standards for minimizing adverse environmental impact associated with the use of cooling water intake structures and required procedures (e.g., permit application requirements, information submission requirements) for establishing the appropriate technology requirements at certain specified facilities as well as monitoring, reporting, and recordkeeping requirements to demonstrate compliance. In combination, these components represent the best technology available for minimizing adverse environmental impact associated with the use of cooling water intake structures at existing facilities. These requirements are to be established and implemented in National Pollutant Discharge Elimination System (NPDES) permits issued under the Clean Water Act (CWA).

(b) Cooling water intake structures not subject to requirements under §§ 125.94 through 125.99 or subparts I or N of this part must meet requirements under section 316(b) of the CWA established by the Director on a case-by-case, best professional judgment (BPJ) basis.

(c) Nothing in this subpart shall be construed to preclude or deny the right under section 510 of the CWA of any State or political subdivision of a State or any interstate agency to adopt or enforce any requirement with respect to control or abatement of pollution that is more stringent than required by Federal law.

Note to § 125.90. This regulation does not authorize take, as defined by the Endangered Species Act, 16 U.S.C. 1532(19). The U.S. Fish and Wildlife Service and National Marine Fisheries Service have determined that any impingement (including entrapment) or entrainment of Federally-listed species constitutes take. Such take may be authorized pursuant to the conditions of a permit issued under 16 U.S.C. 1539(a) or where consistent with an Incidental Take Statement contained in a Biological Opinion pursuant to 16 U.S.C. 1536(o).

### § 125.91 Applicability.

(a) The owner or operator of an existing facility, as defined in § 125.92(k), is subject to the requirements at §§ 125.94 through 125.99 if:

(1) The facility is a point source;

(2) The facility uses or proposes to use one or more cooling water intake structures with a cumulative design intake flow (DIF) of greater than 2 million gallons per day (mgd) to withdraw water from waters of the United States; and

(3) Twenty-five percent or more of the water the facility withdraws on an actual intake flow basis is used exclusively for cooling purposes.

(b) Use of a cooling water intake structure includes obtaining cooling water by any sort of contract or arrangement with one or more independent suppliers of cooling water if the independent supplier withdraws water from waters of the United States but is not itself a new or existing facility as defined in subparts I or J of this part, except as provided in paragraphs (c) and (d) of this section. An owner or operator of an existing facility may not circumvent these requirements by creating arrangements to receive cooling water from an entity that is not itself a facility subject to subparts I or J of this part.

(c) Obtaining cooling water from a public water system, using reclaimed water from wastewater treatment facilities or desalination plants, or recycling treated process wastewater effluent as cooling water does not constitute use of a cooling water intake structure for purposes of this subpart.

(d) This subpart does not apply to offshore seafood processing facilities, offshore liquefied natural gas terminals, and offshore oil and gas extraction facilities that are existing facilities as defined in § 125.92(k). The owners and operators of such facilities must meet requirements established by the Director on a case-by-case, best professional judgment (BPJ) basis.

### § 125.92 Special definitions.

In addition to the definitions provided in 40 CFR 122.2, the following special definitions apply to this subpart:

(a) *Actual Intake Flow* (AIF) means the average volume of water withdrawn on an annual basis by the cooling water intake structures over the past three years. After October 14, 2019, *Actual Intake Flow* means the average volume of water withdrawn on an annual

basis by the cooling water intake structures over the previous five years. Actual intake flow is measured at a location within the *cooling water intake structure* that the Director deems appropriate. The calculation of actual intake flow includes days of zero flow. AIF does not include flows associated with emergency and fire suppression capacity.

(b) *All life stages of fish and shellfish* means eggs, larvae, juveniles, and adults. It does not include members of the infraclass Cirripedia in the subphylum Crustacea (barnacles), green mussels (*Perna viridis*), or zebra mussels (*Dreissena polymorpha*). The Director may determine that all life stages of fish and shellfish does not include other specified nuisance species.

