Commonwealth of Puerto Rico
Office of the Governor
Environmental Quality Board

DEPARTAMENTO DE ESTADO
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Secretario de Estado

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PUERTO RICO WATER QUALITY STANDARDS REGULATION

(This regulation derogates Regulation 6616- "Puerto Rico Water Quality Standards Regulation" which was filed in the Department of State on May 14, 2003.)

March, 2010

NOTE: (The original Water Quality Standards Regulation was filed in the Department of State on January 4, 1974, and subsequent amendments were made on May 1974, October 1976 and February 1983, November 1987, July 1990, and March 2003).

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RULE 1300 TITLE, LEGAL BASIS, DECLARATION OF GOALS AND PURPOSE, AND ANTI-DEGRADATION POLICY

1300.1 TITLE

This Regulation will be known as “Puerto Rico Water Quality Standards Regulation”.

1300.2 LEGAL BASIS

This Regulation is enacted in accordance with Law No. 416 approved on September 22, 2004, as amended, known as the Public Policy Environmental Act, and nullifies any previous provision, resolution, agreement or regulation of the Commonwealth of Puerto Rico on the same subject which may contradict this Regulation.

1300.3 DECLARATION OF GOALS AND PURPOSES

The Environmental Quality Board recognizes that the pollution of the waters is detrimental to public health and welfare, creates public nuisances, is harmful to wildlife, fish and other aquatic life, and impairs domestic, agricultural, industrial, recreational and other beneficial uses of the waters.

It is the goal of this Board, and this Regulation, to preserve, maintain and enhance the quality of the waters of Puerto Rico in such manner that they be compatible with the social and economic needs of the Commonwealth of Puerto Rico.

The purposes of this Regulation are: (1) designate the uses for which the quality of the water bodies of Puerto Rico shall be maintained and protected; (2) prescribe the water quality standards required to sustain the designated uses; (3) identify other rules and regulations applicable to sources of pollution that may affect the quality of the waters subject to this Regulation and (4) prescribe other measures necessary for achieving and maintaining the quality of the waters of Puerto Rico.

1300.4 ANTI-DEGRADATION POLICY

It is the policy of the Commonwealth of Puerto Rico to conserve and protect the existing and designated uses of the waters of Puerto Rico. The water quality necessary to protect the existing uses, including threatened and endangered species shall be maintained and protected.

In those water bodies where the quality exceeds levels necessary to support propagation of fish, shellfish, wildlife, desirable species, including threatened or endangered species and recreation in and on the water, that quality shall be

maintained and protected. A lower water quality may be allowed when the Board determines, after full satisfaction of the governmental coordination and public participation requirements of the Board's Continuing Planning Process, that allowing lower water quality is necessary to accommodate important economic or social development in the immediate area where the waters are located. In allowing such lower water quality, the Board shall require a water quality level adequate to fully protect existing and designated uses. Further, the Board will require that:

(1) the highest statutory and regulatory requirements for all new and/or existing point sources be achieved, and

(2) the cost-effective and reasonable best management practices for non-point sources control be implemented.

In such places where high quality waters constitute an outstanding national resource, such as waters of El Yunque National Forest and State parks, wildlife refuges and waters of exceptional recreational or ecological value, that water quality shall be maintained and protected.

Where potential water quality impairment is associated with a thermal discharge this thermal discharge must comply with Section 316 of the Clean Water Act, as amended, 33 U.S.C. §1326.

Refer to the Attachment for the Environmental Quality Board Anti-degradation Policy Implementation Procedure.

RULE 1301 DEFINITIONS AND ACRONYMS

1301.1 DEFINITIONS

Acute Effect

Organism response to a stimulus, detected during an acute toxicity test that comprises a stimulus of such severity that induces a quick adverse effect. In toxicity tests, an acute response is considered to occur in a period of 96 hours or less. An acute effect can take place through events that not necessarily involve the death of the organism.

Acute Toxicity Test

Toxicity Test designed to determine the concentration in which a response to a stimulus, such as a total effluent, specific substance or combinations of these, has sufficient severity to induce an adverse effect on a group of test organisms during a period of 96 hours or less; even if said effect is not necessarily the death of the organisms.

Acute Toxicity Units (TU_a)

The reciprocal of the effluent concentration that causes 50% of the organisms to die in an acute toxicity test or induce a response halfway between the base line and maximum as defined by the following equation:

$$TU_a = \frac{100}{LC_{50} \ or \ EC_{50}}$$

(The LC_{50} or EC_{50} is expressed as the percent (%) of effluent in the dilution water).

Agent

All the factors, including light and heat, which cause or could cause, induce or could induce, produce or could produce, influence or could influence, help or could help to cause variations or alterations in organisms or in the environment.

Adverse Effect

Refers to any human-induced change in the quality of a water body that may cause undesirable physiological reactions in humans, fish or other fauna or flora.

Applicable Rules and Regulations

See Rule 1306.1 (B).

Background Concentration

Existing biological, chemical or physical characteristics in a water body. For mixing zones, a point one hundred (100) meters up-stream from the limit of the mixing zone will be used for monitoring, or at the location approved by the Board by mutual agreement with the petitioner, based on the details of each individual case. The value of the background concentration will be determined according to the procedures established by the Mixing Zone and Bioassay Guidelines, approved by the Board.

Benthic Species

Organisms that inhabit on, over, or in the bottom of the water body, live adhered to the bottom or crawl over the bottom.

Best Engineering Practices

Use of the most effective procedures, methods, techniques, and/or equipment to efficiently attain the desired objective at a minimum economic, human, and environmental cost.

Best Management Practices (BMP)

The most effective practicable means of preventing or reducing the amount of pollution generated by non-point and point sources to a level more compatible to the water quality goals, including, but not limited to, structural and non-structural controls and operating and maintenance procedures.

Bioaccumulative Agent

Agent which is assimilated by organisms, but is not metabolized and shows an elimination rate much lower than its accumulation rate, so that its total content tends to increase during the life of the affected organisms.

Biochemical Oxygen Demand

The quantity of oxygen required for the biochemical oxidation of organic matter in a sample.

Biota

All living organisms.

Black Waters

Human or animal bodily wastes and water used for flushing and/or transport of such wastes.

Board

The Environmental Quality Board of the Commonwealth of Puerto Rico, as created pursuant to Law No. 9 of June 18, 1970, as amended, and derogated by Law No. 416 of September 22, 2004, as amended.

Carcinogenic Agent

Agent that produces metabolic alterations in cells, prompting their uncontrolled growth.

Chronic Effect

Organism response to a stimulus, detected during a chronic toxicity test that comprises a stimulus that lingers or continues for a relatively long period of time, which could be of the order of one-tenth of the life span of the organism used in the test. A chronic effect could imply lethality, growth rate reduction, reduced reproduction rate, etc.

Chronic Toxicity Test

Toxicity Test designed to determine the concentration in which a response to a stimulus, such as a total effluent, a specific substance, or combination of these, has sufficient severity to induce a long-term adverse effect on a group of test organisms. A chronic effect could be lethality, reduction of growth rate, reduction of reproduction rate, etc.

Chronic Toxic Unit (TU_c)

The reciprocal of the effluent concentration that causes no observable effect on the test organisms by the end of the chronic exposure period, obtained during a chronic toxicity test, as defined by the following equation:

$$TU_c = \frac{100}{NOEC}$$

(The NOEC value should be expressed in terms of the percent (%) of the effluent in the dilution water).

Clean Water Act

Federal Water Pollution Control Act, as amended, (33 U.S.C. 466 *et seq.*).

Closed Water Body

All surface water bodies, groundwater and coastal waters that are not open coastal waters.

Coastal Waters

Marine waters within the jurisdiction of the United States of America and the Commonwealth of Puerto Rico, as established by Article 8 of the Puerto Rico Federal Relations Act of 1917, as amended, and shore waters which are subject to ebb and flow of the tides. These waters do not include Estuarine Waters as defined in this Regulation.

Coliform Group

All the aerobic organisms and facultative anaerobic gram-negative, non-spore-forming rod-shaped bacteria, that ferment lactose broth with gas formation within 48 hrs at 35°C ± 0.5°C, in accordance with Standard Methods.

Colloidal Substances

Minute substances including, but not limited to, clay or other substances which do not settle out without the use of a flocculating agent.

Criteria Continuous Concentration (CCC)

EPA national water quality criteria recommendation for the highest instream concentration of a toxicant or an effluent to which organisms can be exposed indefinitely without causing an unacceptable effect. It is equal to:

$$CCC = 1.0\,TU_c$$

Criteria Maximum Concentration (CMC)

EPA national water quality criteria recommendation for the highest instream concentration of a toxicant or an effluent to which organisms can be exposed for a brief period of time without causing an acute effect. It is equal to:

$$CMC = 0.3\,TU_a$$

Critical Initial Dilution

Minimum dilution to be determined by means of the use of a mathematical model to be approved by the Board, and according to the procedures described in Mixing Zone and Bioassay Guidelines, approved by the Board.

Design Flow

The critical flow used for steady state waste load allocation.

Designated Uses

Refers to those uses specified in this Regulation for each water body or segment whether or not these uses are being attained.

Desirable Species

Species indigenous to the area or introduced to the area because of ecological or commercial value.

Diffuser

Structure which is connected to or is part of a submerged outfall provided with ports and whose function is to reduce the diameter of the outfall in order to increase the effluent exit velocity and obtain a better dilution in the receiving water body.

Dilution

Dilution is the reduction of the concentration of a substance by mixing it with ambient waters, and is defined by the following equations:

a. Volumetric Dilution:

$$D = \frac{V_e + V_d}{V_e}$$

where; D = Dilution
V_e = Effluent volume
V_d = Dilution volume (receiving water body)

b. Flow Dilution:

$$D = \frac{Q_e + Q_d}{Q_e}$$

where; D = Dilution
Q_e = Effluent flow
Q_d = Dilution flow (receiving water body)

c. Concentration Dilution:

$$D = \frac{C_e + C_a}{C - C_a}$$

where; D = Dilution
C_a = Background concentration of the pollutant

C_e = Concentration of the pollutant in the effluent
C = Final concentration of the pollutant after dilution

Dilution shall be determined according to the procedures described in Mixing Zone and Bioassay Guidelines approved by the Board.

Direct Contact Recreation

See Primary Contact.

Direct Discharge

Introduction of pollutants onto or into a water body by a point source.

Discharge

Any addition, release, leak, spill, leachate, seepage, pumping, pouring, dumping, spraying, emptying or emitting of a pollutant into or onto the ground or any water body as defined in this Regulation.

Discharge Length Scale

The square-root of the cross-sectional area of any port in an outfall.

Dissolved Oxygen

The amount of oxygen that is dissolved in water. It also, refers to the amount of oxygen available for biochemical activity in a water body.

Domestic Wastes

Any liquid, gaseous, or solid waste or any combination of these generated as a result of satisfying the basic human and animal needs.

Drainage Area

That area in a horizontal plane, determined by a topographic divide from which surface runoff from precipitation drains by gravity into a water body above a specified point.

Dye Test

Tests which are performed by injecting dyes into any point of a discharge to a water body, to determine the origin, the direction of the flow and the intermediate or final fate.

e – Euler's Number

$$Number e = \lim_{n \to \infty} \left(1 + \frac{1}{n}\right)^n = 2.71828$$

Ecological Community

Group of organisms dominated by one species or a specific group of species. The ecological community derives its name from that of the dominant species, such as coral reefs and mangroves.

EC_{50}

A point estimate of the toxicant concentration that would cause an observable adverse effect (such as death, immobilization or serious incapacitation) in 50% of the test organisms.

Ecological Value

Refers to the existing interrelations between water body, fauna and flora that result in the continuity, stability and permanence of the ecological community.

Effect Concentration (EC)

A point estimate of the toxicant concentration that would cause an observable adverse effect (such as death, immobilization or serious incapacitation) in a given percentage of the test organisms.

Effluent

Discharge of used waters, sanitary wastes, other wastewaters, or any liquid substances treated or untreated, proceeding from sanitary treatment plants, industrial wastewater treatment plants, manufacturing processes, storage tanks, ponds, sewers or any water pollution source.

Emergency Plan

The document that details the equipment, workforce, procedures and steps to prevent, control and provide adequate countermeasures to spills of pollutants, such as, but not limited to, oil, hazardous substances and process waters.

Emergency Plan of the Commonwealth of Puerto Rico

The plan adopted by the Commonwealth of Puerto Rico that establishes the policies and structures for the government management of emergencies or disasters. This plan prescribes the phases of the emergencies and the disasters: prevention, preparation, response, mitigation and recovery. This plan covers all kind of incidents and risks.

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Enduring Water Body

Water body which has a 7 day 2 year low flow greater than zero, even in the absence of any contribution that may occur from a discharge.

Enterococcus

The group of fecal streptococcus that excludes S. bovis and S. equinus, in accordance with Standard Methods.

Environmental Protection Agency (EPA)

The Environmental Protection Agency of the United States of America.

Equitable Allowable Concentration (EAC)

A waste load allocation (WLA) method that allocates equal effluent concentrations of a substance **x** to each point source that discharges to the receiving water body in which the WLA is performed.

Estuary

That portion of the mouth or lower course of a river, stream, canal or lagoon, in which the fresh water meets the sea water and is subject to the ebb and flow of the tides.

Estuarine Waters

See Estuary.

Eutrophic Conditions

Presence of high concentrations of nutrients causing excessive growth of algae and other aquatic plants in the water body.

Existing Uses

Those uses actually attained in the water body, on or after November 28, 1975, whether or not they are included in this Regulation.

Fecal Coliform

The portion of the coliform group found in the intestinal tract of homoiothermic (warm blooded) animals and used as indicator of the potential presence of pathogenic organisms. This group of organisms is capable of producing gas from lactose broth in a suitable culture medium within 24 hours at 44.5°C ± 0.5°C.

Flocculating Agent

Chemical agent, which enhances the agglomeration of suspended solids in a liquid.

FORM WLA-01

Form required by the Board to present a waste load allocation application.

Frequency Curve

As used in this Regulation, the term refers to a graph plotted on log probability paper, representing the lowest mean flow of 7 consecutive days against the probability, using the procedures described in Appendix C of the Environmental Quality Board Waste Load Allocation Guidelines.

Gray Waters

Liquid and solid wastes from kitchens, bathrooms and water-using appliances except those that release or contain black waters.

Ground Waters

Sub-surface waters present at or beneath the water table, including waters in caves and caverns when the presence of water results from the manifestation of the characteristics of the saturated zone beneath the water table.

Habitat

The place where a population (e.g. human, animal, plant, microorganisms) lives and reproduces and its surroundings both living and non-living.

Harmonic Mean Flow (HMF)

The number of daily flow measurements (n) divided by the sum of the reciprocals of the flows (Q). That is, it is the reciprocal of the mean of reciprocals.

$$HMF = \frac{n}{\sum_{i=1}^{n} \frac{1}{Q_i}}$$

Hazardous Solid Waste

Any solid waste designated as hazardous by the Board and as defined by the Regulation for the Management of Non-Hazardous Solid Wastes of the Commonwealth of Puerto Rico.

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Hazardous Substances

Any substance designated as hazardous under 40 CFR Part 116, pursuant to Section 311 of the Clean Water Act, or as defined by the Regulation for the Management of Non-Hazardous Solid Wastes of the Commonwealth of Puerto Rico.

Hydrologically-Based Design Flow (xQ_y)

Expressed as **x**-day average low flow whose return period is **y**-years. For example, $4Q_3$ is the four (4) days low flow that is exceeded once every three (3) years. Other xQ_y values commonly encountered are: $1Q_{10}$, $4Q_3$, $30Q_5$, $7Q_5$, and $7Q_{10}$.

