

<Appendices>

Appendix 1

Environmental Pollution Control Act (EPCA)

Revised Edition 2000 (30th December 2000)

THE STATUTES OF THE REPUBLIC OF SINGAPORE
ENVIRONMENTAL POLLUTION CONTROL ACT
(CHAPTER 94A)

Act
9 of 1999

REVISED EDITION 2000 (30th December 2000)

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An Act to consolidate the laws relating to environmental pollution control and for purposes connected therewith.
[1st April 1999]

PART I PRELIMINARY

Short title

1. This Act may be cited as the Environmental Pollution Control Act.

Interpretation

2. In this Act, unless the context otherwise requires

“air impurities” includes smoke, cinders, solid particles of any kind, gases, fumes, mists, odours and radioactive substances;

“air pollution” means the emission into the air of any air impurity;

“air pollution control equipment” includes

- (a) any apparatus for separating any air impurities from the gas or liquid medium in which they are carried;
- (b) any automatic device used for securing the more efficient operation of any fuel burning equipment;
- (c) any device to indicate or record air pollution or give warning of excessive air pollution; and
- (d) any other device used for the purposes of preventing or limiting air pollution;

“analysis” includes the taking of a sample or any test, measurement, calculation or examination made for the purpose of determining the characteristics of any matter or substance or the effects of any discharge, emission or deposit of trade effluent, air impurity or hazardous substance;

“analyst” means an analyst appointed or approved by the Director;

“authorised officer” means a public officer authorised under section 3 (3) or a person in the employment of a Town Council or statutory corporation authorised under section 4 (1);

“building” includes any house, hut, shed or roofed enclosure, whether used for the purpose of human habitation or otherwise;

“building works” has the same meaning as in the Building Control Act (Cap. 29);

“chimney” includes a structure or opening of any kind from or through which air impurities may be emitted, and any reference to a chimney of or used in connection with any premises includes a reference to a chimney which serves the whole or a part of the premises though structurally separate from such premises;

“construction site” means any premises on or in which the construction, alteration or demolition of any building or structure is carried on and includes

- (a) all the land within the vicinity of the work place which are owned by the person for whom the construction works are being carried out and to which the principal contractor has control of access; and
- (b) any canteen, sleeping quarters, office and other structures or buildings erected on the construction site;

“container” means

- (a) any vessel, can, drum, barrel or other receptacle; or
- (b) where such vessel, can, drum, barrel or other receptacle is contained in another container or is wholly enveloped in a covering or coverings of whatever nature, the outermost container or covering, as the case may be,

but does not include the carrying tank of a road tanker, a tank container or a freight container;

“dark smoke” means smoke which is ascertained by such method as may be prescribed to be dark smoke;

“day” means a period of 24 hours from midnight;

“Director” means the Director of Environmental Pollution Control appointed under section 3 (1);

“export”, with its grammatical variations and cognate expression, means to take or cause to be taken out of Singapore by land, water or air and includes the placing of any substances, plant, equipment, machinery or any products in a vessel, conveyance or aircraft for the purposes of the substances, plant, equipment, machinery or any products being taken out of Singapore by water or air but does not include the taking out of Singapore by water or air of any substances, plant, equipment, machinery or any products on the same vessel or aircraft on which they were brought into Singapore unless after being brought into Singapore the substances, plant, equipment, machinery or any products have been landed or transhipped within Singapore;

“fuel burning equipment” means any furnace, boiler, fire place, oven, retort, incinerator, internal combustion engine, vessel or chimney, or any other apparatus, device, mechanism or structure used or to be used in connection with the burning of any combustible material in, or in relation to, any industrial plant;

“hazardous substance” means any of the substances specified in the first column of Part I of the Second Schedule but shall not include

- (a) such substance when contained in any substance, preparation or product specified in the second column of Part I corresponding to that substance; or
- (b) such substance when contained in any substance, preparation or product specified in Part II of that Schedule;

“import”, with its grammatical variations and cognate expression, means to bring or cause to be brought into Singapore by land, water or air from any place which is outside Singapore but does not include the bringing into Singapore by water or air of any substances, plant, equipment, machinery or any products which it is proved to be intended to be taken out of Singapore on the same vessel or aircraft on which they were brought into Singapore without any landing or transhipment within Singapore;

“industrial or trade premises” means premises used for any industrial or trade purposes or premises on which matter is burnt in connection with any industrial or trade process, and includes all scheduled premises and construction sites;

