel (*natural or constructed*): A channelized conduit that directs water through screens or other filtering devices up to the intake pump or series of pumps. *See Figure 2 for a graphical view of an intake structure employing an intake canal.*

Figure 2. Example of an Intake Structure Employing an Intake Canal



Intake Embayment/Bay/Cove: A natural or constructed inlet along the shoreline of a water body that serves to direct water through screens or other filtering devices up to the intake pump or series of pumps.

Intake Screen System: Devices placed at or near the opening of an intake structure to mechanically stop debris and/or organisms from entering a facility's water system.

Intake Structure: See *Cooling Water Intake Structure*.

Lake: An expanse of water, usually fresh, surrounded by land or by land and a manmade retainer. Lakes may be fed by rivers, streams, springs, and/or local precipitation.

Makeup Water: "New water" intended to replace water lost to evaporation or blowdown in a recirculating system.

New Water: Water that the facility directly withdraws from a water source through an intake structure or water received from another entity. New water does not include water that is recirculated or recycled within the facility.

Nontidal River or Stream: A river or stream is nontidal when no significant inflow of water from an ocean or bay due to tidal action occurs.

Nonutility Power Producer: A corporation, person, agency, authority, or other legal entity or instrumentality that owns electric generating capacity and is not an electric utility. Nonutility power producers include Federal Energy Regulatory Commission (FERC) Qualifying Cogenerators, FERC Qualifying Small Power Producers, and Other Nonutility Generators (including Independent Power Producers) without a designated franchised service area and who do not file forms listed in the *Code of Federal Regulations*, Title 18, Part 141.

North American Industrial Classification System: A new system initiated in January 1997 to classify industries. This new system replaces the existing Standard Industrial Code (SIC) system and identifies industries according to the type of production activities performed. NAICS industries are identified using a 6-digit code.

NPDES (National Pollutant Discharge Elimination System) Permit: A permit required to be held under Section 402 of the Clean Water Act (33 U.S.C. 1342 *et seq.*) by any point source discharging pollutants directly to waters of the United States. Permits may address effluent discharges, storm water, or sewage sludge management practices and may be issued by an EPA Region or a Federally-approved State NPDES program.

Ocean: Marine open coastal waters other than those water bodies classified as estuaries, embayments or fjords, each of which are semi-enclosed and have readily identifiable geographic boundaries.

Once-through Cooling Water System: A system designed to withdraw water from a natural or other water source, run it through a facility for contact and/or noncontact cooling purposes, and then discharge it to a water body without recirculation. Once-through cooling water systems may use nonrecirculating canals/channels, lakes, ponds, or towers to “help” dissipate waste heat from the water before it is discharged.

Operating Days: The total number of days (1 day = 24 hours) a cooling water intake structure operated during a specified time period, excluding any days the cooling water intake structure was offline for routine maintenance or otherwise was not operational. A partial day (i.e., operations of less than 24 hours) does not constitute an operating day and should not be counted as such.

Passive Intake System: Devices placed at or near the opening of an intake structure that, with little or no mechanical activity, stops debris and/or organisms from entering a facility’s water system. Most passive intake systems achieve very low withdrawal velocities at the screening medium.

Planned or Under Construction: Cooling water intake structures or cooling water systems for which funds have been authorized and that are expected to go into commercial service within the next 7 years. The term does *not* include intake structures or cooling water systems that are presently operating, temporarily offline, permanently offline, or operating under test conditions.

Point Source: Any discernible, confined, and discrete conveyance, including but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, landfill leachate collection system, vessel or other floating craft from which pollutants are or may be discharged. The term does not include return flows from irrigated agriculture or agricultural storm water run off. *See also 40 CFR 122.2.*

Pond: A still body of water generally smaller than a lake.

Presently Operating: Cooling water intake structures or cooling water systems currently taking in water for cooling purposes.

Prime Mover: The engine, turbine, water wheel, or similar machine that drives an electric generator. It can also be a device that directly converts energy to electricity such as a photovoltaic solar cell or a fuel cell.