Hypothesis Testing

Statistical technique for determining whether a tested concentration is statistically different from the control. For example, Dunnett's test. Endpoints determined from hypothesis testing are NOEC and LOEC.

Immediate vicinity of a discharge

Stream distance required to achieve complete mixing of a discharge.

Indirect Contact Recreation

See Secondary Contact.

Indirect Discharge

Discharge of pollutants, into a publicly owned treatment plant which discharges to a water body.

Intermittent Stream

Watercourse where flow, other than from a discharge, occurs only during and following a period of a rainfall within its drainage area.

LC_{50}

The concentration of effluent, specific substances or combination of these that is lethal to 50% of test organisms exposed during a specific period in a toxicity test.

Leachate

Liquid that has percolated through or drained from solid wastes and that contains soluble, partially soluble, suspended, or miscible materials, or components removed from such solid waste.

Lethal Concentration (LC)

The effluent concentration, specific substances or combinations of these, that is lethal to a given percent of the test organisms exposed during a specific period in a toxicity test. In the case of effluents the concentration is expressed in terms of percent dilution.

Ln Hardness

The natural logarithm of the numerical value of hardness (as calcium carbonate in mg/L) of the water body.

Load or Loading

An amount of matter or thermal energy that is introduced into a receiving water body; to introduce matter or thermal energy into a receiving water body; may be either human-induced (pollutant loading) or natural (natural background loading).

Local Water Depth

The depth at the point where the diffuser of an outfall is located under low tide conditions, for ocean outfalls; or low flow conditions, for surface water discharges.

Lowest Observed Effect Concentration (LOEC)

The lowest concentration of an effluent or toxicant that results in adverse effects on the test organisms. That is, where the values for the observed endpoints are statistically different from the control.

Maximum Allowable Effluent Concentration (MAEC)

Maximum effluent concentration of a substance **x** that is allocated to a point source.

Maximum Daily Load Allowable (MDLA)

Maximum load that can be allocated to point sources without causing a violation to the water quality standards.

Maximum Requested Effluent Concentration (MREC)

Maximum effluent concentration requested by a point source for a substance **x**.

Methylene Blue Active Substances (MBAS)

Refers to substances identified as anionic surfactants in accordance with Standard Methods (Method 512 B).

Mixing Zone

Tridimensional space in a receiving water body where the discharge is diluted with surrounding waters, which has been defined according to Rule 1305 of this Regulation. Applicable water quality standards, the CCC and the CMC are met at the boundary of the mixing zone.

Mixing Zone and Bioassay Guidelines

The most recent version of the technical guidelines developed and approved by the Board, which describe procedures, methods, models, techniques and organisms to be used to calculate the initial dilution; perform chronic and acute toxicity tests; to collect field data, or to establish the natural background concentration value, as required to verify compliance with inherent mixing zone conditions. These Guidelines are based on the following EPA publication: "Technical Support Document for Water Quality Based Toxics Control" and “Users Guide to the Conduct and Interpretation of Complex Effluent Toxicity Tests at Estuarine/Marine Sites". The guidelines will be revised, as necessary, in accordance with updated versions of these documents or other documents released by EPA, which directly impact the guidelines in effect at the time of publication of the final document.

Mutagenic Agent

Agent that induces genetic variations due to drastic changes in the organization of the genes in a chromosome.

Natural Background Concentration

The biological, physical and chemical characteristics existing in a water body that is not affected by point or non-point sources, as determined by field studies whose content and extension shall be defined according to Mixing Zone and Bioassay Guidelines, and according to the agreements between the Board and the petitioner, based upon the details of each case when problems arise in the implementation of said Guidelines.

Natural Causes

Refers to chemical, biological, geological or any other conditions existing at specific sites, not resulting from, or as a consequence of, human intervention.

No Observed Effect Concentration (NOEC)

The highest tested concentration of an effluent or a toxicant at which no adverse effects are observed on the aquatic test organisms at a specific time of observation. Determined using Hypothesis Testing.

Non-conservative Pollutant

A pollutant that is not persistent and is subject to decay or transformation.

Non-persistent Pesticides

Those pesticides, which do not satisfy the definition of persistent pesticides.

Non-point Source

Any source other than point source, as defined in this Regulation.

Non-point Source Loads (NPSL)

The portion of a receiving water body's total allowable pollutant load that is attributed to existing or future non-point sources and/or to natural background sources of pollution.

Objectionable Odor

Those considered in this manner in accordance to the procedure and requirements of the Air Pollution Control Regulation. The odor emitted by trees, shrubs, plants, flowers, grass, domestic gardening, and agricultural processes and the use of fertilizers (except for the use of sugarcane wastes), will not be considered objectionable.

Open Coastal Waters

All the coastal waters, except bays and estuaries, with formations that significantly mitigate the direct impact of the waves on the shore.

Outfall

Pipe or conduit, which conveys an effluent to a receiving water body.

Passageway

A continuous stretch where water characteristics are affected only by natural conditions in such a manner that the free movement, flow or continuous drifting of biota is always possible.

Pathogenic Organism

Any microorganism, virus or bacteria that may cause disease.

Pelagic Species

Organisms that have the ability of self locomotion and can overcome the currents. These organisms can be found anywhere in the water column, near the surface, the bottom or at any point between the surface and the bottom.

Persistent Agent

An agent, which degrades or decomposes slowly, biologically or chemically, in the natural environment.

Persistent Pesticides

Pesticides not easily degradable under natural conditions and which initial concentration remains relatively unchanged for periods longer than 96 hours.

Person

Any juridical or natural person; any agency, department, board, public or quasi-public corporation, municipality of the Commonwealth of Puerto Rico or the Government of the United States of America, any association, corporation, cooperative, trust, partnership, or group of persons.

Planktonic Species

Marine organisms that mainly inhabit the surface of the water body. Their main characteristic is that they cannot overcome the currents even if they have self locomotion.

Point of Discharge

Point where the effluent is discharged, treated or untreated, before mixing with the receiving waters.

Point Source

Any discernible source, confined and discrete conveyance, including, but not limited to: any pipe, ditch, channel, tunnel, trench, conduit, well, discrete fissure, container, rolling stock or any other mobile vehicles (such as mobile homes or mobile cafeterias), concentrated animal feeding operations, or vessel or other floating craft, from which pollutants are or may be discharged.

Pollutant

Any matter introduced into the environment that includes but is not limited to: dredge spoil, refuse, solid waste, incinerator residue, filter backwash, gray waters, black waters,

wastewaters, sludge, munitions, chemical materials, biological materials, radioactive materials, heat, debris, wrecked or discarded equipment, rock, sand, industrial, municipal, domestic, animal or agricultural waste, or any substance and/or material, including sediments and other substances induced by man, carried by stormwater runoff.

Pollution

The presence of one or more pollutants in levels that result in the non attainment of the specified designated uses for a given water body.

Pollution Source

Any source, activity, building, structure, facility or vessel generating, emitting, discharging, storing or transporting pollutants.

Port

Orifice of the diffuser.

Primary Contact

Any recreational activity, including swimming or other uses in which there is required prolonged and direct contact of the human body with the water involving considerable likelihood of ingestion in quantities sufficient to pose a significant health hazard or in which there is complete immersion of sensitive organs such as eyes, nose and ears.

Priority Pollutant

Refers to pollutants identified by the EPA in accordance with Section 307(a) of the Clean Water Act, as amended.

Propagation and Preservation of Desirable Species

This refers to the reproduction and continuance of species of flora and fauna associated with water bodies and which have ecologic importance and/or commercial value, whether individually or as part of an ecological community.

Public Nuisance

Anything which is injurious to health, or indecent, or offensive to the senses, or an obstruction to free use of property, so as to interfere with the comfortable enjoyment of life or property, or that it will hinder the well-being of the whole local community, or a large number of persons, or that illegally it will obstruct the free transit, in the used from, for any lake, river, bay, current, channel or navigable basin, or for any park, square, street, public highway and similar others, it constitute a public nuisance that gives place

to an action in accordance with Article 277 of the Code of Civil Indictment of 1933, as amended.

Public Policy Environmental Act

Law No. 9 of June 18, 1970, as amended, and derogated by Law No. 416 of September 22, 2004, as amended.

Quality Assurance Project Plan (QAPP)

A document describing in comprehensive detail the necessary quality assurance, quality control, and other technical activities that must be implemented to ensure that the result of the work performed will satisfy the stated performance criteria.

Receiving Waters

See Receiving Water Body.

Receiving Water Body

Any water body, as defined in this Regulation, or segment, portion or part of such water body onto or into which a discharge is made.

Recharge Area

That portion of the drainage area, as defined in this Regulation, in which water enters an aquifer system, as result of rainfall infiltration or seepage from surface waters.

Refuse

All waste material, including but not limited to, garbage, rubbish, incinerator residues, street sweeping, dead animals, and animal wastes.

Reserve (R)

Portion of the maximum daily allowable load reserved as an allowance for economic development and population growth.

Sampling Point

Point determined by the Board to evaluate compliance with permits, orders, authorizations or applicable water quality standards. In cases concerning NPDES permits, the sampling point may be determined by EPA or the Board.

Sanitary Waste

See Domestic Waste.

Secondary Contact

Any recreational activity such as fishing or other use in which human body contact with the water is indirect and sensitive organs such as eyes, nose and ears are not immersed.

Secondary Treatment

Treatment of sewage using biological processes to such a degree that the effluent quality meets the requirements of 40 CFR Part 133, as revised.

Sequentially

Refers to the manner in which the representative series of samples is taken to determine the geometric mean. The sampling interval used for each sample in the representative series should be uniform for each series. Example: A series of samples taken at hourly intervals, daily intervals, or weekly intervals.

Seven Day Low Flow

Refers to the flow at a given recurrence interval taken from a frequency curve of annual values of the lowest mean flow for 7 consecutive days. For example, 7 day low flow, "n"-years ($7Q_n$) refers to the low flow in 7 days at a recurrence interval of "n" years.

Sewage

Sanitary wastes from humans and animals coming from households, commercial establishments, industries, public and private buildings, farms and others places that are discharged to a wastewater treatment plant.

Significant Public Health Risk

Contingency of a direct or indirect injury to human well being. The hazard of the occurrence of an acute or chronic effect on the health including, but not limited to, diseases, epidemics, mutations or deformations in humans.

Solid Wastes

Any waste designated as solid by the Board and as defined by the Regulation for the Management of Non-Hazardous Solid Wastes of the Commonwealth of Puerto Rico.

Source

See Pollution Source.

Standard Methods

Refers to the most recently approved edition under 40 CFR Part 136 for each applicable parameter of the "Standard Methods for the Examination of Water and Wastewater".

Stormwater Runoff

For the purposes of this Regulation the term refers to flows of water, resulting from rainfall, that enter the water bodies.

Stratified Lake

In its simplest form refers to a lake with layers of water at different temperatures and densities. The upper layer with relatively high temperatures and low densities in comparison with the lower layer which has lower temperatures and higher densities. Between these two layers is a transitional layer with a marked temperature and density gradient that prevents the mixing of the upper and lower layers.

Submerged Outfall

Pipe or conduit, which conveys the effluent to the point of discharge in a receiving water body. The pipe or conduit is located at the bottom of the water body.

Surface Waters

Any natural or artificial water source including all streams, lakes, reservoirs, inland watercourse and waterways, springs, irrigation systems, drainage systems, intermittent streams and all other inland water bodies or accumulated waters. For the purpose of this Regulation the term does not include coastal waters and estuarine waters as defined in this Regulation.

Surfactants

See Methylene Blue Active Substances (MBAS).

Synergistic Effect

Occurs when two (2) or more substances, which in the original state could be harmless, react to each other and cause a toxicity, which is greater than the sum of the individual toxicity of each substance.

Teratogenic Agent

Agent, which induces anomalies in the fetal development.

Thermal Discharge

Emission of heat or substances with heat, which temperature causes the receiving water body to exceed the temperature of 32.2°C or 90°F.

Topographic Divide

Line along the ground that separates the rainfall surface runoff between two different drainage areas.

Total Allowable Pollutant Load (TAPL)

Maximum amount of a pollutant (i.e. the sum of the individual point sources, the individual existing or future non-point sources, the natural background sources and the reserve) that a water body can receive and still meet the applicable water quality standards.

Total Coliform

See Coliform Group.

Toxic Substances

Those substances or combinations thereof, including disease causing agents, which after being discharged and by the exposure, ingestion, inhalation or assimilation by any organism, directly from the environment or indirectly by means of ingestion through the food chain; may cause, death, illness, abnormal behavior, cancer, genetic mutation, physiologic malfunctioning (including malfunction in reproduction), or physical deformations, in said organisms or their descendants based on the available information to the Board or to EPA.

Toxicity Test

Test to determine the acute or chronic response of living organisms to an effluent, specific substances or combination of these, using a representative organism approved by the Board and following the procedures described in the guidelines developed and approved by the Board for these purposes.

Waste Load Allocation (WLA)

The portion of a receiving water total allowable pollutant load (TAPL) that is allocated to one of its existing or future point sources of pollution.

Waste Load Allocation Guidelines (WLAG)

The most recent version of the technical guidelines developed and approved by the Board, which describe procedures, methods, techniques and other related matters to be used by the Board to perform waste load allocations.

Wastewaters

Waters containing dissolved, suspended, agglomerated, emulsified or floating substances or solid pollutants resulting from industrial, commercial, residential, agricultural, recreational or any other type of establishment or man induced activity.

Wastewater Treatment Facilities

See Water Pollution Control Facilities or Equipment.

Water Body

See Waters of Puerto Rico.

Water Pollutant Control Facilities or Equipment

Any process, equipment, device, and all appurtenances there to, used for eliminating, reducing, or controlling the discharge of any pollutant to the water.

Water Quality Standards

The designated water body uses and classifications, the criteria to protect those uses, and the anti-degradation policy.

Water Table

The soil depth at which the pressure of the saturated zone is equal to atmospheric pressure.

Waters

See Waters of Puerto Rico.

Waters of Puerto Rico

All coastal waters, surface waters, estuarine waters, ground waters and wetlands as defined in this Regulation.

Watershed

See Drainage Area.

Wetlands

Areas inundated or saturated by coastal, surface or ground water at a frequency and duration sufficient to support, and under normal circumstances do support a prevalence of vegetation, typically adapted for life in saturated soil conditions.

1301.2 ACRONYMS

AWLA	Application for a Waste Load Allocation
BMP	Best Management Practices
BOD	Biochemical Oxygen Demand
CCC	Criteria Continuous Concentration
CFR	Title 40 of the Code of Federal Regulations
CMC	Criteria Maximum Concentration
EAC	Equitable Allowable Concentration
EC	Effect Concentration
EPA	U. S. Environmental Protection Agency
HMF	Harmonic Mean Flow
LC	Lethal Concentration
LOEC	Lowest Observed Effect Concentration
MAEC	Maximum Allowable Effluent Concentration
MBAS	Methylene Blue Active Substances
MDLA	Maximum Daily Load Allowable
MREC	Maximum Requested Effluent Concentration
NOEC	No Observed Effect Concentration
NPDES	National Pollutant Elimination System
NPSL	Non-Point Source Loads
QAPP	Quality Assurance Project Plan
R	Reserve
TAPL	Total Allowable Pollutant Load
TUa	Acute Toxic Units
TUc	Chronic Toxic Units
WLA	Waste Load Allocation
WLAG	Waste Load Allocation Guidelines
xQy	Hydrologically-Based Design Flow

RULE 1302 CLASSIFICATION OF THE WATERS OF PUERTO RICO ACCORDING TO THE DESIGNATED USES TO BE PROTECTED

1302.1 COASTAL WATERS AND ESTUARINE WATERS

A. Class SA

Class SA includes bioluminiscent lagoons and bays such as La Parguera and Monsio José on the Southern Coast, Bahía de Mosquito in Vieques, and any other coastal or estuarine waters of exceptional quality or high ecological value or recreational which may be designated by the Board, through Resolution, requiring this classification for protection of the waters. Rule 1303.2 (A) (2) of this Regulation will also apply to the waters 500 meters (0.31 mile) seaward of the physical and geographical limits of the water bodies under this classification.