- “industrial plant” means any plant or equipment used for the generation of power, or for any industrial use, or for the operation of vessels, aircraft, locomotives, cranes, internal combustion engines or other machines using any combustible material for their operation;
- “industrial plant works” means any of the following works:
- (a) the erection or extension of an industrial plant;
 - (b) the alteration or addition of an industrial plant;
 - (c) the erection or extension of a plant for the treatment of trade effluent or toxic substances; and
 - (d) the provision, extension or alteration of any equipment to control pollution from an industrial plant;
- “inland waters” means any river, stream, reservoir, lake or pond, whether natural or artificial;
- “licensee” means any person licensed under this Act or the regulations;
- “occupier”, in relation to
- (a) any premises, means the person in occupation of the premises or having the charge, management or control thereof; and
 - (b) any part of any premises, different parts of which are occupied by different persons, means the person in occupation or having the charge, management or control of that part;
- “owner”, in relation to
- (a) any premises, includes the person for the time being receiving the rent of the premises, whether on his own account or as agent or trustee or as receiver, or who would receive the rent if the premises were let to a tenant, and the person whose name is entered in the Valuation List authenticated under section 15 of the Property Tax Act (Cap. 254);
 - (b) any premises where building works are carried out, includes the developer and the building contractor; and
 - (c) the common property of any building erected on land comprised in a strata subdivision plan approved by a competent authority, includes the management corporation having control of the building, and a managing agent appointed by a management corporation or by the Commissioner of Buildings under the Land Titles (Strata) Act (Cap. 158) and a liquidator appointed under that Act for the management corporation;
- “pollution of the environment” means pollution of the environment due to the release (into any environmental medium) from any process of substances which are capable of causing harm to man or any other living organisms supported by the environment;
- “practicable” means reasonably practicable having regard, amongst other things, to local conditions and circumstances and to the current state of technical knowledge, and “best practicable means” includes the provision and the efficient maintenance of plant and the proper use thereof and the supervision by or on behalf of the occupier of any process or operation;
- “premises” includes messuages, houses, buildings, lands, tenements, easements and hereditaments of any tenure, whether open or enclosed, whether built on or not, whether public or private, and whether maintained under statutory authority or not;
- “process” means any activity carried on in Singapore, whether on premises or by way of plant which is designed to move or to be moved whether on roads or otherwise, which are capable of causing pollution to the environment;
- “qualified person”, in relation to any industrial plant works, means an appropriate qualified person appointed under section 6 (3) or 9 (1) (b) of the Building Control Act (Cap. 29) in respect of building works which include industrial plant works;
- “registered inspector” means a person whose name is registered under section 34;
- “regulations” means any regulations made under this Act;
- “road” has the same meaning as in the Road Traffic Act (Cap. 276);
- “road tanker” means a goods vehicle as defined in the Road Traffic Act which has a tank that is structurally attached to or is an integral part of the frame of the vehicle;
- “sale” includes barter, exchange, import and export and also includes offering or attempting to sell, or causing or allowing to be sold, or exposing for sale or receiving or sending or delivering for sale and the word “sell” shall be construed accordingly;
- “scheduled premises” means any premises for the time being specified in the First Schedule;
- “sewage” has the same meaning as in the Sewerage and Drainage Act (Cap. 293A);
- “sewerage system” has the same meaning as in the Sewerage and Drainage Act;
- “smoke” includes soot, ash, grit and gritty particles emitted in smoke;
- “tank” means a container having a total internal capacity exceeding 250 litres for liquids and 500 litres for gases;
- “tank container” means a tank with a total liquid capacity of 450 litres or more which is
- (a) used for the conveyance of a liquid, gaseous, powdery or granular substance; and
 - (b) constructed for repeated use and to facilitate the carriage of goods by one or more modes of transport without need of removal of its structural equipment or intermediate re-loading of its contents;
- “the environment” consists of all or any of the following media, namely, air, water and land;
- “Town Council” has the same meaning as in the Town Councils Act (Cap. 329A);
- “toxic substance” means any trade effluent, chemical, oil or any other substance which is noxious, injurious or polluting;
- “trade effluent” means any liquid, either with or without particles of matter in suspension therein, which is the outflow from any trade, business or manufacture or of any works of engineering or building construction;
- “watercourse” includes a reservoir, lake, river, stream, canal, drain, spring or well or a part of the sea abutting on the foreshore and any other natural, artificial or sub-surface body of water;
- “work place” means any premises or place used for any industrial, trade, commercial or manufacturing purposes and includes all construction sites, work sites and farms.

PART II ADMINISTRATION

Appointment of Director and Deputy and Assistant Directors

3. (1) The Minister may appoint a Director of Environmental Pollution Control and such number of Deputy and Assistant Directors of Environmental Pollution Control and public officers as he may consider necessary for the proper carrying out of the provisions of this Act.

(2) The Director shall have the superintendence of all matters relating to this Act and the regulations subject to the general or special directions of the Minister.

(3) The functions, duties and powers which are imposed or conferred upon the Director under this Act and the regulations may be performed or exercised by any Deputy or Assistant Director of Environmental Pollution Control and by any public officer who is duly authorised in writing by the Director to act on his behalf subject to the direction and control of the Director.

Delegation of Director's function, duties and powers

4. (1) The Director may, with the approval of the Minister, authorise

- (a) any employee or agent of a statutory corporation;
- (b) any member of a Town Council;
- (c) any member of any committee of a Town Council; or
- (d) any employee or agent of a Town Council,

generally or specially authorised by name or office to perform or exercise all or any of the functions, duties or powers which are imposed or conferred by this Act or the regulations upon the Director subject to the direction and control of the Director.

