

“Primary contact recreation” means water related recreational activities that involve significant ingestion risks and includes, but is not limited to, wading, swimming, diving, surfing, and water skiing.

“Public hearing” means a legislative type hearing before a representative or representatives of the Department providing the opportunity for public comment, but does not include cross-examination.

“Regulatory mixing zones” means areas of surface waters established pursuant to this chapter for the purpose of initial mixing, dispersion, or dissipation of wastewater effluent at or near the discharge point. Regulatory mixing zones may be established for applicable criteria.

“River mile” or “R.M.” means the distance, measured in statute miles, between two locations on a stream, with the first location designated as mile zero. For example, mile zero for the Delaware River is located at the intersection of the center line of the navigation channel and a line between the Cape May Light, New Jersey, and the tip of Cape Henlopen, Delaware.

“Saline waters” means waters having salinities generally greater than 3.5 parts per thousand at mean high tide.

“SC” means the general surface water classification applied to coastal saline waters.

“SE” means the general surface water classification applied to saline waters of estuaries.

“Secondary contact recreation” means recreational activities where the probability of water ingestion is minimal and includes, but is not limited to, boating and fishing.

“Shellfish” means those mollusks commonly known as clams, oysters, or mussels.

“Shellfish waters” means waters classified as Approved, Seasonally Approved, Special Restricted, Seasonally Special Restricted or Condemned that support or possess the potential to support shellfish which are within the Coastal Area Facility Review Act (C.A.F.R.A.) zone as delineated in 1973, (excluding: 1—The Cohansey River upstream of Brown’s Run; 2—The Maurice River upstream of Route 548; 3—The Great Egg Harbor River upstream of Powell Creek; 4—The Tuckahoe River upstream of Route 50; 5—The Mullica River upstream of the Garden State Parkway) plus the adjacent areas between Route 35 (from its juncture with the C.A.F.R.A. zone just north of Red Bank to its juncture with the C.A.F.R.A. zone just south of Keyport) and the C.A.F.R.A. zone and the area from the C.A.F.R.A. zone on the south northwesterly along Route 35 to the northern shore of the Raritan River, then easterly along the northern shore of the Raritan River to the southeast point of Perth Amboy, then due east to the New

Jersey jurisdictional limit, and seaward along the jurisdictional limit to the Atlantic Ocean.

“State Act” means the New Jersey “Water Pollution Control Act,” N.J.S.A. 58:10A-1 et seq., as amended.

“Stream temperature” means the temperature of a stream outside of a designated heat dissipation area.

“Surface water classifications” means names assigned by the Department as set forth at N.J.A.C. 7:9B-1.15(b) through (h) to waters having the same designated uses and water quality criteria (for example, FW1, PL, FW2-NT, SE1, SC, Zone 1C).

“Surface Water Quality Standards” (SWQS) means the rules in this chapter, N.J.A.C. 7:9B, which set forth designated uses, use classifications, and water quality criteria for the State’s waters based upon such uses, and the Department’s policies concerning these uses, classifications and criteria.

“Surface waters” means water at or above the land’s surface which is neither groundwater nor contained within the unsaturated zone, including, but not limited to, the ocean and its tributaries, all springs, streams, rivers, lakes, ponds, wetlands, and artificial waterbodies.

“Thermal alterations” means the increase or decrease in the temperature of surface waters, above or below the natural temperature, that may be caused by the activities of man.

“Thermocline” means the plane of maximum rate of change in temperature with respect to depth.

“Tidal waters” means fresh or saline water under tidal influence, up to the head of tide.

“TM” means trout maintenance.

“Total maximum daily load” or “TMDL” means a total maximum daily load formally established pursuant to Section 7 of the Water Quality Planning Act (N.J.S.A. 58:11A-7) and Section 303(d) of the Clean Water Act, 33 U.S.C. §§ 1251 et seq. A TMDL is the sum of individual wasteload allocations for point sources, load allocations for nonpoint sources of pollution, other sources such as tributaries, or adjacent segments, and allocations to a reserve or margin of safety for an individual pollutant.

“Total recoverable metal” means the concentration of metal in an unfiltered sample following treatment with hot dilute mineral acid (as defined in “Methods for Chemical Analysis of Water and Wastes”, EPA-600/4-79-020, March 1979, incorporated herein by reference).