B. Class SB

Class SB includes the coastal and estuarine waters not classified as Class SA or SC under Rules 1302.1 (A) and (C) of this Regulation. Class SB also includes lagoons not classified under any other class. This classification will apply from the zone subject to the ebb and flow of tides (mean sea level) up to 500 meters (0.31 mile) seaward from said zone. Beyond this limit, the next less restrictive classification will apply to a maximum of 10.35 miles (16,656.71 meters) seaward.

1. Shellfish growing areas:

Those areas that may be designated by the Board, through Resolution, as shellfish growing areas. The existing water quality regulations established by both the U.S. Public Health Service and the Department of Health of the Commonwealth of Puerto Rico shall be applied to this classification. This classification will apply 100 meters (0.062 mile) beyond the physical and geographical areas limiting the shellfish growing areas.

C. Class SC

Class SC includes the segments of coastal and estuarine waters identified below. The classification of these waters shall be applied from the zone subject to the ebb and flow of tides (mean sea level) to 10.35 miles seaward.

1. Mayagüez Bay – From Punta Guanajibo to Punta Algarrobo.

2. Yabucoa Port.

3. Guayanilla and Tallaboa Bays – From Cayo Parguera to Punta Verraco.

4. Ponce Port – From Punta Carenero to Punta Cuchara.

5. San Juan Port – From the mouth of Río Bayamón to Punta El Morro.

1302.2 SURFACE WATERS

A. Class SD

All surface waters are classified SD, except those classified SE in accordance with Rule 1302.2 (B).

B. Class SE

Laguna Tortuguero, Laguna Cartagena and any other surface water body of exceptional quality or high ecological or recreational value which may be designated by the Board, through Resolution, requiring this classification for protection of the waters.

1302.3 GROUND WATERS

A. Class SG

This classification includes all ground waters as defined in this Regulation.

RULE 1303 WATER QUALITY STANDARDS AND USE CLASSIFICATIONS TO BE PROTECTED IN THE WATERS OF PUERTO RICO

Pursuant to the intent of this Regulation, the following water quality standards and use classifications are promulgated for the protection of the uses assigned to the classifications of the coastal, surface, estuarine, wetlands, and ground waters of the Commonwealth of Puerto Rico.

The following water quality standards shall apply at all times, except in:

A. Surface waters during periods when their flows are less than the average minimum seven day low flow which occurs once in any two consecutive years.

B. Waters within mixing zones authorized by the Board pursuant to Rule 1305 of this Regulation.

C. Surface, coastal, estuarine and ground waters where it is demonstrated, to the satisfaction of the Board, that the natural background concentration of the water body exceeds the established water quality standards. In those cases the applicable standard will be the natural background concentration.

D. Surface waters in the immediate vicinity of a discharge for which a waste load allocation has been authorized by the Board pursuant to Rule 1310 of this Regulation.

E. Intermittent streams when the conditions of Rule 1304.3 of this Regulation are met.

1303.1 WATER QUALITY STANDARDS

All waters shall meet generally accepted aesthetic requirements. These waters shall, except as specifically noted, meet the following water quality standards:

A. Solids and Other Matter

The waters of Puerto Rico shall not contain floating debris, scum or other floating materials attributable to discharges in amounts sufficient to be unsightly or deleterious to the existing or designated uses of the water body.

B. Color, Odor, Taste and Turbidity

The waters of Puerto Rico shall be free from color, odor, taste or turbidity attributable to discharges in such a degree as to create a nuisance to the enjoyment of the existing or designated uses of the water body.

C. Radioactive Materials

In the waters of Puerto Rico the concentration of Radium-226 and Strontium-90 shall not exceed 3 and 10 picocuries per liter respectively. In the absence of Strontium-90 and alpha emitters, the gross beta concentrations shall not exceed 1,000 picocuries per liter.

D. Temperature

1. Except by natural causes, no heat may be added to the waters of Puerto Rico, which would cause the temperature of any site to exceed 90°F or 32.2°C.

2. No thermal discharge or combination of thermal discharges into or onto the surface, estuarine and coastal waters shall be injurious to aquatic life or the culture or propagation of a balanced indigenous population there of nor in anyway affect the designated uses.

3. In stratified lakes, thermal discharges shall be confined to the epilimnetic layer.

4. No thermal discharge or combination of thermal discharges shall be made to ground waters.

E. Suspended, Colloidal or Settleable Solids

Solids from wastewater sources shall not cause deposition in or be deleterious to the existing or designated uses of the water body.

F. Biochemical Oxygen Demand

The allowable level of biochemical oxygen demand of wastewater sources will be determined on a case by case basis, depending on the assimilative capacity of the receiving water body. Such determination will be performed to assure compliance with the dissolved oxygen standard applicable to the receiving water body.

G. Asbestos

In order to assure for the protection of human health from the potential carcinogenic effects of exposure to asbestos, the waters of Puerto Rico shall not exceed 7 MFL (million fibers per liter) of asbestos, except when established that such presence is due to the natural occurrence of geologic deposits of asbestiform minerals.

H. Oil and Grease

The waters of Puerto Rico shall be substantially free from floating non-petroleum oils and greases as well as petroleum derived oils and greases.

I. Substances in Toxic Concentrations and Synergistic Toxic Effects

The waters of Puerto Rico shall not contain any substance at such concentration which, either alone or as result of synergistic effects with other substances is toxic or produces undesirable physiological responses in human, fish or other fauna or flora.

In Rules 1303.1 (I) (1), 1303.1 (I) (2), 1303.1 (I) (3), 1303.1 (I) (4), and 1303.1 (I) (5) are identified specific substances for which numeric water quality standards have been established.

1. Specific Water Quality Standards for Inorganic Substances

The maximum allowable concentration of these specific substances in coastal, surface, estuarine and ground waters shall not exceed the following at any time:

Substance		**Classes SB and SC (µg/L)**	**ClassSD (µg/L)**	**Class SG[a] (µg/L)**
+,&	Antimony (Sb)	640 (HH)	5.6 (HH)	5.6 (HH)
+,*, &	Arsenic (As)	36 (AL)	10 (DW)	10 (DW)
+,%, &	Cadmium (Cd)	8.85 (AL)	Note 1 (AL)	5.0 (DW)
+	Cyanide (Free CN)	1.0 (AL)	5.2 (AL)	200 (DW)
+, &	Copper (Cu)	3.73 (AL)	Note 3 (AL)	1,300 (HH)
+, &	Chromium III (Cr^{+3})	---	Note 2 (AL)	---
+, &	Chromium VI (Cr^{+6})	50.35 (AL)	11.43 (AL)	---
&	Chromium (Cr)	---	---	100 (DW)
	Fluoride (F)	---	4,000 (DW)	4,000 (DW)
+, &	Mercury (Hg)	0.051 (HH)	0.050 (HH)	0.050 (HH)
+, &	Nickel (Ni)	8.28 (AL)	Note 4 (AL)	610 (HH)
	Nitrate + Nitrite (as N)	---	10,000 (DW)	10,000 (DW)

	Substance	Classes SB and SC (µg/L)	ClassSD (µg/L)	Class SG[a] (µg/L)
	Nitrite (as N)	---	---	1,000 (DW)
	Nitrogen (NO_3, NO_2, NH_3)	5,000	---	---
+, &	Silver (Ag)	2.24 (AL)	Note 5 (AL)	---
+,%, &	Lead (Pb)	8.52 (AL)	Note 6 (AL)	15.0 (DW)
+, &	Selenium (Se)	71.14 (AL)	5.0 (AL)	50.0 (DW)
	Sulfide (S) (undissociated H_2S)	2.0 (AL)	2.0 (AL)	---
+, &	Thallium (Tl)	0.47 (HH)	0.24 (HH)	0.24 (HH)
+, &	Zinc (Zn)	85.62 (AL)	Note 7 (AL)	---

Note 1 Concentration in µg/L must not exceed the numerical value given by $e^{(0.7409[\ln Hardness]-4.719)}$

Note 2 Concentration in µg/L must not exceed the numerical value given by $e^{(0.8190[\ln Hardness]+0.6848)}$

Note 3 Concentration in µg/L must not exceed the numerical value given by $e^{(0.8545[\ln Hardness]-1.702)}$

Note 4 Concentration in µg/L must not exceed the numerical value given by $e^{(0.8460[\ln Hardness]+0.0584)}$

Note 5 Concentration in µg/L must not exceed the numerical value given by $e^{(.72[\ln Hardness]-6.59)}$

Note 6 Concentration in µg/L must not exceed the numerical value given by $e^{(.273[\ln Hardness]-4.705)}$

Note 7 Concentration in µg/L must not exceed the numerical value given by $e^{(0.8473[\ln Hardness]+0.884)}$

Hardness (as $CaCO_3$ in mg/L) of the water body.

Identification codes for the applicability of standards to uses. These codes include designated and existing uses.

AL = Protection of the water body for the propagation and preservation of aquatic species or species dependent on the water body.
DW = Protection of the water body for use as source of drinking water supply.
HH = Protection of the water body or aquatic life for reasons of human health.

* = Identifies a substance that may be a carcinogen.
\+ = Identifies a priority pollutant.
% = In cases where the surface water body is used as a source of drinking water supply, the water quality standard for the indicated substance shall not exceed the drinking water standard upstream from the water intake.
& = Numbers represent a total recoverable value.
a = For the protection of ground waters with the potential to be used or that are used as source of drinking water supply, the applicable water quality standard is the Drinking Water (DW) or Human Health (HH) criteria. For those ground waters that flow into other water bodies, the applicable water quality standard for ground waters is the most stringent criteria resulting from the comparison between the standard applicable to the classification of the water body into which it flows and the DW or HH criteria applicable to ground waters.

2. Specific Water Quality Standards for Pesticides

a. Organochlorides and Other Persistent Pesticides

Organochlorides and other persistent pesticides residues in surface, ground, estuarine and coastal waters shall not exceed 1/100 of the 96 hr LC_{50} of species approved by the Board. In the specific case of the following, the concentration shall not exceed the value listed below:

Substance		Classes SB and SC (µg/L)	Class SD (µg/L)	Class SG[a] (µg/L)
+, *	Aldrin	0.0005 (HH)	0.00049 (HH)	0.00049 (HH)
+, *	alpha-BHC	0.049 (HH)	0.026 (HH)	0.026 (HH)
+, *	beta-BHC	0.17 (HH)	0.091 (HH)	0.091 (HH)
+, *	Chlordane	0.004 (AL)	0.0043 (AL)	0.0080 (HH)
+, *	4, 4'- DDT and Metabolites	0.001 (AL)	0.001 (AL)	0.0022 (HH)
+, *	Dieldrin	0.00054 (HH)	0.00052 (HH)	0.00052 (HH)
+	Endosulfan	0.0087 (AL)	0.056 (AL)	62 (HH)
+	Endosulfan Sulfate	89 (HH)	62 (HH)	62 (HH)
+	Endrin	0.0023 (AL)	0.036 (AL)	0.059 (HH)
+	Endrin Aldehyde	0.30 (HH)	0.29 (HH)	0.29 (HH)
+, *	Heptachlor	0.00079 (HH)	0.00079 (HH)	0.00079 (HH)
+	Heptachlor Epoxide	0.0036 (AL)	0.0038 (AL)	0.2 (DW)
+	Lindane (Gamma BHC)	0.16 (AL)	0.2 (DW)	0.2 (DW)
	Methoxychlor	0.03 (AL)	0.03 (AL)	40.0 (DW)
	Mirex	0.001 (AL)	0.001 (AL)	---
+, *	Pentachlorophenol	7.9 (AL)	1.0 (DW)	1.0 (DW)
+, *	Toxaphene	0.0002 (AL)	0.0002 (AL)	0.0028 (HH)

Identification codes for the applicability of standards to uses. These codes include designated and existing uses.

AL = Protection of the water body for the propagation and preservation of aquatic species or species dependent on the water body.
DW = Protection of the water body for use as source of drinking water supply.
HH = Protection of the water body or aquatic life for reasons of human health.

* = Identifies a substance that may be a carcinogen.
\+ = Identifies a priority pollutant.
a = For the protection of ground waters with the potential to be used or that are used as source of drinking water supply, the applicable water quality standard is the Drinking Water (DW) or Human Health (HH) criteria. For those ground waters that flow into other water bodies, the applicable water quality standard for ground waters is the most stringent criteria resulting from the comparison between the standard applicable to the classification of the water body into which it flows and the DW or HH criteria applicable to ground waters.

b. Sulfurous Organothiophosphorus and Other Non-persistent Pesticides

Sulfurous Organothiophosphorus and other non-persistent pesticides residues in surface, ground, estuarine and coastal waters shall not exceed 1/10 of the 96-hr LC_{50} of species approved by the Board. In the specific case of the following pesticides, the concentration shall not exceed the values listed below:

Substance		Classes SB and SC (µg/L)	Class SD (µg/L)	Class SG[a] (µg/L)
	2,4,5 – TP (Silvex)	---	10.0 (HH)	10.0 (HH)
*	2,4 – D	---	70 (DW)	70 (DW)
	Azinphos – Methyl	0.01 (AL)	0.01 (AL)	---
	Chloropyrifos	0.0056 (AL)	0.041 (AL)	---

Substance		Classes SB and SC (µg/L)	Class SD (µg/L)	Class SG[a] (µg/L)
	Coumaphos	0.010 (AL)	0.010 (AL)	---
	Demeton	0.10 (AL)	0.10 (AL)	---
	Fenthion	0.40 (AL)	0.40 (AL)	---
	Malathion	0.10 (AL)	0.10 (AL)	---
	Naled	0.40 (AL)	0.40 (AL)	---
	Parathion	---	0.013 (AL)	---

Identification codes for the applicability of standards to uses. These codes include designated and existing uses.

AL = Protection of the water body for the propagation and preservation of aquatic species or species dependent on the water body.
DW = Protection of the water body for use as source of drinking water supply.
HH = Protection of the water body or aquatic life for reasons of human health.

* = Identifies a substance that may be a carcinogen.
a = For the protection of ground waters with the potential to be used or that are used as source of drinking water supply, the applicable water quality standard is the Drinking Water (DW) or Human Health (HH) criteria. For those ground waters that flow into other water bodies, the applicable water quality standard for ground waters is the most stringent criteria resulting from the comparison between the standard applicable to the classification of the water body into which it flows and the DW or HH criteria applicable to ground waters.

3. Specific Standards for Non-Pesticide Organic Substances and Carbon Tetrachloride

These specific substances shall not exceed the maximum allowable concentration, at any time in, coastal, surface, estuarine and ground waters.

