

Regulatory Requirements

- RA 9275 Philippine Clean Water Act of 2004
- RA 3931 National Water and Air Pollution Control Commission
- PD 984 Pollution Control Law (1976)
- 1978 Water Quality Standards
- DENR AO 34 and 35, Series of 1990
- RA 4850 Laguna Lake Development Authority
- LLDA Resolution 33, Environmental User Fee, 1996

DENR ADMINISTRATIVE ORDER
No. 34 (Series of 1990)

Revised Water Usage and
Classification/Water Quality Criteria
Amending Section Nos. 68 and 69, Chapter III
of the 1978 NPCC Rules and Regulations

Water Usage and Classification

Fresh Surface Waters (Rivers, Lakes, Reservoirs, etc.)

<u>Classification</u>	<u>Beneficial Use</u>
Class AA	Public Water Supply Class I
Class A	Public Water Supply Class II
Class B	Recreational Water Class I
Class C	Fishery Water, Recreation Water Class II, Industrial Water Supply Class 1
Class D	For agriculture, irrigation, livestock watering Industrial Water Supply II Other inland water, by their quality, belong to this classification

DENR ADMINISTRATIVE ORDER No. 35

Series of 1990

Subject: Revised Effluent Regulations of 1990,
Revising and Amending the Effluent
Regulations of 1982

Title: Revised Effluent Regulations of 1990

Scope: Shall apply to all industrial and municipal
wastewater effluents

Effectivity: March 1990

DENR ADMINISTRATIVE ORDER No. 35

Series of 1990

Heavy Metals and Toxic Substances

Industrial and other effluent when discharged into bodies of water classified as Class A, B, C, D, SA, SB, SC and SD in accordance with Section 68 as amended, of the 1978 NPCC Rules and Regulations shall not contain toxic substances in levels greater than those indicated in Table 1.

**Table 1 - Effluent Standards: Toxic and Other Deleterious Substance
(Maximum Limits for the Protection of Public Health) ^(a)**

Parameter	Unit	Protected Waters Category I (Class AA & SA)	Protected Waters Category I (Class A, B & SB)	Inland Waters Class C	Marine Waters Class SC	Marine Waters Class SD
Arsenic	mg/l	(b)	0.1	0.2	0.5	0.5
Cadmium	mg/l	(b)	0.02	0.05	0.1	0.2
Chromium (Cr+6)	mg/l	(b)	0.05	0.1	0.2	0.5
Cyanide	mg/l	(b)	0.1	0.2	0.2	-
Lead	mg/l	(b)	0.1	0.3	0.5	-
Mercury (Total)	mg/l	(b)	0.005	0.005	0.005	0.01
PCB	mg/l	(b)	0.003	0.003	0.003	-
Formaldehyde	mg/l	(b)	1.0	1.0	1.0	-

Note: (a) Except as otherwise indicated, all limiting values in Table (Sec. 4) are maximum and shall not be exceeded. (b) Discharge of sewage and/or trade effluents are prohibited or not allowed.

Table 2A - Effluent Standards: Conventional and Other Pollutants in Protected Waters Category I & II and in Inland Waters Class C ^(A)

Parameter	Unit	Protected Waters Category I (Class AA & SA)	Protected Waters Category II (Class A, B & SB)	Inland Waters Class C
Color	PCU	(b)	100	150[©]
Temperature (Max. rise)	°C	(b)	3	3
pH (range)		(b)	6.0-9.0	6.0-9.0
COD	mg/l	(b)	60	100
Settleable Solids (1 hr)	mg/l	(b)	0.3	0.5
5-day 20°C BOD	mg/l	(b)	30	50
Total Suspended Solids	mg/l	(b)	50	70
Total Dissolved Solids	mg/l	(b)	1,000	-
Surfactants (MBAS)	mg/l	(b)	2.0	5.0
Oil/Grease	mg/l	(b)	5.0	5.0
Phenolic Substances (Phenols)	mg/l	(b)	0.05	0.1
Total Coliforms	MPN/100ml	(b)	5,000	10,000

