

**ENVIRONMENTAL PROTECTION AND MANAGEMENT ACT  
(CHAPTER 94A, SECTION 77)**

**ENVIRONMENTAL PROTECTION AND MANAGEMENT  
(TRADE EFFLUENT) REGULATIONS**

**ARRANGEMENT OF REGULATIONS**

**Regulation**

1. Citation
  2. Definition
  3. Particulars to be furnished
  4. Trade effluent to be treated
  5. Control mechanism for discharge of trade effluent
  6. Outlet for discharge to require prior approval
  7. Particulars of trade effluent discharge required by Director-General
  8. Nature and type of trade effluent to be discharged
  9. Trade effluent to be free of certain substances
  10. Maximum concentrations of certain substances
  11. Method of analysis
  12. Penalty
  13. Exemption
  14. Transitional provisions
- 

[1st April 1999]

**Citation**

**1.** These Regulations may be cited as the Environmental Protection and Management (Trade Effluent) Regulations.

**Definition**

**2.** In these Regulations, unless the context otherwise requires, “controlled watercourse” means a watercourse from which water supplied by the Public Utilities Board under the Public Utilities Act (Cap. 261) is obtained but does not include a watercourse from which water is pumped into a main of the Public Utilities Board.

**Particulars to be furnished**

3.—(1) An applicant applying for a written permission under section 15 of the Act shall furnish the Director-General —

- (a) particulars of the trade, manufacture, business or building construction carried on or to be carried on by him and in the course of which the trade effluent is wholly or partly produced or of which the trade effluent is the waste or refuse;
- (b) details of all the processes or operations employed or to be employed by him, to produce the final products of the trade, manufacture, business or building construction;
- (c) particulars of all the raw materials and chemicals used or to be used in the processes or operations;
- (d) details of the layout of all the machinery, plant and equipment used or to be used in the premises in which the trade, manufacture, business or building construction is or shall be carried on, as the case may be;
- (e) an estimate of the amount of water consumed or used or to be consumed or used in the trade, manufacture, business or building construction;
- (f) particulars of the physical, organic and chemical nature of the trade effluent; and
- (g) such other information relating to the discharge of trade effluent as the Director-General may require.

*[S 485/2011 wef 01/09/2011]*

(2) In his application for a written permission, the applicant shall furnish the Director-General such other information as the applicant considers to be relevant to the consideration of his application.

*[S 485/2011 wef 01/09/2011]*

(3) A person to whom a written permission has been granted or renewed shall not discharge trade effluent into any watercourse or land otherwise than in accordance with these Regulations.

*[S 485/2011 wef 01/09/2011]*

(4) A person to whom a written permission has been granted or renewed shall, within 14 days of a change in —

- (a) a process or operation referred to in paragraph (1)(b); or
- (b) the layout of the machinery, plant and equipment referred to in paragraph (1)(d),

which affects the amount or the physical, organic or chemical nature of the trade effluent discharged and which has been made after the Director-General has granted the written permission, notify the Director-General in writing of the change in the process or operation, or the layout of the machinery, plant and equipment, as the case may be.

*[S 485/2011 wef 01/09/2011]*

(5) Any written permission granted by the Director-General to discharge trade effluent into any watercourse or land —

- (a) shall be subject to such conditions as the Director-General may impose;
- (b) may be revoked, or suspended for any period, by the Director-General without assigning any reason; and
- (c) shall cease to be valid when the person to whom a written permission has been granted or renewed fails to comply with these Regulations or any condition imposed by the Director-General in granting the written permission.

*[S 485/2011 wef 01/09/2011]*

### **Trade effluent to be treated**

4. All trade effluent shall be treated before it is discharged into any watercourse or land, unless an exemption is specifically granted by the Director-General.

### **Control mechanism for discharge of trade effluent**

5. A person who discharges trade effluent into any watercourse or land shall, in connection with the discharge, install such sampling test points, inspection chambers, flow-meters, and recording and other apparatuses as the Director-General may, from time to time, require.

### **Outlet for discharge to require prior approval**

6.—(1) A person shall obtain the prior permission in writing of the Director-General before he makes or causes to be made any drain or other connection to a watercourse for the purpose of discharging trade effluent into the watercourse.

(2) In every such case, the position and design of the outlet for the discharge of the trade effluent into the watercourse shall be approved by the Director-General and shall not be altered or changed without his prior approval.