Substance		Classes SB and SC (µg/L)	Class SD (µg/L)	Class SG[a] (µg/L)
+	1,1-Dichloroethylene	7,100 (HH)	7.0 (DW)	7.0 (DW)
+	1,1,1-Trichloroethane	---	200.0 (DW)	200.0 (DW)
+	1,2-Dichlorobenzene (o-Dichlorobenzene)	1,300 (HH)	420 (HH)	420 (HH)
+, *	1,2-Dichloroethane	370 (HH)	3.8 (HH)	3.8 (HH)
+	1,3-Dichlorobenzene (m-Dichlorobenzene)	960 (HH)	320 (HH)	320 (HH)
+	1,4-Dichlorobenzene (p-Dichlorobenzene)	190 (HH)	63 (HH)	63 (HH)
+, *	2,3,7,8-TCDD (Dioxin)	5.1×10^{-8} (HH)	5.0×10^{-8} (HH)	5.0×10^{-8} (HH)
+, *	2,4,6-Trichlorophenol	24 (HH)	14 (HH)	14 (HH)
+	2,4-Dichlorophenol	290 (HH)	77 (HH)	77 (HH)
+	2,4-Dimethylphenol	850 (HH)	380 (HH)	380 (HH)
+	2-Chlorophenol	150 (HH)	81 (HH)	81 (HH)
+	2-Methyl-4,6-Dinitrophenol	280 (HH)	13 (HH)	13 (HH)
+	2,4-Dinitrophenol	5,300 (HH)	69 (HH)	69 (HH)
+, *	Carbon Tetrachloride	16 (HH)	2.3 (HH)	2.3 (HH)
+	Phenol	1,700,000 (HH)	21,000 (HH)	21,000 (HH)

Substance		Classes SB and SC (µg/L)	Class SD (µg/L)	Class SG[a] (µg/L)
+, *	Polychlorinated Biphenyls (PCBs)	0.00064 (HH)	0.00064 (HH)	0.00064 (HH)
+, *	Tetrachloroethylene	33 (HH)	5.0 (DW)	5.0 (DW)
+, *	Trichloroethylene	300 (HH)	5.0 (DW)	5.0 (DW)
+, *	Vinyl Chloride	24 (HH)	0.25 (HH)	0.25 (HH)

Identification codes for the applicability of standards to uses. These codes include designated and existing uses.

DW = Protection of the water body for use as source of drinking water supply.
HH = Protection of the water body or aquatic life for reasons of human health.

* = Identifies a substance that may be a carcinogen.
\+ = Identifies a priority pollutant.
a = For the protection of ground waters with the potential to be used or that are used as source of drinking water supply, the applicable water quality standard is the Drinking Water (DW) or Human Health (HH) criteria. For those ground waters that flow into other water bodies, the applicable water quality standard for ground waters is the most stringent criteria resulting from the comparison between the standard applicable to the classification of the water body into which it flows and the DW or HH criteria applicable to ground waters.

4. Specific Water Quality Standards for Volatile Organic Substances

These specific substances shall not exceed the maximum allowable concentration, at any time in coastal, surface, estuarine and ground waters.

Substance		Classes SB and SC (µg/L)	Class SD (µg/L)	Class SG[a] (µg/L)
+	1,1,2-Trichloroethane	160 (HH)	5.0 (DW)	5.0 (DW)
+, *	1,1,2,2-Tetrachloroethane	40 (HH)	1.7 (HH)	1.7 (HH)
+	1,2,4-Trichlorobenzene	70 (HH)	35 (HH)	35 (HH)
+, *	1,2-Dichloropropane	150 (HH)	5.0 (HH)	5.0 (DW)
+, *	1,3-Dichloropropylene	210 (HH)	3.4 (HH)	3.4 (HH)
+, *	Acrylonitrile	2.5 (HH)	0.51 (HH)	0.51 (HH)
+	Acrolein	290 (HH)	190 (HH)	190 (HH)
+, *	Benzene	510 (HH)	5.0 (DW)	5.0 (DW)
+, *	Bromoform	1,400 (HH)	43 (HH)	43 (HH)
+	Chlorobenzene	1,600 (HH)	100 (DW)	100 (DW)
+, *	Chlorodibromomethane	130 (HH)	4.0 (HH)	4.0 (HH)
+, *	Chloroform	4,700 (HH)	57 (HH)	57 (HH)
+, *	Dichlorobromomethane	170 (HH)	5.5 (HH)	5.5 (HH)
+	Ethylbenzene	2,100 (HH)	530 (HH)	530 (HH)
+	Methyl Bromide	1,500 (HH)	47 (HH)	47 (HH)
+, *	Methylene Chloride	5,900 (HH)	46 (HH)	46 (HH)

Identification codes for the applicability of standards to uses. These codes include designated and existing uses.

DW = Protection of the water body for use as source of drinking water supply.
HH = Protection of the water body or aquatic life for reasons of human health.

* = Identifies a substance that may be a carcinogen.
\+ = Identifies a priority pollutant.
a = For the protection of ground waters with the potential to be used or that are used as source of drinking water supply, the applicable water quality standard is the Drinking Water (DW) or Human Health (HH) criteria. For those ground waters that flow into other water bodies, the applicable water quality standard for ground waters is the most stringent criteria resulting from the comparison between the standard applicable to the classification of the water body into which it flows and the DW or HH criteria applicable to ground waters.

5. Specific Water Quality Standards for Semi-Volatile Organic Substances

These specific substances shall not exceed the maximum allowable concentration, at any time in coastal, surface, estuarine and ground waters.

Substance		**Classes SB and SC (µg/L)**	**Class SD (µg/L)**	**Class SG[a] (µg/L)**
+, *	1,2-Diphenylhydrazine	2.0 (HH)	0.36 (HH)	0.36 (HH)
+	1,2-Trans-Dichloroethylene	10,000 (HH)	100 (DW)	100 (DW)
+	2–Chloronapthalene	1,600 (HH)	1,000 (HH)	1,000 (HH)
+, *	2,4-Dinitrotoluene	34 (HH)	1.1 (HH)	1.1 (HH)
+, *	3,3-Dichlorobenzidine	0.28 (HH)	0.21 (HH)	0.21 (HH)
+	Acenapthene	990 (HH)	670 (HH)	670 (HH)
+	Anthracene	40,000 (HH)	8,300 (HH)	8,300 (HH)
+, *	Benzidine	0.0020 (HH)	0.00086 (HH)	0.00086 (HH)
+, *	Benzo(a)Anthracene	0.18 (HH)	0.038 (HH)	0.038 (HH)
+, *	Benzo(a)Pyrene	0.18 (HH)	0.038 (HH)	0.038 (HH)
+, *	Benzo(b)Fluoranthene	0.18 (HH)	0.038 (HH)	0.038 (HH)
+, *	Benzo(k)Fluoranthene	0.18 (HH)	0.038 (HH)	0.038 (HH)
+, *	Bis(2-Chloroethyl)Ether	5.3 (HH)	0.30 (HH)	0.30 (HH)
+, *	Bis(2-Chloroisopropyl)Ether	65,000 (HH)	1,400 (HH)	1,400 (HH)
+, *	Bis(2-Ethylhexyl)Phthalate[x]	22 (HH)	12 (HH)	12 (HH)
+, *	Butylbenzyl Phthalate[w]	1,900 (HH)	1,500 (HH)	1,500 (HH)
+, *	Chrysene	0.18 (HH)	0.038 (HH)	0.038 (HH)
+, *	Dibenzo(a,h)Anthracene	0.18 (HH)	0.038 (HH)	0.038 (HH)
+	Diethyl Phthalate[w]	44,000 (HH)	17,000 (HH)	17,000 (HH)
+	Dimethyl Phthalate[w]	1,100,000 (HH)	270,000 (HH)	270,000 (HH)
+	Di-n Buthyl Phthalate[w]	4,500 (HH)	2,000 (HH)	2,000 (HH)
+	Fluoranthane	140 (HH)	130 (HH)	130 (HH)
+	Fluorene	5,300 (HH)	1,100 (HH)	1,100 (HH)

Substance		Classes SB and SC (µg/L)	Class SD (µg/L)	Class SG[a] (µg/L)
+, *	Hexachlorobenzene	0.0029 (HH)	0.0028 (HH)	0.0028 (HH)
+, *	Hexachlorobutadiene	180 (HH)	4.4 (HH)	4.4 (HH)
+	Hexachlorocyclopentadiene	1,100 (HH)	40 (HH)	40 (HH)
+, *	Hexachloroethane	33 (HH)	14 (HH)	14 (HH)
+, *	Ideno(1,2,3–cd)Pyrene	0.18 (HH)	0.038 (HH)	0.038 (HH)
+, *	Isophorone	9,600 (HH)	350 (HH)	350 (HH)
+, *	N–Nitrosodimethylamine	30 (HH)	0.0069 (HH)	0.0069 (HH)
+, *	N–Nitrosodi-n-Propylamine	5.1 (HH)	0.050 (HH)	0.050 (HH)
+, *	N–Nitrosodiphenylamine	60 (HH)	33 (HH)	33 (HH)
+	Nitrobenzene	690 (HH)	17 (HH)	17 (HH)
+	Pyrene	4,000 (HH)	830 (HH)	830 (HH)
+	Toluene	15,000 (HH)	1,000 (DW)	1,000 (DW)

Identification codes for the applicability of standards to uses. These codes include designated and existing uses.

DW = Protection of the water body for use as source of drinking water supply.
HH = Protection of the water body or aquatic life for reasons of human health.

* = Identifies a substance that may be a carcinogen.
\+ = Identifies a priority pollutant.
a = For the protection of ground waters with the potential to be used or that are used as source of drinking water supply, the applicable water quality standard is the Drinking Water (DW) or Human Health (HH) criteria. For those ground waters that flow into other water bodies, the applicable water quality standard for ground waters is the most stringent criteria resulting from the comparison between the standard applicable to the classification of the water body into which it flows and the DW or HH criteria applicable to ground waters.

1303.2 USE CLASSIFICATIONS AND WATER QUALITY STANDARDS FOR SPECIFIC CLASSIFICATIONS

A. Class SA

1. Usages and Description

   Coastal waters and estuarine waters of high quality or exceptional ecological or recreational value whose existing conditions shall not be altered, except by natural causes, in order to preserve its natural characteristics.

2. Standards

   The concentration of any parameter, whether or not considered in this Rule, shall not be altered, except by natural causes. Substances reactive with methylene blue shall not be present.

B. Class SB

1. Usages and Description

   Coastal waters and estuarine waters intended for use in primary and secondary contact recreation, and for propagation and preservation of desirable species, including threatened or endangered species.

2. Standards

   a. Dissolved Oxygen

      Shall not contain less than 5 mg/L, except when this value is depressed due to natural causes.

   b. Coliforms

      The fecal coliform geometric mean of a series of representative samples (at least five samples) of the waters taken sequentially shall not exceed 200 colonies/100 mL, and not more than 20 percent of the samples shall exceed 400 colonies/100 mL.

   c. Enterococci

      The enterococci density, in terms of geometric mean of at least five representative samples taken sequentially, shall not exceed 35 colonies/100 mL. No single sample should exceed the upper confidence limit of 75% using 0.7 as the log standard deviation, until sufficient site data exist to establish a site-specific log standard deviation.

   d. pH

      In no case the pH will lie outside the range of 7.3 to 8.5, standard pH units, except when it is altered by natural causes.

   e. Color

      Shall not be altered except by natural causes.

   f. Turbidity

      Shall not exceed 10 nephelometric turbidity units (NTU), except by natural causes.

g. Taste or Odor Producing Substances

Shall not be present in amounts that will interfere with primary contact recreation, or will render any undesirable taste or odor to edible aquatic life.

h. Sulfates

For SB estuarine waters, sulfates shall not exceed 2,800 mg/L.

i. Surfactants as Methylene blue active substances (MBAS)

Shall not exceed 500 µg/L.

C. Class SC

1. Usages and Description

Coastal waters intended for primary contact recreation use from the zone subject to ebb and flow of tides (mean sea level) to 3 miles seaward, and secondary contact recreation from 3 miles seaward to 10.35 miles seaward, and for the propagation and preservation of desirable species, including threatened or endangered species.

2. Standards

a. Dissolved Oxygen

Shall contain not less than 4 mg/L, except when this value is depressed due to natural causes

b. Coliforms

From the zone subject to ebb and flow of tides (mean sea level) to 3 miles seaward, the coliform geometric mean of a series of representative samples (at least five samples) of the waters taken sequentially shall not exceed 200 colonies/100 mL of fecal coliforms. Not more than 20 percent of the samples shall exceed 400 colonies/100 mL of fecal coliforms.

From 3 miles seaward to 10.35 miles seaward, the coliform geometric mean of a series of representative samples (at least five samples) of the waters taken sequentially shall not exceed 2,000 colonies/100 mL of fecal coliforms. Not more than 20 percent of the samples shall exceed 4,000 colonies/100 mL of fecal coliforms.

c. Enterococci

From the zone subject to ebb and flow of tides (mean sea level) to 3 miles seaward, the enterococci density in terms of geometric mean of at least five representative samples taken sequentially shall not exceed 35 colonies/100 mL. No single sample should exceed the upper confidence limit of 75% using 0.7 as the log standard deviation until sufficient site data exist to establish a site-specific log standard deviation.

d. pH

In no case the pH will lie outside of 7.3 to 8.5, standard pH units, except when it is altered by natural causes.

e. Color

Shall not be altered by other than natural causes.

f. Turbidity

Shall not exceed 10 nephelometric turbidity units (NTU), except by natural causes.

g. Taste or Odor Producing substances

Shall contain none in amounts that will render any underable taste or odor to edible aquatic life.

h. Sulfates

For estuarine waters classified SC, sulfates shall not exceed 2,800 mg/L.

i. Surfactants as Methylene blue active substances (MBAS)

Shall not exceed 500 ug/L.

D. Class SD

1. Usages and Description

Surface waters intended for use as a raw source of public water supply, propagation and preservation of desirable species, including threatened or endangered species, as well as primary and secondary contact recreation. Primary contact recreation is precluded in any

stream or segment that does not comply with Rule 1302.2 (D) (2) (l) until such stream or segment meets the goal of the referred section.

2. Standards

   a. Dissolved Oxygen

      Shall contain not less than 5.0 mg/L except when this value is depressed due to natural causes.

   b. Coliforms

      The coliform geometric mean of a series of representative samples (at least five samples) of the waters taken sequentially shall not exceed 10,000 colonies/100 mL of total coliform or 200 colonies/100 mL of fecal coliforms. Not more than 20 percent of the samples shall exceed 400 colonies/100 mL of fecal coliforms.

   c. pH

      Shall always lie between 6.0 and 9.0 standard pH units, except when the value of pH falls outside this range due to natural causes.

   d. Color

      Shall not exceed 15 units according to the colorimetric platinum-cobalt standard, except by natural causes. In cases where the water body normally exceeds this value, the mechanism provided under Rule 1306.10 of this Regulation may be used to develop site-specific criteria.

   e. Turbidity

      Shall not exceed 50 nephelometric turbidity units (NTU), except by natural causes.

   f. Total Dissolved Solids

      Shall not exceed 500 mg/L, except by natural causes.

   g. Taste or Odor Producing Substances

      Shall not be present in amounts that will interfere with the use for potable water supply, or will render any undesirable taste or odor to edible aquatic life.

h. Total Phosphorus

Total phosphorus shall not exceed 1 ppm (mg/L), in surface water bodies upstream from reservoirs, in segments of surface water bodies with drinking water intakes or estuarine waters except when it is demonstrated to the satisfaction of the Board that a higher value of total phosphorus in combination with prevailing nitrogen derived nutrients will not contribute to eutrophic conditions in the water body.

i. Surfactants as Methylene blue active substances (MBAS)

Shall not exceed 100 µg/L.

j. Sulfates

Shall not exceed 250 mg/L, except by natural causes.

k. Chlorides

Shall not exceed 250 mg/L, except by natural causes.

l. Other Pathogenic Organisms

These waters shall be free from other pathogenic organisms different to coliforms.

m. Total Ammonia

Total ammonia shall not exceed 1 mg/L upstream from the points given by the coordinates of the following segments:

Río Cibuco	18°21'13"	66°20'07"
Río Hondo	18°26'13"	66°09'36"
Río Guaynabo	18°22'32"	66°07'59"
Río Bayamón	18°24'39"	66°09'09"
Río Piedras	18°24'34"	66°04'10"
Quebrada Blasina	18°23'27"	65°58'28"
Río Caguitas	18°15'11"	66°01'26"
Río Bairoa	18°15'28"	66°02'13"
Río Chico	17°59'16"	66°00'18"
Río Coamo	18°03'52"	66°22'10"
Río Guayanilla	18°00'50"	66°47'04"
Río Guanajibo	18°07'18"	67°03'56"

E. Class SE

1. Usages and Description

   Surface waters and wetlands of exceptional ecological value, whose existing conditions should not be altered in order to preserve its natural characteristics.