Table 2B-Effluent Standards: Conventional and Other Pollutants in Inland Waters Class D, Coastal Waters Class SC and SD and other Coastal Waters not yet Classified

Parameter	Unit	Inland Waters (Class D)	Coastal Waters (Class SC)	Class SD & Other Coastal Waters Not Classified
Color	PCU	-	(c)	(c)
Temperature (Max. rise)	°C	3	3	3
pH (range)	mg/l	6.0-9.0	6.0-9.0	5.0-9.0
COD	mg/l	200	200	200
5-day 20°C BOD	mg/l	120	100	120
Total Suspended Solids	mg/l	150	150	(f)
Total Dissolved Solids	mg/l	1,500(h)	-	-
Surfactants (MBAS)	mg/l	-	10	-
Oil/Grease	mg/l	-	10	15
Phenolic Substances (Phenols)	MPN/100m l	-	0.05 (i)	1.0
Total Coliforms		(j)	-	-

Notes for Tables 2A and Table 2B

1. In cases where the background level of Total Dissolved Solids (TDS) in freshwater rivers, lakes, reservoirs and similar bodies of water is higher than the Water quality Criteria, the discharge should not increase the level of TDS in the receiving body of water by more than ten percent of the background level.
2. The COD limits in Tables 2A and 2B generally apply to domestic wastewater treatment plant effluent. For industrial discharges, the effluent standards for COD should be on a case to case basis considering the COD-BOD ratio after treatment. In the interim period that this ration is not yet established by each discharger, the BOD requirements shall be enforced.

Notes for Tables 2A and Table 2B

3. There are no effluent standards for chloride except for industries using brine and discharging into inland water, in which case the chloride content should not 500 mg/l.
4. The effluent standards apply to industrial manufacturing plants and municipal treatment plants discharging more than thirty (30) cubic meters per day.

LEGEND for Tables 2A and Table 2B

- (a) Except as otherwise indicated, all limiting values in Tables 2A and 2B are 90th percentile values. This is applicable only when the discharger undertakes daily monitoring of its effluent quality, otherwise, the numerical values in the tables represent maximum values not to be exceeded once a year.
- (b) Discharging of sewage and/or trade effluents is prohibited or not allowed.

LEGEND for Tables 2A and Table 2B

- (c) Discharge shall not cause abnormal discoloration in the receiving waters outside of the mixing zone.
- (d) For wastewater with initial BOD concentration over 1,000 mg/l but less than 3,000 mg/l, the limit may be exceeded up to a maximum of 2000 mg/l or a treatment reduction of ninety (90) percent, whichever is more strict. Applicable to both old and new industries.
- (e) The parameters Total Suspended Solids (TSS) should not increase the TSS of the receiving water by more than thirty (30%) percent during the dry season.

LEGEND for Tables 2A and Table 2B (cont...)

- (f) Not more than 30 mg/l increase (dry season).
- (g) Not more than 60 mg/l increase (dry season).
- (h) If effluent is the sole source of supply for irrigation, the maximum limits are 1,500 mg/l and 1,000 mg/l, respectively, for old industries and new industries.
- (j) If effluent is used to irrigate vegetable and fruit crops which may be eaten raw, Fecal Coliforms should be less than 500 MPN/100 ml.

DENR ADMINISTRATIVE ORDER No. 35
Series of 1990

Effluent Standards for BOD for Strong Industrial
Wastes

**Table 3B - Effluent Standards for New* Industries Producing Strong Wastes
and for all Industries Producing Strong Wastes starting January
1, 1995**

Industry Classification Based on BOD of Raw Wastewater	Maximum Allowable Limits in mg/l Based on Receiving Body of Water	
	Inland Waters (Class C & D)	Coastal Waters (Class SC & SD)
1. Industries producing within 3,000 to 10,000 mg BOD/L	130 or 98% removal	200 or 97% removal
2. Industries producing within 10,000 to 30,000 mg BOD/L	200 or 99% removal	600 or 97% removal
3. Industries producing more than 30,000 mg BOD/L	300 or 99% removal	900 or 97% removal

Mixing Zone Requirements

- a. No mixing zone or combination of mixing zones shall be allowed to significantly impair any of the designated uses of the receiving body of water.
- b. A mixing zone shall not include an existing drinking water supply intake if such mixing zone would significantly impair the purposes for which the supply is utilized.
- c. A mixing zone for rivers, streams, etc., shall not create a barrier to the free migration of fish and aquatic life.

