Environmental Protection Agency

**Impingement** means the entrapment of any life stages of fish and shellfish on the outer part of an intake structure or against a screening device during periods of intake water withdrawal.

**Lake or reservoir** means any inland body of open water with some minimum surface area free of rooted vegetation and with an average hydraulic retention time of more than 7 days. Lakes or reservoirs might be natural water bodies or impounded streams, usually fresh, surrounded by land or by land and a man-made retainer (e.g., a dam). Lakes or reservoirs might be fed by rivers, streams, springs, and/or local precipitation.

**Moribund** means dying; close to death.

**Natural thermal stratification** means the naturally occurring and/or existing division of a waterbody into horizontal layers of differing densities as a result of variations in temperature at different depths.

**Ocean** means marine open coastal waters with a salinity greater than or equal to 30 parts per thousand (by mass).

**Once-through cooling water system** means a system designed to withdraw water from a natural or other water source, use it at the facility to support contact and/or noncontact cooling uses, and then discharge it to a waterbody without recirculation. Once-through cooling systems sometimes employ canals/channels, ponds, or non-recirculating cooling towers to dissipate waste heat from the water before it is discharged.

**Operational measure** means a modification to any operation at a facility that serves to minimize impact to fish and shellfish from the cooling water intake structure. Examples of operational measures include, but are not limited to: reductions in cooling water intake flow through the use of variable speed pumps and seasonal flow reductions or shutdowns; and more frequent rotation of traveling screens.

**Phase II existing facility** means any existing facility that meets the criteria specified in §125.91.

**Source water** means the waters of the U.S. from which the cooling water is withdrawn.

**Supplier** means an entity, other than the regulated facility, that owns and operates its own cooling water intake structure and directly withdraws water from waters of the United States. The supplier sells the cooling water to other facilities for their use, but may also use a portion of the water itself. An entity that provides potable water to residential populations (e.g., public water system) is not a supplier for purposes of this subpart.

**Thermocline** means the middle layer of a thermally stratified lake or a reservoir. In this layer, there is a rapid change in temperatures between the top and bottom of the layer.

**Tidal river** means the most seaward reach of a river or stream where the salinity is typically less than or equal to 0.5 parts per thousand (by mass) at a time of annual low flow and whose surface elevation responds to the effects of coastal lunar tides.

§ 125.94 How will requirements reflecting best technology available for minimizing adverse environmental impact be established for my Phase II existing facility?

(a) Compliance alternatives. You must select and implement one of the following five alternatives for establishing best technology available for minimizing adverse environmental impact at your facility:

(1)(i) You may demonstrate to the Director that you have reduced, or will reduce, your flow commensurate with a closed-cycle recirculating system. In this case, you are deemed to have met the applicable performance standards and will not be required to demonstrate further that your facility meets the impingement mortality and entrainment performance standards specified in paragraph (b) of this section. In addition, you are not subject to the requirements in §§125.95, 125.96, 125.97, or 125.98. However, you may still be subject to any more stringent requirements established under paragraph (e) of this section; or

(ii) You may demonstrate to the Director that you have reduced, or will...
reduce, your maximum through-screen design intake velocity to 0.5 ft/s or less. In this case, you are deemed to have met the impingement mortality performance standards and will not be required to demonstrate further that your facility meets the performance standards for impingement mortality specified in paragraph (b) of this section and you are not subject to the requirements in §§125.95, 125.96, 125.97, or 125.98 as they apply to impingement mortality. However, you are still subject to any applicable requirements for entrainment reduction and may still be subject to any more stringent requirements established under paragraph (e) of this section.

(2) You may demonstrate to the Director that your existing design and construction technologies, operational measures, and/or restoration measures meet the performance standards specified in paragraph (b) of this section and/or the restoration requirements in paragraph (c) of this section.