2. Standards

   The concentration of any parameter, whether or not considered in this Rule, shall not be altered, except by natural causes. Substances reactive with methylene blue shall not be present.

F. Class SG

1. Usages and Description

   Ground waters intended for use as source of drinking water supply and agricultural uses including irrigation. Also, included under this class are those ground waters that flow into coastal, surface, and estuarine waters and wetlands as defined in this Regulation.

2. Standards

   a. Dissolved Gases

      The composition, combination and concentration of dissolved gases shall not be altered except by natural causes.

   b. Coliforms

      Fecal coliforms shall not exceed 0 colonies/100 mL in any sample by the MF (Membrane Filter) method.

   c. pH

      Shall not be altered except by natural causes.

   d. Color

      Shall not be altered except by natural causes.

   e. Turbidity

      Shall not be altered except by natural causes.

f. Total Dissolved Solids

Shall not be altered except by natural causes. Here the term natural causes do not include salt water intrusion, unless this results from severe drought conditions.

g. Taste or Odor Producing Substances

Shall not be altered except by natural causes.

h. Surfactants as Methylene blue active substances (MBAS)

Shall not be present.

RULE 1304 INTERMITTENT STREAMS

1304.1 GENERAL

Point sources may be relieved from complying with the applicable provisions of Rule 1303 of this Regulation, if the applicant, demonstrates to the satisfaction of the Board, that the source is discharging into an intermittent stream and that the conditions specified elsewhere in this Rule are met.

1304.2 APPLICATION FOR RELIEF

A. Content of the Application

The application shall contain the following:

1. Evidence, to the satisfaction of the Board, that the water course is intermittent, including an evaluation of the physical and hydrological characteristics of the stream bed. Such evidence must be certified by an engineer licensed to practice in Puerto Rico, a geologist, a hydrologist or a hydrogeologist.

2. A map which displays:

   a. The intermittent stream under consideration, including the name of such body where available;

   b. The location of all existing, proposed and anticipated discharges in the affected watershed;

   c. The location of the nearest downstream enduring water body;

   d. The location of water supply intakes for humans and farm animals in the intermittent stream, if any, and the intakes downstream from the intermittent stream;

   e. The location of wetlands adjacent or associated with the intermittent stream and the nearest downstream watercourse not found to be an intermittent stream;

   f. The location of karst or water recharge areas within the intermittent stream. If no karst or water recharge areas are located within the intermittent stream, a certification to that effect will be required from a hydrologist, geologist or hydrogeologist.

   g. Non-point source activities in the immediate watershed of the intermittent stream.

h. Itemization of existing recreational uses. If no existing recreational uses are given to the intermittent stream, a certification to that effect will be required from the Department of Sports and Recreation and from the Mayor(s) of the municipality(ies) where the intermittent stream is located.

4. Biological study identifying the indigenous aquatic communities in the intermittent stream.

5. Determine effluent toxicity in accordance with the most recent version of the "Mixing Zone and Bioassay Guidelines" approved by the Board.

B. Authorized Signature

All applications shall be signed by the owner or operator, or in case of a corporation, by the President of the Corporation, or the Vice President directly responsible to the President, the highest ranking corporate official with offices in Puerto Rico, a duly authorized representative, responsible for the overall operation or regulated activity who presents a document in which such authority is delegated to that representative, in the case of other non-corporate entities, by an official of equivalent authority.

C. Certification of the Application for Relief

Any person signing the application shall make the following certification:

"I certify under penalty of law that I have personally examined and I am familiar with the information submitted in this document and all attachments and that, based on my inquiry with those individuals immediately responsible for obtaining the information, I understand that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment."

1304.3 REQUIREMENTS FOR GRANTING RELIEF

No relief from complying with the applicable provisions of Rule 1303 of this Regulation shall be granted, unless the following requirements are met:

A. The intermittent stream shall not contain substances or materials, including floating debris, oil, scum and other matter attributable to point sources, in amounts or concentrations that:

1. Form objectionable deposits;

2. Create nuisances;

3. Produce objectionable color, taste, or odor;

4. Produce undesirable aquatic life or result in a dominance of nuisance species;

5. Cause injuries to, be hazardous to, or produce adverse physiological responses in humans, animals or plants;

6. Interfere with or impair existing uses downstream of the water body.

B. The intermittent stream shall contain no less than 3.0 mg/L of dissolved oxygen.

C. Domestic wastewater treatment systems shall provide at least secondary treatment and non-domestic wastewater treatment systems shall provide the best available control technology, unless higher levels of treatment are necessary, as determined by the Board, to:

1. Protect the existing instream uses of the receiving water body and of downstream waters;

2. Protect ground water or recharge areas;

3. Comply with Rule 1304.3 (A) and

4. Prevent a public health hazard.

D. Applicable water quality standards are met at the point where the intermittent stream meets the nearest downstream enduring water body.

E. The intermittent stream is not used as a source of water supply for humans or farm animals.

F. The existing capacities of the water body, determined to be intermittent, to support the propagation and maintenance of indigenous aquatic communities will not be adversely affected by the proposed discharge.

G. The existing recreational uses will not be adversely affected.

H. The discharge will not adversely affect the ground water quality.

I. The discharge will not adversely affect wetlands adjacent to or associated with the intermittent stream.

J. The discharge will not create a potential health hazard or harmful conditions.

K. The applicant complies with the applicable provisions concerning public participation contained in Rules 1304.5 and 1304.6.

L. The discharge shall not contain substances at concentrations, which are carcinogenic, mutagenic, teratogenic or otherwise hazardous. Discharges of these substances will be required to meet the applicable criteria in Rules 1303.1 (I) (1), 1303.1 (I) (2), 1303.1 (I) (3), 1303.1 (I) (4), and 1303.1 (I) (5) at the end-of-pipe when the flow of the stream is composed entirely of the effluent.

1304.4 PRELIMINARY DETERMINATIONS

For every complete application received, the Board shall prepare Preliminary Determinations summarizing the principal facts, stating the Board's preliminary determination, briefly describing the basis for such determination and including any other relevant information.

1304.5 PUBLIC NOTICE AND OPPORTUNITY FOR PUBLIC HEARING

A. Requirements for the Public Notice

A public notice shall be published in two (2) newspapers of wide circulation in Puerto Rico informing the Board's intention to grant or deny relief from the provisions of Rule 1303 of this Regulation. Such notice shall also:

1. Identify the intermittent stream under consideration, if it has a name, and a description of its location;

2. Identify the nearest downstream watercourse which has been determined to be an enduring water body;

3. Identify the applicant and description of proposed discharge(s) into the intermittent stream;

4. Inform the public and interested parties that comments can be submitted to the Board and/or public hearings can be requested within thirty (30) days after publication of the notices;

5. Include the place and times in which the Preliminary Determination and other relevant documents are available for public inspection;

6. Include any other relevant information determined by the Board.

B. Cost of the Public Notice

The applicant shall pay to the Board the cost of publication of the notices before printing, or assume the responsibility to publish the notices. In the latter case the notices shall comply with the specifications of the Board.

1304.6 PUBLIC HEARINGS

A. Requirements for Public Hearings

The Board may hold public hearings at its own discretion or if:

1. There is a significant degree of public interest, as determined by the Board;

2. One or more of the aspects involved in the Board's decision may be clarified in the hearing.

B. Content of the Public Notice

If the Board decides to hold public hearings, a notice shall be published in two (2) newspapers of wide circulation in Puerto Rico. Such notice shall specify:

1. The day(s), the time(s) and the place(s) of the public hearing(s).

2. The information required in Rule 1304.5 (A), except item 4.

3. Include any other pertinent information specified by the Board.

C. Requirements to Publish Public Notice

The public notices shall be published at least thirty (30) days prior to the hearing.

D. Cost of Public Notice

The applicant shall pay to the Board the cost of publication of the notices before printing, or assume responsibility to publish the notices. In the latter case the notices shall comply with the specifications of the Board.

1304.7 FINAL DETERMINATION

If public hearings are not held, the Board shall emit the Final Determination after considering the comments received within the thirty (30) days after publication of the notices informing the public of the Preliminary

Determinations. If public hearings are held, the Board shall emit the Final Determination after considering all the comments received within the thirty (30) days after publication of the notices informing the public of the Preliminary Determinations, the comments received during the public hearings and the report from the hearing panel.

1304.8 DURATION OF RELIEF

Relief shall initially be granted for a one (1) year period. If warranted, the renewal of relief shall be effective for a fixed period established by the Board, not to exceed five (5) years.

1304.9 REVOCATION OF RELIEF

The Board may revoke a relief granted under Rule 1304 for the following causes:

A. Non-compliance with any condition of the relief;

B. The applicant's failure, in the application or during the processing of the relief, to disclose fully all relevant facts, or the permittee's misrepresentation of any relevant fact at any time;

C. A determination that the discharge endangers human health or the environment.

1304.10 MONITORING REQUIREMENTS

In those cases where the Board grants a relief, the applicant must perform samplings to determine the chemical, physical and biological characteristics of the discharge, the intermittent stream, the nearest downstream enduring water body and any other water body, as it is determined by the Board. The nature, extension and frequency of these samplings will be established by the Board on a case by case basis.

RULE 1305 MIXING ZONES

1305.1 GENERAL

Authorizations for mixing zone shall not be transferable and do not imply a property right of any kind or exclusive privilege, nor do they authorize any harm to persons or property or the invasion of others private rights, or the infringement of federal or state laws or regulations.

1305.2 NATURAL BACKGROUND CONCENTRATION

If the petitioner demonstrates to the satisfaction of the Board, through extensive sampling and field investigations, that the natural background concentration of the receiving waters exceed one or more of the water quality standards set forth for the corresponding classification, the Board may allow the parameters in the discharge to be equal to or less than the natural background concentrations.

1305.3 MIXING ZONE AUTHORIZATION APPLICATION

Each application for a mixing zone shall include the following:

A. Evidence that the project has complied with Article 4 (B) (3) of the Law 416 of September 22, 2004, Environmental Public Policy Act, as amended (previously Article 4-C, of the derogated Law No. 9 of June 18, 1970, Environmental Public Policy Act, as amended), if the application is related to a new or modified discharge; a new or modified submerged outfall; or a new or modified discharge channel, by the submittal of the corresponding environmental document.

B. Physical, chemical and biological characterization of the discharge and of the receiving waters at the site in which the background concentration is measured, as specified in the most recent version of the Mixing Zone and Bioassay Guidelines approved by the Board. This characterization shall include the results of toxicity tests using organisms approved by the Board and following the methodology described in said guidelines.

C. Existing discharge flow or proposed discharge flow for new or modified discharges.

D. Concentration of each one of the substances or parameters that do not comply with the applicable water quality standards at the point of discharge, after using best practicable technology (BPT), as defined by EPA, for their control.

E. Detailed hydraulic design calculations for the proposed discharge system demonstrating that the best engineering practices (BEP) have been used for obtaining the required dilution in the least possible tridimensional space.

F. Description of each mathematical model utilized to determined the critical initial dilution for open coastal waters and dilution for closed water bodies; used to define the mixing zone and the corresponding calculations, and/or the field studies where the oceanographic data, measurements of the physical/chemical parameters around the existing discharges and the associated ecological studies demonstrate the extension and effects of the mixing zone.

G. Diagram showing the proposed mixing zone and indicating the coordinates of the points that define the boundaries of the mixing zone.

H. Proposed method to validate and calibrate (if necessary) each mathematical model, including a monitoring plan and a Quality Assurance Project Plan (QAPP) that includes field sampling and laboratory analysis.

I. Proposed method for the maintenance of the discharge system.

J. Discussion of agreements reached with the Board on how the applicable provisions of Rule 1305 of this Regulation will be complied with.

1305.4 GENERAL STANDARDS FOR GRANTING INTERIM AUTHORIZATIONS FOR MIXING ZONES

An interim authorization for a mixing zone will be granted when the petitioner has submitted an application in which it is demonstrated, to the satisfaction of the Board, the following:

A. Compliance with Article 4 (B) (3) of the Law 416 of September 22, 2004, Environmental Public Policy Act, as amended (previously Article 4-C, of the derogated Law No. 9 of June 18, 1970, Environmental Public Policy Act, as amended), when the application is related to a new or modified discharge, new or modified submerged outfall, or a new or modified discharge channel.

B. The proposed discharge system constitutes the best engineering practices (BEP) to minimize the size of the tridimensional space of the mixing zone, maintaining the required dilution.

C. Solids in the discharge will not settle on the bottom of the receiving waters.

D. At the boundaries of the proposed mixing zone, after critical initial dilution for open coastal waters and after dilution for closed water bodies each one of the following requirements are met:

1. The concentration of pollutants or physical parameters, as defined in Rule 1305.5, do not exceed the applicable water quality standards.

2. The acute toxicity units measure in a acute toxicity test do not exceed the criteria maximum concentration (CMC).

3. The chronic toxicity units measure in a chronic toxicity test do not exceed the criteria continuous concentration units (CCC).

4. For fresh waters, and in coastal waters where the effluent is not discharged through a high rate diffuser, the CMC shall be reached in the most restrictive of the following conditions:

   a. Ten percent (10%) of the distance from the point of the discharge to the mixing zone boundary.

   b. A distance of fifty (50) times the discharge length scale in any spatial direction. This requirement, in the case of multiple ports diffusers, shall be met for each port using the discharge length scale of said port.

   c. A distance of five (5) times the local water depth in any horizontal direction from any port discharge.

E. The discharge shall not cause the growth or propagation of organisms that negatively disturb the ecological equilibrium in areas adjacent to the mixing zone.

F. The mixing zone shall be located as to allow, at all times, passageways for the movement or drift of the biota. Also, the passageways shall comply with the following in the specific cases mentioned:

1. If the receiving water body is a closed water body, estuary, river or creek, the mixing zone shall be located close to the bank in such manner that the passageway allows the adequate and safe flow of free floating, swimming or drifting organisms, or organisms that have self propulsion.

2. If the receiving water body is an estuary, the surface area and volume of passageway shall be at least seventy five percent (75%) of the corresponding surface area of the volume of the receiving water body across each segment of the estuary.

3. If the receiving water body is a river or a creek, the surface area and the cross-sectional area of the downstream of this point shall be at least sixty-seven percent (67%) of the surface area and the cross-sectional area of each segment of the river or creek.

4. If the receiving water body is a closed body of water, the sum of all mixing zone surface areas shall not exceed twenty percent (20%) of the surface area of the receiving body of water.

G. The mixing zone requested will not overlap with an adjacent mixing zone.

H. The control technology in accordance with Rule 1306.7, of this Regulation is being used or proposed.

I. The mixing zone shall be free of debris scum, floating oils, and any other substances which produce objectionable odors.

J. Each mathematical model used by the petitioner to define the mixing zone and inputs of said mathematical model were approved by the Board.

K. The mixing zone shall not be located in a recognized fish spawning or aquatic organism nursery area or habitat for threatened or endangered species.

L. The mixing zone shall not affect in any manner drinking water supply intakes or water intakes for livestock enterprises located less than one hundred (100) meters upstream, or five (5) kilometers downstream.

M. Except in the case of cooling waters, the mixing zone limits in coastal waters shall not be located at a distance less than one (1) kilometer from areas designated as public beaches, or classified as SA, and in every water body shall be restricted to avoid interferences with the designated uses of the receiving waters.