(2) Any person who is generally or specially authorised under subsection (1) to perform or exercise all or any of the functions, duties or powers which are imposed or conferred by this Act or the regulations upon the Director shall be deemed to be

- (a) a public officer for the purposes of this Act; and
- (b) a public servant within the meaning of the Penal Code (Cap. 224).

Protection from personal liability

5. (1) No liability shall lie against the Government or any authorised officer by reason of the fact that any works are carried out in accordance with the provisions of this Act or the regulations or that such works or plans of the works are subject to inspection, approval or certification by the Director or an authorised officer.

(2) Nothing in this Act or the regulations shall make it obligatory for the Director or any authorised officer to inspect any building or works or the site of any proposed works to ascertain whether the provisions of this Act or the regulations are complied with or whether any plans, certificates, reports, notices or other documents submitted to him are accurate.

(3) No matter or thing done by the Director or by any authorised officer shall, if it were done in good faith for the purpose of carrying out the provisions of this Act or the regulations, subject him or such person personally to any action, liability, claim or demand whatsoever.

(4) Where the Director or any authorised officer provides any information to any person in respect of any building or works by electronic or other means, neither the Government, the Director nor any authorised officer shall be liable for any loss or damage suffered by any person by reason of any error or omission of whatever nature or howsoever caused, including any defect or breakdown in the equipment used for providing the information, if such error or omission is made in good faith and in the ordinary course of duties of the Director or authorised officer.

PART III USE OF SCHEDULED PREMISES

Licence for use of scheduled premises

6. (1) No person shall occupy or use any scheduled premises specified in the First Schedule without a licence granted by the Director.

(2) Any person who contravenes subsection (1) shall be guilty of an offence.

(3) Any application for a licence under this section shall be made to the Director giving details of

- (a) the trade, industry or process proposed to be carried in or on the premises;
- (b) the measures the applicant undertakes to adopt to control air, water and noise pollution from the premises; and
- (c) the measures the applicant undertakes to adopt to manage hazardous substances and to treat and dispose of toxic substances originating from or stored within the premises.

Power of Director to attach conditions to licence

7. Without prejudice to the generality of section 32, the Director may, in granting a licence under section 6, impose conditions to ensure that pollution of the environment, as well as hazardous substances are adequately managed and controlled which may include but not be limited to the following:

- (a) requiring the owner or occupier

- (i) to install and operate industrial plant, fuel burning equipment, control equipment or treatment plant in or on the scheduled premises;
 - (ii) to repair, alter or replace any industrial plant, fuel burning equipment, control equipment or treatment plant installed in or on the scheduled premises;
 - (iii) to erect or alter the height or dimension of any chimney through which air impurities may be emitted from the scheduled premises;
 - (iv) to alter the method of operation or process used in or on the scheduled premises to prevent or reduce air, water or noise pollution or hazards;
 - (v) to install and operate instruments and carry out tests and keep records of any such tests and any method of operation or supervision as may be required;
 - (vi) to use a specified type of fuel to prevent or reduce air pollution; or
 - (vii) to carry out any of the requirements imposed on him under this paragraph within such period as may be specified;
- (b) prohibiting the owner or occupier from altering or replacing any control equipment or treatment plant installed in or on the scheduled premises except with the approval of the Director; or
- (c) prohibiting the owner or occupier from operating any fuel burning equipment or industrial plant installed or altered after the licence has been granted unless approval to do so has been given by the Director.

Permit for certain works on scheduled premises

- 8.** (1) The owner or occupier of any scheduled premises shall not without the written permission of the Director
- (a) alter the method of operation of any trade or industrial process, fuel burning equipment, control equipment, treatment plant or industrial plant in or on the scheduled premises;
 - (b) install, alter or replace any fuel burning equipment, control equipment, treatment plant or industrial plant in or on the scheduled premises;
 - (c) erect or alter the height or dimension of any chimney through which air impurities may be emitted from the scheduled premises; or
 - (d) use any fuel other than the type of fuel specified in writing by the Director.

(2) An application for a permit under subsection (1) shall contain details of the proposed installation, alteration, replacement or erection.

Change of owner or occupier

9. Where there has been any change in the ownership or occupancy of any scheduled premises, the person who becomes the owner or occupier thereof shall notify the Director in writing of such change within 14 days from the date he becomes the owner or occupier of those premises.

**PART IV
AIR POLLUTION CONTROL**

Occupier to maintain and operate air pollution control equipment

10. (1) The occupier of any industrial or trade premises shall maintain any fuel burning equipment and any air pollution control equipment installed in or on the premises in an efficient condition.

(2) The occupier of any industrial or trade premises shall ensure that any air pollution control equipment installed in or on the premises is working in a proper and efficient manner whenever the industrial plant or fuel burning equipment is being used.

(3) Any occupier who fails to comply with subsection (1) or (2) shall be guilty of an offence.