(c) *Closed-cycle recirculating system* means a system designed and properly operated using minimized make-up and blowdown flows withdrawn from a water of the United States to support contact or non-contact cooling uses within a facility, or a system designed to include certain impoundments. A closed-cycle recirculating system passes cooling water through the condenser and other components of the cooling system and reuses the water for cooling multiple times.

(1) *Closed-cycle recirculating system* includes a facility with wet, dry, or hybrid cooling towers, a system of impoundments that are not waters of the United States, or any combination thereof. A properly operated and maintained closed-cycle recirculating system withdraws new source water (make-up water) only to replenish losses that have occurred due to blowdown, drift, and evaporation. If waters of the United States are withdrawn for purposes of replenishing losses to a closed-cycle recirculating system other than those due to blowdown, drift, and evaporation from the cooling system, the Director may determine a cooling system is a closed-cycle recirculating system if the facility demonstrates to the satisfaction of the Director that make-up water withdrawals attributed specifically to the cooling portion of the cooling system have been minimized.

(2) *Closed-cycle recirculating system* also includes a system with impoundments of waters of the U.S. where the impoundment was constructed prior to October 14, 2014 and created for the purpose of serving as part of the cooling water system as documented in the project purpose statement for any required Clean Water Act section 404 permit obtained to construct the impoundment. In the case of an impoundment whose construction pre-dated the CWA requirement to obtain a section 404 permit, documentation of the project's purpose must be demonstrated to the satisfaction of the Director. This documentation could be some other license or permit obtained to lawfully construct the impoundment for the purposes of a cooling water system, or other such evidence as the Director finds necessary. For impoundments constructed in uplands or not in waters of the United States, no documentation of a section 404 or other permit is required. If waters of the United States are withdrawn for purposes of replenishing losses to a closed-cycle recirculating system other than those due to blowdown, drift, and evaporation from the cooling system, the Director may determine a cooling system is a closed-cycle recirculating system if the facility demonstrates to the satisfaction of the Director that make-up water withdrawals attributed specifically to the cooling portion of the cooling system have been minimized.

(d) *Contact cooling water* means water used for cooling which comes into direct contact with any raw material, product, or byproduct. Examples of contact cooling water may include but are not limited to quench water at facilities, cooling water in a cracking unit, and cooling water directly added to food and agricultural products processing.

(e) *Cooling water* means water used for contact or non-contact cooling, including water used for equipment cooling, evaporative cooling tower makeup, and dilution of effluent heat content. The intended use of the cooling water is to absorb waste heat rejected from the process or processes used, or from auxiliary operations on the facility's premises. Cooling water obtained from a public water system, reclaimed water from wastewater treatment facilities or desalination plants, treated effluent

from a manufacturing facility, or cooling water that is used in a manufacturing process either before or after it is used for cooling as process water, is not considered cooling water for the purposes of calculating the percentage of a facility's intake flow that is used for cooling purposes in § 125.91(a)(3).

(f) *Cooling water intake structure* means the total physical structure and any associated constructed waterways used to withdraw cooling water from waters of the United States. The cooling water intake structure extends from the point at which water is first withdrawn from waters of the United States up to, and including the intake pumps.

(g) *Design intake flow* (DIF) means the value assigned during the cooling water intake structure design to the maximum instantaneous rate of flow of water the cooling water intake system is capable of withdrawing from a source waterbody. The facility's DIF may be adjusted to reflect permanent changes to the maximum capabilities of the cooling water intake system to withdraw cooling water, including pumps permanently removed from service, flow limit devices, and physical limitations of the piping. DIF does not include values associated with emergency and fire suppression capacity or redundant pumps (i.e., back-up pumps).

(h) *Entrainment* means any life stages of fish and shellfish in the intake water flow entering and passing through a cooling water intake structure and into a cooling water system, including the condenser or heat exchanger. Entrainable organisms include any organisms potentially subject to *entrainment*. For purposes of this subpart, *entrainment* excludes those organisms that are collected or retained by a sieve with maximum opening dimension of 0.56 inches. Examples of sieves meeting this definition include but are not limited to a ⅜ inch square mesh, or a ½ by ¼ inch mesh. A facility must use the same mesh size when counting entrainment as is used when counting impingement.