Privately-owned Treatment Works: A device or system which is (a) used to treat wastes from any facility whose operator is not the operator of the treatment works and (b) is not a publicly-owned treatment works.

Process Operations: Industrial activities that directly result in the production of a facility's primary output.

Production Line: Each of the successive steps taken at a facility to produce a product, except the production line's use of electricity.

Publicly-owned Treatment Works: A treatment works owned by a State or municipality. The term refers to any devices and systems used to store, treat, recycle, and reclaim municipal sewage or industrial wastes of a liquid nature. It also refers to sewers, pipes, and other conveyances only if they convey wastewater to a POTW.

Recirculating Cooling Water System: A system designed to withdraw water from a natural or other water source to support contact and noncontact cooling uses within a facility. The water is generally sent to a cooling canal/channel, lake, pond, or tower in order for waste heat to be dissipated. (Some facilities may divert the "waste heat" to other process operations.) Once accomplished, the water is returned to the system. New source water (called makeup water) is added to the system to replenish losses that have occurred due to blowdown, drift, and evaporation.

Reservoir: An artificial body of surface water retained by a dam.

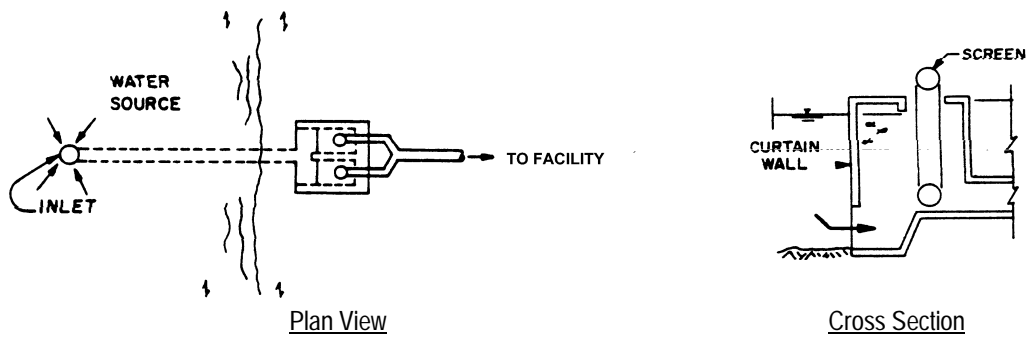
Standard Industrial Classification (SIC) Code: A national classification system that organizes business entities into production-based and market-based categories identified by a 4-digit code. Since the 1930s, SIC codes have been used to facilitate the collection, tabulation, presentation, and analysis of data relating to U.S. business establishments by Federal statistical agencies (e.g., Office of Management and Budget or OMB, Bureau of the Census, etc.). The system was last updated by OMB in 1987. It was recently replaced by the North American Industry Classification System (NAICS) in 1997; however, it continues to be used by many Federal agencies such as EPA. An SIC listing can be found at the following Internet site: www.osha.gov/cgi-bin/sic/sicser5.

Steam Electric Generating Unit: A generating unit in which the prime mover is a steam turbine. The turbines convert thermal energy (steam or hot water) produced by the generators or boilers to mechanical energy or shaft torque. The mechanical energy is then used to power electric generators whereby the mechanical energy is converted to electricity.

Storm Water: The term refers to rainfall runoff, snow melt runoff, and surface runoff and drainage.