### **Particulars of trade effluent discharge required by Director-General**

7. A person who discharges trade effluent into any watercourse or land shall, at such times as the Director-General may require, submit particulars of —

- (a) the amount of water consumed or used for the purposes of a trade, manufacture, business or building construction carried on by him and in the course of which the trade effluent is wholly or partly produced or of which the trade effluent is the waste or refuse;
- (b) the physical, organic and chemical nature of the trade effluent;
- (c) the raw materials and chemicals used in the trade, business, manufacture or building construction and the direction of the flow of any liquid or the trade effluent from or produced by the machinery, plant and equipment used in the trade, business, manufacture or building construction; and
- (d) such other information relating to the discharge of the trade effluent as may be required by the Director-General.

### **Nature and type of trade effluent to be discharged**

8.—(1) No trade effluent other than that of a nature or type approved by the Director-General shall be discharged into any watercourse or land.

(2) The temperature of the trade effluent shall not exceed 45° Celsius at the point of its entry into any watercourse or land.

(3) The pH value of the trade effluent shall not be less than 6 nor more than 9 at the point of its entry into any watercourse or land.

(4) The caustic alkalinity of the trade effluent shall not be more than 2,000 milligrams of calcium carbonate per litre at the point of its entry into any watercourse or land.

### **Trade effluent to be free of certain substances**

**9.** The trade effluent discharged into any watercourse or land shall not contain any of the following substances:

- (a) radioactive material;
- (b) any pesticide, fungicide, herbicide, insecticide, rodenticide or fumigant;
- (c) refuse, garbage, sawdust, timber, human or animal waste or solid matter;
- (d) petroleum or other inflammable solvent; or
- (e) a substance that either by itself or in combination or by reaction with other waste or refuse may give rise to any gas, fume, or odour or substance which is or is likely to be a hazard to human life, a public nuisance, injurious or otherwise objectionable.

### **Maximum concentrations of certain substances**

**10.—(1)** The Director-General may stipulate —

- (a) the maximum volume and quantity of a substance which may be discharged into a watercourse; and
- (b) the maximum rate at which the substance may be so discharged.

(2) Subject to paragraph (1), no person who has been informed by the Director-General by notice in writing of the volume, quantity or rate may discharge the substance into a watercourse in a volume, quantity or at a rate in excess of that so stipulated.

(3) Any trade effluent analysed in accordance with regulation 11 shall not contain the following substances in concentrations greater than those set out below:

	<i>Limit for discharge into a watercourse other than a controlled watercourse in milligrams per litre of trade effluent</i>	<i>Limit for discharge into a controlled watercourse in milligrams per litre of trade effluent</i>
(a) Total Suspended Solids	50	30
(b) Sulphide (as sulphur)	0.2	0.2
(c) Cyanide (as CN)	0.1	0.1
(d) Detergents (linear alkylate sulphonate as methylene blue active substances)	15	5
(e) Grease and Oil	10 (Total) 10 (Hydrocarbons)	1 (Total)
(f) Arsenic	0.1	0.01
(g) Barium	2	1
(h) Iron (as Fe)	10	1
(i) Boron	5	0.5
(j) Manganese	5	0.5
(k) Phenolic Compounds (expressed as phenol)	0.2	Nil.

(4) The 5-day Biochemical Oxygen Demand at 20° Celsius (referred to in this paragraph as BOD) and the Chemical Oxygen Demand (referred to in this paragraph as COD) of any trade effluent analysed in accordance with regulation 11 shall not be in proportions greater than those set out below:

- (a) 50 milligrams per litre of BOD and 100 milligrams per litre of COD where the trade effluent is discharged into a watercourse other than a controlled watercourse;
- (b) 20 milligrams per litre of BOD and 60 milligrams per litre of COD, where the trade effluent is discharged into a controlled watercourse.

(5) The concentrations of the following metals in the trade effluent shall not exceed those set out below:

	<i>Limit for discharge into a watercourse other than a controlled watercourse in milligrams per litre of trade effluent</i>	<i>Limit for discharge into a controlled watercourse in milligrams per litre of trade effluent</i>
(a) Cadmium	0.1	0.003
(b) Chromium (trivalent and hexavalent)	1	0.05
(c) Copper	0.1	0.1
(d) Lead	0.1	0.1
(e) Mercury	0.05	0.001
(f) Nickel	1	0.1
(g) Selenium	0.5	0.01
(h) Silver	0.1	0.1
(i) Zinc	1	0.5.

(6) Where 2 or more of the metals specified in paragraph (5) are present in the trade effluent, the concentration of the metals shall not be more than —

- (a) 1 milligram per litre where the trade effluent is discharged into a watercourse other than a controlled watercourse; and
- (b) 0.5 milligram per litre where the trade effluent is discharged into a controlled watercourse.

