

**CHAPTER 96. WATER QUALITY STANDARDS  
IMPLEMENTATION**

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**Authority**

The provisions of this Chapter 96 issued under sections 5(b)(1) and 402 of The Clean Streams Law (35 P. S. §§ 691.5(b)(1) and 691.402); and section 1920-A of The Administrative Code of 1929 (71 P. S. § 510-20), unless otherwise noted.

**Source**

The provisions of this Chapter 96 adopted November 17, 2000, effective November 18, 2000, 30 Pa.B. 6059, unless otherwise noted.

**Cross References**

This chapter cited in 25 Pa. Code § 16.21 (relating to acute and chronic protection); 25 Pa. Code § 16.22 (relating to criteria development); 25 Pa. Code § 86.6 (relating to extraction of coal incidental to government-financed construction or government-financed reclamation projects); 25 Pa. Code § 92.2a (relating to treatment requirements); 25 Pa. Code § 92.8a (relating to changes in treatment requirements); 25 Pa. Code § 92.17 (relating to other chapters applicable); 25 Pa. Code § 92.31 (relating to effluent limitations or standards); 25 Pa. Code § 93.4 (relating to Statewide water uses); 25 Pa. Code § 93.7 (relating to specific water quality criteria); 25 Pa. Code § 93.8a (relating to toxic substances); and 25 Pa. Code § 93.9 (relating to designated water uses and water quality criteria).

**§ 96.1. Definitions.**

The following words and terms, when used in this chapter, have the following meanings, unless the context clearly indicates otherwise:

*Concentration*—The amount of a substance, expressed in mass units, in a unit volume of water or wastewater.

*Conservative substance*—A pollutant that undergoes no or minimal transformation or decay in a water system, except by dilution.

*Cumulative loading*—The sum of pollutant loadings from individual pollutant sources.

*Factor of safety*—A margin to take into account uncertainty concerning the relationships between effluent limitations and water quality.

*Harmonic mean flow*—The flow that is determined by taking the reciprocal of the arithmetic mean of reciprocals of daily flow values.

*LA—Load allocation*—The portion of a surface water's loading capacity that is assigned or allocated to existing and future nonpoint sources and natural quality.

*Lake, pond or impoundment*—A surface water with a hydraulic residence time of 14 days or more based on average annual daily stream flow. Residence

time shall be determined at average annual daily stream flow and normal pool volume. In the absence of actual records, an average annual daily discharge rate of 1.5 CFS per square mile shall be used.

*Loading capacity*—The greatest amount of loading that a surface water can receive without violating a water quality standard.

*Margin of safety*—The portion of a surface water's loading capacity that is set aside to account for uncertainty about the relationship between pollutant loadings and resulting surface water quality, including any uncertainty or imprecision in mathematical models used to determine these relationships. For nonconservative substances, any imprecision or uncertainty concerning the mechanisms by which the substance decays or is transformed shall be considered.

*Mass load*—The pollutant loading expressed in units of mass per unit time.

*NPDES or National Pollutant Discharge Elimination System Permit*—A permit issued under Chapter 92 (relating to National Pollutant Discharge Elimination System permitting, monitoring and compliance) for the discharge or potential discharge of pollutants from a point source to surface waters.

*Natural quality*—The water quality conditions that exist or that would reasonably be expected to exist in the absence of human related activity.

*Nonconservative substance*—A pollutant whose concentration in the water column changes as a result of volatilization, photolysis, hydrolysis, biodegradation, transformation, or other processes, except dilution.

*Nonpoint source*—A pollutant source which is not a point source discharge.

*Nonpoint source restoration plan*—A nonpoint source management plan which describes needed actions to restore and improve water quality in a watershed or stream.

*Point source discharge*—A pollutant source regulated under the NPDES permit system as defined in § 92.1 (relating to definitions).

*Pollutant*—Any contaminant or other alteration of the physical, chemical, biological, or radiological integrity of surface water which causes or has the potential to cause pollution as defined in section 1 of The Clean Streams Law (35 P. S. § 691.1).

*Potable water supply*—A water source that is used by humans after conventional treatment for drinking, culinary and other purposes such as inclusion in food products.

*Q7-10 flow*—The actual or estimated lowest 7 consecutive-day average flow that occurs once in 10 years for a stream with unregulated flow, or the estimated minimum flow for a stream with regulated flow.

*Q30-10 flow*—The actual or estimated lowest 30 consecutive-day average flow that occurs once in 10 years for a stream with unregulated flow, or the estimated 30 day average minimum flow for a stream with regulated flow.

*Reserve factor*—A portion of the effluent flow held to provide for projected future wasteloads.