(i) *Entrainment mortality* means death as a result of entrainment through the cooling water intake structure, or death as a result of exclusion from the cooling water intake structure by fine mesh screens or other protective devices intended to prevent the passage of entrainable organisms through the cooling water intake structure.

(j) *Entrapment* means the condition where impingeable fish and shellfish lack the means to escape the cooling water intake. *Entrapment* includes but is not limited to: Organisms caught in the bucket of a traveling screen and unable to reach a fish return; organisms caught in the forebay of a cooling water intake system without any means of being returned to the source waterbody without experiencing mortality; or cooling water intake systems where the velocities in the intake pipes or in any channels leading to the forebay prevent organisms from being able to return to the source waterbody through the intake pipe or channel.

(k) *Existing facility* means any facility that commenced construction as described in 40 CFR 122.29(b)(4) on or before January 17, 2002 (or July 17, 2006 for an offshore oil and gas extraction facility) and any modification of, or any addition of a unit at such a facility. A facility built adjacent to another facility would be a new facility while the original facility would remain as an exiting facility for purposes of this subpart. A facility cannot both be an existing facility and a new facility as defined at § 125.83.

(l) *Flow reduction* means any modification to a cooling water intake structure or its operation that serves to reduce the volume of cooling water withdrawn. Examples include, but are not limited to, variable speed pumps, seasonal flow reductions, wet cooling towers, dry cooling towers, hybrid cooling towers, unit closures, or substitution for withdrawals by reuse of effluent from a nearby facility.

(m) *Fragile species* means those species of fish and shellfish that are least likely to survive any form of impingement. For purposes of this subpart, *fragile species* are defined as those with an impingement survival rate of less than 30 percent, including but not limited to alewife, American shad, Atlantic herring, Atlantic long-finned squid, Atlantic menhaden, bay anchovy, blueback herring, bluefish, butterfish, gizzard shad, grey snapper, hickory

shad, menhaden, rainbow smelt, round herring, and silver anchovy.

(n) *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. For purposes of this subpart, *impingement* includes those organisms collected or retained on a sieve with maximum distance in the opening of 0.56 inches, and excludes those organisms that pass through the sieve. Examples of sieves meeting this definition include but are not limited to a ⅜ inch square mesh, or a ½ by ¼ inch mesh. This definition is intended to prevent the conversion of entrainable organisms to counts of impingement or impingement mortality. The owner or operator of a facility must use a sieve with the same mesh size when counting entrainment as is used when counting impingement.

(o) *Impingement mortality* (IM) means death as a result of impingement. Impingement mortality also includes organisms removed from their natural ecosystem and lacking the ability to escape the cooling water intake system, and thus subject to inevitable mortality.

(p) *Independent 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 provides the cooling water to other facilities for their use, but may itself also use a portion of the water. An entity that provides potable water to residential populations (e.g., public water system) is not a supplier for purposes of this subpart.

(q) *Latent mortality* means the delayed mortality of organisms that were initially alive upon being impinged or entrained but that do not survive the delayed effects of impingement and entrainment during an extended holding period. Delayed effects of impingement and entrainment include but are not limited to temperature change, physical stresses, and chemical stresses.

(r) *Minimize* means to reduce to the smallest amount, extent, or degree reasonably possible.

(s) *Modified traveling screen* means a traveling water screen that incorporates measures protective of fish and shellfish, including but not limited to: Screens with collection buckets or equivalent mechanisms designed to minimize turbulence to aquatic life; addition of a guard rail or barrier to prevent loss of fish from the collection system; replacement of screen panel materials with smooth woven mesh, drilled mesh, molded mesh, or similar materials that protect fish from descaling and other abrasive injury; continuous or near-continuous rotation of screens and operation of fish collection equipment to ensure any impinged organisms are recovered as soon as practical; a low pressure wash or gentle vacuum to remove fish prior to any high pressure spray to remove debris from the screens; and a fish handling and return system with sufficient water flow to return the fish directly to the source water in a manner that does not promote predation or re-impingement of the fish, or require a large vertical drop. The Director may approve of fish being returned to water sources other than the original source water, taking into account any recommendations from the Services with respect to endangered or threatened species. Examples of *modified traveling screens* include, but are not limited to: Modified Ristroph screens with a fish handling and return system, dual flow screens with smooth mesh, and rotary screens with fish returns or vacuum returns.

