

# Environment (Water Quality Criteria) Regulation 2002

## Unvalidated References:

This reprint of this Statutory Instrument incorporates all amendments, if any, made before 25 November 2006 and in force at 2 January 2004.

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Legislative Counsel

Dated 25 November 2006

## INDEPENDENT STATE OF PAPUA NEW GUINEA.

No. 28 of 2002.

### *Environment (Water Quality Criteria) Regulation 2002*

#### ARRANGEMENT OF SECTIONS.

1. Interpretation.
2. Water quality criteria.
3. Mixing zone.
4. Exceeding of water quality criteria.

### *Environment (Water Quality Criteria) Regulation 2002*

MADE by the Head of State, acting with, and in accordance with, the advice of the National Executive Council under the *Environment Act 2000*.

#### 1. INTERPRETATION.

In this regulations, unless the contrary intention appears –

“**mixing zone**” means a discrete body of water into which waste is discharged at which the prescribed water quality criteria does not require to be met and the protection of aquatic life not guaranteed;

“**water quality criteria**” means the criteria for water quality as specified in the Schedule 1.

#### 2. WATER QUALITY CRITERIA.

(1) The water quality criteria for protection of freshwater aquatic life are as specified in Column 2 of Table 1 in the Schedule.

(2) The water quality criteria for protection of marine aquatic life are as specified in Column 3 of Table 1 in the Schedule.

(3) The maximum permitted criteria of ammonia –nitrogen for protection of freshwater aquatic life are as specified in Table 2 in the Schedule 1.

(4) Unless otherwise permitted under this Regulation or the terms and conditions of a permit, a person shall not discharge into, or use, water where any such discharge, or use, shall cause a lowering of water quality below the prescribed water quality criteria.

Penalty: A fine not exceeding K50, 000.00.

Default penalty: A fine not exceeding K20, 000.00.

### 3. MIXING ZONE.

(1) The terms and conditions of a permit may provide for a mixing zone where, after exploring all methods of waste avoidance and minimization, it is not viable or practicable to further reduce the level of waste prior to its discharge or emission.

(2) A permit that provides for a mixing zone within its terms and conditions shall specify –

- (a) the location and size of the mixing zone; and
- (b) the corresponding water quality criteria that apply at the boundary of the mixing zone.

### 4. EXCEEDING OF WATER QUALITY CRITERIA.

(1) Upon exceeding of a water quality criteria of a water body or segment of a water body due to natural background variations, the water quality criteria for that water body or segment of that water body, shall be deemed for the purposes of this Regulation to be the natural background level of the parameter.

(2) Upon the indications of a reliable scientific evidence that the prescribed water quality criteria for a water body or segment of a water body may be exceeded without causing serious environmental harm, the Director may increase the water quality for that water body or segment of that water body criteria to the extent it considers appropriate in any particular case.

## SCHEDULE 1 INDEPENDENT STATE OF PAPUA NEW GUINEA.

<b>ENVIRONMENT ACT 2000</b>		
WATER QUALITY CRITERIA FOR AQUATIC LIFE PROTECTION		
Table 1.		
All values are in mg/l unless otherwise specified.		
Parameters	Fresh water	Seawater
Ammonia –nitrogen	Dependent on pH and temperature (see Table 2.)	
Arsenic	0.05	0.05
Barium	1.0	1.0
Boron	1.0	2.0

Cadmium	0.01	0.001
Chlorine (total residual)	0.005 at pH 6	0.005
Chromium (as hexavalent form)	0.05	0.01
Colour	No alteration to natural colouration (for both fresh and seawater)	
Cobalt	Limit of delectability (for both fresh and seawater)	
Copper	1.0	0.03
Cyanide (as HCN)	0.005	0.01
Faecal Coliform Bacteria	>200 per 100 ml (see Note below)	
Fats	None	None
Fluoride	1.5	1.5
Grease	None	None
Insoluble residues	No insoluble residues or sludge formation to occur (both fresh and seawater)	
Iron (in solution)	1.0	1.0
Lead	0.005	0.004
Manganese (in solution)	0.5	2.0
Mercury	0.0002	0.0002
Nickel	1.0	1.0
Nitrate (as No <sup>3-</sup> +NO <sup>2-</sup> )	45.0	45.0
Odour	No alteration to natural odour (for both fresh and seawater)	
Oil	None	None
Oxygen	Not less than 6.0	Not less than 5.0
Pesticides	None	None
pH	No alteration to natural pH (for both fresh and seawater)	

Phenols	0.002	0.002
Potassium	5.0	450.0
Radioactivity	None	None
Selenium	0.01	0.01
Silver	0.05	0.05
Sulfate (as SO <sub>4</sub> )	400.0	-
Sulfide (HS)	0.002	0.002
Tars	None	None
Taste	No alteration to natural taste (for both fresh and seawater)	
Temperature	No alteration greater than 2C (for both fresh and seawater)	
Tin	0.5	0.5
Toxicants (miscellaneous)	None	None
Turbidity	No alteration greater than 25 N.T.U (for both fresh and seawater)	
Zinc	5.0	5.0
Note:		
Metal concentrations are for dissolved substances (passing through a normal 0.45µm medium)		
Criteria for Faecal Coliform Bacteria is based on not fewer than five samples taken over not more than a 30 day period, in which the medium value of the faecal coliform bacteria content of the waters shall not exceed 200 per 100 ml.		
N.T.U. – Nephelometric Turbidity Unit.		

Table 2.

Maximum Permitted Concentration of Ammonia-Nitrogen for Protection of Freshwater Aquatic Life			
All values are in mg/l unless otherwise specified.			
<b>Temperature</b>		<b>pH values</b>	
<b>(C)</b>	<b>7.0</b>	<b>8.0</b>	<b>9.0</b>
5	16.10	1.6	0.2

10	11.0	1.1	0.1
15	7.5	0.8	0.09
20	5.2	0.5	0.07
25	3.6	0.4	0.06
30	2.6	0.3	0.05
35	1.6	0.2	0.04

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