“Toxic substance” or “toxic pollutant” means any pollutant identified pursuant to the Federal Act, or any pollutant or combination of pollutants, including disease causing agents, which after discharge and upon exposure, ingestion,

inhalation or assimilation into any organism, either directly or indirectly by ingestion through food chains, may, on the basis of the information available to the Department, cause death, disease, behavioral abnormalities, cancer, genetic mutations, physiological malfunctions, including malfunctions in reproduction, or physical deformation, in such organisms or their offspring. Toxic pollutants shall, include but not be limited, to those pollutants identified pursuant to Section 307 of the Federal Act or Section 4 of the State Act, or in the case of "sludge use or disposal practices," any pollutant identified pursuant to Section 405(d) of the Federal Act.

"TP" means trout production.

"Trout maintenance waters" means waters designated at N.J.A.C. 7:9B-1.15(b) through (g) for the support of trout throughout the year.

"Trout production waters" means waters designated at N.J.A.C. 7:9B-1.15(b) through (g) for use by trout for spawning or nursery purposes during their first summer.

"Unsaturated zone" means the subsurface volume between the land's surface and the top of the saturated zone (water table), where moisture does not fill all the pore spaces in the formation or soil.

"USEPA" means the United States Environmental Protection Agency.

"Wasteload allocation" or "WLA" means the portion of a receiving water's total maximum daily load for a specific pollutant that is allocated to one of its existing or future point sources of pollution. WLAs constitute a type of water quality-based effluent limitation.

"Water quality-based effluent limitations" means effluent limitations established so that the quality of the waters receiving a discharge will meet the surface water quality criteria and policies of this chapter after the introduction of the effluent.

"Waters of the State" means the ocean and its estuaries, all springs, streams, wetlands, and bodies of surface or ground water, whether natural or artificial, within the boundaries of the State of New Jersey or subject to its jurisdiction.

"Wetlands" means those areas that are inundated or saturated by surface water 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, commonly known as hydrophytic vegetation. The Department shall evaluate the parameters of hydrology, soils, and vegetation to determine the presence and extent of wetlands.

"Zone" means the general surface water classification applied to the main stem Delaware River and Delaware Bay.

Amended by R.1989 d.420, effective August 7, 1989.

See: 20 N.J.R. 1597(a), 21 N.J.R. 2302(b).

Amended by R.1993 d.610, effective December 6, 1993.

See: 24 N.J.R. 3983(a), 25 N.J.R. 5569(a).

Amended by R.1996 d.383, effective August 5, 1996.

See: 27 N.J.R. 4506(b), 28 N.J.R. 3782(b).

Added "Dissolved metal" and amended "Nondegradation waters" to include color as a criterion for set asides.

Amended by R.1998 d.234, effective May 18, 1998.

See: 29 N.J.R. 5128(a), 30 N.J.R. 1778(a).

Rewrote the section.

Administrative correction.

See: 31 N.J.R. 42(a).

Amended by R.2002 d.19, effective January 22, 2002.

See: 32 N.J.R. 4397(a), 34 N.J.R. 537(a).

Rewrote the section.

7:9B-1.5 Statements of policy

(a) General policies are as follows:

1. These Surface Water Quality Standards apply to all surface waters of the State.

2. Water is vital to life and comprises an invaluable natural resource which is not to be abused by any segment of the State's population or economy. It is the policy of the State to restore, maintain and enhance the chemical, physical and biological integrity of its waters, to protect the public health, to safeguard the aquatic biota, protect scenic and ecological values, and to enhance the domestic, municipal, recreational, industrial, agricultural and other reasonable uses of the State's waters.

3. The restoration, maintenance and preservation of the quality of the waters of the State for the protection and preservation of public water supplies is a paramount interest of the citizens of New Jersey. In order to provide adequate, clean supplies of potable water, it is the policy of the State that all fresh waters be protected as potential sources of public water supply. Therefore, point and nonpoint sources of pollutants shall be regulated to attain compliance with the Surface Water Quality Standards human health criteria outside of regulatory mixing zones.

4. Toxic substances in waters of the State shall not be at levels that are toxic to humans or the aquatic biota, or that bioaccumulate in the aquatic biota so as to render them unfit for human consumption.