- (7) The concentration of —
- (a) free chlorine shall not exceed 1 milligram per litre where the trade effluent is discharged into a watercourse;
  - (b) colour shall not exceed 7 Lovibond Units where the trade effluent is discharged into a watercourse;
  - (c) phosphates, expressed as  $\text{PO}_4$ , shall not exceed 5 milligrams per litre where the trade effluent is discharged into a watercourse other than a controlled watercourse and 2 milligrams per litre where it is discharged into a controlled watercourse;
  - (d) calcium and magnesium, expressed as Ca and Mg respectively, shall not exceed 150 milligrams per litre where the trade effluent is discharged into a controlled watercourse;
  - (e) nitrate, expressed as  $\text{NO}_3$ , shall not exceed 20 milligrams per litre where the trade effluent is discharged into a controlled watercourse;
  - (f) chloride, expressed as  $\text{Cl}^-$ , shall not exceed 250 milligrams per litre where the trade effluent is discharged into a controlled watercourse;
  - (g) total dissolved solids shall not exceed 1,000 milligrams per litre where the trade effluent is discharged into a controlled watercourse;
  - (h) sulphate, expressed as  $\text{SO}_4$ , shall not exceed 200 milligrams per litre where the trade effluent is discharged into a controlled watercourse;
  - (i) tin shall not exceed 5 milligrams per litre where the trade effluent is discharged into a controlled watercourse; and
  - (j) beryllium shall not exceed 0.5 milligram per litre where the trade effluent is discharged into a controlled watercourse.

### **Method of analysis**

**11.** For the purposes of these Regulations, the trade effluent discharged into any watercourse or land shall be analysed in



accordance with the latest edition of “Standard Methods for the Examination of Water and Wastewater” published jointly by the American Public Health Association, the American Water Works Association and the Water Pollution Control Federation of the United States, as amended from time to time, or in accordance with such other method of analysis as the Director-General thinks fit.

### **Penalty**

**12.** Any person who contravenes regulation 3, 4, 5, 6, 7, 8, 9 or 10 shall be guilty of an offence and shall be liable —

- (a) on the first conviction to a fine not exceeding \$10,000 and, in the case of a continuing offence, to a further fine not exceeding \$300 for every day or part thereof during which the offence continues after conviction; and
- (b) on a second or subsequent conviction to a fine not exceeding \$20,000 and, in the case of a continuing offence, to a further fine not exceeding \$500 for every day or part thereof during which the offence continues after conviction.

### **Exemption**

**13.** The Director-General may exempt a person or class of persons from any provision of these Regulations.

### **Transitional provisions**

**14.—(1)** Any document or written permission prepared, made, granted or approved under the revoked Trade Effluent Regulations (Cap. 348, Rg 4) in relation to the discharge of trade effluent into a watercourse shall, as far as it is not inconsistent with the provisions of these Regulations, continue and be deemed to have been prepared, made, granted or approved under the corresponding provisions of these Regulations.

(2) A permission granted under regulation 4(2) of the revoked Trade Effluent Regulations in relation to the discharge of trade effluent into a watercourse shall continue and be deemed to be a licence granted under section 15 of the Act for the discharge of trade effluent into a

*Environmental Protection and  
Management (Trade Effluent)*

p. 10 2008 Ed.]

*Regulations*

[**CAP. 94A**, Rg 5

---

watercourse, until such time when it is revoked by the Director-General.

*[G.N. Nos. S 160/99; S 265/2005]*

LEGISLATIVE HISTORY  
ENVIRONMENTAL PROTECTION AND MANAGEMENT  
(TRADE EFFLUENT) REGULATIONS  
(CHAPTER 94A, RG 5)

This Legislative History is provided for the convenience of users of the Environmental Protection and Management (Trade Effluent) Regulations. It is not part of these Regulations.

**1. G. N. No. S 160/1999 — Environmental Pollution Control (Trade Effluent) Regulations 1999**

Date of commencement : 1 April 1999

**2. 2001 Revised Edition — Environmental Pollution Control (Trade Effluent) Regulations**

Date of operation : 31 January 2001

**3. G. N. No. S 265/2005 — Environmental Pollution Control (Trade Effluent) (Amendment) Regulations 2005**

Date of commencement : 1 May 2005

**4. 2008 Revised Edition — Environmental Protection and Management (Trade Effluent) Regulations**

Date of operation : 31 January 2008

**5. G.N. No. S 485/2011 — Environmental Protection and Management (Trade Effluent) (Amendment) Regulations 2011**

Date of commencement : 1 September 2011