

**Information Collection Request for  
Cooling Water Intake Structures New  
Facility (Renewal)**

**OMB Control No. 2040-0241, EPA ICR No. 1973.05**

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# 1 IDENTIFICATION OF THE INFORMATION COLLECTION

## **1a Title of the Information Collection**

Information Collection Request for Cooling Water Intake Structures New Facility Final Rule (Renewal). EPA ICR Number: 1973.05; OMB Control Number: 2040-0241

## **1b Short Characterization/Abstract**

The section 316(b) New Facility Rule requires the collection of information from new facilities that use cooling water intake structures (CWIS). Section 316(b) of the Clean Water Act (CWA) requires that any standard established under section 301 or 306 of the CWA and applicable to a point source must require that the location, design, construction and capacity of CWISs at that facility reflect the best technology available (BTA) for minimizing adverse environmental impact. Such impact occurs as a result of impingement (where fish and other aquatic life are trapped on technologies at the entrance to cooling water intake structures) and entrainment (where aquatic organisms, eggs, and larvae are taken into the cooling system, passed through the heat exchanger, and then pumped back out with the discharge from the facility). This rule establishes standard requirements applicable to the location, design, construction, and capacity of cooling water intake structures at new facilities. These requirements seek to minimize the adverse environmental impact associated with the use of CWISs.

Under the rule, a new facility is defined as any building, structure, facility, or installation that meets the definition of a “new source” or “new discharger” in 40 CFR 122.2 and 122.29(b),(1), (2) and (4); commences construction after January 17, 2002; and uses either a newly constructed cooling water intake structure or an existing cooling water structure whose design capacity is increased to accommodate the intake of additional cooling water (40 CFR 125.83). According to the final rule, before a new facility is subject to this regulation it must first be a point source (i.e., be subject to a National Pollutant Discharge Elimination System (NPDES) permit) that uses or proposes to use a CWIS, has at least one cooling water intake structure that uses at least 25 percent (measured on an average monthly basis) of the water it withdraws for cooling purposes, and has a design intake flow greater than two million gallons per day (MGD). Use of a cooling water intake structure includes obtaining cooling water by any sort of contract or arrangement with an independent supplier (or multiple suppliers) of cooling water if the supplier or suppliers withdraw(s) water from waters of the United States (40 CFR 125.81).

Generally, facilities that meet these criteria fall into two major groups, new power producing facilities and new manufacturing facilities. Power producers affected by the final rule could be either utility or nonutility power producers since either typically have large cooling water requirements. The U.S. Environmental Protection Agency (EPA) identified four categories of manufacturing facilities that also tend to require large amounts of cooling water: paper and allied products, chemical and allied products, petroleum and coal products, and primary metals (see section 4a). However, the New Facility Rule is not limited to manufacturers in these sectors; any new manufacturer that meets the criteria above is subject to the rule.

The section 316(b) New Facility Rule requires several distinct types of information collection as part of the NPDES application. In general, the information is used to identify which of the standard requirements in the final rule apply to the facility, how the facility is meeting these requirements, and whether the facility is meeting the goal of minimizing adverse environmental impact. Specific data requirements that would apply to all facilities are:

- **source water physical data** for evaluation of potential impact to the water body in which the intake structure is placed
- **cooling water intake structure data** consisting of intake structure design and facility water balance diagram to evaluate the potential for impingement and entrainment of aquatic organisms
- **source water baseline biological characterization data** that characterizes the biological community in the vicinity of the cooling water intake structure, along with a description of data sources and data collection procedures
- **source waterbody flow data** to demonstrate compliance with the proportional flow (i.e., intake flow may not exceed a certain proportion of source water body flow) requirements

Additional data requirements would apply to facilities, depending on which of two alternative permitting tracks they choose. Specific data requirements that would apply to facilities choosing to comply with the requirements of Track I are:

- **flow reduction and velocity information** to demonstrate compliance with the flow reduction and velocity requirements
- **design and construction technology plan** to demonstrate compliance with the requirement to implement technologies to minimize impingement and entrainment and maximize survival of impinged organisms

Specific data requirements that would apply to facilities choosing to comply with the requirements of Track II are:

- **comprehensive demonstration study** that characterizes the source water baseline in the vicinity of the intake, characterizes operation of the cooling water intake, and confirms that proposed technologies reduce the level of impingement and entrainment mortality to a comparable level that would be achieved by implementing the flow reduction, velocity and technology requirements of Track I

The section 316(b) New Facility Rule also contains a provision for alternative requirements (40 CFR 125.85) if a requestor can demonstrate to the Director<sup>1</sup> that data specific to the facility indicates that compliance costs are wholly out of proportion to the costs EPA considered in

<sup>1</sup> Director means the Regional Administrator or the State Director, as the context requires, or an authorized representative. When there is no “approved State program,” and there is an EPA administered program, “Director” means the Regional Administrator. When there is an approved State program, “Director” normally means the State Director. In some circumstances, however, EPA retains the authority to take certain actions even when there is an approved State program. (For example, when EPA has issued an NPDES permit prior to the approval of a State program, EPA may retain jurisdiction over that permit after program approval) In such cases, the term “Director” means the Regional Administrator and not the State Director.

establishing the 316(b) New Facility Rule or would result in significant adverse impacts on local water resources other than impingement or entrainment, or significant adverse impacts on local energy markets. EPA anticipates that most facilities will choose to comply with either Track I or Track II. However, if a facility did request alternative requirements it is anticipated that the burden would be similar to that of Track II.

In addition to the information requirements of the NPDES permit application, NPDES permits normally specify monitoring and reporting requirements to be conducted by the permitted entity. New facilities that fall within the scope of this rule are required to perform biological monitoring of impingement and entrainment, monitoring of the through-screen or through-technology velocity, and visual or remote inspections of the CWIS and any design and construction technologies. The results of each facility's monitoring efforts are expected to be analyzed and then published yearly in an annual status report to the permitting Director. Finally, facilities are required to maintain records of all submitted documents, supporting materials, and monitoring results for at least three years.

Authorized States were required to update their programs to be consistent with the cooling water intake requirements after they were published as final regulations. State Directors are required to also review all materials submitted to them by the facilities within the scope of the regulation, and confirm their compliance with the section 316(b) New Facility Rule. Directors are also required to work with new facilities to determine if design and construction technologies are necessary and appropriate to minimize adverse environmental impact.

As suggested, the primary users of this information will be States authorized to administer the NPDES permitting program and EPA. It is anticipated that other government agencies, both at the State and Federal level, as well as public interest groups, private companies, and individuals will also use the data.

The first ICR approval period covering years 1 through 3 after promulgation expired in February of 2005. The first ICR renewal period covering years 4 through 6 after promulgation expired in June of 2008. The second ICR renewal period covering years 7 through 9 after promulgation expires in December of 2011. This Supporting Statement is for the third renewal ICR, covering years 10 through 12 after promulgation, being submitted to OMB for re-approval of the section 316(b) New Facility Rule information collection. For the third ICR renewal period after rule promulgation, the information collection required by the rule will involve responses from an estimated total of 86 facilities and 47 States and Territories and cost approximately \$31.7 million (including labor costs, capital costs, and operation and maintenance costs), with an annual average of 128 respondents, 138,421 burden hours, and \$10.6 million per year (including labor costs, capital costs, and operation and maintenance costs). The total annual average cost (including capital costs and operation and maintenance costs) is \$2.5 million per year (see Exhibit A11 in Appendix A).

## **2 NEED FOR AND USE OF THE COLLECTION**

### **2a Need/Authority for the Collection**

The section 316(b) New Facility Rule requires the collection of information from new facilities that use a cooling water intake structure. The information requirements in this ICR are necessary to ensure that new facilities are complying with the rule's provisions, and thereby minimizing adverse environmental impact resulting from impingement and entrainment losses due to the withdrawal of cooling water.

Section 316 was included in the Federal Water Pollution Control Act of 1972 for the express purpose of regulating thermal discharges and to address the environmental impact of cooling water intake structures. Moreover, section 316(b) is the only provision in the CWA that focuses exclusively on water intake. Section 316(b) provides that “[a]ny standard established pursuant to [CWA section 301] or [CWA section 306] and applicable to a point source shall require that the location, design, construction, and capacity of cooling water intake structures reflect the best technology available for minimizing adverse environmental impact.” The requirements of section 316(b) are closely linked to several of the core elements of the National Pollutant Discharge Elimination System (NPDES) permit program established under the CWA. Conditions implementing section 316(b) continue, under this rule, to be included in NPDES permits issued under section 402 of the CWA.

### **2b Practical Utility/Users of the Data**

This ICR covers information that must be submitted to permitting authorities and data that must be collected and maintained on-site by the facility. Each new facility maintains facility-level records of the measurements, diagrams, and calculations submitted to the Director, as well as the analytical results of monitoring actions. Facilities use the data to:

- monitor CWIS performance
- monitor the performance of design and construction technologies.

Under the section 316(b) New Facility Rule rule, EPA and state NPDES Directors are to maintain records compiled from the regulated facilities. Much of the basic information obtained from the NPDES permit application is stored in EPA's Permit Compliance System (PCS) or the Integrated Compliance Information System (ICIS), the Agency's old and modernized NPDES program databases, respectively. PCS and ICIS are used to track permit limits, permit expiration dates, monitoring data, and other data, and provide EPA with a nationwide inventory of permit holders.

EPA Headquarters uses the information contained in PCS and ICIS databases to develop reports on permit issuance, backlog, and compliance rates. The Agency also uses the information to respond to public and Congressional inquiries, develop and guide its policies, formulate its budgets, assist States in acquiring authority for permitting programs, and manage the NPDES program to ensure national consistency in permitting. States use this permit information along

with the additional documentation and the annual reports to track facility monitoring, compliance violations, and enforcement activities.

Permittees must reapply for an NPDES permit every five years. The re-application process is the primary mechanism for obtaining up-to-date and new information concerning on-site conditions. Although under the final rule, new facilities provide data from self-monitoring activities in annual reports to the permitting authority, these reports are a less comprehensive information gathering process than is the permit application process. EPA and States will use re-application data to identify new species at risk or other potential concerns that could lead the permit writers to take the following actions:

- specify additional permit limitations
- assess compliance with applicable standard requirements
- place appropriate special conditions in permits.

Environmental and citizen groups are expected to use the data collected under the final rule to independently assess impingement and entrainment rates for affected water bodies in their location. In addition, the data will be useful for the scientific community for assessing the impact of CWISs on recreational and commercial fisheries productivity and aquatic ecosystem health.

### **3 NONDUPLICATION, CONSULTATIONS, AND OTHER COLLECTION CRITERIA**

The following sections verify and affirm that this Information Collection Request satisfies the Office of Management and Budget's data-collection guidelines, has public support, and does not duplicate another collection.

#### ***3a Nonduplication***

EPA has examined all other reporting requirements contained in the Clean Water Act and 40 CFR parts 122, 123, 124, 125, 403, 501, and 503. The Agency also has consulted the following sources of information to determine if similar or duplicate information is available elsewhere: data collected by offices within EPA; data, reports, and analyses published by other Federal agencies; reports and analyses published by industry; and publicly available financial information compiled by government and private organizations. From this effort, EPA has determined that the information collection and reporting requirements considered in this ICR are not contained or duplicated in other routinely collected documents or reports.