5. The introduction of carcinogenic, mutagenic, or teratogenic substances into the environment is of particular concern to the Department. Human health-based ambient criteria have been established for carcinogenic substances at levels which would result in no greater than a one-in-one-million lifetime excess cancer risk for Group A and B carcinogens, under exposure assumptions appropriate for the designated uses of the waterbody. Criteria for Group C carcinogens, for which reference doses are not available, have been established at levels which would result in no greater than a one-in-one-hundred thousand lifetime excess cancer risk.

6. Existing uses shall be maintained and protected. Designated uses shall, as soon as technically and economically feasible, be attained wherever these uses are not precluded by natural conditions. Where existing criteria are inadequate to support the existing or designated uses, the criteria shall be changed to support the existing uses.

7. The restoration of saline waters to levels which permit unrestricted shellfish harvesting is an objective of the Department.

(b) Interstate waters policies are as follows:

1. The designated uses and water quality criteria for the fresh and saline waters under the jurisdiction of the Delaware River Basin Commission shall be as established in accordance with N.J.A.C. 7:9B-1.13, 1.14(c), and 1.14(d).

2. The designated uses and water quality criteria for waters under the jurisdiction of the Interstate Sanitation Commission in the New Jersey/New York metropolitan area shall be as established in this subchapter, or in accordance with the prevailing Water Quality Regulations of the Interstate Sanitation Commission, including all amendments and future supplements thereto, whichever are more stringent.

(c) General technical policies are as follows:

1. The natural water quality shall be used in place of the promulgated water quality criteria of N.J.A.C. 7:9B-1.14 for all water quality characteristics that do not meet the promulgated water quality criteria as a result of natural causes.

2. Water quality criteria are expected to be maintained during periods when nontidal or small tidal stream flows are at or greater than the appropriate design flow. For carcinogenic effect-based human health criteria, toxic substances with a bioaccumulation or bioconcentration factor greater than 200 Liters/kilogram (L/kg) (as listed at (c)2i below) and for bromodichloromethane (BDCM), the design flow shall be the flow which is exceeded 75 percent of the time for the appropriate "period of record" as determined by the United States Geological Survey (USGS). For acute aquatic life protection criteria, the design flow shall be the MA1CD10 flow. For chronic aquatic life protection criteria for ammonia, the design flow shall be the MA30CD10 flow. The design flow for all other criteria shall be the MA7CD10 flow.

i. Toxic substances having carcinogenic effect-based human health criteria and with a bioaccumulation or bioconcentration factor greater than 200 L/kg are as follows:

- (1) Aldrin;
- (2) Chlordane;

- (3) 4,4'-DDD (p,p'-TDE);
- (4) 4,4'-DDE;
- (5) 4,4'-DDT;
- (6) 3,3'-Dichlorobenzidene;
- (7) Dieldrin;
- (8) Heptachlor;
- (9) Heptachlor epoxide;
- (10) Hexachlorobenzene;
- (11) Polychlorinated biphenyls (PCBs);
- (12) 2,3,7,8 Tetrachlorodibenzo-p-dioxin (TCDD);
- and
- (13) Toxaphene.

3. Water quality criteria are expected to be maintained in intermittent streams during all natural flow conditions. When an intermittent stream does not contain natural flow of sufficient magnitude to determine water quality, the criteria to be maintained in the intermittent stream will be those pertaining to the measurable natural flow immediately downstream of the intermittent stream.

4. All analytical data to be incorporated by the Department in water quality monitoring or other activities shall be from laboratories approved or certified by the Department for the analysis of those specific parameters. If certification is not offered for the specific parameter, the laboratory performing the analysis shall, at a minimum, hold certification in the category of certification covering that type of parameter.

5. The Department shall utilize the parameter specific criteria contained in N.J.A.C. 7:9B-1.14 in the development of chemical specific water quality based effluent limitations for point source discharges. Whenever parameter specific criteria have not been adopted, the Department will utilize the best available scientific information in the development of chemical specific water quality based effluent limitations for point source discharges. Ambient criteria published by the United States Environmental Protection Agency pursuant to section 304(a) of the Federal Clean Water Act represent the minimum acceptable best scientific information to be used in the development of water quality based effluent limitations for point source discharges.