N. The proposed methodology to calibrate and validate each mathematical model used is acceptable to the Board.

O. The proposed method for maintaining in good working conditions the discharge system is acceptable to the Board.

P. The proposed method for defining the mixing zone boundaries is acceptable to the Board.

Q. Each proposed mixing zone complies with applicable requirements set forth in Rule 1305 of this Regulation.

1305.5 MIXING ZONE BOUNDARIES

The mixing zone boundaries shall be determined according to the procedures described in "Mixing Zone and Bioassays Guidelines" approved by the Board.

1305.6 ADDITIONAL STANDARDS FOR GRANTING INTERIM AUTHORIZATIONS FOR MIXING ZONES

Interim authorizations for mixing zones shall be granted when the petitioner demonstrates to the satisfaction of the Board compliance with the requirements set forth in the "Mixing Zone and Bioassay Guidelines", approved by the Board.

1305.7 PERIOD TO GRANT INTERIM AUTHORIZATIONS FOR MIXING ZONES

Within sixty (60) days of the submittal of an approvable application, the Board shall make public their intention to issue or modify the Water Quality Certificate and to define an Interim Mixing Zone Authorization.

1305.8 EFFECTIVENESS OF INTERIM MIXING ZONE AUTHORIZATION

The interim mixing zone authorization shall go into effect after being incorporated into the NPDES permit, and it will be valid for a period not to exceed one and a half (1½) years; or until the NPDES permit expires; or a date which the Board determines, based on the data submitted by the petitioner pursuant to the provisions of Rule 1305.9 or that the mixing zones(s) cannot be validated, whichever occurs first.

1305.9 CALIBRATION AND VALIDATION OF MATHEMATICAL MODELS USED TO DEFINE A MIXING ZONE

In the process of obtaining a mixing zone authorization, the petitioner shall submit to the Board information related to the following aspects:

A. Calibration

The petitioner shall calibrate those mathematical models that require calibration, as part of the process of granting an interim authorization for a mixing zone.

B. Monitoring Program for Validation

The petitioner shall implement a one (1) year monitoring program to obtain the necessary data required to validate each mathematical model during two (2) seasons (winter and summer).

1. The monitoring program shall include as a minimum:

   a. Continuous flow measurements.

   b. Sampling of a frequency to be established by the Board on a case by case basis, at the following locations:

      i. Effluent

      ii. Station approved by the Board to determine the background concentration for each one of the substances for which a mixing zone is requested

      iii. Stations approved by the Board at the boundaries of the mixing zone

   c. Analysis of all parameters that prompted the mixing zone application and other parameters needed to run each corresponding mathematical model.

   d. Current velocities at a frequency to be established by the Board on a case by case basis, if current velocities are an input to the mathematical model used to define the mixing zone.

C. Validation

The petitioner shall show that the model passes the validation test. This shall be done by means of a comparative analysis between the obtained values in the sampling program, against the values calculated by the model for corresponding points throughout the periphery of the mixing zone. The model in which the 90 percent of the calculated values are equal or less than the ones obtained through the sampling program shall be validated. In the case of Dissolved Oxygen, the model in which the 90 percent of the calculated values are equal or greater than the ones obtained through the sampling program shall be validated. Since the field data are affected by variations in water currents, tides, etc., which vary as a function of time, the referred comparison shall be done considering the data obtained in real time or as close to it as possible.

1305.10 REQUIREMENTS FOR GRANTING FINAL MIXING ZONES AUTHORIZATIONS

A final mixing zone authorization will be issued if the mathematical model is validated as established in Rule 1305.9 of this Regulation.

1305.11 EFFECTIVENESS OF FINAL AUTHORIZATION OF MIXING ZONES

A final authorization of a mixing zone shall be valid for a period not to exceed five (5) years, but in no case will it exceed the expiration date of the NPDES permit.

1305.12 RENEWAL OF MIXING ZONE AUTHORIZATIONS

At least one hundred and eighty (180) days prior to the expiration date of a final mixing zone authorization, the person to whom the authorization was issued, shall submit a complete application for the renewal of the mixing zone authorization. The renewal application shall contain the information that has changed with respect to the information previously submitted in compliance with the specifications of Rule 1305.3, and a certification indicating that the remaining of the information has not changed.

1305.13 REVOCATION OF INTERIM AUTHORIZATIONS OR FINAL AUTHORIZATIONS OF MIXING ZONES

The Board may revoke an interim authorization or final authorization of a mixing zone for the following reasons:

A. The mathematical model used to define the mixing zone was not validated. The Board, upon request by the petitioner, can approve a Compliance Plan in which corrective actions are committed to take place within the shortest time possible to obtain the necessary validation. The Board can maintain in effect the Interim Authorization while the corrective actions incorporated in the mentioned plan are executed.

B. The petitioner's failure to fully disclose all relevant facts in the authorization application or renewal, or the petitioner's misrepresentation of any relevant facts during the mixing zone evaluation or during the validation process.

C. Non-compliance with any applicable provision in Rule 1305 of this Regulation.

D. Changes in the conditions under which the mixing zone was approved, including, but not limited to discharge flow, effluent characteristics, and the discharge system, as originally approved by the Board.

E. There is an imminent threat to human health or the environment.

1305.14 PROCEDURE FOR REVOKING MIXING ZONE AUTHORIZATIONS

If there are reasons to revoke a mixing zone authorization as specified in Rule 1305.11, the Board shall notify the person to whom the authorization was granted indicating the intention of revoking the authorization by means of a Show Cause Order. The procedures to follow are those specified in the *Reglas de Procedimiento de Vistas Administrativas de la Junta de Calidad Ambiental*. Notwithstanding the foregoing, the Board may immediately revoke a mixing zone authorization without previous notice, nor the opportunity of hearings if there is an imminent threat to human health or the environment.

1305.15 SUBMERGED OUTFALL AND DIFFUSER REQUIREMENTS

The submerged outfalls and the diffusers shall be designed, constructed and operated in accordance to best engineering practices. When the proposed discharge system incorporates said technology, the petitioner shall include in the mixing zone application, information regarding the following:

A. Length and diameter of the diffuser

B. Number, diameter and the diffuser ports distribution

C. Maximum and minimum exit velocities in the diffuser ports

D. Measures to avoid the intrusion of surrounding waters within the diffuser

E. The Froude number used for the design of the ports

F. Submerged outfall diameter and average value of the transversal area that will be full under normal operating conditions

G. Minimum and maximum design velocities for the submerged outfall flow

H. Any other design detail that could contribute to optimize the fast dilution of discharge

1305.16 COMPLIANCE PLANS

As requested by the petitioner, the Board may consider and approve Compliance Plans for existing discharges that do not comply with the requirements specified in this Regulation. Such plans shall indicate the way in which those discharges will achieve compliance with this Regulation, using the best engineering practices and within the shortest period of time, which will not exceed the NPDES permit expiration date, but under no circumstances shall exceed more than three (3) years.

RULE 1306 GENERAL PROVISIONS

1306.1 GENERAL PROHIBITIONS

A. Pollution of the Waters of Puerto Rico

No person shall cause or allow the pollution of the waters of Puerto Rico, as defined in Rule 1301 of this Regulation.

B. Discharge of Pollutants

No person shall cause or allow the discharge of any pollutant to the waters of Puerto Rico, in violation of Applicable Rules and Regulations.

1. These Applicable Rules and Regulations include the water quality standards and all other requirements established by this Regulation or by other laws or regulations of the Commonwealth of Puerto Rico, concerning the conservation and protection of the natural resources that may affect the quality of the water resources.

2. Moreover, such Applicable Rules and Regulations shall be deemed to prohibit any discharge that, in the judgment of the Board, prevents or interferes with the attainment or maintenance of applicable water quality standards established by this Regulation or by other laws or regulations of the Commonwealth of Puerto Rico.

C. No person shall cause or allow any discharge of contaminants for which:

1. this Board has not defined and approved a mixing zone in accordance with Rule 1305 of this Regulation; or

2. this Board has not performed a waste load allocation analysis in accordance with Rule 1310 of this Regulation; or

3. this Board has not approved an exemption of compliance with the requirements of Rule 1303 for discharge to intermittent streams in accordance with Rule 1304 of this Regulation; or

4. this Board has not approved a Compliance Plan in accordance with Rule 1306.12 of this Regulation; or

5. no effluent limits based on water quality where developed using any of the methods mentioned above or any other defensible method that is also acceptable by the Board.

1306.2 SOURCE MONITORING, RECORD KEEPING, REPORTING, SAMPLING AND TESTING METHODS

A. Monitoring, Records, and Reports

The Board may require the owner of any source, at the owner's expense, to properly use and maintain any monitoring equipment, sample and measure the volume of discharges, sample the receiving waters, establish and maintain records, and make periodic reports as the Board shall prescribe.

B. Right of Entry

Representatives of the Board, properly identified shall have:

1. right to entry to, upon or through any premises or facilities in which a source is located or in which any records required to be maintained under this Regulation are located.

2. access to, inspect and copy any records required under this Regulation, inspect any monitoring equipment or method to determine its accuracy, and sample any discharge or receiving waters, which the owner is required to sample under this Regulation.

C. Sample Collection and Analysis

All sample collection, preservation, and analysis shall be carried out in accordance with those methods and procedures described in the "Standard Methods" as defined the term in this Regulation or the 40 CFR Part 136. All chemical analyses shall be certified by a chemist licensed to practice the profession in Puerto Rico. All bacteriological tests shall be certified by a medical technician licensed to practice the profession in Puerto Rico.

D. Certification of Records and Reports

All records and reports required pursuant to this Regulation shall be submitted together with a sworn statement or affidavit of the corporate president or of the highest ranking corporate officer with offices in Puerto Rico or of an equally responsible officer in the case of organizations other than corporations. Such sworn statement or affidavit can be signed by an officer previously authorized in writing by the responsible officer named above, and shall, in all cases, attest to the truth, correctness, and completeness of such records and reports.

E. Sampling and Testing Facilities

The Board may conduct tests of discharges of pollutants to the waters of Puerto Rico from any source. Upon request of the Board, the person responsible for the source to be tested, shall provide such safe and proper sampling and testing facilities, (but not including instrument and testing devices, except when required pursuant to other provisions of this Regulation, orders, authorizations or state or federal permits) as may be necessary for proper characterization of the discharge.

1306.3 DISCHARGE DATA AVAILABLE TO THE PUBLIC

A. Public Access to Data

All discharge data obtained by the Board, including data reported pursuant to Rule 1306.2 and Article 17(B) of the Environmental Public Policy Act, 12 LPRA § 8002 k (b), shall be made available for public inspection and shall also be made available to the public in any additional way that the Board may deem appropriate.

B. Presentation of Data

All discharge data shall be presented in such a manner as to show the relationship between measured or estimated discharge and the discharge allowed under the Applicable Rules and Regulations.

1306.4 MALFUNCTION OF EQUIPMENT REPORT

In the event that any water pollution control equipment or related facility breaks down in such manner as to cause the discharge of pollutant in violation of the Applicable Rules and Regulations, the person responsible for the equipment shall provide a statement giving all pertinent facts, including the estimated duration of the breakdown. The Board shall be notified when the condition causing the failure or breakdown has been corrected and the equipment is again in operation. When required by the Board, this notification shall be followed by a written report of the incident. This report shall include specific data concerning the affected equipment, date and hour of the occurrence, causes of the malfunction, and corrective measures taken.

1306.5 EMERGENCY PLAN

The Board may require the owner of any source to provide or contract the services for equipment and materials necessary for controlling spills of oil and/or hazardous substances. This Board may also require the owner of any source to take all necessary measures to control nontoxic spills that may cause a disagreeable taste or odor to the waters. The source must have an

emergency plan for prompt action in case of spills. Said plan must be prepared according to the Emergency Plan of the Commonwealth of Puerto Rico. The Emergency Plan requirements will be included in the guides developed or adopted by the Board concerning this matter.

1306.6 PERSONNEL AND WATER POLLUTION CONTROL EQUIPMENT

A. General

1. All water pollution control equipment shall be installed, maintained and operated in such manner as to allow compliance with Applicable Rules and Regulations.

2. All pollutants removed from the wastewater shall be disposed at the intervals required for maintaining optimum operational efficiency. The disposal of removed pollutants shall be in accordance with Applicable Rules and Regulations and in such a manner as to prevent environmental degradation.

3. Where required by this Board, and particularly for those sources where pollution would result in an imminent danger to human health or life, stand-by equipment shall be provided to insure continuous operation.

B. Operation

Following the issuance of licenses by the Potable Water and Wastewater Treatment Plant Operators Examining Board of the Commonwealth of Puerto Rico, all wastewater facilities, whether publicly or privately owned, must be operated by an operator licensed by such Examining Board.

1306.7 MINIMUM TREATMENT REQUIRED

The minimum treatment required for any wastewater must be at such level that discharges shall meet effluent limits as established under Section 301 of the Clean Water Act, as amended, 33 U.S.C. § 1311, and shall not cause the water quality standards, as set forth in Rules 1302 and 1303 of this Regulation, to be contravened, except as provided under Rule 1304.

1306.8 STANDARDS FOR SUBSTANCES AT CONCENTRATIONS BELOW THE DETECTION LEVEL

In those cases where a standard for a particular substance is below the detection level of the approved analytical methods, in accordance with Rule 1306.2 (C), this Board may require, in any permit, order, authorization or certificate issued by the Board, that such substance be analyzed by the approved analytic method with the lowest detection level, in accordance with

Rule 1306.2 (C). The applicable limit in these cases shall be that the substance is not detectable by such method.

1306.9 TOXICITY TESTS

This Board may request to any point source to conduct acute toxicity tests of its wastewater discharges. Based upon an evaluation of the test results, this Board may require additional toxicity tests, including chronic tests and toxicity/treatability studies, and may impose toxicity limitations.

1306.10 SITE-SPECIFIC WATER QUALITY STANDARDS

The Board or any interested person may develop, in accordance with the requirements of 40 CFR Part 131 and guidelines developed pursuant to such federal regulation, site-specific water quality criteria where such criteria are considered necessary. When the criterion is to be developed by an interested person, that person must submit, for the Board's approval, a protocol of all the procedures, conditions, organisms and sites that will be considered by such person to develop the criterion. The Board may adopt a criterion developed in accordance with this Rule as a water quality standard pursuant to the procedures established under 40 CFR Part 131.20.

1306.11 WATER QUALITY CERTIFICATE

A. The water quality standards promulgated by this Regulation are not concentration limits applicable to the effluent. These standards are applicable to the receiving water body. When requesting a Water Quality Certificate, the petitioner must submit, as part of the application, a characterization of the effluent, the receiving water body and the limits which the petitioner requests be applicable to the effluent, together with a detailed analysis of the method(s) used to translate the water quality standards into effluent limitations and the justification for their use. The petitioner must demonstrate to the satisfaction and requirement of the Board that the limits requested shall not cause a violation of the water quality standards at the receiving water body, taking into account the procedures of waste load allocation (Rule 1310), compliance plans (Rule 1306.12), determination of mixing zones (Rule 1305), and the provisions for intermittent water bodies (Rule 1304) or any other defensible method that is also acceptable by the Board. In no case shall it be allowed that any discharge will cause a violation of the water quality standard in the receiving water body (coastal, surface, estuarine and ground waters), if the average calculated from the flow proportional composite samples taken in a 24 hour period exceed the maximum limit allowed for that specific parameter as established in Rule 1303. For those substances for which it is not possible to take composite samples, the determination of non compliance with the standards will be done using grab samples. The

Board reserves the right to intervene with any discharge of pollutants that affects the quality of a receiving water body in a given moment. This includes setting limits on any substances not specifically listed in this Regulation and also regulate the manner in which a discharge take place, when the Board finds that such intervention is necessary to protect the quality and the designated uses of the receiving water body.