#### ***3b Public Notice Required Prior to ICR Submission to OMB***

In compliance with the 1995 Paperwork Reduction Act (PRA), any agency developing a non-rule-related ICR must solicit public comments prior to submitting the ICR to OMB. These comments, which are used partly to determine realistic burden estimates for respondents, must be considered when completing the Supporting Statement that is submitted to OMB.

This ICR was published in the Federal Register on August, 25, 2011 (76 FR 53123). The notice



included a request for comments on the content and impact of these information collection requirements on the regulated community. EPA did not receive any comments on this ICR.

### **3c Consultations**

EPA finalized the section 316(b) New Facility Rule after conducting outreach activities and considering comments from the public and the regulated community. EPA Headquarters staff responsible for program oversight were contacted to provide revised information and data for this ICR.

### **3d Effects of Less Frequent Collection**

Permitted facilities must reapply for NPDES permits before their existing permits expire, generally once every five years. The CWA prohibits NPDES permits from having terms longer than five years. Less frequent permit applications would not provide the permitting authority with sufficiently current data to establish effective limitations or conditions when reissuing permits and to identify in a timely manner, adverse environmental impact resulting from the operation of new CWISs. In addition, less frequent collection would also hinder the ability of EPA, States, and facility operators to take advantage of technological improvements in impingement and entrainment technologies as they occur, or to track long-term trends.

### **3e General Guidelines**

The information collection requirements of the final rule are in accordance with the Paperwork Reduction Act guidelines at 5 CFR 1320.5(d)(2). Requests for supplemental information for the purposes of emergency response or enforcement activities are exempt from the Paperwork Reduction Act requirements.

### **3f Confidentiality**

Applications for an NPDES permit may contain confidential business information. However, EPA does not consider the specific information being requested by the final rule to be typical of confidential business or personal information. If a respondent does consider this information to be of a personal nature, the respondent may request that such information be treated as confidential. All confidential data will be handled in accordance with 40 CFR 122.7, 40 CFR part 2, and EPA's Security Manual part III, chapter 9, dated August 9, 1976.

### **3g Sensitive Questions**

The section 316(b) New Facility Rule does not require respondents to divulge information pertaining to private or personal information, such as sexual behavior or religious beliefs. Therefore, this section is not applicable.

## 4 THE RESPONDENTS AND THE INFORMATION REQUESTED

### 4a Respondents/SIC/NAICS

The section 316(b) New Facility Rule defines a new facility as any building, structure, facility, or installation that meets the definition of a “new source” or “new discharger” in 40 CFR 122.2 and 122.29(b)(1), (2) and (4); commences construction after January 17, 2002; and uses either a newly constructed cooling water intake structure or an existing cooling water structure whose design capacity is increased to accommodate the intake of additional cooling water. For a new facility to be subject to this regulation it must be a point source (i.e., be subject to a National Pollutant Discharge Elimination System (NPDES) permit) that uses or proposes to use a CWIS, has at least one cooling water intake structure that uses at least 25 percent (measured on an average monthly basis) of the water it withdraws for cooling purposes, and has a design intake flow greater than two million gallons per day (MGD). Use of a cooling water intake structure includes obtaining cooling water by any sort of contract or arrangement with an independent supplier (or multiple suppliers) of cooling water if the supplier or suppliers withdraw(s) water from waters of the United States (40 CFR 125.81).

While respondents would include any facilities that meet the applicable requirements of the rule, EPA estimates that there are six primary industrial sectors that account for more than 99 percent of all cooling water used in the United States. The first two types of facilities that use CWISs include traditional utilities and nonutility power producers. Traditional utilities and nonutility power producers that use cooling water were further limited to those plants that generate electricity by means of steam as the thermodynamic medium (steam electric) because they are associated with large cooling water needs. Facilities in the traditional steam electric utility category are classified under Standard Industrial Classification (SIC) codes 4911 and 493-, while nonutility power producers are classified under the major code that corresponds to the primary purpose of the facility (e.g., the primary code may be SIC 49 if the primary purpose of the facility is to generate electricity).

EPA identified four manufacturing industries that were found to use large amounts of cooling water. These manufacturing industries are Paper and Allied Products (SIC Major Group 26), Chemical and Allied Products (SIC Major Group 28), Petroleum and Coal Products (SIC Major Group 29), and Primary Metals (SIC Major Group 33). SIC and NAICS Codes associated with facilities that may use a CWIS are provided in Table 4-1. A more detailed accounting of SIC and NAICS codes for nonutility power producers is provided in Appendix B.

**Table 4-1. Industry Categories and SIC and NAICS Codes**

| Respondent Industry Categories  | SIC Codes                         | NAICS Codes                                    |
|---|-----------------------------------|--|
| Traditional Steam Electric Utilities  | SIC codes 4911 and 493-           | 221111, 221112, 221113, 221119, 221121, 221122 |
| Steam Electric Nonutility Power Producers:1) Industrial Self-Generators; and 2) Nonindustrial | See Appendix B SIC Major Group 49 | See Appendix B                                 |
| Other Industries:   |                                   |  |
| Agricultural production   | 0133                              | 111991, 11193                                  |

|   |   |   |
|---|---|---|
| Metal mining  | 1011  | 21221   |
| Oil and gas extraction  | 1311, 1321  | 211111, 211112  |
| Mining and quarrying of nonmetallic minerals  | 1474  | 212391  |
| Food and kindred products   | 2046, 2061, 2062,<br>2063, 2075, 2085                                     | 311221, 311311, 311312,<br>311313, 311222, 311225,<br>31214   |
| Tobacco products  | 2141  | 312229, 31221   |
| Textile mill products   | 2211  | 31321   |
| Lumber and wood products, except furniture  | 2415, 2421, 2436,<br>2493   | 321912, 321113, 321918,<br>321999, 321212, 321219   |
| Paper and allied products   | 2611, 2621, 2631,<br>2676   | 3221, 322121, 32213,<br>322121, 322122, 32213,<br>322291  |
| Chemical and allied products  | 28-- (except 2895,<br>2893, 2851, and<br>2879)                            | 325-- (except 325182,<br>32591, 32551, 32532)   |
| Petroleum refining and related industries   | 2911, 2999  | 32411, 324199   |
| Rubber and miscellaneous plastics products  | 3011, 3069  | 326211, 31332, 326192,<br>326299  |
| Stone, clay, glass, and concrete products   | 3241  | 32731   |
| Primary metal industries  | 3312, 3313, 3315,<br>3316, 3317, 3334,<br>3339, 3353, 3363,<br>3365, 3366 | 324199, 331111, 331112,<br>331492, 331222, 332618,<br>331221, 22121, 331312,<br>331419, 331315, 331521,<br>331524, 331525 |
| Fabricated metal products, except machinery and transportation equipment  | 3421, 3499  | 332211, 337215, 332117,<br>332439, 33251, 332919,<br>339914, 332999   |
| Industrial and commercial machinery and computer equipment  | 3523, 3531  | 333111, 332323, 332212,<br>333922, 22651, 333923,<br>33312  |
| Transportation equipment  | 3724, 3743, 3764  | 336412, 333911, 33651,<br>336416  |
| Measuring, analyzing, and controlling instruments; photographic, medical, and optical goods; watches and clocks | 3861  | 333315, 325992  |
| Electric, gas, and sanitary services  | 4911, 4931, 4939,<br>4961   | 221111, 221112, 221113,<br>221119, 221121, 221122,<br>22121, 22133  |
| Educational services  | 8221  | 61131   |

#### **4b Information Requested**

The following sections provide details on data items requested and associated activities that the section 316(b) New Facility rule requires respondents to undertake to provide this information. The two principal respondent categories are new facilities subject to the rule and NPDES program Directors (i.e. States and Tribes authorized under CWA Section 402(b) to administer the NPDES permit program, and EPA regional offices).

Information requirements for new facilities will differ depending on criteria established by the rule. Certain information requirements are applicable to all new permitted facilities to which the

rule applies. Other information requirements are based on which of two alternative permitting tracks the facility chooses to comply with in the rule.

Since section 316(b) standards are implemented through NPDES permits, the section 316(b) New Facility Rule affects Directors in a manner similar to other changes to NPDES program requirements. There are currently 46 States and one territory authorized under CWA Section 402(b) to implement the NPDES permit program; these new cooling water intake structure requirements potentially affect authorized State NPDES programs.

#### **4b(i) Data Items, Including Record Keeping Requirements**

Data items required by the rule are gathered for either record keeping or reporting purposes. There are several data items that are collected only during the year(s) prior to the beginning of each permit cycle, and others that are required to be collected on an annual basis.

##### ***Reporting Requirements***

The section 316(b) New Facility regulations do not require the Director to prepare or submit any reports beyond what is currently required of them under the NPDES program. However, Directors need to review, maintain records of, and make permitting determinations based upon all documents and reports submitted to them by new facilities.

At the time a new facility submits its NPDES application (180 days prior to operation), the rule requires the facility to submit information demonstrating that it is employing the best technology available for its cooling water intake structure to minimize adverse environmental impact in compliance with section 316(b) of the CWA. The information is used to identify which of the requirements in the rule apply to the facility, how the facility is meeting these requirements, and whether the facility is meeting the goal of minimizing adverse environmental impact. Four types of information are required to be included in the NPDES permit applications for all new facilities: (1) source water physical data, (2) cooling water intake structure data, (3) source water baseline biological characterization data, and (4) source waterbody flow data.

Additional types of information are required to be included in the NPDES permit applications for new facilities, depending on which of two alternative permitting tracks they choose to comply with. The additional types of information required to be included in the NPDES permit applications for facilities choosing to comply with the requirements of Track I are: (1) flow reduction information, (2) velocity information, and (3) Design and Construction Technology Plan.

Facilities choosing to comply with the requirements of Track II must perform a Comprehensive Demonstration Study. The additional types of information required to be included in the NPDES permit application as part of this study are: (1) an information collection proposal plan, (2) a Source Water Biological Study, (3) an evaluation of potential cooling water intake structure effects, and (4) a Verification Monitoring Plan.

#### **INFORMATION REQUIREMENTS FOR ALL NEW FACILITIES**

### Source Water Physical Data

The final rule requires source water information to evaluate potential impact to the water body in which the intake structure is placed. Typically, intake structures are located offshore, at the shoreline or at the end of an approach intake canal. The intake structure would be affecting different species or life stages depending on its location in the source water and source water type. For example, intakes located at the shoreline could affect spawning and nursery areas and intakes located offshore could affect migratory routes. In addition, the proximity of the intake structures to sensitive aquatic ecological areas may result in potential environmental impact. Specific source water physical data items include:

- a narrative description and scale drawings showing the physical configuration of all source water bodies used by the facility, including areal dimensions, depths, salinity and temperature regimes, and other documentation that support the determination of the water body type where each CWIS is located (40 CFR 122.21(r)(2)(i))
- identification and characterization of source waterbody hydrological and geomorphological features, and methods used to conduct any physical studies to determine the intake's area of influence within the waterbody and the results of such studies (40 CFR 122.21(r)(2)(ii))
- locational maps (40 CFR 122.21(r)(2)(iii)).