(3) You may demonstrate to the Director that you have selected, and will install and properly operate and maintain, design and construction technologies, operational measures, and/or restoration measures that will, in combination with any existing design and construction technologies, operational measures, and/or restoration measures, meet the performance standards specified in paragraph (b) of this section and/or the restoration requirements in paragraph (c) of this section.

(4) You may demonstrate to the Director that you have selected, and will install, and properly operate and maintain, design and construction technology in accordance with §125.99(a) or (b); or

(5) You may demonstrate to the Director that you have selected, installed, and are properly operating and maintaining, or will install and properly operate and maintain design and construction technologies, operational measures, and/or restoration measures that the Director has determined to be the best technology available to minimize adverse environmental impact for your facility in accordance with paragraphs (a)(5)(i) or (ii) of this section.

(i) If the Director determines that data specific to your facility demonstrate that the costs of compliance under alternatives in paragraphs (a)(2) through (4) of this section would be significantly greater than the costs considered by the Administrator for a facility like yours in establishing the applicable performance standards in paragraph (b) of this section, the Director must make a site-specific determination of the best technology available for minimizing adverse environmental impact. This determination must be based on reliable, scientifically valid cost and performance data submitted by you and any other information that the Director deems appropriate. The Director must establish site-specific alternative requirements based on new and/or existing design and construction technologies, operational measures, and/or restoration measures that achieve an efficacy that is, in the judgment of the Director, as close as practicable to the applicable performance standards in paragraph (b) of this section, without resulting in costs that are significantly greater than the costs considered by the Administrator for a facility like yours in establishing the applicable performance standards. The Director’s site-specific determination may conclude that design and construction technologies, operational measures, and/or restoration measures in addition to those already in place are not justified because of the significantly greater costs. To calculate the costs considered by the Administrator for a facility like yours in establishing the applicable performance standards you must:

(A) Determine which technology the Administrator modeled as the most appropriate compliance technology for your facility;

(B) Using the Administrator’s costing equations, calculate the annualized capital and net operation and maintenance (O&M) costs for a facility with your design intake flow using this technology;

(C) Determine the annualized net revenue loss associated with net construction downtime that the Administrator modeled for your facility to install this technology;

(D) Determine the annualized pilot study costs that the Administrator
modeled for your facility to test and optimize this technology;

(E) Sum the cost items in paragraphs (a)(5)(i)(B), (C), and (D) of this section; and

(F) Determine if the performance standards that form the basis of these estimates (i.e., impingement mortality reduction only or impingement mortality and entrainment reduction) are applicable to your facility, and if necessary, adjust the estimates to correspond to the applicable performance standards.

(ii) If the Director determines that data specific to your facility demonstrate that the costs of compliance under alternatives in paragraphs (a)(2) through (4) of this section would be significantly greater than the benefits of complying with the applicable performance standards at your facility, the Director must make a site-specific determination of best technology available for minimizing adverse environmental impact. This determination must be based on reliable, scientifically valid cost and performance data submitted by you and any other information the Director deems appropriate. The Director must establish site-specific alternative requirements based on new and/or existing design and construction technologies, operational measures, and/or restoration measures that achieve an efficacy that, in the judgment of the Director, is as close as practicable to the applicable performance standards in paragraph (b) of this section without resulting in costs that are significantly greater than the benefits at your facility.

(b) National performance standards—(1) Impingement mortality performance standards. If you choose compliance alternatives in paragraphs (a)(1)(ii), (a)(2), (a)(3), or (a)(4) of this section, you must also reduce entrainment of all life stages of fish and shellfish by 60 to 90 percent from the calculation baseline if:

(i) Your facility has a capacity utilization rate of 15 percent or greater, and

(ii) (A) Your facility uses cooling water withdrawn from a tidal river, estuary, ocean, or one of the Great Lakes; or

(B) Your facility uses cooling water withdrawn from a freshwater river or stream and the design intake flow of your cooling water intake structures is greater than five percent of the mean annual flow.