B. The Board will publish a public notice in a newspaper of wide circulation in Puerto Rico informing the Board's intention to grant or deny any Water Quality Certificate requested pursuant to the Clean Water Act. The cost of the publication of such notice will be paid by the petitioner of the corresponding permit object of the referred Water Quality Certificate. The Board will notify the petitioner of the permit, fifteen (15) days prior to the publishing date of the public notice, of the payment requirement for the publication of such notice in order to allow the petitioner to proceed with the corresponding payment.

1306.12 COMPLIANCE PLAN

A. The Board may consider and approve a Compliance Plan for any existing facility that is not in compliance with the provisions of this Regulation. Such Compliance Plan may be requested by a petitioner of any water quality certificate, approval, permit or authorization under consideration of the Board. Such petition must be submitted to the Board with the following information:

1. Evidence which demonstrates, to the satisfaction of the Board, the need of a Compliance Plan.

2. The proposed Compliance Plan which indicates the manner in which such facility will meet full compliance with all the applicable provisions of this Regulation, using the best engineering practices and as soon as possible.

B. The effective period of the Compliance Plan shall not exceed a maximum period of three (3) years, except upon request of the interested person and when it is demonstrated that conditions, which make necessary an extension of such period still exist. In this case the Board may grant an extension of the effective period of the Compliance Plan that will not exceed two (2) years.

C. The Board may impose any condition considered necessary to assure full compliance with the provisions of this Regulation as soon as possible.

D. The Board may revoke the approval of a Compliance Plan for any of the following reasons:

1. The petitioner has not revealed all the relevant facts in the request or has provided false representation of any of the relevant facts during the evaluation of such request.

2. Non-compliance with any provision of the Compliance Plan.

3. Changes in the conditions under which the Compliance Plan was approved, without due authorization from the Board.

4. There exists an imminent hazard to public health or the environment.

E. The Board reserves the right to supervise and oversee the actions of the petitioner concerning the performance of the Compliance Plan.

RULE 1307 PENALTIES

Any violation of this Regulation will constitute a felony and will be subject to the penalties established by the Public Policy Environmental Act, Law No. 416 of September 22, 2004, as amended. Moreover, the Board may, in case of infraction of any of the Applicable Rules and Regulations, suspend, amend, or revoke any certification, approval, or other authorization issued under this Regulation.

RULE 1308 ADDITIONAL PROVISIONS

1308.1 PUBLIC NUISANCE

A. Nothing in this Regulation shall be construed to authorize or legalize the creation or maintenance of a public nuisance, as defined in Rule 1301 of this Regulation.

B. This Rule shall not be understood as a limit or restriction of the other prohibitions established in other parts of this Regulation.

1308.2 CONFLICTIVE OR CONTRADICTORY PROVISIONS

If a requirement established by any provision of this Regulation is either more restrictive or less restrictive than a requirement established by any other provision of this Regulation, or by any other law, regulation, standard, or limit established by any duly constituted governmental authority having jurisdiction, the requirement which is more restrictive shall apply.

1308.3 DEROGATION

This Regulation nullifies any previous provision, resolution, agreement, or regulation of the same subject, which may contradict this Regulation.

1308.4 SEPARABILITY CLAUSE

If any provision of this Regulation is declared illegal or unconstitutional by decision of a court, such declaration or decision will not affect the other provisions of this Regulation, each one being considered as separate.

1308.5 EFFECTIVENESS

This Regulation shall go into effect thirty (30) days after the date of its filing at the Department of State, in conformity with Law 170 of August 12, 1988, as amended, *Ley de Procedimiento Administrativo Uniforme*.

1308.6 REVIEW AND AMENDMENTS TO THIS REGULATION

A. Review, Amendments and Effective Date of Amendments

The Board shall review this Regulation, not later than three (3) years after the last adopted amendments, to consider possible amendments. If as a result of the review, it is necessary to make amendments to this Regulation, they will be adopted in conformity with the procedures established in the applicable Commonwealth of Puerto Rico and federal rules and regulations. Such amendments shall be in effect thirty (30) days

after the date of its filing at the Department of State, or immediately through the issuance of an Executive Order in conformity with the provisions of Law 170 of August 12, 1988, as amended, *Ley de Procedimiento Administrativo Uniforme*.

B. Mandatory Public Hearing to adopt Amendments

The Board shall not adopt any amendment without holding a public hearing and complying with the public notice requirements, established in Rule 1308.6 (C).

C. Notice of Mandatory Public Hearings

1. The Board will provide notice of the date, time, place, and subject of each mandatory public hearing to amend this Regulation. Such notification shall be made at least forty-five (45) days prior to the hearing, by publishing a public notice in two (2) newspapers of wide circulation on the Island. The Board may make additional notification in any manner it deems appropriate.

2. Such notification of hearings shall indicate at least one location where the full text of the proposed amendment will be available for public inspection.

D. Effect of Pending Amendment

1. For purposes of this Rule, an amendment is "pending" from the date of first publication of the notification of public hearing on the amendment.

2. Notwithstanding any other provision of this Regulation, while any amendment to this Regulation is pending, any water quality certificate, approval, permit, or authorization under consideration by the Board, shall be based on the current Regulation at the moment of the request, and shall be conditioned to the immediate applicability of the amendment upon the date of effectiveness of such amendment, unless the petitioner of the water quality certificate, approval, permit or authorization requests and obtains the approval of a Compliance Plan in accordance with Rule 1306.10 of this Regulation.

3. Water quality certificates, approvals, permits or authorizations issued under the current Regulation prior to the pending amendment, shall remain unaltered until the date of renewal, extension or expiration.

   If a person considers that a benefit may be obtained from an amendment made to this Regulation, that person may request from the Board the modification of the issued water quality certificate, approval,

permit or authorization. The Board will determine after receiving a supported request, whether or not to grant such modification, based on the circumstances of each case. If the Board determines to grant the requested modification, the water quality certificate, approval, permit or authorization will be totally reviewed in accordance with the Applicable Rules and Regulations.

RULE 1309 RESERVED

RULE 1310 WASTE LOAD ALLOCATION

1310.1 GENERAL

The waste load allocation (WLA) analysis will be used as a mechanism to develop water quality-based effluent limits for a discharge to high quality surface or estuarine waters, in order to have a reasonable assurance that the allowed discharge will not cause violations to the applicable water quality standards of the receiving water body at the immediate vicinity of the discharge.

1310.2 WLA APPLICATIONS

Whenever a waste load allocation analysis is requested or the Board determines that it is necessary to allocate the assimilative capacity of contaminants in a segment of a water body, the Board shall request from each point source to complete and submit, within sixty (60) days after receiving the Board's notification, an Application for a Waste Load Allocation (AWLA). If any point source needs more than sixty (60) days to complete and submit the AWLA, the point source shall submit a written request for a time extension to submit the AWLA at least ten (10) days before the due date of submission of the AWLA. Such request shall include the reasons for which the point source is unable to submit the AWLA within the period of time specified in this Rule. If the point source fails to submit the AWLA in accordance with the requirements specified in this Rule, that point source shall comply with all applicable water quality standards at the point of discharge.

Each application shall be submitted using the Form WLA-01.

Each point source shall include together with the AWLA the following:

A. Evidence that the project has complied with the provisions of Article 4 (B) (3) of the Law No. 416 of September 22, 2004, Environmental Public Policy Act, as amended (previously Article 4-C, of the derogated Law No. 9 of June 18, 1970, Environmental Public Policy Act, as amended), if the application is related to a new or modified discharge.

B. Diagram showing the existing and future discharges.

1310.3 CONDITIONS FOR WASTE LOAD ALLOCATIONS

A. Minimum Treatment Required

No allocation shall be performed to any point source that does not meet the requirements of Section 301(b) of the Clean Water Act.

B. Property Right

Allocations will not be transferable and do not convey any property rights of any sort or any exclusive privileges, nor do they authorize any injury to persons or property or invasion of other private rights, or any infringement of Federal or State laws or regulations.

C. pH

No allocation shall be performed to any point source that does not meet the applicable pH water quality standard at the point of discharge.

D. Design Flows

1. Receiving Water Bodies Design Flow

For the purpose of determining the assimilative capacity of a water body the following design minimum flows will be used:

a. $7Q_{10}$ for Aquatic Life criteria except for Cyanide (Free CN), Silver, and Ammonia

b. $7Q_2$ for Biochemical Oxygen Demand (BOD_5), Dissolved Oxygen, Ammonia and those substances included in Rule 1303.2

c. $1Q_{10}$ for Cyanide (Free CN), Silver and Lindane

d. $30Q_5$ for Human Health criteria for non-carcinogen substances

e. HMF for Human Health criteria for carcinogen substances

f. Where the quantity of flow is altered by human-induced activities or work, and such alteration results in flow variations significantly different from natural patterns of variations, the Board may establish a design flow in a case by case basis, to reflect the effects of such flow variations.

g. In the cases of lakes, reservoirs and estuarine waters, the Board will determine the characteristics upon which to establish waste load requirements with respect to the particular characteristics of the receiving water body.

2. Discharge Design Flow

The discharge design flow shall be the wastewater treatment plant design flow or the twenty-four (24) hours maximum discharge flow whichever is greater. In those cases where the treatment plant capacity is significantly larger than the maximum flow of the discharge in twenty-four (24) hours, the Board, upon request of the interested party, may perform the WLA using the maximum flow of the discharge in twenty-four (24) hours, when demonstrated to the satisfaction of the Board that the use of such flow is adequate. In those cases, the interested party should submit a petition to the Board requesting that the WLA be performed with the maximum flow of the discharge in twenty-four (24) hours. If the petition is approved by the Board, the WLA will be performed in accordance with said petition and taking into consideration the increase in flow during the effective period of the WLA.

E. Total Allowable Pollutant Load

The total allowable pollutant load (TAPL) is the maximum amount of a pollutant (i.e. the sum of the individual point sources, the individual existing or future non-point sources, the natural background sources and the reserve) that a water body can receive and still meet the water quality standards.

F. Sum of the Non-point Source Load

The sum of the non-point source loads (NPSL) is equal to the natural background sources of pollution plus the sum of the individual non-point sources.

G. Maximum Daily Load Allowable

The maximum daily load allowable (MDLA) is the maximum load that can be allocated among the point sources without causing a violation to the water quality standard.

The MDLA of a substance **x** is equal to the TAPL of the substance **x** minus the sum of the load allocation of the substance **x**.

H. Reserves

In each segment, as part of the initial allocation, a reserve (R) of 25% of the MDLA of each pollutant shall be set by the Board, except when it is demonstrated to the satisfaction of the Board that existing conditions merit a reserve of less than 25%. In such cases, a written request shall be

submitted to the Board by the interested party, indicating the reasons for which a reserve less than 25% is necessary. If the request is approved by the Board, the WLA shall be performed in accordance with such request.

1. The reserve in each segment shall be utilized to allow for economic development and population growth, which may occur subsequent to the initial allocation, or any reallocation, when approved by the Board. The priority to utilize the reserve shall be directed towards the governmental infrastructure necessary to allow for said economic development and population growth.

2. Particular allocations or portions of allocations, which are no longer needed or used by the source or facility to which they were assigned shall be revert to the reserve.

1310.4 DISSOLVED OXYGEN WLA

The dissolved oxygen in water bodies is affected by the biochemical oxygen demand and the ammonia. Therefore the Board will perform a WLA analysis in accordance with Chapter 6, Section II of the Waste Load Allocation Guidelines.

1310.5 ALLOCATIONS

The Board shall allocate the allowable loads among the different point sources in such a manner that compliance with all applicable water quality standards is maintained. The allowable loads shall be allocated among the different point sources as follows:

A. The Board shall identify all the point sources for which the WLA shall be performed.

B. The Board shall request from each point source for which a WLA shall be assigned to complete an AWLA within sixty (60) days after receiving the Board notification.

C. If any point source fails to submit the AWLA in the specified time period and fails to submit a request of time extension to submit the AWLA, such point source shall comply with all applicable water quality standards at the point of discharge.

D. The Board, using the information provided in the AWLA and any other data obtained from the Environmental Protection Agency and the Environmental Quality Board database or other sources and assuming that all the substances are conservative, except the ones that may deplete the dissolved oxygen, shall determine:

1. The substances for which the WLA shall be performed.

2. The TAPL, NPSL, MDLA, R, WLA and equitable allowable concentration (EAC) for each substance for which the waste load allocation shall be performed.

E. If for any substance the background concentration is greater than the applicable water quality standard, then the maximum allowable effluent concentration (MAEC) shall be equal to the water quality standard for all discharges.

F. If for any substances the EAC is less than the applicable water quality standard, then the MAEC shall be equal to the water quality standard for each discharge, except for dissolved oxygen for which the Board shall perform the WLA as specified on Rule 1310.4 of this Regulation.

G. If for a given discharge the EAC is greater than the maximum requested effluent concentration (MREC), the MAEC for that given discharge shall be equal to MREC.

H. If for all discharges the EAC of a given substance is less than the MREC, then the MAEC of that given substance shall be equal to the EAC.

I. If for one or more discharges the MREC of a given substance is less than the EAC of that substance, and one or more discharges have the MREC of such substance greater than the EAC, the EAC may be recalculated as follows:

$$EAC_{rx} = \frac{0.75\left(WQS_x Q_T - C_{BGx} q\right) - \left(C_{LTEx} Q_{LTE}\right)}{Q_{Uaps}}$$

where:

EAC_{rx} = the recalculated equitable allowable concentration of a substance **x** for the discharges with MREC greater than the EAC of the substance **x**

WQS_x = quality standard of substance **x**

Q_T = total flow of all discharges

C_{BGx} = background concentration of substance **x**

q = design flow of the receiving water body according to Rule 1310.3 (D)

C_{LTEx} = concentration of a substance **x** less than the EAC

Q_{LTEx} = flow of discharges with concentration of the substance **x** less than EAC

Q_{Uaps} = sum of the flows of unallocated point sources discharges

J. If after the Board performed the WLA, one or more existing point sources are not meeting the WLA-based effluent limitations, a compliance plan shall be submitted, for the Board approval, by such point sources indicating the way in which those point sources will attain compliance with the applicable water quality standards.

1310.6 REALLOCATIONS

All allocations are subject to review by the Board and, after such review, the Board may perform reallocations as it deems necessary

The Board will review the WLA:

A. If any factor or condition upon which a particular allocation is based changes significantly;

B. When a segment of a water body is not meeting the water quality standards after the Board performed a WLA;

C. When, in the judgment of the Board, the existing allocations are no longer equitable.

In making a reallocation, the Board shall utilize the same procedure for allocations in accordance with Waste Load Allocation Guidelines and Rule 1310.5 of this Regulation.

1310.7. EFFECTIVENESS OF THE WLA

The WLA shall go into effect after being incorporated into the NPDES permit, and it will be valid until the NPDES permit expired; except when the WLA is revoked by the Board.

1310.8 REVOCATION

The Board may revoke a WLA for the following reasons:

A. The petitioner's failure to fully disclose all relevant facts in the application or renewal, or the petitioner's misrepresentation of any relevant fact during the WLA evaluation or validation process;

B. Non-compliance with any applicable provision of this Regulation;

C. Changes in the conditions under which the WLA was performed, including, but not limited to, background concentration, discharge flow, receiving water body flow and effluent characteristics, as originally approved by the Board;

D. There is an imminent threat to human health or the environment.

1310.9 PROCEDURE FOR REVOKING A WLA

If there are reasons to revoke a WLA, the Board shall notify the person to whom the waste load allocation was granted indicating the intention of revoking the WLA by means of a Show Cause Order. The procedures to follow are those specified in the Board's Internal Regulations for Administrative Hearings. Notwithstanding the foregoing, the Board may immediately revoke a WLA without previous notice, or the opportunity of hearings if there is an imminent threat to human health or the environment.