### Cooling Water Intake Structure Data

The section 316(b) New Facility Rule requires information on the intake structure and the facility's water balance to evaluate the potential for impingement and entrainment of aquatic organisms. Information on the design of the intake structure and its location in the water column allows EPA to evaluate which species or life stages would potentially be subject to impingement and entrainment. A diagram of the facility's water balance would be used to identify the proportion of intake water used for cooling, make-up, and process water. The water balance diagram also would provide a picture of the total flow in and out of the facility, allowing EPA to evaluate compliance with the flow reduction requirements. Specific intake structure data items include:

- a narrative description of the configuration of each of the cooling water intake structures and where it is located in the water body and in the water column (40 CFR 122.21(r)(3)(i))
- latitude and longitude in degrees, minutes, and seconds for each of the cooling water intake structures (40 CFR 122.21(r)(3)(ii))
- a narrative description of the operation of each of the cooling water intake structures, including design intake flows, daily hours of operation, number of days of the year in operation, and seasonal changes, if applicable (40 CFR 122.21(r)(3)(iii))
- a flow distribution and water balance diagram that includes all sources of water to the facility, recirculating flows, and discharges (40 CFR 122.21(r)(3)(iv))
- engineering drawings of the cooling water intake structure (40 CFR 122.21(r)(3)(v)).

### Source Water Baseline Biological Characterization Data

This information is required to characterize the biological community in the vicinity of the cooling water intake structure and to characterize the operation of the cooling water intake structures. The Director may use this information in subsequent permit renewal proceedings to determine if the Design and Construction Technology Plan should be revised. Supporting information must include existing data (if available), which may be supplemented using actual field studies. Specific source water baseline biological characterization data items include:

- a list of the data that are not available and efforts made to identify sources of the data (40 CFR 122.21(r)(4)(i))
- a list of species (or relevant taxa) for all life stages and their relative abundance in the vicinity of the intake (40 CFR 122.21(r)(4)(ii))
- identification of the species and life stages that would be most susceptible to impingement and entrainment. Species evaluated should include the forage base as well as those most important in terms of significance to commercial and recreational fisheries. (40 CFR 122.21(r)(4)(iii))
- identification and evaluation of the primary period of reproduction, larval recruitment, and period of peak abundance for relevant taxa (40 CFR 122.21(r)(4)(iv))
- data representative of the seasonal and daily activities of biological organisms (for example feeding and water column migration) in the vicinity of the intake (40 CFR 122.21(r)(4)(v))
- identification of all threatened, endangered, and other protected species that might be susceptible to impingement and entrainment at the intake (40 CFR 122.21(r)(4)(vi))
- documentation of any public participation or consultation with Federal or State agencies undertaken in development of the plan (40 CFR 122.21(r)(4)(vii))
- if the above information is supplemented with data collected using actual field studies, a description of all methods and quality assurance procedures for data collection, sampling, and analysis including a description of the study area; identification of the biological assemblages (including all life stages of fish and shellfish) to be sampled and/or evaluated; data collection, sampling, and analysis methods. The sampling and/or data analysis methods used must be appropriate for a quantitative survey and based on a consideration of methods used in other biological studies performed within the same source water body. The study area should include, at a minimum, the area of influence of the cooling water intake structure. (40 CFR 122.21(r)(4)(viii))

### Source Waterbody Flow Information

The section 316(b) New Facility Rule requires information to demonstrate that the facility is complying with proportional flow (i.e., intake flow may not exceed a certain proportion of source water body flow) requirements. Specific source water body flow data items are:

- if the cooling water intake structure is located in a **freshwater river or stream**, the annual mean flow and any supporting documentation and engineering calculations to show that the cooling water intake structure meets the flow requirements (40 CFR 125.86(b)(3)(i) or 125.86(c)(1)(i))
- if the cooling water intake structure is located in an **estuary or tidal river**, the mean low water tidal excursion distance and any supporting documentation and engineering

calculations to show that the cooling water intake structure facility meets the flow requirements (40 CFR 125.86(b)(3)(ii) or 125.86(c)(1)(ii))

- if the cooling water intake structure is located in a **lake or reservoir**, a narrative description of the water body thermal stratification, and any supporting documentation and engineering calculations to show that the thermal stratification will not be altered by the total design intake flow (40 CFR 125.86(b)(3)(iii) or 125.86(c)(1)(iii)).

## ADDITIONAL INFORMATION REQUIREMENTS FOR TRACK I

### Flow Reduction Information

The section 316(b) New Facility Rule requires information to demonstrate that the facility has reduced its flow to a level commensurate with that which can be attained by a closed-cycle recirculating cooling water system. Specific flow reduction data items include:

- a narrative description of the system that has been designed to reduce flow to a level commensurate with that which can be achieved by a closed-cycle recirculating cooling water system and any engineering calculations, including documentation demonstrating that make-up and blowdown flows have been minimized (40 CFR 125.86(b)(1)(i))
- if the flow reduction requirement is met entirely, or in part, by reusing or recycling water withdrawn for cooling purposes in subsequent industrial processes, documentation that the amount of cooling water that is not reused or recycled has been minimized (40 CFR 125.86(b)(1)(ii)).

### Velocity Information

The section 316(b) New Facility Rule requires information to demonstrate that the facility is complying with the requirement to meet a maximum through-screen design intake velocity of no more than 0.5 ft/s at each cooling water intake structure. Specific velocity data items are:

- a narrative description of the design, structure, equipment, and operation used to meet the velocity requirement (40 CFR 125.86(b)(2)(i))
- design calculations showing that the velocity requirement will be met at minimum ambient source water surface elevations (based on best professional judgment using available hydrological data) and maximum head loss across the screens or other device (40 CFR 125.86(b)(2)(ii)).

### Design and Construction Technology Plan

The section 316(b) New Facility Rule requires information to demonstrate that the facility has implemented the design and construction technologies necessary to minimize impingement and entrainment and maximize survival of impinged organisms. The plan must contain information on the technologies that the facility will implement based on the results of the Source Water Biological Baseline Characterization. Specific design and construction technology plan data items include:

- Delineation of the hydraulic zone of influence for your CWIS (40 CFR 125.86(b)(4)(ii))

- a narrative description of the design and operation of the design and construction technologies, including fish-handling and return systems, that the facility will use to maximize the survival of those species expected to be most susceptible to impingement. This description should include species-specific information that demonstrates the efficacy of the technology (40 CFR 125.86(b)(4)(iii)(A))
- a narrative description of the design and operation of the additional design and construction technologies that the facility will use to minimize entrainment of those species expected to be the most susceptible to entrainment. This description should include species-specific information that demonstrates the efficacy of the technology (40 CFR 125.86(b)(4)(iii)(B))
- design calculations, drawings, and estimates to support the above descriptions (40 CFR 125.86(b)(4)(iii)(C)).

## ADDITIONAL INFORMATION REQUIREMENTS FOR TRACK II

### Track II Comprehensive Demonstration Study

The section 316(b) New Facility Rule requires information in the form of a Comprehensive Demonstration Study to characterize the source water baseline in the vicinity of the intake, characterize operation of the cooling water intake, and confirm that proposed technologies reduce the level of impingement and entrainment mortality to the same level that would be achieved by implementing the flow reduction, velocity and technology requirements of Track I. The facility must develop and submit a plan to the Director containing a proposal of how information will be collected to support the study. Documentation of the results of the study must also be submitted to the Director. Specific Track II comprehensive demonstration study data items include:

- a description of the proposed technologies to be evaluated in the study (40 CFR 125.86(c)(2)(iii)(A))
- a list and description of any historical studies characterizing the physical and biological conditions in the vicinity of the proposed or actual intakes and their relevancy to the proposed study. If the facility proposes to rely on existing source water body data, it must be no more than 5 years old, and the facility must demonstrate that the existing data are sufficient to develop a scientifically valid estimate of potential impingement and entrainment impacts, and provide documentation showing that the data were collected using appropriate quality assurance procedures. (40 CFR 125.86(c)(2)(iii)(B))
- any public participation or consultation with Federal or State agencies undertaken in development of the plan (40 CFR 125.86(c)(2)(iii)(C))
- a sampling plan for data that will be collected using actual field studies in the source water body. The sampling plan must document all methods and quality assurance procedures for data collection, sampling, and analysis. The proposed sampling and data analysis methods must be appropriate for a quantitative survey and based on a consideration of methods used in other studies performed in the source water body. The sampling plan must include a description of the study area (which must include the area of influence of the cooling water intake structure and at least 100 meters beyond); identification of the biological assemblages to be sampled (including all life stages of fish and shellfish); data collection, sampling, and analysis methods. (40 CFR 125.86(c)(2)(iii)(D))



- Source Water Biological Study. This must include:
  - a taxonomic identification and characterization of aquatic biological resources to provide: a summary of historic and contemporary aquatic biological resources; determination and description of the target populations of concern (those species of fish and shellfish and life stages that would be most susceptible to impingement and entrainment); and a description of the abundance and temporal/spatial characterization of the target populations based on the collection of multiple years of data to capture the seasonal and daily activities (for example feeding and water column migration) in the vicinity of the cooling water intake structure (40 CFR 125.86(c)(2)(iv)(A)(1))
  - an identification of all threatened and endangered species that might be susceptible to impingement and entrainment by the cooling water intake structures (40 CFR 125.86(c)(2)(iv)(A)(2))
  - a description of additional chemical, water quality, and other anthropogenic stresses on the source waterbody (40 CFR 125.86(c)(2)(iv)(A)(3)).
- Evaluation of Potential Cooling Water Intake Structure Effects. This must include:
  - calculations of the reduction in impingement mortality and entrainment of all life stages of fish and shellfish that would need to be achieved by the technologies the facility has selected to implement to meet requirements under Track II. To do this, the facility must determine the reduction in impingement mortality and entrainment that would be achieved by implementing the requirements of 40 CFR 125.84(b)(1) and (2) of Track I at the site. (40 CFR 125.86(c)(2)(iv)(B)(1))
  - an engineering estimate of efficacy for the proposed and/or implemented technologies in minimizing impingement and entrainment of all life stages of fish and shellfish and to maximize survival of impinged life stages of fish and shellfish. The facility must demonstrate that the proposed technologies reduce impingement losses and entrainment of all life stages of fish and shellfish to a comparable level to that which would be achieved by meeting Track I requirements at that site. The efficacy projection must include a site-specific evaluation of technology suitability for reducing impingement and entrainment based on the Source Water Biological Study. (40 CFR 125.86(c)(2)(iv)(B)(2))
  - a characterization of impingement and entrainment estimates of the proposed alternative technology based on case studies in the vicinity of the CWIS and/or site-specific technology prototype studies (40 CFR 125.86(c)(2)(iv)(B)(2)).
- Verification Monitoring Plan. This must include, at a minimum, two years of monitoring to verify the full-scale performance of the alternative technologies. The plan must describe the frequency of monitoring, the parameters to be monitored, and the measures that the facility will take if the proposed and/or implemented technologies do not achieve a reduction in impingement and entrainment mortality for all life stages of fish and shellfish equivalent to the level documented in the efficacy projection described above. Verification monitoring must begin at the start of operations of the CWIS and continue for a sufficient period of time to demonstrate that the facility is reducing the level of impingement and entrainment to the level documented in the Evaluation of Potential Cooling Water Intake Structure Effects (40 CFR 125.86(c)(2)(iv)(B)). (40 CFR 125.86(c)(2)(iv)(D))

### ANNUAL REPORTING REQUIREMENTS

In addition to the one-time reporting requirements, operators are required to provide the following information in a yearly status report:

- biological monitoring records for each CWIS as required by 40 CFR 125.87(a) (40 CFR 125.88(b)(1))
- velocity and head loss monitoring records for each CWIS as required by 40 CFR 125.87(b) (40 CFR 125.88(b)(2))
- records of visual or remote inspections as required in 40 CFR 125.87(c). (40 CFR 125.88(b)(3)).