6. Unless a metal translator is developed based on a site-specific water quality study or approved by USEPA as part of a watershed study or TMDL, the following metal translators shall be used for developing effluent limitations or expressing aquatic life criteria in the equivalent total recoverable form:

	<u>Name of the Metal</u>	<u>Freshwater Acute</u>	<u>Freshwater Chronic</u>	<u>Saline Acute</u>	<u>Saline Chronic</u>
i.	Arsenic	1.0	1.0	1.0	1.0
ii.	Cadmium	0.944*	0.909*	0.994	0.994

	<u>Name of the Metal</u>	<u>Freshwater Acute</u>	<u>Freshwater Chronic</u>	<u>Saline Acute</u>	<u>Saline Chronic</u>
iii.	Chromium III	0.316	0.860	N/A	N/A
iv.	Chromium VI	0.982	0.962	0.993	0.993
v.	Copper	0.960	0.960	0.83	0.83
vi.	Lead	0.791*	0.791*	0.951	0.951
vii.	Mercury	0.85	N/A	0.85	N/A
viii.	Nickel	0.998	0.997	0.990	0.990
ix.	Selenium	N/A	N/A	0.998	0.998
x.	Silver	0.85	N/A	0.85	N/A
xi.	Zinc	0.978	0.986	0.946	0.946

Conversion factors for cadmium and lead are hardness dependent. Values shown are at a hardness of 100 mg/L of calcium carbonate.

Cadmium Acute Metal Translator = $1.136672 - [\ln(\text{hardness})(0.041838)]$

Cadmium Chronic Metal Translator = $1.101672 - [\ln(\text{hardness})(0.041838)]$

Lead Acute and Chronic Metal Translator = $1.46203 - [\ln(\text{hardness})(0.145712)]$

N/A Not applicable.

(d) Antidegradation policies are as follows:

1. The antidegradation policies apply to all surface waters of the State.

2. Existing uses shall be maintained and protected. Designated uses shall be maintained or, as soon as technically and economically feasible, be attained wherever these uses are not precluded by natural conditions.

3. No irreversible changes may be made to existing water quality that would impair or preclude attainment of the designated uses of a waterway.

4. No changes shall be allowed in waters which constitute an outstanding National or State resource or in waters that may affect these outstanding resource waters.

5. Where water quality exceeds levels necessary to support the designated uses, including, but not limited to, propagation of fish, shellfish, and wildlife and recreation in and on the water, that quality shall be maintained and protected unless the Department finds, after full satisfaction of the intergovernmental coordination and public participation provisions of the Department's continuing planning process as set forth in the Statewide Water Quality Management Plan (see N.J.A.C. 7:15) which includes, but is not limited to, the NJPDES Regulations (N.J.A.C. 7:14A), that allowing lower water quality is necessary to accommodate important economic or social development in the area in which the waters are located.

6. These antidegradation policies shall be applied as follows:

i. The quality of nondegradation water shall be maintained in their natural state (set aside for posterity) and shall not be subject to any mandate wastewater discharges. The Department shall not approve any activity which, along or in combination with other activities, might cause changes, other than toward natural water quality, in the existing surface water quality characteristics.

ii. For Pinelands waters, the Department shall not approve any activity which alone or in combination with any other activities, might cause changes, other than toward natural water quality, in the existing surface water quality characteristics. This policy shall apply as follows:

(1) This policy is not intended to interfere with water control in the operation of cranberry bogs or blueberry production.

(2) Dischargers holding valid NJPDES permits as of May 20, 1985, shall be allowed to continue discharging under the terms of their existing NJPDES permits provided that the discharge is not creating any water quality problems and that the designated uses are being attained. If a water quality problem has been created or the designated uses are not being attained, the NJPDES permit shall be modified to eliminate the water quality problem or attain the designated uses.

(3) Existing dischargers shall be subject to all the provisions of this subchapter when they apply for modification or expansion of their existing discharge.

iii. Category One Waters shall be protected from any measurable changes (including calculable or predicted changes) to the existing water quality. Water quality characteristics that are generally worse than the water quality criteria, except as due to natural conditions, shall be improved to maintain or provide for the designated uses where this can be accomplished without adverse impacts on organisms, communities or ecosystems of concern.

iv. For Category Two Waters, water quality characteristics that are generally better than, or equal to, the water quality standards shall be maintained within a range of quality that shall protect the existing/designated uses, as determined by studies acceptable to the Department, relating existing/designated uses to water quality. Where such studies are not available or are inconclusive, water quality shall be protected from changes that might be detrimental to the attainment of the designated uses or maintenance of the existing uses. Water quality characteristics that are generally worse than the water quality criteria shall be improved to meet the water quality criteria.