(t) *Moribund* means dying; close to death.

(u) *New unit* means a new ''stand-alone'' unit at an existing facility where construction of the new unit begins after October 14, 2014 and that does not otherwise meet the definition of a new facility at §125.83 or is not otherwise already subject to subpart I of this part. A stand-alone unit is a separate unit that is added to a facility for either the same general industrial operation or another purpose. A new unit may have its own dedicated cooling water intake structure, or the new unit may use an existing or modified cooling water intake structure.

(v) *Offshore velocity cap* means a velocity cap located a minimum of 800

feet from the shoreline. A velocity cap is an open intake designed to change the direction of water withdrawal from vertical to horizontal, thereby creating horizontal velocity patterns that result in avoidance of the intake by fish and other aquatic organisms. For purposes of this subpart, the velocity cap must use bar screens or otherwise exclude marine mammals, sea turtles, and other large aquatic organisms.

(w) *Operational measure* means a modification to any operation that serves to minimize impact to all life stages of fish and shellfish from the cooling water intake structure. Examples of *operational measures* include, but are not limited to, more frequent rotation of traveling screens, use of a low pressure wash to remove fish prior to any high pressure spray to remove debris, maintaining adequate volume of water in a fish return, and debris minimization measures such as air sparging of intake screens and/or other measures taken to maintain the design intake velocity.

(x) *Social benefits* means the increase in social welfare that results from taking an action. Social benefits include private benefits and those benefits not taken into consideration by private decision makers in the actions they choose to take, including effects occurring in the future. Benefits valuation involves measuring the physical and biological effects on the environment from the actions taken. Benefits are generally treated one or more of three ways: A narrative containing a qualitative discussion of environmental effects, a quantified analysis expressed in physical or biological units, and a monetized benefits analysis in which dollar values are applied to quantified physical or biological units. The dollar values in a social benefits analysis are based on the principle of willingness-to-pay (WTP), which captures monetary benefits by measuring what individuals are willing to forgo in order to enjoy a particular benefit. Willingness-to-pay for nonuse values can be measured using benefits transfer or a stated preference survey.

(y) *Social costs* means costs estimated from the viewpoint of society, rather than individual stakeholders. Social cost represents the total burden imposed on the economy; it is the sum of all opportunity costs incurred associated with taking actions. These opportunity costs consist of the value lost to society of all the goods and services that will not be produced and consumed as a facility complies with permit requirements, and society reallocates resources away from other production activities and towards minimizing adverse environmental impacts.

### § 125.93 [Reserved]

### § 125.94 As an owner or operator of an existing facility, what must I do to comply with this subpart?

(a) *Applicable Best Technology Available for Minimizing Adverse Environmental Impact (BTA) standards.* (1) On or after October 14, 2014, the owner or operator of an existing facility with a cumulative design intake flow (DIF) greater than 2 mgd is subject to the BTA (best technology available) standards for impingement mortality under paragraph (c) of this section, and entrainment under paragraph (d) of this section including any measures to protect Federally-listed threatened and endangered species and designated critical habitat established under paragraph (g) of this section.

(2) Prior to *October 14, 2014,* the owner or operator of an existing facility with a cumulative design intake flow (DIF) greater than 2 mgd is subject to site-specific impingement mortality and entrainment requirements as determined by the Director on a case-by-case Best Professional Judgment basis. The Director's BTA determination may be based on consideration of some or all of the factors at §125.98(f)(2) and (3) and the requirements of §125.94(c). If the Director requires additional information to make the decision on what BTA requirements to include in the applicant's permit for impingement mortality and entrainment, the Director should consider whether to require any of the information at 40 CFR 122.21(r).

(3) The owner or operator of a new unit is subject to the impingement mortality and entrainment standards under paragraph (e) of this section for all cooling water intake flows used by the new unit. The remainder of the existing facility is subject to the impingement mortality standard under