### RECORDKEEPING REQUIREMENTS

All operators of new facilities are required to keep records and to report information and data to the permitting authority to show compliance with any requirements they are subject to in the rule. Records are required to be maintained for a period of at least three years from the date of permit issuance unless extended by the request of the Director. Each operator is required to maintain records of:

- all the data used to complete the permit application and show compliance (40 CFR 125.88(a))
- any supplemental information developed under 40 CFR 125.86 (40 CFR 125.88(a))
- compliance monitoring data submitted under 40 CFR 125.87 (40 CFR 125.88(a)).

The section 316(b) New Facility Rule added several items to the list of records previously maintained by Directors for the NPDES permit program. The additional record keeping items include:

- records of all narrative descriptions, scale drawings, location maps, schematic diagrams, and engineering calculations submitted by new facilities
- records of source waterbody physical and flow information submitted by facilities
- records of source water baseline biological characterization data submitted by facilities
- records of design and construction technology plans submitted by facilities
- records of comprehensive design study plans and study results submitted by new facilities
- records of source water biological studies submitted by facilities
- records of evaluations of potential cooling water intake structure effects submitted by facilities
- records of verification monitoring plans and monitoring results submitted by facilities
- a record of all yearly status reports
- a list of determinations made for each facility
- a list of facilities required to implement design and construction technologies
- a list of monitoring requirements for each system
- a list of all facilities applying for a reduction in their monitoring requirements
- records of any other facility-by-facility and case-by-case decisions made by that Director under the rule.

#### **4b(ii) Respondent Activities**

As mentioned above, respondents include both new facilities and NPDES permit program Directors. Their information collection activities are described below.

##### ***Permit Application Activities***

All facilities will need to perform start-up activities such as: reading the rule, planning for the implementation of the rule, and training staff to perform various tasks necessary to comply with the rule. Activities performed during the permit application process are performed only once during each ICR period. However, these application activities are repeated again during the fifth year of the permit cycle as part of the permit renewal process.

##### **General Information**

Before new facilities can begin operation of the CWIS, they must first perform several data gathering activities as part of the permit application process. Under the rule, all facilities are required to gather source water physical, flow and baseline biological characterization information and cooling water intake structure information so that the Director can evaluate potential impact to the water body in which the intake structure is placed.

Activities that are required to report on source water physical characteristics include:

- describing and drawing the physical configuration of the source water body where the CWIS is located, including areal dimensions, depths, salinity and temperature regimes
- characterizing and documenting the hydrological and geomorphological features of the source waterbody and the intake's area of influence within the waterbody
- creating locational maps of the source waterbody
- maintaining copies of these documents as well as copies of any information used in their development for a period of three years after submittal.

Activities that are required to report on source waterbody flow include:

- developing a narrative describing the annual mean flow of the waterbody if the CWIS is located in a **freshwater river or stream**, the mean low water tidal excursion distance if the CWIS is located in an **estuary or tidal river**, or the waterbody thermal stratification if the CWIS is located in a **lake or reservoir**
- gathering and producing supporting documentation
- performing engineering calculations
- maintaining a record of pertinent documents for three years after submittal.

Activities that are required to report on source waterbody baseline biological characterization include:

- collecting existing information to develop a list of species (or relevant taxa) for all life stages and their relative abundance in the vicinity of the CWIS
- identifying which species and life stages would be most susceptible to impingement or entrainment

- identifying and evaluating the primary period of reproduction, larval recruitment, and period of peak abundance for relevant taxa
- collecting data that are representative of the seasonal and daily activities of biological organisms (for example feeding and water column migration) in the vicinity of the CWIS
- identifying all threatened and endangered species that might be susceptible to impingement and entrainment at the CWIS
- documenting data that are not available and efforts made to identify sources of data
- documenting public participation or consultation with Federal or State agencies
- if existing data are supplemented with data collected using actual field studies, developing a narrative description of all methods and quality assurance procedures for data collection, sampling, and analysis, including a description of the study area and the biological assemblages to be sampled and/or evaluated
- maintaining a copy of the characterization and the materials required to produce it for three years after submittal.

Activities that are required to report on cooling water intake structure characteristics include:

- preparing a narrative description of the configuration of the CWIS and its location within the waterbody and in the water column
- measuring and documenting the latitude and longitude of the CWIS
- developing a flow distribution and water balance diagram for the facility that includes all sources of water to the facility, recirculating flows, and discharges
- developing a narrative that describes the operation of the CWIS, including design flows, daily hours of operation, number of days of the year in operation, and seasonal changes if any
- creating engineering drawings and locational maps in support of the CWIS descriptions mentioned
- maintaining copies of these documents as well as copies of any information used in their development for a period of three years after submittal.

#### Additional Information for Track I

New facilities are required to gather additional information, depending on which of two alternative permitting tracks they choose. Facilities choosing to comply with the requirements of Track I are required to gather flow reduction information, velocity information, and design and construction technology information.

Flow Reduction Information - Activities that are required to report on flow reduction include:

- developing a narrative description of the system that has been designed to reduce the intake flow to a level commensurate with that which can be attained by a closed-cycle recirculating cooling water system
- producing the necessary engineering calculations to demonstrate that the CWIS meets the flow reduction requirement
- developing documentation to demonstrate that make-up and blowdown flows have been minimized

- if the flow reduction requirement is met entirely, or in part, by reusing or recycling water withdrawn for cooling purposes in subsequent industrial processes, developing documentation that the amount of cooling water that is not reused or recycled has been minimized
- maintaining a record of pertinent documents for three years after submittal.

Velocity Information - Activities that are required to report on velocity include:

- developing a narrative description of the design, structure, equipment, and operation used to meet the velocity requirement
- producing the necessary engineering calculations to show the velocity requirement will be met
- maintaining a record of pertinent documents for three years after submittal.

Design and Construction Technology Plan - The facility must submit information to demonstrate that it will implement design and construction technologies that meet the impingement and entrainment requirements. Activities that are required to report on design and control technology include:

- providing narrative descriptions of the design and operation of the technologies that will be used to maximize survival of those species expected to be most susceptible to impingement and minimize entrainment of those species expected to be the most susceptible to entrainment
- collecting species-specific information to demonstrate the efficacy of the technology
- producing the necessary design calculations, drawings, and estimates to support the narrative descriptions
- maintaining records of all materials used to develop the narrative descriptions for a period of three years after submittal.

#### Additional Information for Track II

Facilities choosing to comply with the requirements of Track II are required to gather the Comprehensive Demonstration Study, including a Source Water Biological Study, an evaluation of potential CWIS effects, and a verification monitoring plan.

Comprehensive Demonstration Study - The facility must develop and submit a plan for a Comprehensive Demonstration Study to characterize the source water baseline in the vicinity of the cooling water intake structure, characterize operation of the cooling water intakes, and confirm that technologies proposed and/or implemented at the CWIS achieve a comparable reduction in impingement and entrainment mortality that would be achieved were the facility to implement the flow reduction, velocity and technology requirements of Track I. The facility must also develop and submit documentation of the results of the study. Tasks include:

- developing and submitting a plan containing a proposal for how information will be collected to support the study

- developing a description of the proposed and/or implemented technologies to be evaluated in the study
- developing a list and description of any historical studies characterizing the physical and biological conditions in the vicinity of the CWIS and their relevancy to the study
- documenting any public participation or consultation with Federal or State agencies undertaken in development of the plan
- developing a sampling plan for data that will be collected using actual field studies in the source water body, documenting all methods and quality assurance procedures for data collection, sampling, and analysis. The sampling plan must include a description of the study area (which must include the area of influence of the cooling water intake structure and at least 100 meters beyond); identification of the biological assemblages to be sampled (both nekton and meroplankton); data collection, sampling, and analysis methods.
- documenting and submitting the results of the study
- maintaining records of all materials used to develop the study plan and document study results for a period of three years after submittal.

In documenting the results of the Comprehensive Demonstration Study, the facility must also develop a Source Water Biological Study to identify chemical and biological considerations as they relate to the facility's CWIS operations. Tasks include:

- identifying and characterizing the taxonomy of aquatic biological resources
- developing a summary of historic and contemporary aquatic biological resources
- determining and describing the target populations of concern (those species of fish and shellfish and life stages that would be most susceptible to impingement and entrainment)
- determining and describing the abundance and temporal/spatial characterization of the target populations based on the collection of multiple years of data to capture the seasonal and daily biological activity in the vicinity of the CWIS
- identifying all threatened and endangered species that might be susceptible to impingement and entrainment at the CWIS
- identifying and evaluating additional chemical, water quality, and other anthropogenic stresses on the source waterbody
- maintaining a copy of the characterization and the materials required to produce it for three years after submittal.

In documenting the results of the Comprehensive Demonstration Study, the facility must also develop an evaluation of potential cooling water intake structure effects. Tasks include:

- developing a statement of the baseline against which comparative analyses will be made
- calculating and documenting the impingement and entrainment baselines, assuming a baseline design of a once-through cooling water system and a shoreline CWIS employing a trash rack and traveling screens
- developing an engineering estimate of the efficacy of proposed and/or implemented technologies in minimizing impingement and entrainment of all life stages of fish and shellfish and to maximize survival of impinged life stages of fish and shellfish, and in reducing impingement losses and entrainment of all life stages of fish and shellfish to a level

comparable to those expected to be achieved by implementing Track I requirements. The efficacy projection must include a site-specific evaluation of technology suitability for reducing impingement and entrainment based on the Source Water Biological Characterization.

- characterizing impingement and entrainment estimates of the alternative technology based on case studies in the vicinity of the CWIS and/or site-specific technology prototype studies
- maintaining a copy of the evaluation and the materials required to produce it for three years after submittal.

As part of the Comprehensive Demonstration Study, the facility must also develop a Verification Monitoring Plan to conduct, at a minimum, annual monitoring to verify the full-scale performance of the alternative technologies. The facility must perform verification monitoring beginning during the first year of operation of the CWIS. Tasks include:

- developing a monitoring plan, including descriptions of the frequency of monitoring, the parameters to be monitored, and the measures that the facility will take if the proposed and/or implemented technologies do not achieve a reduction in impingement and entrainment mortality for all life stages of fish and shellfish equivalent to the level documented in the efficacy projection described above
- performing and document verification monitoring
- maintaining copies of the Verification Monitoring Plan and verification monitoring records, along with the materials required to produce them for three years after submittal.

### ***Annual Activities***

#### **Biological Monitoring**

All new facilities affected by the rule would need to perform biological monitoring of the commercial and recreational fisheries and the forage base species identified in either the Source Water Baseline Biological Characterization or the Comprehensive Demonstration Study, for a minimum of two years after permit issuance. The Director may approve a request for less frequent sampling in the remaining years of the permit term, following review of supporting data. Biological monitoring includes both monitoring of impingement and entrainment.

Impingement monitoring involves collecting data on aquatic organisms trapped on the outer part of an intake structure or against screening devices during periods of cooling water withdrawal, to determine the taxa and abundance of impinged organisms. Specific monitoring tasks include:

- collecting impingement samples over a 24-hour period no less than once per month when the CWIS is in operation
- identifying and enumerating impinged organisms
- performing statistical analyses to summarize rates
- maintaining records of impingement monitoring results for at least three years.