*Surface waters*—Perennial and intermittent streams, rivers, lakes, reservoirs, ponds, wetlands, springs, natural seeps and estuaries, excluding water at facilities approved for wastewater treatment such as wastewater treatment impoundments, cooling water ponds, and constructed wetlands used as part of a wastewater treatment process.

*TMDL—Total maximum daily load*—The sum of individual waste load allocations for point sources, load allocations for nonpoint sources and natural quality and a margin of safety expressed in terms of mass per time, toxicity or other appropriate measures.

*WLA—Wasteload allocation*—The portion of a surface water's loading capacity that is allocated to existing and future point source discharges.

*WQBEL—Water quality based effluent limitation*—An effluent limitation based on the need to attain or maintain the water quality criteria and to assure protection of existing and designated uses.

*Water quality criteria duration*—The averaging period associated with a water quality criterion.

*Water quality standards*—The combination of water uses to be protected and the water quality criteria necessary to protect those uses.

*Wetlands*—Areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions, including swamps, marshes, bogs and similar areas.

#### Cross References

This section cited in 25 Pa. Code § 92.21a (relating to additional application requirements for classes of discharges).

### § 96.2. Purpose.

The purpose of this chapter is to establish the process for achieving and maintaining water quality standards.

### § 96.3. Water quality protection requirements.

- (a) Existing and designated surface water uses shall be protected.
- (b) Antidegradation requirements in §§ 93.4a—93.4d and 105.1, 105.15, 105.17, 105.18a, 105.20a and 105.451 shall apply to surface waters.
- (c) To protect existing and designated surface water uses, the water quality criteria described in Chapter 93 (relating to water quality standards), including the criteria in §§ 93.7 and 93.8a(b) (relating to specific water quality criteria; and toxic substances) shall be achieved in all surface waters at least 99% of the time, unless otherwise specified in this title. The general water quality criteria in § 93.6 (relating to general water quality criteria) shall be achieved in surface waters at all times at design conditions.
- (d) As an exception to subsection (c), the water quality criteria for total dissolved solids, nitrite-nitrate nitrogen, phenolics, chloride, sulfate and fluoride established for the protection of potable water supply shall be met at least 99%

of the time at the point of all existing or planned surface potable water supply withdrawals unless otherwise specified in this title.

(e) When a water quality criterion described in Chapter 93, including the criteria in §§ 93.7 and 93.8a(b), cannot be attained at least 99% of the time due to natural quality, as determined by the Department under § 93.7(d) based on water quality observations in that waterbody or at one or more reference stations of similar physical characteristics to the surface water, the natural quality that is achieved at least 99% of the time shall be the applicable water quality criterion for protection of fish and aquatic life.

(f) When the minimum flow of a stream segment is determined or estimated to be zero, applicable water quality criteria shall be achieved at least 99% of the time at the first downstream point where the stream is capable of supporting existing or designated uses.

(g) Functions and values of wetlands shall be protected pursuant to Chapters 93 and 105 (relating to water quality standards; and dam safety and waterway management).

#### Source

The provisions of this § 96.3 amended December 13, 2002, effective December 14, 2002, 32 Pa.B. 6101. Immediately preceding text appears at serial pages (272251) to (272252).

#### Cross References

This section cited in 25 Pa. Code § 92.31 (relating to effluent limitations or standards); and 25 Pa. Code § 96.4 (relating to TMDLs and QBELs).

### § 96.4. TMDLs and QBELs

(a) The Department will identify surface waters or portions thereof that require the development of TMDLs, prioritize these surface waters for TMDL development, and then develop TMDLs for these waters.

(b) The Department will develop QBELs for point source discharges using applicable procedures described in this chapter when the Department determines that water quality protection requirements specified in § 96.3 (relating to water quality protection requirements) are or would be violated after the imposition of applicable technology based limitations required under sections 301(b), 306, 307 or other sections of the Federal Clean Water Act (33 U.S.C.A. §§ 1311(b), 1316 and 1317) and The Clean Streams Law (35 P. S. §§ 691.1—691.1001) to the point source.

(c) TMDLs and QBELs shall be developed to meet the requirements of § 96.3.

(d) WLAs developed in accordance with this chapter shall serve as the basis for the determination of QBELs for point source discharges regulated under Chapter 92 (relating to National Pollutant Discharge Elimination System permit-

ting, monitoring and compliance). When LAs are developed in accordance with this chapter, they shall serve as the basis for the development of nonpoint source restoration plans.

(e) In developing TMDLs and WQBELs, the Department will:

(1) As appropriate consider, relevant design factors, including, but not limited to: water quality criteria duration, flow duration and frequency, natural seasonal variability in water temperature, the natural variability of pH and hardness, the physical characteristics of a watershed, reserve factors, factors of safety and pollutant contributions from other sources.