Prohibition of dark smoke from chimney

11. (1) Any owner or occupier of any industrial or trade premises who causes, permits or allows the emission of dark smoke from a chimney of, or used in connection with, those premises shall be guilty of an offence.

(2) This section shall not apply to the emission of dark smoke from any chimney lasting for not longer than such periods as may be prescribed and subject to any prescribed limitations.

Control of air impurities

12. (1) Any owner or occupier of any industrial or trade premises who conducts any trade or industrial process, or operates any fuel burning equipment or industrial plant in or on the premises in such manner as to cause, permit or allow the emission of air impurities in excess of the standard of concentration or rate of emission prescribed in respect of that industry, process, fuel burning equipment or industrial plant shall be guilty of an offence.

(2) Where any such standard has not been so prescribed, it shall be the duty of the owner or occupier of any industrial or trade premises to conduct any trade or industrial process or operate any fuel burning equipment or industrial plant in or on the premises by the best practicable means available as may be necessary to prevent or minimise air pollution.

(3) If any dispute arises as to the best practicable means available for the purposes of subsection (2), it shall be determined by the Director.

(4) The Director may, in respect of a specified period of time, by notice in writing require the owner or occupier of any

industrial or trade premises to ensure that any air impurity exceeding a specified amount shall not be emitted during that period.

(5) The Minister may by regulations provide for the control or prohibition of the emission of air impurities from any other source.

Power of Director to require work on any premises

13. (1) Where, in the opinion of the Director, any air impurities are being or are likely to be emitted from any industrial or trade premises, the Director may by notice in writing require the owner or occupier of the premises

- (a) to install and operate any industrial plant, air pollution control equipment or additional air pollution control equipment, in or on the premises;
 - (b) to repair, alter or replace any industrial plant, fuel burning equipment or air pollution control equipment installed in or on the premises;
 - (c) to erect or alter the height or dimension of any chimney through which air impurities may be discharged from the premises;
 - (d) to alter the method of operation or process used in or on the premises to prevent or reduce air pollution;
 - (e) to use a specified type of fuel to prevent or reduce air pollution;
 - (f) to dismantle or disconnect any industrial plant, fuel burning equipment, air pollution control equipment or chimney installed in or on the premises; or
 - (g) to install and operate such instruments and carry out such tests and keep records thereof,
- within such time and in such manner as may be specified in the notice.

(2) The owner or occupier of any industrial or trade premises to whom any notice in writing is given under this section shall comply with all the requirements set out in the notice.

Power to prohibit use of combustible materials, fuel burning equipment or industrial plants in designated areas

14. (1) The Minister may, by order published in the *Gazette*

- (a) prohibit or restrict the use of any or any class of combustible material, fuel burning equipment or industrial plant as may be specified in the order; or
 - (b) prohibit or restrict the burning of any or any class of material as may be specified in the order,
- within such area or premises as may be designated and at such times as may be specified in the order.

(2) Any occupier or owner of any premises or any other person who contravenes an order made under subsection (1) shall be guilty of an offence.

(3) If, in any proceedings for a contravention or non-compliance of an order made under subsection (1), it is shown that any combustible material, fuel burning equipment or industrial plant was found or that the burning of any material was carried out in or on any premises, it shall be presumed, until the contrary is proved, that

- (a) the combustible material, fuel burning equipment or industrial plant was used; or
 - (b) the burning of any material was carried out,
- by the occupier of such premises, other than a principal contractor to which section 35 applies.

**PART V
WATER POLLUTION CONTROL**

Licence for the discharge of trade effluent, oil, chemical, sewage or other polluting matters

15. (1) Any person who discharges or causes or permits to be discharged any trade effluent, oil, chemical, sewage or other polluting matters into any drain or land, without a licence from the Director, shall be guilty of an offence.

(2) Where any trade effluent, oil, chemical, sewage or other polluting matters has been discharged from any premises into any drain or land, it shall be presumed, until the contrary is proved, that the occupier of the premises, other than a principal contractor to which section 35 applies, had discharged or caused or permitted to be discharged the trade effluent, oil, chemical, sewage or other polluting matters in contravention of subsection (1).

(3) Subject to subsection (4), any person who causes or suffers any trade effluent, oil, chemical, sewage or other polluting matters to enter or pass into any drain or land without a licence from the Director (whether wilfully or by accident) shall immediately inform the Director of such occurrence.

(4) The requirements in subsection (3) may be waived by the Director in any case where the amount of trade effluent, oil, chemical, sewage or other polluting matters is, in the opinion of the Director, not of a substantial nature.

(5) Any person who fails to comply with subsection (3) shall be guilty of an offence and shall be liable on conviction to a fine not exceeding \$5,000.

(6) This section shall not apply to the discharge of a toxic or hazardous substance to which section 17 applies.

Plant for treatment of trade effluent

16. (1) The occupier of any premises shall treat any trade effluent discharged therefrom in such manner as may be prescribed before such trade effluent is discharged into any drain or land in pursuance of a licence granted under section 15.

(2) A person using, working or operating any plant for the purpose of treating any trade effluent shall use, work or operate

and maintain such plant in such manner as the Director may require.