Entrainment monitoring involves the collection of data on eggs, larvae, and other plankton incorporated with cooling water flow (entering and passing through a cooling water intake

structure and into a cooling water system), to determine the taxa and abundance of entrained organisms. Specific tasks include:

- collecting entrainment samples over a 24-hour period no less than biweekly during the primary period of reproduction, larval recruitment, and peak meroplankton abundance when the CWIS is in operation
- identifying and enumerating entrained organisms
- performing statistical analyses to summarize entrainment rates
- maintaining records of entrainment monitoring results for at least three years.

#### CWIS Operational Monitoring

Under the section 316(b) New Facilities Rule, all affected facilities need to monitor the operation of their CWISs. The first type of operational monitoring is the monitoring of the system's velocity, performed during initial facility startup and thereafter at a frequency specified in the facility's NPDES permit, but no less than once per quarter. The second form of operational monitoring is through either visual inspections conducted on at least a weekly basis or through the use of remote monitoring equipment. Specific operational monitoring tasks include:

- if the facility uses intake screen systems, monitoring head loss across the screens (measured at the minimum ambient source water surface elevation) and correlating the measured value with the design intake velocity
- if the facility uses devices other than intake screens, monitoring velocity at the point of entry through the device
- analyzing data to determine if the CWIS is meeting the velocity requirements
- visually inspecting all installed technologies or, alternatively, inspecting remote monitoring devices to confirm that the impingement and entrainment technologies are functioning as designed
- maintaining records of operational monitoring results for at least three years.

#### Yearly Status Report

All new facilities subject to the rule are required to prepare and submit an annual report that details compliance with requirements set by the rule and with any additional provisions specified within the permit. Preparation of the report requires:

- compiling biological monitoring records for each CWIS
- compiling velocity and head loss monitoring records for each CWIS
- compiling records of visual or remote inspections
- maintaining a copy of the report for a period of three years after its submission.

#### ***Director Activities***

NPDES program Directors ensure the implementation of the rule. The Director should review materials submitted by the applicant during the initial permit application process and prior to each renewal period thereafter to determine if there have been any changes in facility operations or physical and biological attributes of the source waterbody. Any changes should be evaluated to determine the need for additional or more stringent conditions in the permit.



Section 316(b) requirements are imposed on a facility through an NPDES permit. The Director must determine, based on the information submitted by the new facility in its permit application, the appropriate requirements and conditions to include in the permit based on the track (Track I or Track II) the new facility has chosen to comply with. Specific activities include:

- analyzing and reviewing facility data
- making determinations concerning facilities such as:
  - after receiving the initial permit application, Directors must determine applicable standards in 40 CFR 125.84 to apply to the new facility and determine compliance with the applicable standards
  - for each subsequent permit renewal, Directors must review the application materials and monitoring data to determine whether additional requirements for design and construction technologies should be included in the permit if they are reasonably necessary to minimize impingement and entrainment as a result of the effects of multiple cooling water intake structures in the same body of water; seasonal variations in the aquatic environment affected by the cooling water intake structures controlled by the permit; or the presence of regionally important species or threatened and endangered species
  - for Track II facilities, the Director may review the information collection proposal plan required by 40 CFR 125.86(c)(2)(iii). The facility may initiate sampling and data collection activities prior to receiving comment from the Director.
  - Directors must develop permit conditions that, at a minimum, include the performance standards that implement the requirements of 40 CFR 125.84(b)(1), (2), (3) and (4) or 40 CFR 125.84(c)(1), (2) and (3). In determining compliance with proportional flow requirement in 40 CFR 125.84(b)(2) and (3), the Director must consider anthropogenic factors unrelated to the new facility's cooling water intake structure that can influence the occurrence and location of the thermocline, including source water inflows, other water withdrawals, managed water uses, wastewater discharges, and flow/level management practices.
  - for a facility that chooses Track I, the Director must review the Design and Construction Technology Plan required in 40 CFR 125.84(b)(4) to evaluate the suitability and feasibility of the technology proposed to minimize impingement and entrainment of all life stages of fish and shellfish, or to maximize survival of impinged life stages of fish and shellfish. A condition requiring the facility to reduce impingement and entrainment commensurate with the implementation of the technologies must be placed in the permit. In addition, the Director must consider whether more stringent conditions are reasonably necessary in accordance with 40 CFR 125.84(d).
  - for a facility that chooses Track II, the Director must review the information submitted with the Comprehensive Demonstration Study information required in 40 CFR 125.86(c)(2), evaluate the proposed suitability for the proposed technologies at the site, and determine whether the technologies achieve a comparable level of impingement and entrainment reduction as the facility would if it complied with 40

- CFR 125.84(b)(1), (2) and (4) and used a shoreline intake. A condition requiring the facility to implement the Technology Proposal Plan and to reduce their impingement and entrainment to the level that can be achieved by employing the implemented technologies must be placed in the permit. In addition, the Director must review the Verification Monitoring Plan in 40 CFR 125.86(c)(2)(iv)(D) and require that the proposed monitoring be performed within the first year of operations at the facility.
- Directors must determine frequency of the monitoring subject to minimum requirements. The Director may modify the monitoring program when the permit is reissued and during the term of the permit based on changes in physical or biological conditions in the vicinity of the CWIS. The Director may require continued monitoring based on the results of the Verification Monitoring Plan in 40 CFR 125.86(c)(2)(iv)(D).
  - Directors must determine record keeping and reporting requirements for each facility subject to minimum requirements
  - Directors have the discretion to include more stringent requirements in the NPDES permits than those specified in the regulations if they determine that more stringent conditions are reasonably necessary to ensure the minimization of impingement and entrainment as a result of the effects of multiple CWISs in the same water body; seasonal variations in the aquatic environment effected by the presence of the permitted CWIS; or the presence of regionally important species
- facility compliance tracking
  - record keeping for all reports, documents, and supporting materials submitted by facilities in fulfillment of their cooling water intake requirements of their NPDES permit.

## **5 THE INFORMATION COLLECTED - AGENCY ACTIVITIES, COLLECTION, METHODOLOGY AND INFORMATION MANAGEMENT**

The following sections describe EPA activities related to analyzing, maintaining, and distributing the information collected.

### **5a Agency Activities**

EPA is responsible for overseeing implementation of this rule. Implementation of reporting and monitoring requirements would rely extensively on State governments in those States that have authorization under CWA section 402(b) to implement the NPDES permit program. In States that do not have NPDES permitting authority, EPA is responsible for administering the program. Under these circumstances, EPA performs the same activities as those outlined for Directors in section 4.

EPA is also involved in the review of State-issued NPDES permits for compliance with section 316(b) New Facility Regulation requirements. EPA typically reviews NPDES permits in the early stages of implementation of new regulations. As such, EPA assumes that it will perform a

detailed review, make comments, and follow up on comments for the 316(b) portions of State issued NPDES permits, during the three covered by this ICR.

### **5b Collection Methodology and Information Management**

The section 316(b) New Facility Rule provides minimum requirements regarding the type of information collected. Directors of NPDES programs are primarily responsible for determining which collection method and information management strategy is most appropriate. EPA maintains the compliance data in its Permit Compliance System (PCS) database and the Integrated Compliance Information System (ICIS). PCS and ICIS are the national computerized management information systems that automate entry, updating, and retrieval of NPDES data and tracks permit issuance, permit limits and monitoring data, and other data pertaining to facilities regulated under NPDES. This technology reduces the burden to the permitting authority of gathering, analyzing, and reporting national permit and water quality data.

Permitting authorities are responsible for reviewing permit applications, permits, monitoring reports, etc. to verify the accuracy of the data. Permitting authorities are also responsible for entering that data into PCS/ICIS. Different authorities have different approaches for entering the data into PCS/ICIS and different approaches for checking data quality. This includes the use of coding forms, double-entry, technical review, etc. Many States have developed State databases that are tailored to individual State needs. EPA is working on processes to provide uploads directly to PCS/ICIS from the State system. Permit data can be accessed by the public in one of two ways:

- via the Freedom of Information Act (FOIA) by submitting a request to EPA or the State.
- via an on-line query using EPA's Envirofacts Data Warehouse and Applications website at [http://www.epa.gov/enviro/index\\_java.html](http://www.epa.gov/enviro/index_java.html). Accessing data via Envirofacts provides a method to combine PCS/ICIS data with other EPA databases and mapping tools.

### **5c Small Entity Flexibility**

The final rule's minimum intake requirements would exclude most new small entities from the compliance requirements. As a result, the final rule is expected to affect only a small absolute number of facilities owned by small entities. In 2001, EPA estimated that over the next 20 years eleven facilities owned by small entities are projected to be subject to the final 316(b) regulation. Of these, 8 are estimated to be electric generators, and 3 will be manufacturing facilities.

EPA considers the information collection and reporting requirements to be the minimum necessary to ensure that the section 316(b) goal of "minimizing adverse environmental impact" is met. Because small entities constitute a very small share of the potentially affected facilities, providing them greater flexibility such as less frequent data collection and reporting requirements would not have a large effect on their overall burden, but could have an adverse impact on the effectiveness of the rule. Furthermore, because the reporting requirements differ by water type and permitting track, entities of all sizes have the flexibility to minimize their total compliance costs including the costs and burden of information collection requirements.

## 5d Collection Schedule

EPA estimated that 16 new facilities fell within the scope of the final rule during the first three years after promulgation and that an additional 29 and 23 facilities fell within the scope of the rule during the first and second ICR renewal periods (years 4-6, and 7-9 after promulgation, respectively).

EPA estimates that an additional 18 facilities will fall within the scope of the rule during the third ICR renewal period (years 10-12 after promulgation). The permitting process is assumed to take less than one year to complete for those facilities following Track I requirements. For those facilities opting for Track II, EPA assumes it takes approximately two years for facilities with intakes drawing from freshwater sources, and three years for those facilities drawing from marine waters to complete the permitting process. EPA assumes that 10 of the facilities that began the permitting process during the second ICR renewal period will receive their permits during the third ICR renewal period and seven facilities will begin the process of renewing their permits during the third ICR renewal period.

The 18 expected new facilities will undergo initial start-up activities and submit information on CWIS design. Table 5-1 provides the estimated implementation schedule for permit application process for these 18 facilities during the second ICR renewal period. There are 21 new facilities that are expected to begin annual monitoring activities during the second ICR renewal period covered by this supporting statement. Of the 21 facilities that begin annual monitoring, 10 facilities began their permit application process during the previous ICR, and 11 facilities will complete their permit applications during this second ICR renewal period. Table 5-1 also provides the estimated implementation schedule for monitoring activities for these facilities during the second ICR renewal period.

**Table 5-1. Number of Facilities Assumed to Begin Compliance with Information Collection Requirements During the ICR Period by Year**

| Type of Activity  | ICR Period      |                 |                 |
|---|-----------------|-----------------|-----------------|
|   | 12/2011-11/2012 | 12/2012-11/2013 | 12/2013-11/2014 |
| Track I Facilities Beginning the NPDES Permit Application Process               | 5               | 5               | 3               |
| Track II Facilities Beginning the NPDES Permit Application Process              | 2               | 2               | 1               |
| <b>Total Facilities Beginning the NPDES Permit Application Process</b>          | 7               | 7               | 4               |
| Track I Facilities Beginning Annual Monitoring and Reporting of Operations      | 4 *             | 5 **            | 5 **            |
| Track II Facilities Beginning Annual Monitoring and Reporting of Operations     | 2 *             | 4 *             | 1 **            |
| <b>Total Facilities Beginning Annual Monitoring and Reporting of Operations</b> | 6               | 9               | 6               |

\* : These 10 facilities began their permit application process during the previous ICR approval period.  
 \*\*: These 11 facilities will complete their permit applications during this third ICR approval period.