7. Where a lower classification of water (including the different antidegradation waters) may impinge upon a higher classification of water the Department shall ensure that the quality and uses of the higher classification water are protected.

8. A waterway or waterbody from which raw water is transferred to another waterway or waterbody shall be treated as a tributary to the waterway or waterbody receiving the transferred water.

9. Modifications of water quality-based effluent limitations established to implement this antidegradation policy may be granted pursuant to N.J.A.C. 7:9B-1.8 and 1.9.

(e) Water quality-based effluent limitation policies are as follows:

1. Water quality-based effluent limitations may be established so as to minimize total expenditures, subject to social and environmental constraints, so that the provisions of the water quality standards (which includes the antidegradation policies) are met. This policy may result in the assignment of different levels of treatment to different dischargers where this proves more beneficial on a study area basis.

2. Modifications of water quality-based effluent limitations established to implement the water quality standards (which includes the antidegradation policies) granted pursuant to N.J.A.C. 7:9B-1.8 and 1.9, shall provide for effluent limits at least as stringent as those required pursuant to sections 301, 306, and 307 of the Federal Clean Water Act or the minimum BOD₅ effluent standards at N.J.A.C. 7:14A-12.4, where applicable, whichever are more stringent.

3. Water quality-based effluent limitations developed in accordance with N.J.A.C. 7:14A-13.6 shall not interfere with the attainment of the Surface Water Quality Standards, including the antidegradation policies.

4. When a discharge is made to a tidal waterway in the reach where the salinity varies from less than 3.5 ppt. to greater than 3.5 ppt., or the salinity data are inconclusive, the Department shall establish as water quality-based effluent limitations the more stringent of the limitations,

on a parameter specific basis, required for the upstream, FW, waters or the downstream, SE, waters.

5. Where the effluent limitations developed pursuant to N.J.A.C. 7:14A-13.6 are below the level of detectability of the procedures in N.J.A.C. 7:18, the Department will use an effluent limitation of nondetectable in any NJPDES permit.

6. Compliance schedules may be issued in accordance with N.J.A.C. 7:14A-6.4 when it is demonstrated by a discharger that new or revised water quality-based effluent limitations, based on ambient criteria adopted or revised after July 1, 1977, cannot be consistently met with the facility's existing treatment process. No schedule of compliance may be allowed for parameter specific water quality-based effluent limitations where the parameter specific ambient water quality criterion, which was the basis for developing that limitation, was adopted prior to July 1, 1977, and has not been revised since adoption.

(f) Bioassay and biomonitoring policies are as follows:

1. Bioassay test species selection criteria follow:

i. The objective of the Department is to use test species for toxicity testing bioassays that are representative of the more sensitive aquatic biota from the different trophic levels of the waters in question.

ii. Test species need not be indigenous to, nor occur in the waters in question.

iii. When the bioassay test protocol being utilized falls under the scope of N.J.A.C. 7:18 the Department shall designate the approved representative species considered to be the most sensitive to the discharge.

2. Acute definitive bioassay tests, in accordance with N.J.A.C. 7:18, will normally be utilized in determining the toxicity of a discharge to the aquatic biota.

3. The Department, in order to further characterize the toxicity of a discharge, may allow or require the use of other procedures including, but not limited to:

i. Bioaccumulation testing;

ii. Mutagenicity testing; and

iii. Measures of the structure and function of the aquatic community in the receiving waters.

4. Parameter specific water quality criteria for toxic substances in a waterbody may be established by the Department when adequate data, from appropriate bioassays or scientific literature, are available as follows:

i. Appropriate bioassays, for purposes of this policy, shall include both acute definitive and chronic definitive bioassays; and

ii. The amount of bioassay data or scientific literature needed to support adoption of a parameter specific

criterion in a given waterbody will be determined by the Department on a case-by-case basis.