- (3) Any person who fails to comply with subsection (1) or (2) shall be guilty of an offence and shall be liable
 - (a) on the first conviction to a fine not exceeding \$20,000 or to imprisonment for a term not exceeding 3 months or to both and, in the case of a continuing offence, to a further fine not exceeding \$1,000 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 \$50,000 or to imprisonment for a term not exceeding 3 months or to both and, in the case of a continuing offence, to a further fine not exceeding \$2,000 for every day or part thereof during which the offence continues after conviction.

Penalties for discharging toxic substances into inland waters

17. (1) Any person who discharges or causes or permits to be discharged any toxic substance or hazardous substance into any inland water so as to be likely to cause pollution of the environment shall be guilty of an offence and shall
 - (a) be liable on the first conviction to a fine not exceeding \$50,000 or to imprisonment for a term not exceeding 12 months or to both; and
 - (b) be punished on a second or subsequent conviction with both imprisonment for a term of not less than one month and not more than 12 months and a fine not exceeding \$100,000.

(2) Where a person carrying on any trade or business has been convicted of a second or subsequent offence under subsection (1) (b) for the discharge of, or for causing or permitting the discharge of, any toxic substance or hazardous substance which is produced by any process or work in connection with that trade or business, the Minister may, by order in writing, direct that person to immediately cease carrying on that process or work either indefinitely or for such period as may be specified in the order.

(3) Any person who fails to comply with an order made under subsection (2) shall be guilty of an offence and shall be liable on conviction to a fine not exceeding \$100,000 or to imprisonment for a term not exceeding 3 months or to both and, in the case of a continuing offence, to a further fine not exceeding \$2,000 for every day or part thereof during which the offence continues after conviction.

(4) If any person fails to comply with an order made under subsection (2), the Director may take such step or measure as is necessary to ensure that the order is complied with and the reasonable costs and expenses incurred by the Director in taking such step or measure shall be recoverable from the person in default as a debt due to the Government.

- (5) For the purposes of this section
 - (a) a person shall be deemed to have discharged a toxic substance or hazardous substance into any inland water if he places the substance or causes it to be placed in a position where it is liable to fall or descend or be washed or to percolate or be blown into the water;
 - (b) the discharge of a toxic substance or hazardous substance shall be deemed to cause pollution of the environment if the substance has been discharged or placed in such a manner or in such quantity (whether by itself or with any other substance) as to subject persons or animals to a material risk of death, injury or impairment of health or as to threaten to pollute (whether on the surface or underground) any inland water;
 - (c) the fact that the toxic substance or hazardous substance is placed in containers shall not of itself be taken to exclude any pollution of the environment which might be expected to be caused if the substance were not in containers; and
 - (d) where the toxic substance or hazardous substance has been discharged from any premises into any inland water, it shall be presumed, until the contrary is proved, that the occupier of the premises, other than a principal contractor to which section 35 applies, had discharged or caused or permitted to be discharged the toxic substance or hazardous substance in contravention of subsection (1).

(6) No prosecution shall be instituted under this section without the written consent of the Public Prosecutor.

Powers of Director to require the removal and cleaning up of toxic substance or trade effluent, oil, chemical, sewage, hazardous substance or other polluting matters

18. (1) The Director may, by notice in writing, require any person who has discharged or caused or permitted to be discharged or spilled any toxic substance, trade effluent, oil, chemical, sewage, hazardous substance or polluting matters onto any land or into any drain or the sea, to remove and clean up such toxic substance, trade effluent, oil, chemical, sewage, hazardous substance or polluting matters within a specified time to be fixed by the Director as he considers fit.

(2) Any person who fails to comply with a notice issued under subsection (1) shall be guilty of an offence and shall be liable on conviction to a fine not exceeding \$50,000.

Power of Director to require measures to be taken to prevent water pollution due to storage or transportation of toxic substances or any other polluting matters

19. (1) The Director may, by notice in writing, require any person who effects, permits or carries out any activity related to the storage or transportation of toxic substance or any other polluting matters

- (a) to use a method of storage, operation or process to prevent water pollution;
- (b) to construct or install spill containment facilities;
- (c) to use containers, tanks, tank containers or road tankers that are constructed to meet stipulated standards and with approved materials;
- (d) to install and operate equipment to prevent any leakage or discharge from containers, tanks, tank containers or road

tankers;

- (e) to install and operate pollution monitoring equipment to prevent and detect any leakage or discharge;
- (f) to carry out specific tests on equipment, tanks or any other related facilities and to submit the results of these tests;
- (g) to prepare and submit contingency plan for events of accidental discharge or spillage of oil, chemicals, trade effluent or other polluting matters; and
- (h) to carry out any works as required by the Director that are necessary to prevent water pollution.

(2) Any person who fails to comply with any requirement in subsection (1) shall be guilty of an offence and shall be liable on conviction to a fine not exceeding \$20,000.