## 6 ESTIMATING RESPONDENT BURDEN AND COST OF COLLECTION

The following sections present rationale and results of EPA's estimation of burden and costs for the implementation of the section 316(b) New Facility Rule. The burden hours and cost in this section are calculated by first estimating the annual burden, labor cost, and other direct cost (ODC) per facility or Director for each activity. (See Tables 6-1 through 6-5). The number of facilities or Directors required to conduct each of the activities per year are then estimated and used to calculate the yearly burden hours and costs. Not all facilities are required to conduct all the activities, and not all activities occur during all years of the ICR. The total yearly burden hours and costs are then summed and averaged to compute the bottom line average annual burden hours and costs shown in Table 6-6. See Appendix A for a more detailed calculation.

### 6a *Estimating Respondent Burden*

This section describes the burden estimates for facilities and Directors, as well as the methods used to derive them. Respondent activities are separated into those activities associated with the NPDES permit application and those activities associated with monitoring and reporting after the permit is issued. The reason for this is that the permit cycle is every five years while ICRs must be renewed every three years. Therefore, the application activities occur only once per facility during an ICR period, and so they are considered one-time burden for the purpose of this ICR. By contrast, the monitoring and reporting activities that occur after issuance of the permit occur on an annual basis.

#### Facility Burdens

Information collection would require in-scope facilities to devote time (i.e., as measured by staff hours) and resources (e.g., copies of documents and report mailings) to produce the necessary NPDES permit applications, implementation plans, and annual status reports. EPA expects that facility employees, including managers, engineers, engineering technicians, statisticians, draftsmen, and clerical staff, will devote time toward gathering, preparing, and submitting the various documents. To develop representative profiles of each employee's relative contribution, EPA assumed burden estimates that reflect the staffing and expertise typically found in manufacturing facilities and power generating plants. In doing this, EPA considered the time and qualifications necessary to complete a variety of tasks: reviewing instructions, planning responses, researching data sources, gathering and analyzing data, typing or writing the information requested, reviewing results, conferring with permitting authorities and expert consultants, and sending documents.

EPA anticipates that facilities will use the contracted services to perform many of their required sampling and analysis tasks. The contracted staff is likely to include project managers, biologists, statisticians, and biological technicians. The work done by these contracted employees will be done on-site on a regular basis. Therefore, the hourly burdens associated with their work are included in the overall burden estimates for each facility.

For each activity burden assumption, EPA selected time estimates to reflect the expected effort necessary to carry out these activities under normal conditions and reasonable labor efficiency

rates. EPA assumed that the majority of the actual work performed by facility staff, such as researching, collecting, and analyzing data, as well as writing the documents, will be carried out by junior technical staff. Burdens associated with managerial and senior engineering staff include time for actions such as occasional or seasonal visits to supervise sampling efforts, as well as periodic review of lab results and documentation. EPA assumed that the facilities will employ a drafter to perform computer aided drafting (CAD) operations. For contracted employees, EPA assumes that the majority of the work will be carried out by the biologists and the biological technicians.

Tables 6-1 and 6-2 provide a summary of the hourly burden estimates for facilities performing the NPDES permit application, annual monitoring, and annual reporting activities associated with the final rule. For a more detailed presentation of hourly burdens for facilities see Exhibits A.1 and A.2 in Appendix A.

The activities listed in the first column of both Tables 6-1 and 6-2 correspond to the facility respondent activities outlined earlier in section 4b(ii). Start-up burden includes reading the published regulations, sample permits, and any guidance materials associated with the rule; determining the required staff and resources necessary to successfully complete the application process and meet all annual monitoring and reporting requirements; and training staff to perform tasks that they would not be required to conduct if the rule were not implemented. General information activities refer to the development and submittal of documentation on source waterbody characteristics and CWIS location and design.

As part of the permit application process, facilities will demonstrate compliance with the proportional flow (i.e., intake flow may not exceed a certain proportion of source water body flow) requirements. Facilities will also collect Source Water Baseline Biological Characterization Data to evaluate the condition of the biological community prior to operation of the new facility and prior to each permit renewal application. The level of effort needed for the study may vary considerably from one facility to another, depending on the availability of existing background information and the characteristics of the waterbody that the CWIS will be located in. For the purpose of developing the ICR cost and burden estimates, it is assumed that there is sufficient existing data for facilities to develop a baseline characterization of the contributing waterbody's biological community.

If a facility chooses Track I for meeting its permit obligations, the facility also needs to comply with flow reduction, velocity and technology requirements. Under the final rule, new facilities choosing Track I must provide information to the permitting authority demonstrating that they are in compliance with the flow reduction, velocity and technology requirements that are applicable to their CWISs. The facility hourly burdens for demonstrating compliance with these requirements include developing and submitting narrative descriptions, supporting documentation, and engineering calculations. Facility burden for Design and Construction Technology Plans is comparable to the burden for demonstrating compliance with one of the CWIS requirements.

Under Track II, the Comprehensive Demonstration Study evaluates the condition of the biological community prior to operation of the new facility and prior to each permit renewal application. The study entails plan development, a source water biological study, projections of anticipated impacts, and verification monitoring. As with the source water baseline biological characterization, the required effort level for the Track II source water biological study is likely to vary considerably depending on the availability of existing data and the complexity of the habitat that the CWIS will be located in.

For the purpose of developing the ICR cost and burden estimates it is assumed that each Track II facility will perform sampling to develop the Source Water Biological Study for the Comprehensive Demonstration Study. The sampling required for the study is expected to take two years for facilities with intakes drawing from freshwater sources, and three years for facilities drawing from marine sources. Therefore, the entire application process can take up to three years to complete. EPA assumes that start-up activities and general information activities are accomplished during the first year of the permitting process. The Source Water Biological Study activities will be performed over the three years prior to the issuance of the NPDES permit to Track II facilities. The study to evaluate CWIS impacts will be conducted the year just prior to operation of the CWIS to allow the facility time to incorporate information from the Source Water Biological Study already underway. For those Track II facilities beginning operation during the first year of the ICR period, EPA assumes that they do not actually begin operating the CWIS until the end of the year, allowing them enough time to conduct the pilot study.

EPA anticipates that start-up, general information, and the Track I activities will be performed by facility staff. For those facilities taking Track II, EPA assumes that the sampling and statistical analyses will be conducted by the contracted employees, although some of the taxonomic identification, enumeration, and characterization will be performed by a sub-contracted laboratory.

After both Track I and II facilities receive their NPDES permits and commence operations, they have annual monitoring and reporting requirements as well. Velocity monitoring and the inspection of installed technology will be carried out by facility staff. For impingement and entrainment monitoring, EPA assumes that the actual monitoring will be conducted by the contracted employees, while the facility manager and junior technical staff will spend some time reviewing the results in preparation for the yearly status report.

In the first year of permitted operation, Track II facilities are required to use impingement and entrainment monitoring data to perform a verification study, confirming that the CWIS technology is achieving impingement and entrainment rates commensurate to that obtained through closed-cycle recirculation technology. EPA assumes that each year approximately 25% of the Verification Studies will show that the facilities have not achieved the required impingement and entrainment level that they predicted in their Comprehensive Demonstration Studies. As a result, EPA assumes that these facilities will take measures to improve their impingement and entrainment rates and submit another Verification Study the following year.

Approval periods for ICRs are for three years while NPDES permits are renewed on a five year cycle. Due to the shorter time frame for the ICR approval period, there were no permit renewals during the first ICR approval period. However, EPA anticipated that seven previously permitted facilities renewed their permits during the second ICR renewal period and ten currently permitted facilities will renew their permits during the second ICR renewal period. EPA assumes that for Track I facilities, all of the activities performed during the initial permitting process would be repeated for the permit renewal. Track II facilities will need to revise their Comprehensive Demonstration Study and repeat the Sourcewater Baseline Characterization Study. They do not have to perform another Evaluation of Cooling Water Intake Structure Effects or Verification Monitoring Plan. EPA anticipates that the level of effort required to repeat many of these tasks will be considerably less than what was initially required. Facilities will be able to rely on much of the information gathered during the first permitting process. As a result the hourly burden estimates for activities are assumed to be 50% to 70 % less than those for the initial permitting process.

Table 6-3 provides a summary of the hourly burden estimates for facilities performing the NPDES permit renewal activities associated with the rule. For a more detailed presentation of hourly burdens for facilities see Exhibit A.12 in Appendix A.

#### Director Burdens

Each Director's actual burden associated with reviewing submitted materials, writing permits, and tracking compliance will depend on the number of new in-scope facilities that will be built in the Director's State during the ICR period. EPA expects that State senior technical, junior technical, and clerical staff will devote time toward gathering, preparing, and submitting the various documents. EPA assumed burden estimates that reflect the staffing and expertise used by States for the NPDES permit administration process. In doing this, EPA considered the time and qualifications necessary to complete various tasks such as: reviewing submitted documents and supporting materials, verifying data sources, planning responses, determining specific permit requirements, writing the actual permit, conferring with facilities and the interested public, and entering the permit information into the PCS/ICIS databases. Table 6-4 provides a summary of the hourly burden estimates for Directors performing various activities associated with the final rule. EPA assumes that the directors will spend a significant amount of time reviewing the Sourcewater Biological Characterization Data. The additional effort devoted to reviewing the study is due to the fact that the studies cover three years worth of data collected at the site. For a more detailed presentation of Director hourly burdens see Exhibits A.3 and A.13 in Appendix A.

### **6b Estimating Respondent Costs**

This section describes the cost estimates for facilities and Directors, as well as the methods used to derive them.

#### **6b(i) Estimating Labor Costs**

The costs to the respondent facilities associated with these time commitments can be estimated by multiplying the time spent in each labor category by an appropriately loaded hourly wage rate. All base wage rates used for facility labor categories were derived from the Bureau of Labor



Statistic's (BLS) *Occupational Employment and Wages, 2009*<sup>2</sup>. These reported labor rates were based upon data from June 2009, and required adjustment for inflation. Inflation factors ranging from 1.0% to 1.6%, depending on the labor category, were derived from the BLS Employment Cost Index<sup>3</sup> for adjusting the *Occupational Employment and Wages, 2010* labor rates to reflect labor rates as of March of 2010. Compensatory loading factors ranging from 39% or 50%, depending on the labor category, were used to account for any paid leave, supplemental pay, insurance, retirement and savings, and required and non-required benefits received by employees<sup>4</sup>. EPA assumed an additional loading factor of 15% to account for general overhead costs directly attributable to facility employees performing work in support of the permit process. Expenses for contracted employees, typically include higher overhead costs, as well as fees to ensure profit for the contracting company. EPA assumes that the overhead for the contracted employees will be 50% and the fee will be 8%.

To represent the base labor rate for facility management, EPA used the median engineering manager in management occupations of \$56.25 per hour. After adjusting this rate for inflation, compensation, and overhead the rate is \$98.80 per hour. The median wage of \$23.54 per hour for an engineering technician was used to represent the base labor rate junior technical staff. After adjusting for inflation and other factors this labor rate was \$41.40 per hour. The median annual salary for a drafter performing CAD work was reported to be \$21.92 per hour, and after adjusting and loading the rate it is \$38.50. The reported median wage for clerical workers was \$13.32 per hour and the fully adjusted and loaded hourly rate is \$23.30 per hour.