(g) Nutrient policies are as follows:

1. These policies apply to all FW waters of the State.
2. Except as due to natural conditions, nutrients shall not be allowed in concentrations that cause objectionable algal densities, nuisance aquatic vegetation, abnormal diurnal fluctuations in dissolved oxygen or pH, changes to the composition of aquatic ecosystems, or otherwise render the waters unsuitable for the designated uses.
3. The Department may establish watershed or site-specific water quality criteria for nutrients in lakes, ponds, reservoirs or streams, in addition to or in place of the criteria in N.J.A.C. 7:9B-1.14, when necessary to protect existing or designated uses. Such criteria shall become part of these Water Quality Standards.
4. The Department shall establish water quality based effluent limits for nutrients, in addition to or more stringent than, the effluent standard in N.J.A.C. 7:9-5.7, as necessary to meet the quality criteria.
5. Activities resulting in the non-point discharge of nutrients shall implement the best management practices determined by the Department to be necessary to protect the existing or designated uses.
6. The Department may allow or require the use of algal biostimulation assays, to determine the limiting nutrient in a lake, pond, reservoir or stream.

(h) A permittee may request that a regulatory mixing zone be established by the Department for applicable criteria except as otherwise provided in this section. Regulatory mixing zones may be evaluated as part of the development of water quality-based effluent limitation(s) to provide for the initial dispersion of the effluent in the receiving water body at or near the discharge point.

1. The following are the general conditions for establishing regulatory mixing zones:
 - i. Regulatory mixing zones shall be established in accordance with this subsection;
 - ii. Water quality criteria may be exceeded within the regulatory mixing zone; however, surface water quality criteria must be met at the edge of the regulatory mixing zone;
 - iii. The regulatory mixing zone shall be no larger than that portion of the receiving water where complete mixing occurs;
 - iv. Regulatory mixing zones shall not be used for, or considered as a substitute for, minimum treatment technology required by the Federal and State Acts or other applicable Federal or State laws or regulations;

v. Regulatory mixing zones shall be established to assure that significant mortality does not occur to free swimming or drifting organisms;

(1) In individual regulatory mixing zones, discharges which meet acute effluent toxicity of $LC_{50} \geq 50$ percent shall be deemed to comply with this requirement.

(2) In cases of extended regulatory mixing zones resulting from multiple, conjoined individual regulatory mixing zones, site-specific studies to demonstrate no significant mortality shall be required, taking into account factors including, time of travel, concentration, and the toxicity of the parameters in question;

vi. The existing and designated uses outside the regulatory mixing zone shall not be adversely affected;

vii. The total area and volume of a waterbody assigned to a regulatory mixing zone shall be limited to that which will not adversely affect beneficial uses or interfere with biological communities or populations of important species (for example, commercially or recreationally significant species; or threatened or endangered species);

viii. Regulatory mixing zones, including those for shore hugging plumes, shall not extend into recreational areas, potable surface water intakes (1,500 feet upstream and 500 feet downstream or to the farthest point of backwatering due to the intake, whichever is more protective), shellfish harvesting areas, threatened or endangered species habitat, and other important biological or natural resource areas;

ix. The regulatory mixing zone shall not inhibit or impede the passage of aquatic biota; and

x. Overlapping regulatory mixing zones shall not inhibit or impede the passage of aquatic biota.

2. Spatial limitations for regulatory mixing zones delineate the maximum area in which the initial mixing may occur. A site-specific study performed in accordance with (h)3 below shall be used to determine dilution in tidal water bodies and in nontidal water bodies where mixing is not shown to be rapid and complete. A maximum area shall be applied in any one of the following four situations:

i. Heat dissipation areas as provided at N.J.A.C. 7:9B-1.14(c)11ii or a variance issued pursuant to Section 316(a) of the Clean Water Act, 33 U.S.C. § 1326(a).

ii. For discharges to tidal water bodies:

(1) Regulatory mixing zones for chronic and human health criteria are limited to one fourth of the distance between the discharge port closest to the shoreline and the shoreline during average tidal conditions, or 100 meters, whichever is greater; and

(2) Regulatory mixing zones for acute criteria are limited by the distances calculated in accordance with the USEPA "Technical Support Document For Water Quality-Based Toxics Control" USEPA, EPA/505/2-90-001, March 1991, incorporated herein by reference. In no case shall a regulatory mixing zone for acute criteria extend more than 100 meters from the discharge point or include more than five percent of the total surface area of a water body based on critical ambient tidal conditions during low slack, astronomical spring tide for the applicable exposure period.

iii. For discharges to non-tidal water bodies:

(1) Regulatory mixing zones for chronic and human health criteria shall be based on the design flows at (c)2 above. If rapid, complete mix is demonstrated, the entire available design flow may be used in dilution calculations. If rapid, complete mix is not demonstrated, only that portion of the design flow that can be demonstrated to mix with the effluent within 100 meters from the discharge point may be used in dilution calculations; and