PART VI LAND POLLUTION CONTROL

Pollution of land

20. (1) The Minister may make regulations to control the pollution of land whereby the condition of the land is so changed as to make or be likely to make the land or the produce of the land obnoxious, noxious or poisonous.

PART VII HAZARDOUS SUBSTANCES CONTROL

Application of this Part to hazardous substances

21. This Part shall apply to the hazardous substances specified in the first column of Part I of the Second Schedule except where

- (a) they fall within the exclusion specified in the second column of that Part corresponding to those substances; or
- (b) they are contained in any substance, preparation or product specified in Part II of that Schedule.

General prohibition with respect to importation and sale of hazardous substances

22. (1) No person shall import, possess for sale, sell or offer for sale any hazardous substance unless he holds a licence granted by the Director for such purpose.

(2) Every licence granted to any person under this section shall not be transferable to any other person and no licence shall authorise the import, possession for sale, sale or offer for sale of any hazardous substance by any individual other than the individual named therein.

(3) Any person who contravenes subsection (1) or (2) shall be guilty of an offence.

Prohibitions and regulations with respect to sale of hazardous substances

23. (1) No person shall import, possess for sale, sell or offer for sale any hazardous substance unless

- (a) the importation, possession for sale, sale or offer for sale is effected in accordance with the provisions of the licence and with any condition specified therein;
- (b) the sale is effected by or under the personal supervision of the person named in the licence; and
- (c) proper records of the sale as required by the Director are kept.

(2) No person shall possess for sale, sell or offer for sale any hazardous substance unless the container of the hazardous substance is labelled in the manner prescribed in regulations made by the Minister.

(3) Any person who contravenes subsection (1) or (2) shall be guilty of an offence.

Storage, use and dealing of hazardous substances

24. (1) Every person storing, using or otherwise dealing with any hazardous substance and every agent, servant or employee of such person shall do so in such a manner as not to threaten the health or safety of any person, or to cause pollution of the environment.

(2) In any proceedings under this section, if any person is proved to have kept or had in his possession or under his control any hazardous substance, he shall be presumed, until the contrary is proved, to have done so knowingly.

(3) Any person who contravenes subsection (1) shall be guilty of an offence.

Power of Director to require removal of hazardous substances from premises

25. (1) If, in the opinion of the Director, the hazardous substance stored or kept in any premises is likely to threaten the health or safety of any person or to cause pollution of the environment, he may, by notice in writing, require the owner or occupier of any premises to remove the hazardous substance to a disposal facility.

(2) The Director may, by notice in writing, require the owner or occupier upon whom a notice has been served under subsection (1) to furnish evidence that the hazardous substance stored or kept in the premises has been disposed of at a disposal facility in accordance with the notice.

(3) Any person who fails to comply with a notice made under subsection (1) or (2) shall be guilty of an offence and shall be liable on conviction to a fine not exceeding \$50,000.

Power to require owner or occupier of hazardous installations to carry out impact analysis studies

26. (1) The Director may, by notice in writing served on the owner or occupier of any installation, whether fixed or mobile, which is used or intended to be used to carry out activities involving the storage, handling and use of hazardous substances, require the owner or occupier to carry out

- (a) identification of all possible potential hazards that may threaten the health or safety of any person, or cause pollution of the environment;
- (b) estimation of the frequency or probability of occurrence of such potential hazards as identified in paragraph (a);
- (c) quantification of the consequences and risk levels of such potential hazards as identified in paragraph (a);
- (d) evaluation of the effects of potential fires or other disasters including the potential for release of toxic materials or toxic combustion products and the potential for release of contaminated fire-fighting water into the environment; and
- (e) identification of all necessary preventive measures to avoid and control the hazards identified in paragraph (a) and formulation of a programme to implement the measures.

(2) The Director may, by notice in writing, require the owner or occupier

- (a) to conduct a review and evaluation of any existing measures for the prevention, reduction or control of any potential hazard that may endanger public health or cause pollution of the environment for the purpose of ascertaining whether such measures are sufficient or effective;
- (b) to submit for the Director's approval, within such time as may be specified by the Director, a proposal for the implementation of such new or additional measures for the prevention, reduction or control of any potential hazard that may endanger public health or cause pollution of the environment; and
- (c) to implement such new or additional measures for the prevention, reduction or control of any potential hazard that may endanger public health or cause pollution of the environment as the Director may approve or specify.

(3) The review and evaluation referred to in subsection (2) (a) shall be conducted in such manner as the Director may, by notice in writing, require and the Director may issue guidelines for this purpose.

(4) The Director may, by notice in writing, if he considers it necessary

- (a) require any modification or addition to be made to the measures proposed by the owner or occupier under subsection (2) (b); or
- (b) require the owner or occupier to conduct a further review and evaluation.

(5) Any person who fails to comply with any notice made under subsection (1), (2) or (4) shall be guilty of an offence and shall be liable on conviction to a fine not exceeding \$20,000.

Penalty for offences involving hazardous substances

27. Any person who is guilty of an offence under this Part, for which no penalty is expressly provided, shall be liable on conviction to a fine not exceeding \$50,000 or to imprisonment for a term not exceeding 2 years or to both and, in the case of a continuing offence, to a further fine not exceeding \$2,000 for every day or part thereof during which the offence continues after conviction.