(2) Entrainment performance standards. If you choose compliance alternatives in paragraphs (a)(1)(ii), (a)(2), (a)(3), or (a)(4) of this section, you must also reduce entrainment of all life stages of fish and shellfish by 60 to 90 percent from the calculation baseline if:

(i) Your facility has a capacity utilization rate of 15 percent or greater, and

(ii) (A) Your facility uses cooling water withdrawn from a tidal river, estuary, ocean, or one of the Great Lakes; or

(B) Your facility uses cooling water withdrawn from a freshwater river or stream and the design intake flow of your cooling water intake structures is greater than five percent of the mean annual flow.

(3) Additional performance standards for facilities withdrawing from a lake (other than one of the Great Lakes) or a reservoir. If your facility withdraws cooling water from a lake (other than one of the Great Lakes) or a reservoir and you propose to increase the design intake flow of cooling water intake structures it uses, your increased design intake flow must not disrupt the natural thermal stratification or turnover pattern (where present) of the source water, except in cases where the disruption does not adversely affect the management of fisheries. In determining whether any such disruption does not adversely affect the management of fisheries, you must consult with Federal, State, or Tribal fish and wildlife management agencies.

(4) Use of performance standards for site-specific determinations of best technology available. The performance standards in paragraphs (b)(1) through (3) of this section must also be used for determining eligibility for site-specific determinations of best technology available for minimizing adverse environmental impact and establishing site specific requirements that achieve an efficacy as close as practicable to the applicable performance standards without resulting in costs that are significantly greater than those considered by the Administrator for a facility like yours in establishing the performance standards or costs that are significantly greater than the benefits at your facility, pursuant to §125.94(a)(5).
(c) Requirements for restoration measures. With the approval of the Director, you may implement and adaptively manage restoration measures that produce and result in increases of fish and shellfish in your facility's watershed in place of or as a supplement to installing design and control technologies and/or adopting operational measures that reduce impingement mortality and entrainment. You must demonstrate to the Director that:

(1) You have evaluated the use of design and construction technologies and operational measures for your facility and determined that the use of restoration measures is appropriate because meeting the applicable performance standards or site-specific requirements through the use of design and construction technologies and/or operational measures alone is less feasible, less cost-effective, or less environmentally desirable than meeting the standards or requirements in whole or in part through the use of restoration measures; and

(2) The restoration measures you will implement, alone or in combination with design and construction technologies and/or operational measures, will produce ecological benefits (fish and shellfish), including maintenance or protection of community structure and function in your facility’s waterbody or watershed, at a level that is substantially similar to the level you would achieve by meeting the applicable performance standards under paragraph (b) of this section, or that satisfies alternative site-specific requirements established pursuant to paragraph (a)(5) of this section.

(d)(1) Compliance using a technology installation and operation plan or restoration plan. If you choose one of the compliance alternatives in paragraphs (a)(2), (3), (4), or (5) of this section, you may request that compliance with the requirements of §125.94(b) during the first permit containing requirements consistent with this subpart be determined based on whether you have complied with the construction, operational, maintenance, monitoring, and adaptive management requirements of a Technology Installation and Operation Plan developed in accordance with §125.95(b)(4)(ii) (for any design and construction technologies and/or operational measures) and/or a Restoration Plan developed in accordance with §125.95(b)(5) (for any restoration measures). The Technology Installation and Operation Plan must be designed to meet applicable performance standards in paragraph (b) of this section or alternative site-specific requirements developed pursuant to paragraph (a)(5) of this section. The Restoration Plan must be designed to achieve compliance with the applicable requirements in paragraph (c) of this section.

(2) During subsequent permit terms, if you selected and installed design and construction technologies and/or operational measures and have been in compliance with the construction, operational, maintenance, monitoring, and adaptive management requirements of your Technology Installation and Operation Plan during the preceding permit term, you may request that compliance with the requirements of §125.94 during the following permit term be determined based on whether you remain in compliance with your Technology Installation and Operation Plan, revised in accordance with your adaptive management plan in §125.95(b)(4)(ii)(C) if applicable performance standards are not being met. Each request and approval of a Technology Installation and Operation Plan shall be limited to one permit term.