The base labor rate for a contracted manager of monitoring work done on-site is assumed to be for the median natural science manager in management occupations, with a fully loaded rate of \$125.40 per hour. The median wage for a statistician was \$35.10 per hour, with an adjusted hourly rate of \$79.60 per hour. Biologists and biological technicians have an average hourly pay of \$28.30 and \$19.61, and a fully loaded rate of \$63.70 and \$44.60, respectively.

#### Director Labor Costs

For Director costs, all of the base labor rates and compensation factors were derived from published employment cost trends for State and local government workers for the second quarter of 2009<sup>5</sup>. These labor rates were adjusted to reflect labor rates for March 2010<sup>6</sup>. EPA chose the BLS labor category of white-collar General Operations Manager to represent the senior administrative and technical staff that will oversee and manage the NPDES permit program. The base hourly rate for this category was approximately \$42.77 per hour, and after adjusting for compensation and inflation it is \$72.70 per hour. Similarly, EPA chose the BLS labor category of mechanical engineering technician to represent the junior technical staff that EPA expects to perform the majority of the actual NPDES permitting work. The reported base pay for this category was approximately \$23.25 per hour, which becomes \$39.50 per hour after being

<sup>2</sup> BLS Occupational Employment and Wages, 2009, <http://www.bls.gov/news.release/pdf/ocwage.pdf>

<sup>3</sup> BLS Employment Cost Index, <http://www.bls.gov/web/echistrynaics.pdf>

<sup>4</sup> Compensation factors are from the BLS Employment Cost Trends Tables 4 and 10 as of December 2009. <http://stats.bls.gov/news.release/ecec.t04.htm> and <http://stats.bls.gov/news.release/ecec.t10.htm>

<sup>5</sup> May 2009 National Industry-Specific Occupational Employment and Wage Estimates, [http://www.bls.gov/oes/current/naics3\\_999000.htm](http://www.bls.gov/oes/current/naics3_999000.htm)

<sup>6</sup> BLS Employment Cost Index, <http://www.bls.gov/web/echistrynaics.pdf>

adjusted for compensation, overhead, and inflation. The hourly wage for State government clerical workers was \$14.63 per hour before adjustment, and \$27.90 afterward.

## **6b(ii) Estimating Capital and Operation and Maintenance Costs**

### Facility O&M Costs

A facility incurs capital/start-up costs when it purchases equipment or builds structures that are needed for compliance with the rule's reporting and record keeping requirements that the facility will not use otherwise. EPA assumed that some facilities would incur capital/startup costs as a result of this rule.

A facility incurs operation and maintenance (O&M) costs when it uses services, materials, or supplies needed to comply with the rule's reporting and record keeping requirements that the facility will not use otherwise. Any cost for the operation and upkeep of capital equipment is considered O&M costs. Another type of O&M cost is for the purchase of contracted services such as laboratory analyses. The purchase of supplies such as filing cabinets and services such as photocopying or boat rental, are also considered O&M costs, and are referred to as other direct costs (ODCs).

EPA assumes that samples taken for the Source Water Baseline Biological Characterization Study will be analyzed by a contracted laboratory. The outside laboratories will perform taxonomic classification, data tabulation, and then deliver the data back to the facility. For the two to three years of monitoring required by the Source Water Baseline Biological Characterization Study, this service is estimated to cost \$84,400 for facilities located adjacent to freshwater waterbodies and \$164,600 for facilities drawing from either estuaries, oceans, or the Great Lakes.

For the evaluation of CWIS effects, EPA anticipates that facilities will perform pilot studies to determine the effectiveness of the technology they will be using to minimize impingement and entrainment. EPA assumes that the facility will be willing to spend approximately 10% of the anticipated costs of installing and operating the proposed technology. For costing purposes, EPA is assuming that a pilot study will be performed using a Gunderboom system. The range of costs for a floating Gunderboom system for a 150 MGD intake structure is \$1.8 to \$2.5 million in capital costs, and \$150 to \$300 thousand in annual O&M costs (Campbell, George, & Strong, 2001). Using 10% of the high end of this range, and adjusting for inflation, EPA estimates the Track II facility spends \$285,000 to purchase and install a pilot Gunderboom system, and \$35,500 to operate and maintain it for the study. EPA assumes the pilot study impingement samples will be analyzed on-site by the biologists due to the difficulty of preserving impingement samples for shipment to an outside laboratory. Entrainment analysis of pilot study monitoring samples will be performed by an outside laboratory, at a cost of \$6,500 for facilities drawing from freshwater, and \$8,400 for facilities drawing from estuaries and the Great Lakes.

For visual inspections, EPA assumes that the Track I facilities will employ remote monitoring devices to monitor the equipment performance. The cost for the remote monitoring device includes \$33,250 (Haught and Panguluri, 1998) for purchase of equipment and \$16,750 for installation and testing of equipment, for an adjusted total of \$58,000.

For annual O&M costs, EPA assumes again that the analysis of impingement monitoring samples will be done on-site, while entrainment monitoring samples will be performed by an outside laboratory. Entrainment samples are estimated to cost \$8,400 per year for freshwater facilities, and an estimated \$11,000 per year for facilities drawing from estuaries or the Great Lakes.

In general, the labor costs and O&M costs reported in this analysis are assumed to represent typical average national cost estimates that are likely to be incurred by new facilities and by permitting authorities. EPA attempted to take into account various factors such as decreases in labor efficiency that occur during extreme climate conditions, equipment down time, and the occasional sample that might need to be replaced because it was lost or spoiled during transport. The Tables 6-1 and 6-2 provide a summary of both the estimated labor costs and ODCs per facility. For a more detailed presentation of all compliance costs for facilities see Exhibits A.1 and A.2 in Appendix A.

**Table 6-1. Burden and Costs per Facility for NPDES Permit Application Activities**

| Activities  | Burden (hrs) | Labor Cost (\$) | ODC (\$) |
|---|--------------|-----------------|----------|
| Start-up Activities   | 43           | \$2,759         | \$55     |
| General Information Activities  | 146          | \$7,072         | \$540    |
| CWIS Flow Requirement   | 104          | \$4,330         | \$110    |
| Source Water Baseline Biological Characterization                         | 265          | \$14,687        | \$810    |
| CWIS Velocity Requirement (Track I)                                       | 138          | \$7,001         | \$1,080  |
| CWIS Flow Reduction Requirement (Track I)                                 | 108          | \$4,877         | \$435    |
| Design and Construction Technology Plan (Track I)                         | 108          | \$5,666         | \$55     |
| Comprehensive Study Plan (Track II)                                       | 271          | \$15,869        | \$810    |
| Source Water Biological Characterization-Freshwater (Track II)*           | 5,196        | \$301,013       | \$5,600  |
| Source Water Biological Characterization-Estuary & Great Lake (Track II)* | 9,368        | \$529,677       | \$14,100 |
| Evaluation of Potential CWIS Effects - Freshwater (Track II)*             | 1,626        | \$104,021       | \$1,100  |
| Evaluation of Potential CWIS Effects - Estuary & Great Lake (Track II)*   | 1,950        | \$121,414       | \$1,100  |
| Verification Monitoring Plan  | 128          | \$7,660         | \$435    |
| *This activity also has contracted service costs associated with it       |              |                 |          |

**Table 6-2. Burden and Costs per Facility for Annual Monitoring and Reporting Activities**

| Activities   | Burden (hrs) | Labor Cost (\$) | ODC (\$) |
|--|--------------|-----------------|----------|
| Verification Monitoring- Freshwater (Track II)         | 92           | \$6,678         | \$540    |
| Verification Monitoring- Estuary (Track II)            | 122          | \$8,930         | \$540    |
| Initial Biological Monitoring (impingement) Freshwater | 379          | \$22,769        | \$540    |
| Reduced Biological Monitoring (impingement) Freshwater | 191          | 11507.8         | 270      |
| Initial Biological Monitoring (entrainment)Freshwater* | 482          | \$28,952        | \$705    |
| Reduced Biological Monitoring (entrainment)Freshwater* | 244          | \$14,728        | 353      |
| Initial Biological Monitoring (impingement) Estuary    | 614          | \$37,389        | 1080     |
| Reduced Biological Monitoring (impingement) Estuary    | 308          | \$18,778        | 540      |
| Initial Biological Monitoring (entrainment) Estuary*   | 776          | \$46,689        | 1245     |

|  |     |          |       |
|--|-----|----------|-------|
| Reduced Biological Monitoring (entrainment) Estuary*                 | 392 | \$23,616 | 622.5 |
| Velocity Monitoring  | 163 | \$7,005  | \$110 |
| Visual Inspection of CWIS Technology                                 | 253 | \$11,988 | \$110 |
| Yearly Status Report Activities                                      | 348 | \$23,121 | \$810 |
| *This activity also has contracted service costs associated with it. |     |          |       |

**Table 6-3. Burden and Costs per Facility for NPDES Permit Renewal Activities**

| Activities  | Burden (hrs) | Labor Cost (\$) | ODC (\$) |
|---|--------------|-----------------|----------|
| Start-up Activities   | 13           | \$883           | \$55     |
| General Information Activities  | 72           | \$3,726         | \$540    |
| CWIS Flow Requirement   | 31           | \$1,272         | \$110    |
| Source Water Baseline Biological Characterization                           | 79           | \$4,447         | \$810    |
| CWIS Velocity Requirement (Track I)   | 75           | \$3,749         | \$1,080  |
| CWIS Flow Reduction Requirement (Track I)                                   | 108          | \$4,877         | \$435    |
| Design and Construction Technology Plan (Track I)                           | 43           | \$2,240         | \$55     |
| Comprehensive Study Plan (Track II)   | 80           | \$4,626         | \$810    |
| Source Water Biological Characterization - Freshwater (Track II)*           | 2,808        | \$158,111       | \$3,400  |
| Source Water Biological Characterization - Estuary & Great Lake (Track II)* | 5,268        | \$292,142       | \$8,400  |
| *This activity also has contracted service costs associated with it.        |              |                 |          |

### Director O&M Costs

EPA does not anticipate any operation and maintenance costs for Directors under this rule. Table 6-4 provides estimates of Director ODCs and labor costs. For a more detailed explanation of Director costs see Exhibit A.3.

**Table 6-4. Estimating Director Burden and Costs for Activities**

| Activities  | Burden (hrs) | Labor Cost (\$) | ODC (\$) |
|---|--------------|-----------------|----------|
| Director Permit Issuance Activities for Track I Facility  | 188          | \$10,180        | \$325    |
| Director Permit Issuance Activities for Track II Facility | 646          | \$41,485        | \$325    |
| Verification Study Review (per Facility)                  | 21           | \$1,017         | \$55     |
| Annual Director Activities (per Facility)                 | 50           | \$2,461         | \$55     |
| Director Repermitting Activities for Track I Facility     | 55           | \$3,054         | \$325    |
| Director Repermitting Activities for Track II Facility    | 143          | \$8,999         | \$325    |

## 6c Estimating Agency Burden and Costs

As mentioned previously, there are 47 States and Territories authorized to administer the NPDES permitting program. For new in-scope facilities applying for permits in the 9 unauthorized States and Territories, EPA will incur the costs and burdens similar to those incurred by States with permitting authority. This analysis, however, assumes that facilities complying with the rule during the ICR period will be in NPDES authorized States.

EPA typically reviews NPDES permits in the early stages of implementation of new regulations. Based on historical reports submitted for 316(b) demonstrations, EPA assumes that it will take approximately 30 hours to perform a detailed review, make comments, and follow up on

comments for the 316(b) portions of a State issued NPDES permit. Table 6-5 summarizes Federal burden and cost estimates. Further detail is provided in Exhibit A.4.