**PART VIII
NOISE CONTROL**

Control of noise from construction of building and other works

28. (1) Where it appears to the Director that works of the following description, that is to say

- (a) the erection, construction, alteration, repair or maintenance of buildings, structures or roads;
- (b) the breaking up, opening or boring under any road or adjacent land in connection with the construction, inspection, maintenance or removal of works;
- (c) piling, demolition or dredging works; or
- (d) any other work of engineering construction,

are being, or are going to be carried out on any premises, he may, by notice in writing, impose requirements as to the way in which the works are to be carried out on the person who appears to be carrying out, or going to carry out the works or on such other person appearing to the Director to be responsible for or to have control over the carrying out of such works.

(2) The notice may, in particular, specify

- (a) the plant or machinery which is, or is not, to be used;
- (b) the hours during which the works may be carried out; and
- (c) the level of noise or vibration which may be emitted from the premises referred to in subsection (1) or at any specified part of those premises or which may be so emitted during specified hours.

(3) Where a person who has been served with a notice under subsection (1)

- (a) fails to comply with any requirement contained in the notice; or
- (b) contravenes any regulations in relation to noise emitted from the premises referred to in subsection (1),

the Director may, by notice in writing, order him to stop any work carried out in the premises referred to in subsection (1) until such time as the notice is revoked or until such time as the requirements imposed by the Director have been complied with.

(4) Any person who fails to comply with a notice issued under subsection (3) shall be guilty of an offence and shall be

liable on conviction to a fine not exceeding \$10,000 for every day during which the notice is not complied with or to imprisonment for a term not exceeding 3 months or to both.

Control of noise from work place

29. (1) The Director may, by notice in writing served on the owner or occupier of any work place, prohibit him from causing, permitting or allowing

(a) any specified activity to be carried out in or on those premises; or

(b) any specified plant to be used or operated in or on those premises, in such a manner as to cause the emission from those premises of noise that, when measured at any specified point (whether within or outside those premises), is in excess of the specified level.

(2) Where the Director is satisfied that any noise is being or is likely to be emitted from any work place, the Director may, by a noise control notice in writing served on the owner or occupier, require the owner or occupier

(a) to install, alter, maintain or operate any noise control equipment specified in the notice in or on those premises;

(b) to repair, alter or replace any noise control equipment in or on those premises;

(c) to erect a noise barrier in or on those premises;

(d) to install plant of a specified type, where the Director is satisfied that the use of that plant will result in the prevention or reduction of the emission of noise from those premises; or

(e) to carry out repairs or adjustments to specified plant, equipment, apparatus, device, machine or mechanism, where the Director is satisfied that the carrying out of those repairs or adjustments will result in the prevention or reduction of the emission of noise from those premises, within the time and in the manner specified in the notice.

(3) The Director may, by notice in writing served on the owner or occupier of any work place, require the owner or occupier to operate, in accordance with any directions contained in the notice, any noise control equipment in or on those premises.

(4) Where a person who has been served with a notice under subsection (1), (2) or (3)

(a) fails to comply with any requirement contained in the notice; or

(b) contravenes any regulations in relation to noise emitted from any work place, the Director may, by notice in writing, order that person to stop any work or activity carried out in the work place until the notice is revoked or until such time as the requirements imposed by the Director have been complied with.

(5) Any person who fails to comply with a notice issued under subsection (4) shall be guilty of an offence and shall be liable on conviction to a fine not exceeding \$10,000 for every day during which the notice is not complied with or to imprisonment for a term not exceeding 3 months or to both.

(6) In this section, "plant" means any plant, equipment, apparatus, device, machine or mechanism.

Director to have regard to certain provisions

30. In acting under section 28 or 29, the Director shall have regard

(a) to the relevant provisions of any code of practice published or referred to in the regulations;

(b) before specifying any particular methods or plant or machinery, to the desirability in the interests of any recipient of the notice in question of specifying other methods or plant or machinery which would be substantially as effective in minimising noise and would be more acceptable to him; or

(c) to the need to protect any person in the locality in which the premises or work place in question are situated from the effects of noise.

PART IX LICENCES AND INDUSTRIAL PLANT WORKS

Single licence

31. (1) Where a person is required by virtue of the provisions of this Act or the regulations to obtain more than one licence, he may apply to the Director for a single licence to carry out the activities specified in his application and the Director may, if he thinks fit, grant or refuse to grant the single licence.

(2) If the holder of the licence is in breach of any restriction or condition subject to which it was granted or is in contravention of such of the provisions of this Act or the regulations as may affect the licence, the Director may instead of suspending, cancelling or revoking the single licence under section 32 (1A)

(a) prohibit the licensee from carrying out one or more activities specified in the single licence; or

(b) modify any condition subject to which the licence was granted.

General provisions on licences

32. (1) The grant or renewal of any licence shall be at the discretion of the Director.