(2) Regulatory mixing zones for acute criteria shall be based on the MA1CD10 design flow. If rapid, complete mix is demonstrated, the entire available design flow may be used in dilution calculations. If rapid, complete mix is not demonstrated, only that portion of the design flow that can be demonstrated to mix with the effluent within a downstream distance calculated in accordance with the USEPA "Technical Support Document For Water Quality-Based Toxics Control" USEPA, EPA/505/2-90-001, March 1991 may be used. In no case shall a regulatory mixing zone for acute criteria extend more than 100 meters from the discharge point or include more than five percent of the total surface area of a water body based on the design flow.

iv. Site-specific spatial dimensions of the regulatory mixing zone for an approved multiport diffuser shall be determined by the Department. The dimensions of the site-specific regulatory mixing zone and the allowable dilution at the edge of the regulatory mixing zone may be established using appropriate diffuser models (for example, CORMIX, PLUMES), tracer studies, or other field studies approved by the Department in accordance with (h)3 below.

3. A regulatory mixing zone study shall be conducted in accordance with a workplan pre-approved by the Department. General protocols for conducting mixing zone studies are described in the USEPA "Technical Support Document For Water Quality-Based Toxics Control" USEPA, EPA/505/2-90-001, March 1991. In addition, the following principles apply:

i. The design flows to be used in calculating available dilution in nontidal waters shall be based on the design flows specified at (c)2 above; and

ii. In tidal waters, the regulatory mixing zone for an acute criteria shall be based on critical ambient tidal conditions during low slack, astronomical spring tide for the applicable exposure period. Regulatory mixing zones for chronic and human health criteria shall be based on average conditions during a normal tidal cycle.

4. In order to determine waste load allocations and NJPDES/DSW permit effluent limitations that will comply with the regulatory mixing zone requirements, in-stream pollutant concentrations at the boundary of the regulatory mixing zone shall be determined as follows:

i. The instream concentrations shall be determined using either a general mass balance equation or a mathematical model, if available; or the information generated during the course of a study as described at (h)2 above.

ii. If the regulatory mixing zone is based upon the guidance and procedures in the USEPA "Technical Support Document For Water Quality-Based Toxics Control" USEPA, EPA/505/2-90-001, March 1991, the Technical Support Document will also be used to determine instream concentrations at the boundary of the regulatory mixing zone.

5. Regulatory mixing zones are prohibited as follows:

i. For indicators of pathogenic quality, including fecal coliform and enterococci;

ii. In intermittent streams;

iii. For new or increased discharges to lakes, ponds, and reservoirs;

iv. For discharges to areas of waters with documented occurrences of any threatened or endangered species listed pursuant to the Federal or State Threatened and Endangered Species Acts (Endangered Species Act of 1973, 16 U.S.C. §§ 1531 et seq.; New Jersey Endangered and Non Game Species Conservation Act of 1973, N.J.S.A. 23:2A-1 et seq.; or the Endangered Plant Species List Act, N.J.S.A. 13:1B-15.151 et seq.), if those discharges would likely have an adverse effect on the species or its associated habitat;

v. For heat dissipation areas in FW2-TP waters;

vi. For heat dissipation areas within 1,500 feet of the shoreline in SC waters;

vii. For new discharges of the following pollutants:

(1) alpha-BHC (alpha-HCH);

(2) beta-BHC (beta-HCH);

(3) gamma-BHC (gamma HCH/Lindane);

- (4) Chlordane;
- (5) 4,4'-DDD (p,p'-TDE);
- (6) 4,4'-DDE;
- (7) 4,4'-DDT;
- (8) Dieldrin;
- (9) Hexachlorobenzene;
- (10) Hexachlorobutadiene;
- (11) Mercury;
- (12) Mirex;
- (13) Pentachlorobenzene;
- (14) Polychlorinated biphenyls (PCBs);
- (15) 1,2,4,5-Tetrachlorobenzene;
- (16) 2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD); and
- (17) Toxaphene; and

viii. For new or expanded discharges, within 1,500 feet upstream of a potable surface water intake (including any reservoir) and 500 feet downstream or to the farthest point of backwatering due to the intake, whichever is more protective.