(3) During subsequent permit terms, if you selected and installed restoration measures and have been in compliance with the construction, operational, maintenance, monitoring, and adaptive management requirements in your Restoration Plan during the preceding permit term, you may request that compliance with the requirements of this section during the following permit term be determined based on whether you remain in compliance with your Restoration Plan, revised in accordance with your adaptive management plan in §125.95(b)(5)(v) if applicable performance standards are not being met. Each request and approval of a Restoration Plan shall be limited to one permit term.
(e) More stringent standards. The Director may establish more stringent requirements as best technology available for minimizing adverse environmental impact if the Director determines that your compliance with the applicable requirements of this section would not meet the requirements of applicable State and Tribal law, or other Federal law.

(f) Nuclear facilities. If you demonstrate to the Director based on consultation with the Nuclear Regulatory Commission that compliance with this subpart would result in a conflict with a safety requirement established by the Commission, the Director must make a site-specific determination of best technology available for minimizing adverse environmental impact that would not result in a conflict with the Nuclear Regulatory Commission’s safety requirement.

Effective date note: At 72 FR 37109, July 9, 2007, §125.94 was suspended.

§125.95 As an owner or operator of a Phase II existing facility, what must I collect and submit when I apply for my reissuance of an NPDES permit?

(a)(1) You must submit to the Director the Proposal for Information Collection required in paragraph (b)(1) of this section prior to the start of information collection activities;

(2) You must submit to the Director the information required in 40 CFR 122.21(r)(2), (r)(3) and (r)(5) and any applicable portions of the Comprehensive Demonstration Study (Study), except for the Proposal for Information Collection required by paragraph (b)(1) of this section; and

(i) You must submit your NPDES permit application in accordance with the time frames specified in 40 CFR 122.21(d)(2).

(ii) If your existing permit expires before July 9, 2008, you may request that the Director establish a schedule for you to submit the information required by this section as expeditiously as practicable, but not later than January 7, 2008. Between the time your existing permit expires and the time an NPDES permit containing requirements consistent with this subpart is issued to your facility, the best technology available to minimize adverse environmental impact will continue to be determined based on the Director’s best professional judgment.

(3) In subsequent permit terms, the Director may approve a request to reduce the information required to be submitted in your permit application on the cooling water intake structure(s) and the source waterbody, if conditions at your facility and in the waterbody remain substantially unchanged since your previous application. You must submit your request for reduced cooling water intake structure and waterbody application information to the Director at least one year prior to the expiration of the permit. Your request must identify each required information item in §122.21(r) and this section that you determine has not substantially changed since the previous permit application and the basis for your determination.

(b) Comprehensive Demonstration Study. The purpose of the Comprehensive Demonstration Study (The Study) is to characterize impingement mortality and entrainment, to describe the operation of your cooling water intake structures, and to confirm that the technologies, operational measures, and/or restoration measures you have selected and installed, or will install, at your facility meet the applicable requirements of §125.94. All facilities except those that have met the applicable requirements in accordance with §§125.94(a)(1)(i), 125.94(a)(1)(ii), and 125.94(a)(4) must submit all applicable portions of the Comprehensive Demonstration Study to the Director in accordance with paragraph (a) of this section. Facilities that meet the requirements in §125.94(a)(1)(i) by reducing their flow commensurate with a closed-cycle, recirculating system are not required to submit a Comprehensive Demonstration Study. Facilities that meet the requirements in §125.94(a)(1)(i) by reducing their design intake velocity to 0.5 ft/sec or less are required to submit a Study only for the entrainment requirements, if applicable. Facilities that meet the requirements in §125.94(a)(4) and have installed and properly operate and maintain an approved design and construction technology (in accordance with §125.99) are required to submit only the