**Table 6-5. Estimating Federal Burden and Costs for Activities**

| <b>Activities</b>   | <b>Burden (hrs)</b> | <b>Labor Cost (\$)</b> | <b>ODC(\$)</b> |
|---|---------------------|------------------------|----------------|
| Federal Permit Program Oversight Activities for Track I Permitted Facility  | 28                  | \$1,348                | \$55           |
| Federal Permit Program Oversight Activities for Track II Permitted Facility | 42                  | \$2,067                | \$55           |

### **6d Estimating the Respondent Universe and Total Burden and Costs**

During the three years of the second ICR renewal period, there are an estimated 68 facilities along with 47 States and Territories that the section 316(b) New Facility Rule will affect. The rule would require each respondent to comply with one or more provisions. In turn, each provision has numerous activities associated with it. Exhibits A.5 and A.6 in Appendix A provide an estimate of the number of respondents and responses expected for each provision of the rule during each year covered by this ICR. The annual estimates are based on the compliance schedule used to estimate the cost of the final rule. In addition, Exhibits A.7-A.10 provide a summary of the respondent burdens and costs for each year covered by this ICR. These estimates were calculated by multiplying facility and Director level burden and cost estimates in A.1-A.3 by the number of respondents in A.5.

### **6e Bottom Line Burden Hours and Costs Tables**

This section provides a description of bottom line data collection and record keeping burden and cost estimates for implementation of the final rule.

#### **6e(i) Respondent Tally**

The bottom line burden hours and costs for facilities and Directors are the total annual hours and costs collectively incurred for all activities during the 3-year period covered by this ICR. Table 6-6 provides a summary of the average annual number of respondents, burden hours, and costs. A more detailed summary can be found in Exhibit A.11.

**Table 6-6. Summary of Average Annual Respondents, Responses, Burden, and Costs for Facilities and Directors for the 3-Year Period Covered by this ICR**

|                 | Average Annual Respondents* | Average Annual Burden (hours) | Average Annual Labor Costs (2010\$) | Average Annual Capital Costs (2010\$) | Average Annual O&M Costs (2010\$) | Total Average Annual Costs (2010\$) |
|-----------------|-----------------------------|-------------------------------|-------------------------------------|---------------------------------------|-----------------------------------|-------------------------------------|
| Facilities*     | 81                          | 131,188                       | \$7,663,444                         | \$1,021,223                           | \$1,493,118                       | \$10,177,785                        |
| State Directors | 47                          | 7,233                         | \$398,027                           | \$0                                   | \$6,327                           | \$404,354                           |
| <b>Totals</b>   | <b>128</b>                  | <b>138,421</b>                | <b>\$8,061,471</b>                  | <b>\$1,021,223</b>                    | <b>\$1,499,445</b>                | <b>\$10,582,139</b>                 |

\* Facilities for each year are 53, 60, and 68 (181/3=60.33). State Director for each year is 47

### 6e(ii) Agency Tally

The bottom line burden hours and costs for the Federal agency are the total annual hours and costs collectively incurred for all activities during the period covered by this ICR. Table 6-7 provides a summary of the average annual agency burden hours, and costs. A more detailed summary can be found in Exhibit A.11.

**Table 6-7. Summary of Average Annual Respondents, Responses, Burden, and Costs for Federal Agency for the 3-Year Period Covered by this ICR**

|               | Average Annual Burden (hours) | Average Annual Labor Costs (2010\$) | Average Annual O&M Costs (2010\$) | Total Average Annual Costs (2010\$) |
|---------------|-------------------------------|-------------------------------------|-----------------------------------|-------------------------------------|
| Agency Totals | 220                           | \$10,710                            | \$385                             | \$11,095                            |

### 6f Reasons For Change In Burden

The respondent average annual burden increased by 20,212 hours (from 118,209 to 138,421 hours) which represents a 17% increase and the total average annual number of respondents increased by 22 (from 106 to 128) respondents, for a 20.8% increase. The increase is due to:

- Addition of the newly built facilities: 21 new facilities are anticipated to file initial permit application. Activities related to these initial permit applications account for 1,037 hours for facilities and 194 for directors over the previous ICR estimate.
- Continued performance of annual activities by facilities that received their permit during previous ICR periods: As more facilities are permitted, more facilities are required to perform annual activities. Activities related to these recurring activities account for 4,702 hours for facilities and 1,067 hours for directors over the previous ICR estimate.
- Re-permitting burdens: more facilities are entering the renewal phase of their permits (i.e., 5 years after the last permit was issued). Activities related to these re-permitting activities account for 12,366 hours for facilities and 848 hours for directors over the previous ICR estimate

### 6g Burden Statement

The annual average reporting and record keeping burden for the collection of information by facilities responding to the section 316(b) New Facility Rule is estimated to be 1,620 hours per respondent (i.e., an annual average of 131,188 hours of burden divided among an anticipated annual average of 81 facilities). The Director reporting and record keeping burden for the review,

oversight, and administration of the rule is estimated to average 154 hours per respondent (i.e., an annual average of 7,233 hours of burden divided among an anticipated 47 States on average per year).

Burden means the total time, effort, or financial resources expended by persons to generate, maintain, or disclose or provide information to or for a Federal agency. This includes the time needed to review instructions; develop, acquire, install, and utilize technology and systems for the purposes of collecting, validating, and verifying information, processing and maintaining information, and disclosing and providing information; adjust the existing ways to comply with any previously applicable instructions and requirements; 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. The OMB control number for EPA's regulations are listed in 40 CFR part 9 and 48 CFR chapter 15.

To comment on EPA'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, the Agency has established a public docket for this ICR under Docket ID No. EPA-HQ-OW-2008-0719, 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. 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 at <http://www.regulations.gov>. Use [www.regulations.gov](http://www.regulations.gov) to submit or view public comments, to access the index listing of the contents of the public docket, and to access documents in the public docket that are available electronically. Once in the system, key in the docket ID number identified above. You can also 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-2008-0719 and OMB Control No. 2040-0241 in any correspondence

Part B of the Supporting Statement is not applicable because no statistical methods were used in collecting this information.

## **Appendix A**

### **Respondent Burden and Cost Analysis Spreadsheets ICR for Cooling Water Intake Structures New Facility Rule**



## **Appendix B**

### **NAICS and SIC Codes for Nonutility Power Producers**

### Steam Electric Nonindustrial Nonutility Power Producers<sup>1</sup>

This industrial sector contains various reported NAICS and SIC codes<sup>2</sup>. The following table documents the specific industry sectors covered and their associated NAICS and SIC code.

| 3 to 6 Digit NAICS Code  | 2 Digit SIC Code | 3 or 4 Digit SIC Code                                | Industry Sector  |
|--|------------------|--|--|
| 111---   | 01               | 0100   | Agriculture Production – crops   |
| 112---   | 02               | 0200   | Agriculture Production – livestock   |
| 2122--   | 10               | 1000   | Metal Mining   |
| 211---   | 13               | 1300   | Oil and Gas Extraction   |
| 2123--   | 14               | 1400   | Nonmetallic minerals, except fuels   |
| 311---, 312---<br>3115--<br>3113--                                 | 20               | 2000<br>202-<br>206-                                 | Food and Kindred Products  |
| 3122--   | 21               | 2100   | Tobacco Manufacturers  |
| 313---, 315---   | 22               | 2200   | Textile and Mill Products  |
| 3152--, 3159--,<br>314---  | 23               | 2300   | Apparel and other textile products   |
| 321---<br>3211--,<br>3219--  | 24               | 2400<br>242-   | Lumber and Wood Products, Except Furniture   |
| 337---<br>3371---,<br>3372---                                      | 25               | 2500<br>251-   | Furniture and fixtures   |
| 322---<br>32212-<br>322130   | 26               | 2600<br>2621<br>2631                                 | Paper and Allied Products, Paper Mills, Except Building Paper Paperboard Mills   |
| 325---<br>32541-<br>3251--<br>3251--<br>325211<br>325---<br>325311 | 28               | 2800<br>283-<br>286-<br>2819<br>2821<br>2869<br>2873 | Chemicals and Allied Products, Industrial Inorganic Chemicals, Plastic Materials and Resins, Industrial Organic Chemicals, Nitrogenous Fertilizers |
| 324---<br>32411-<br>324110   | 29               | 2900<br>291-<br>2911                                 | Petroleum Refining and Related Industries, Petroleum Refining  |
| 326---, 339---<br>32622-,<br>33999-                                | 30               | 3000<br>305-   | Rubber and miscellaneous plastics  |
| 316---   | 31               | 3100   | Leather and leather products   |
| 327---<br>327310   | 32               | 3200<br>3241   | Stone, Clay, Glass, and Concrete Products, Cement, Hydraulic   |
| 331---<br>331---<br>331111,<br>331221,<br>324199<br>331312         | 33               | 3300<br>331-<br>3312<br>3334                         | Primary Metals Industries, Blast Furnaces and Steel Mills, Primary Aluminum  |
| 332---, 333---   | 34               | 3400   | Fabricated metal products  |

| 3 to 6 Digit NAICS Code                      | 2 Digit SIC Code | 3 or 4 Digit SIC Code | Industry Sector                                    |
|--|------------------|-----------------------|--|
| 336---                                       |                  |                       |  |
| 333---, 332---,<br>334---, 336---            | 35               | 3500                  | Industrial machinery and equipment                 |
| 334---, 335---                               | 36               | 3600                  | Electrical and electronic equipment                |
| 336---                                       | 37               | 3700                  | Transportation equipment                           |
| 334---, 339---                               | 38               | 3800                  | Instruments and related products                   |
| 339---, 332---                               | 39               | 3900                  | Miscellaneous manufacturing industries             |
| 482---                                       | 40               | 4000                  | Rail transportation                                |
| 483---, 488---                               | 44               | 4400                  | Water transportation                               |
| 481---, 488---                               | 45               | 4500                  | Transportation by air                              |
| 488---                                       | 47               | 4700                  | Transportation services                            |
| 221---, 562---<br>2213--,<br>562---          | 49               | 4900<br>495-          | Electric, Gas, and Sanitary Services (except 4911) |
| 221310                                       |                  | 4941                  | Water Supply                                       |
| 221320                                       |                  | 4952                  | Sewerage System                                    |
| 56221-                                       |                  | 4953                  | Refuse System                                      |
| 531---                                       | 65               | 6500                  | Real estate  |
| 561---, 532---,<br>541---, 711---,<br>812--- | 73               | 7300                  | Business services                                  |
| 621---, 622---,<br>623---                    | 80               | 8000                  | Health Services                                    |
| 611---6112--,<br>6113--                      | 82               | 8200<br>822-          | Educational Services                               |
| 624---, 813---                               | 83               | 8300                  | Social services                                    |
| 541---                                       | 87               | 8700                  | Engineering and management services                |
| 814---                                       | 88               | 8800                  | Private households                                 |
| 541---                                       | 89               | 8900                  | Miscellaneous services                             |
| 921---                                       | 91               | 9100                  | Public Administration                              |

1 Source of data is Form EIA-867

2 In changing from an SIC code-based system to an NAICS code-based one, all industries were restructured and redefined. As a result, there may not be a direct conversion of some industries, as portions of an industry may be restructured to another category. This table identifies the primary NAICS codes for the listed industry sectors, but EPA notes that the NAICS codes for some industries may not be included.