(2) Treat all pollutants as conservative unless it finds based on scientifically valid information that the substance is not conservative and adequate information is available to characterize the substance's fate or transformation, or both.

(f) The allocation procedure is as follows:

(1) WLAs, LAs and effluent limitations assigned or allocated to individual pollutant sources shall be the more stringent of the following:

(i) The pollutant loading authorized to be discharged under applicable technology-based requirements.

(ii) Where applicable, the pollutant loading determined under §§ 96.5 and 96.6 (relating to nutrient discharges; and heated wastewater discharges).

(iii) The pollutant loading that will achieve the water quality protection requirements specified in § 96.3.

(2) WLAs, LAs and effluent limitations shall be made more stringent if the cumulative loading determined after the application of paragraph (1) does not meet the requirements of § 96.3.

(g) Mathematical modeling at the design flow conditions listed in Table 1 shall be used as applicable to develop TMDLs and WQBELs for point source discharges.

**TABLE 1**

<i>Water Quality Criteria</i>	<i>Steady State Design Flow</i>
Fish and Aquatic Life, Except Ammonia-Nitrogen	Q <sub>7-10</sub>
Ammonia-Nitrogen	Q <sub>30-10</sub>
Threshold Human Health	Q <sub>7-10</sub>
Nonthreshold Human Health (Carcinogens)	Harmonic Mean Flow

The LA portion of the TMDL will be allotted to nonpoint source pollutant loadings and natural quality.

(h) The Department will revise WLAs and LAs because of new or increased pollutant loadings. WLAs shall be revised at or before the expiration date of the current point source discharge permit term.

(i) The Department may require NPDES dischargers and other persons subject to regulation under The Clean Streams Law (35 P. S. §§ 691.1—691.1001) to conduct appropriate monitoring of pollutant sources and waters and report the results and data, to obtain data needed to develop TMDLs and effluent limitations and to determine their effectiveness.

### § 96.5. Nutrient discharges.

(a) Whenever technically and financially feasible, and environmentally sound, land disposal of wastewater shall be used on a continuous or seasonal basis to prevent or minimize to the maximum extent practicable the discharge of nutrients to surface waters, including tributaries thereof, that are determined to be either threatened or impaired by nutrient enrichment.

(b) When necessary to control eutrophication in a lake, pond, or other impoundment, the Department will develop a TMDL and associated WLAs and LAS based on average annual loading estimates.

(c) When it is determined that the discharge of phosphorus, alone or in combination with the discharge of other pollutants, contributes or threatens to impair existing or designated uses in a free flowing surface water, phosphorus discharges from point source discharges shall be limited to an average monthly concentration of 2 mg/l. More stringent controls on point source discharges may be imposed, or may be otherwise adjusted as a result of a TMDL which has been developed.

#### Cross References

This section cited in 25 Pa. Code § 96.4 (relating to TMDLs and WQBELs).

### § 96.6. Heated wastewater discharges.

(a) WLAs established for the discharge of heated wastewater shall comply with applicable State and Federal requirements.

(b) Heated wastewater discharges may not cause a change of surface water temperature of more than 2°F during any 1-hour period.

(c) In addition to subsection (b), the allowable heat content of heated wastewater discharges shall be limited to one of the following:

(1) A calculated amount that will raise the temperature of the receiving surface water to no more than the applicable criteria specified in § 93.7 (relating to specific water quality criteria).

(2) An amount based on an evaluation conducted in accordance with section 316(a) of the Federal Clean Water Act (33 U.S.C.A. § 1326(a)).

**Cross References**

This section cited in 25 Pa. Code § 96.3 (relating to water quality protection requirements); and 25 Pa. Code § 96.4 (relating to TMDLs and WQBELs).

**§ 96.7. Public participation.**

(a) The Department will publish a notice in the *Pennsylvania Bulletin* of the availability of draft and final lists of surface waters requiring TMDLs under § 96.4(a) (relating to TMDLs and WQBELs). The notice of the draft list shall set forth a minimum 30-day public comment period.

(b) The Department will publish a notice in the *Pennsylvania Bulletin* of the availability of any draft and final TMDL prepared under this chapter. Draft TMDL notices shall be subject to a minimum 30-day comment period. The Department may hold a public hearing on a draft TMDL if there is significant public interest. When the TMDL is prepared concurrent with or as part of an NPDES permit application, the notice may be included in the notice of permit application prepared under § 92.61 (relating to public notice of permit application and public hearing).

**Cross References**

This section cited in 25 Pa. Code § 96.6 (relating to heated wastewater discharges).

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