Mixing Zone Requirements (cont..)

d. A mixing zone shall not include

- nursery area of indigenous aquatic life
- any area designated for shellfish harvesting
- tourist zones and national marine parks and reserves
- coral reef parks and reserves
- declared as such by the appropriate government agency.

e. The length of the mixing zone

- short as possible
- width shall be preferably not more than one-half of the width of the waterway.

Mixing Zone Requirements (cont..)

- f. Hot effluents from power plants and similar generators of large volume of liquid, mixing zone shall be determined through modeling
- size
 - hydraulic
 - hydrological data of the receiving body of water
 - the design and siting of the wastewater outfall.
- g. Mixing zone must not be used for, or be considered as a substitute for wastewater treatment facility.

Additional Requirements

- a. No effluent shall cause the quality of the receiving body of water to fall below the prescribed quality in accordance with its classification or best usage
- b. Where the combined effect of individual effluent discharges causes one or more water quality parameters to exceed the prescribed limits, the maximum permissible concentrations of such parameters shall be reduced proportionately so as to maintain the desired quality

Additional Requirements


- c. When discharging effluents into coastal waters, the location and design of the submarine outfall shall be based
- prevailing oceanographic
 - wind conditions
- d. Effluents discharged into protected inland and coastal waters Category II such as Class A, B, and SB shall meet the requirements of Section 4 and 5.

Additional Requirements (cont...)

- e. Starting January 1, 1995, old or existing industries shall comply with the standards set for new industries (being implemented).

- f. Any existing industry that produces strong wastes which cannot meet the limits for BOD in Tables 3A and 3B
 - May be allowed to operate
 - Be issued a temporary permit to operate
 - Pays first a penalty fee for polluting RBW
 - Five pesos (PhP5.00) per kilogram of BOD discharged
 - Calculated fine shall not exceed PhP5,000 per day

Additional Requirements (cont...)

- g. Each discharger covered under these regulations shall monitor
- Its effluent
 - Its effect on the RBW
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Prohibitions

- a. No industrial or domestic sewage effluent shall be discharged into
 - Class AA water
 - Class SA water

- b. No new industrial plant with high waste load potential shall discharge into a body of water where
 - the dilution or assimilative capacity
 - during dry weather condition
 - insufficient to maintain its prescribed water quality according to its usage or classification.

Prohibitions

- c. No person shall discharge, wholly or partially
 - untreated
 - inadequately treated industrial effluents

- d. Other Restrictions:
 1. All water pollution control facilities/installation
 - shall be properly and consistently maintained
 - correctly and continuously operated

Prohibitions (cont...)

d. Other Restrictions (cont...)

2. No industrial or manufacturing plant shall be operated

- without the control facilities
- wastewater treatment system
- in good order or in proper operation
- except with the permission of the Secretary

3. No industrial/manufacturing plant/source of pollution shall be operated at

- capacities beyond the limits of operation
- capability of the wastewater treatment facility

Prohibitions (cont...)

d. Other Restrictions (cont...)

4. No person shall

- build, erect, install or use any equipment, contrivance
- any means the use of which will conceal
- and/or dilute an effluent discharge

Maximum Quantity to be Discharged.

1. Secretary shall promulgate guidelines
2. Providing for the maximum quantity
 - pollutant
 - contaminant
 - maximum rate at which the contaminant may be so discharged.

Penalties.

- Section 9 of the Pollution Control Law (PD 984)
- Sections 106 of the 1978 NPCC Rules and Regulations, as amended.