1310.10 COST INCURRED BY THE BOARD PERFORMING A WLA

The point sources shall pay to the Board any cost incurred by the Board in the performance of any WLA.

COMMONWEALTH OF PUERTO RICO
OFFICE OF THE GOVERNOR
ENVIRONMENTAL QUALITY BOARD

Pursuant to and in accordance with the Environmental Policy Act (Law No. 416 of September 22, 2004, as amended),

this

PUERTO RICO WATER QUALITY STANDARDS REGULATION, AS AMENDED, ON MARCH, 2010

Has been promulgated by Resolution Number R-10-9-1 to enhance, maintain and preserve the quality of the waters of Puerto Rico compatible with the social and economic needs of Puerto Rico. This regulation derogates Regulation 6616 - "Puerto Rico Water Quality Standards Regulation".

Approved this March 29, 2010

This Regulation is effective 30 days after filing in the Department of State.

Wanda E. García Hernández
Alternate Member

Ángel O. Berríos Silvestre
Associate Member

Pedro J. Nieves Miranda
Chairman

ATTACHMENT

ENVIRONMENTAL QUALITY BOARD
ANTI-DEGRADATION POLICY IMPLEMENTATION PROCEDURE

ENVIRONMENTAL QUALITY BOARD
ANTI-DEGRADATION POLICY IMPLEMENTATION PROCEDURE

Puerto Rico's Anti-degradation Policy is set forth in the Puerto Rico Water Quality Standards Regulation (PRWQSR). The goal of this Policy is to conserve, maintain and protect the designated and existing uses of the waters of Puerto Rico and the water quality necessary to protect these uses.

It is the desire of the Commonwealth of Puerto Rico to incorporate all of the existing elements of Puerto Rico's Anti-degradation Implementation Procedure, either explicitly or by reference, into one document so that it is readily accessible to the public and regulated community. Therefore, in order to promote the aforementioned policy the Environmental Quality Board (EQB) has developed the following implementation procedure as part of the PRWQSR.

I. General Policy Statement

A All point sources of pollution are subject to an anti-degradation review.

B An anti-degradation review shall be initiated as part of the certification process required by Section 401-"Certification" of the Clean Water Act (CWA).

C The 401 Certification Process shall follow the procedure established by the Resolution R-89-2-2 of the Governing Board of EQB.

D The following are not subject to the anti-degradation review due to the fact that they are non discharge systems and are managed by specific regulations:

1. All Non-Point Sources of Pollution

2. Underground Storage Tanks

3. Underground Injection Facilities

E The protection of water quality shall include the maintenance, migration, protection, and propagation of desirable species, including, threatened or endangered species identified in the local or federal regulations.

II. Definitions

A All the definitions included in Rule 1301 of the PRWQSR, as amended, are applicable to this procedure.

B High Quality Waters

1. Are waters whose quality is better than the mandatory minimum level to support the CWA's goals of propagation of fish, shellfish, wildlife and recreation in and on the waters. High Quality Waters are identified by EQB on a parameter-by-parameter basis.

C Outstanding National Resources Waters (ONRWs)

1. Are waters classified as SA or SE in the PRWQSR, as amended, or any other water designated by Resolution of the Governing Board of EQB. ONRWs are waters that are recreationally or ecologically important, unique or sensitive.

III. Anti-degradation Review Procedure

The anti-degradation review will commence with the submission of the water quality certificate request in accordance with Section 401 of the CWA. The EQB uses a parameter-by-parameter approach for the implementation of the anti-degradation policy and will review each parameter separately as it evaluates the water quality certificate request. Any point source of pollution subject to the 401 certification/antidegradation review process shall comply with Article 4 (B) (3) of the Law No. 416 of September 22, 2004, Environmental Public Policy Act, as amended [12 LPRA § 8001] (previously Article 4-C of the derogated Law No. 9 of June 18, 1970, Environmental Public Policy Act, as amended [12 LPRA § 1124(c)]. Compliance with Article 4 (B) (3) shall be conducted in accordance with the *Reglamento de la Junta de Calidad Ambiental para el Proceso de Presentación, Evaluación y Trámite de Documentos Ambientales* (EQB's Environmental Documents Regulation). During the evaluation process of the environmental document an alternatives analysis shall be conducted (12 LPRA § 8001(a)(5), EQB's Environmental Documents Regulation, e.g., Rules 211E and 253C), and a public participation period and a public hearing shall be provided (12 LPRA § 8001(a), EQB's Environmental Documents Regulation, Rule 254).

In conducting an anti-degradation review, the Water Quality Area (WQA) of EQB will sequentially apply the following steps:

A Determine which level of anti-degradation applies

1. Tier 1 – Protection of Existing and Designated Uses

2. Tier 2 – Protection of High Quality Waters

3. Tier 3 – Protection of ONRWs

B Review existing water quality data and other information submitted by the petitioner. The applicant shall provide to the WQA the information regarding the discharge required by the PRWQSR including, but not limited to the following:

1. A description of the nature of the pollutants to be discharged

2. Treatment technologies applied to the pollutants to be discharged

3. Nature of the petitioner's business

4. Daily maximum and average flow to be discharged

5. Effluent characterization

6. Effluent limitations requested to be applied to the discharge according to Rule 1306.11 of the PRWQSR

7. Location of the point of discharge

8. Receiving water body name

9. Water quality data of the receiving water body

10. Receiving water body minimum flow ($7Q_2$ and $7Q_{10}$) for stream waters

11. Location of water intakes within the water body

12. In the event that the proposed discharge will result in the lowering of water quality, data and information demonstrating that the discharge is necessary to accommodate important economic or social development in the area where the receiving waters are located

C Determine if additional information or assessment is necessary to make the decision.

D The WQA prepares an intent to issue or deny the water quality certificate and publishes a notice in a newspaper of wide circulation in Puerto Rico informing the public of WQA's preliminary decision and granting a public participation period of at least thirty (30) days.

E Address the comments received from the interested parties and consider such comments as part of the decision making process.

F The EQB makes the final determination to issue or deny the requested the water quality certificate. Such decision is subject to the reconsideration procedure established in Law Number 170 of August 12, 1988, as amended, *Ley de Procedimiento Administrativo* (3 LPRA § 2165).

IV. Implementation Procedures

A Activities Regulated by NPDES Permits

1. Tier 1 – Protection of Existing and Designated Uses (Figure 1):

a. Tier 1 waters are:

i. Those waters of Puerto Rico (except Tier 2 or Tier 3 waters) identified as impaired and that have been included in the list required by Section 303(d) of the CWA; and

ii. Those waters of Puerto Rico (except Tier 2 and Tier 3 waters) for which attainment of applicable water quality standards has been or is expected to be, achieved through implementation of effluent limitations more stringent than technology-based controls (Best Practicable Technology, Best Available Technology and Secondary Treatment).

b. To implement Tier 1 anti-degradation, EQB must determine if a discharge would lower the water quality to the extent that it would no longer be sufficient to protect and maintain the existing and designated uses of that water body.

c. When a water body has been affected by a parameter of concern causing it to be included on the 303(d) List, then the WQA will not allow an increase of the concentration of the parameter of concern or pollutants affecting the parameter of concern in the water body. This “no increase” will be achieved by meeting the applicable water quality standards at the end of the pipe. Until such time that a Total Maximum Daily Load (TMDL) is developed for the parameter of concern for the water body, no discharge will be allowed to cause or contribute to further degradation of the water body.

d. When the assimilative capacity of a water body is not sufficient to ensure maintenance of the water quality standard for a parameter of concern with an additional load to the water body, then the WQA will not allow an increase of the concentration of the parameter of concern or pollutants affecting the parameter of concern in the water body. This “no increase” will be achieved by meeting the applicable water quality standards at the end of the pipe. Until such time that a TMDL is developed for the parameter of concern for the water body, no discharge will be allowed to cause or contribute to further degradation of the water body.

2. Tier 2 – Protection of High Quality Waters (Figure 2):

a. To verify that a water body is a high quality water for a parameter of concern which initiates a Tier 2 anti-degradation review, the WQA must evaluate and determine:

i. The existing water quality of the water body;

ii. The projected water quality of the water body pursuant to the procedures established in the applicable provisions of Rules 1305 and 1310 of the PRWQSR, including but not limited to, Rules 1305.2, 1305.3, 1305.4, 1310.2, 1310.3, 1310.4, 1310.5, and 1310.6;

iii. If the existing and designated uses of the water body will be fully maintained and protected in the event of a lowering of water quality.

In multiple discharge situations, the effects of all discharges shall be evaluated thru a waste load allocation analysis in accordance with the applicable provisions of Rule 1310 of the PRWQSR or the applicable provisions of Rule 1305 regarding mixing zones.

b. In order to allow the lowering of water quality in high quality waters, the applicant must show and justify the necessity for such lowering of water quality through compliance with the requirements of Rule 1306.11 of the PRWQSR. EQB will not allow the entire assimilative capacity of a water body for a parameter of concern to be allocated to a discharger, if the necessity of the requested effluent limitation for the parameter of concern is not demonstrated to the full satisfaction of EQB.

3. Tier 3 – Protection of ONRWs (Figure 3):

The EQB may designate a water as Class SA or SE (ONRWs) thru a Resolution (PRWQSR Rules 1302.1 (A) and 1302.2 (B)). Additionally, any interested party may nominate a specific water to be classified as an ONRW and the Governing Board of EQB will make the final determination. Classifying a water as an ONRW may result in the water being included in either Rule 1302.1 (A) or 1302.2 (B) of the PRWQSR, which would require an amendment of the PRWQSR. The process for amending the PRWQSR, including public participation, is set forth in Rule 1308.6 of said regulation.

a. The existing characteristics of Class SA and SE waters shall not be altered, except by natural causes, in order to preserve the existing natural phenomena.

i. No point source discharge will be allowed in ONRWs.

B Activities Regulated by CWA Section 404 or Rivers and Harbors Act Section 10 Permits (Discharge of Dredged or Fill Material)

The EQB will allow the discharge of dredged or fill material into a wetland if it can be demonstrated that such discharge will not have an unacceptable adverse impact either individually or in combination with other activities affecting the wetland of concern. The impacts to the water quality or the aquatic or other life in the wetland due to the discharge of dredged or fill material should be avoided, minimized and mitigated.

The discharge of dredged or fill material shall not be certified if there is a practicable alternative to the proposed discharge which would have less adverse impact on the recipient ecosystem, so long as the alternative does not have other more significant adverse environmental consequences. Activities which are not water dependent are presumed to have practicable alternatives, unless the applicant clearly demonstrates otherwise. No discharge of dredged and fill material shall be certified unless appropriated and practicable steps have been taken which minimize potential adverse impacts of the discharge on the recipient ecosystem. The discharge of dredged or fill material to ONRWs, however, shall be governed by paragraph IV.(A) (3).

Tier 1: Protecting of Existing and Designated Uses

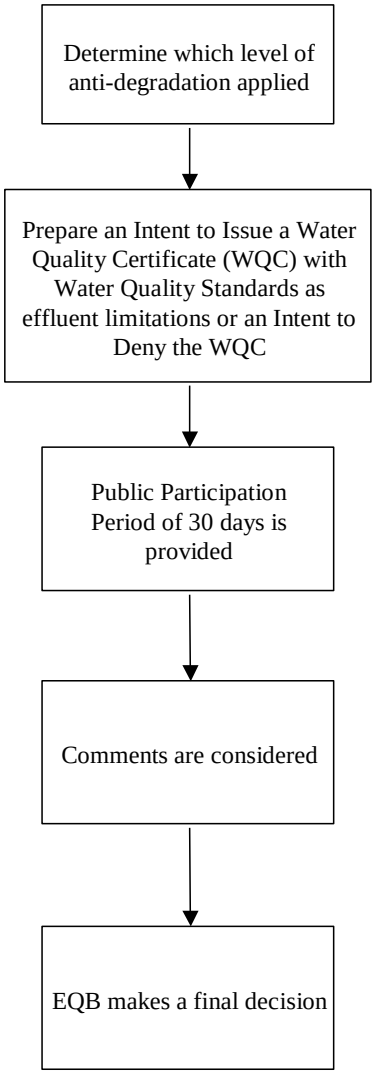

FIGURE 1

Tier 2: Protection of High Quality Waters

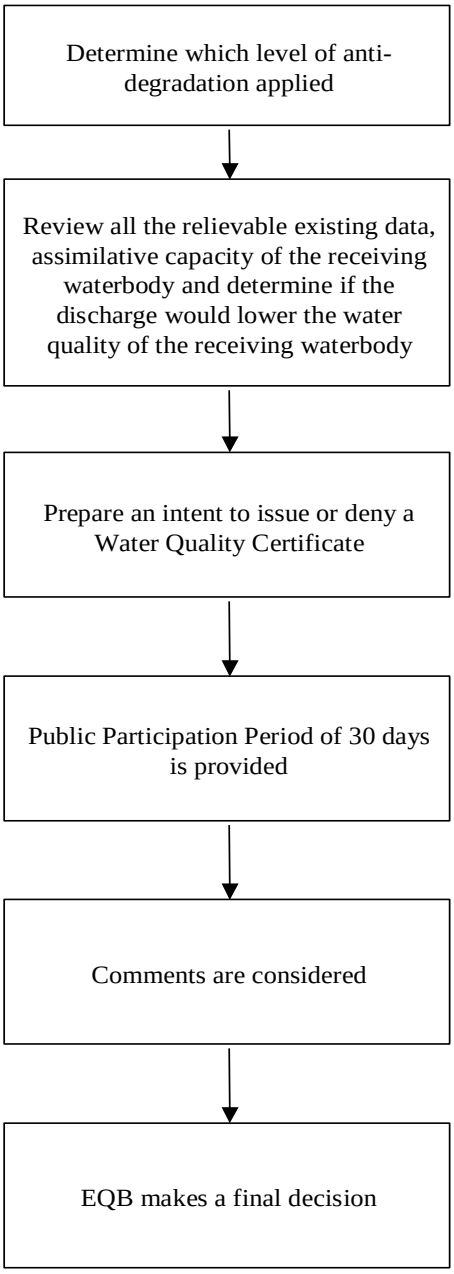

FIGURE 2

Tier 3: Protection of Outstanding National Resources Waters

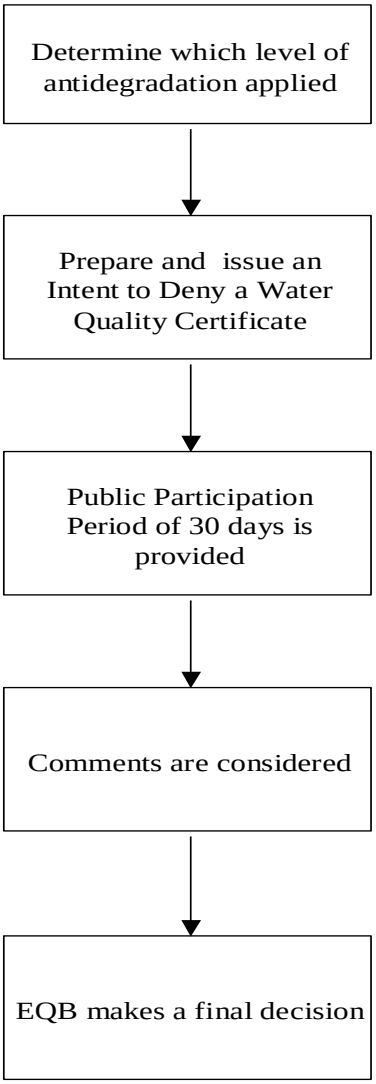

FIGURE 3