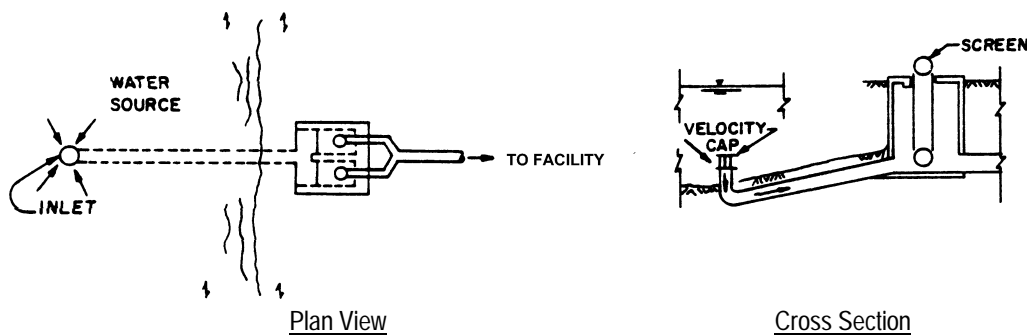
Submerged Intake Structure Flush with the Shoreline: An intake structure whose opening is closely aligned with the shoreline and that always withdraws water from below the surface of the water body. *See Figure 3 for a graphical view of a submerged intake structure flush with the shoreline.*

Figure 3. Example of a Submerged Intake Structure Flush With Shoreline



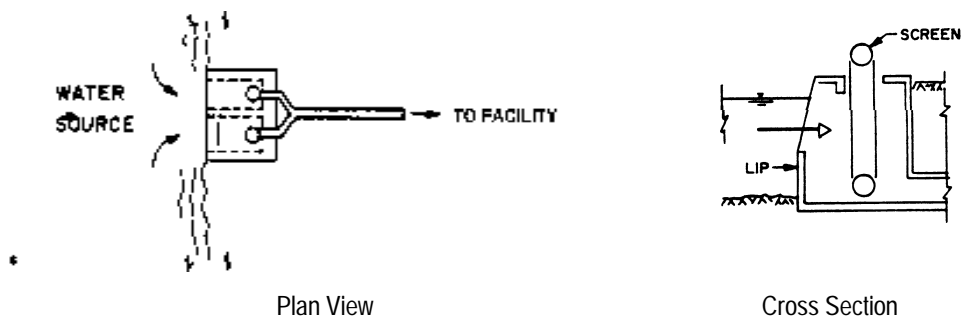
Submerged Offshore Intake Structure: An intake structure that extends from a facility outward into a water body. The intake opening is submerged, and the water withdrawn is always from below the surface of the water body. *See Figure 4 for a graphical view of a submerged offshore intake structure.*

Figure 4. Example of a Submerged Offshore Intake Structure



Surface Intake Structure Flush with the Shoreline: An intake structure whose opening is evenly aligned with the shoreline and that generally withdraws water from the surface of a water body. *See Figure 5 for a graphical view of a surface intake structure flush with the shoreline.*

Figure 5. Example of a Surface Intake Structure Flush with Shoreline



Surface Water: The term includes lakes, ponds, or reservoirs; nontidal rivers or streams; tidal rivers; estuaries; fjords; oceans; and bays/coves.

Temporarily Offline: Cooling water intake structures or cooling water systems presently out of commercial service but expected to return to service. The category includes systems or intake structures on inactive reserve and deactivated (i.e., systems or intake structures not normally used but available for service).

Tidal River: A tidal river is the portion of the river above the river's mouth that receives a regular, significant inflow of water from an ocean or bay due to tidal action.

Total Annual Sales of Electricity: The sum of electricity sales to ultimate consumers and sales of electricity for resale.

Total Annual Sales Revenue: The total amount of money received by a firm from sales of its products and/or services over 365 days. The value does *not* include gains from investments or extraordinary gains, such as increases in owners' equity from capital adjustments or gains from the sale or exchange of assets.

Trash Rack: *See Bar Rack.*

Typical Calendar Year: A year in which the facility and its cooling water intake structures are operated in a normal, routine, regular, or otherwise standard fashion.

Water Body: For purposes of this questionnaire, water body refers to surface water used by cooling water intake structures. The term includes oceans, lakes, reservoirs, rivers, streams, fjords, ponds, bays/coves, and estuaries.

Waters of the United States: All waters which are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide. Waters of the United States include, but are not limited to, all interstate waters and intrastate lakes, rivers, streams (including intermittent streams), mudflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds. *See 40 CFR 122.2 for a more complete definition.*