Amended by R.1989 d.420, effective August 7, 1989.

See: 20 N.J.R. 1597(a), 21 N.J.R. 2302(b).

Amended by R.1993 d.610, effective December 6, 1993.

See: 24 N.J.R. 3983(a), 25 N.J.R. 5569(a).

Amended by R.1994 d.84, effective February 22, 1994.

See: 25 N.J.R. 405(a), 26 N.J.R. 1124(a).

Amended by R.1998 d.234, effective May 18, 1998.

See: 29 N.J.R. 5128(a), 30 N.J.R. 1778(a).

In (c), added a new 6; in (e), deleted former 2 through 4, recodified former 5 as 2, inserted a new 3 and recodified former 6 through 8 as 4 through 6; and in (f), deleted former 4 and recodified former 5 as 4. Administrative correction.

See: 31 N.J.R. 42(a).

Amended by R.2002 d.19, effective January 22, 2002.

See: 32 N.J.R. 4397(a), 34 N.J.R. 537(a).

Rewrote the section.

Case Notes

Proposed disturbance of isolated wetlands for construction of storm-water outfall and associated stormwater conveyance structure met permit requirements. *Clothier v. Department of Environmental Protection*, 95 N.J.A.R.2d (EPE) 229.

7:9B-1.6 Establishment of water quality-based effluent limitations

(a) For Category One waters, as defined in N.J.A.C. 7:9B-1.4, water quality-based effluent limitations shall be assigned to a point source discharge so as to protect the existing water quality from any measurable or calculable changes. The Department shall establish water quality-based effluent limitations, as appropriate, for those parameters contained in N.J.A.C. 7:9B-1.14, as well as any other parameters the Department believes may have a detrimental effect on the designated or existing uses.

(b) For Category Two waters, as defined in N.J.A.C. 7:9B-1.4, draft water quality-based effluent limitations shall be assigned to a point source discharge so as to:

1. Maintain water quality characteristics that are generally better than or equal to the water quality standards at a level that will protect the existing and designated uses; and

2. Bring water quality characteristics that are generally worse than the water quality criteria, except as due to natural conditions, up to the water quality criteria or to levels corresponding with wasteload allocations established pursuant to N.J.A.C. 7:15-7.6.

(c) Water quality based effluent limits for chlorine produced oxidants based on the criteria in N.J.A.C. 7:9B-1.14(c)14 are not applicable where:

1. The aquatic community of a waterbody is exposed to one or more point source discharges of non-contact cooling water that is intermittently chlorinated to control condenser biofouling;

2. The total period of such exposure to chlorinated wastewater is two hours per day or less; and

3. The maximum concentration of chlorine produced oxidants in the effluents of such discharges shall not exceed 200 µg/L.

Amended by R.1989 d.420, effective August 7, 1989.

See: 20 N.J.R. 1597(a), 21 N.J.R. 2302(b).

Administrative Correction.

See: 23 N.J.R. 302(a).

Amended by R.1993 d.610, effective December 6, 1993.

See: 24 N.J.R. 3983(a), 25 N.J.R. 5569(a).

Amended by R.1998 d.234, effective May 18, 1998.

See: 29 N.J.R. 5128(a), 30 N.J.R. 1778(a).

Rewrote the section.

Case Notes

Department of Environmental Protection findings should be adequately supported by the record and carefully explained. *Matter of Issuance of a Permit by Dept. of Environmental Protection to Ciba-Geigy Corp.*, 120 N.J. 164, 576 A.2d 784 (1990).

Department of Environmental Protection must state whether a final permit satisfies Ocean Discharge Criteria and must state in both the draft and final permit the basis of its finding. *Matter of Issuance of a Permit by Dept. of Environmental Protection to Ciba-Geigy Corp.*, 120 N.J. 164, 576 A.2d 784 (1990).

A discharge seeking to reduce water quality below the level necessary to support designated uses must advance important economic or social development in the area. *Matter of Issuance of a Permit by Dept. of Environmental Protection to Ciba-Geigy Corp.*, 120 N.J. 164, 576 A.2d 784 (1990).

Department of Environmental Protection should determine whether discharges into "Category Two" waters maintain water quality to protect designated uses. *Matter of Issuance of a Permit by Dept. of Environmental Protection to Ciba-Geigy Corp.*, 120 N.J. 164, 576 A.2d 784 (1990).