(1A) Any licence

(a) may be granted, renewed or refused without giving any reason;

(b) may be granted or renewed subject to such restrictions and conditions as the Director may think fit; and

(c) shall be subject to suspension, cancellation or revocation at any time without compensation and without notice by the Director upon breach of any restriction or condition subject to which it was granted or to any contravention of

such of the provisions of this Act or the regulations as may affect the licence.

(2) The Director may amend or delete any of the conditions imposed on any licence or impose additional conditions without giving any reasons and at any time during the validity period of the licence.

(3) An application for a licence shall be made in such form and contain such particulars and information as the Director may determine.

(4) The Director may require any applicant for a licence to furnish such information and evidence as he may reasonably require for a full and proper consideration of the application and, in the event of a refusal to furnish the information, shall refuse to grant or renew the licence.

(5) Any person who wilfully furnishes any false information in any application for a licence shall be guilty of an offence and shall be liable on conviction to a fine not exceeding \$5,000 and any licence granted shall be void and of no effect.

(6) Subject to the provisions of this Act, any licence may be for such period as the Director thinks fit.

(7) There shall be charged in respect of any application for the grant, amendment or renewal of any licence, such fee, if any, as may be prescribed by the Minister.

(8) Where a licence is granted or renewed for a period of less than 12 months, the Director may charge a proportionate fee therefor; and in so charging any part of a month shall be reckoned as one month.

(9) No licensee shall be entitled to any refund of any fee paid by him in respect of any licence.

(10) No person shall in any manner transfer any licence or permit any licence to be used by any other person without the approval in writing of the Director.

(11) Subject to the provisions of this Act, any person aggrieved by the refusal by the Director to grant, amend or renew a licence or by the suspension or revocation by the Director of any licence may, within 14 days of such refusal, suspension or revocation, appeal to the Minister whose decision shall be final.

(12) For the purpose of this section, "licence" includes any approval, permit, permission, authority or authorisation which may be granted or renewed by the Director in pursuance of this Act or the regulations.

Certificates required for industrial plant works

33. (1) No person shall commence or carry out, or cause or permit the carrying out of any industrial plant works without the Director certifying that the plans of the industrial plant works comply with such requirements as he may specify for the purposes of this Act (referred to in this section as a clearance certificate).

(2) Every application under this section shall be made by a qualified person or any approved person in such form and manner as the Director may require.

(3) There shall be charged, for the processing of every application under this section, such fees as may be prescribed by the Minister.

(4) Every applicant under this section shall submit to such filing authority as the Director may designate, in such form and manner as the Director may determine, plans of the industrial plant works to which the application relates showing such details or specifications as the Director may require.

(5) The Director may, before issuing a clearance certificate under subsection (1), give a direction in writing to the applicant to comply, within such period as may be specified in the direction, with such requirements as he may specify for the purposes of this Act.

(6) In issuing any clearance certificate under subsection (1), the Director may impose such conditions as he thinks fit.

(7) Any person for whom any industrial plant works, in respect of which a clearance certificate has been issued under subsection (1), had been carried out and completed shall apply to the Director for a further certificate that the industrial plant works have been completed in accordance with the plans submitted under subsection (4) and the conditions imposed by the Director under subsection (6) (referred to in this section as a compliance certificate).

(8) The Director may, on an application under subsection (7), require the appointed qualified person or a registered inspector appointed by such person to inspect the completed industrial plant works and submit a report stating whether the industrial plant works have been completed in accordance with the plans and the conditions imposed by the Director.

(9) The Director may, after considering the report submitted under subsection (8)

(a) issue, subject to such conditions as he thinks fit, a compliance certificate that the industrial plant works have been completed in accordance with the plans submitted under subsection (4) and the conditions imposed by the Director under subsection (6); or

(b) give a direction in writing to the applicant to comply within such period as may be specified in the direction, with such requirements as he may specify for the purposes of this Act.

(10) If the person to whom any written direction is given under subsection (9) (b) fails to comply with the requirements specified in the direction within the time specified therein, the application under subsection (7) shall be deemed to be withdrawn.

Registration, appointment and duties of registered inspectors

34. (1) The Director shall keep and maintain a register in which shall be entered the names and prescribed particulars of all persons registered under this section as registered inspectors.

- (2) The Minister may by regulations provide for
- (a) the manner and form in which the register is to be kept and open for inspection;
 - (b) the manner of making applications by persons to be registered inspectors;
 - (c) the qualifications of registered inspectors and their appointment;
 - (d) the duties and responsibilities of registered inspectors; and
 - (e) the circumstances in which the registration may be cancelled.

**PART X
ENVIRONMENTAL POLLUTION CONTROL MEASURES**

Principal contractor to prevent pollution from construction site

35. (1) No principal contractor of a construction site who has control of the construction site shall permit any person to commit an offence specified under section 14, 15 or 17 (referred to in this section as the offence).

(2) Where there is a contravention of section 14, 15 or 17 at any construction site, it shall be presumed, until the contrary is proved, that the principal contractor of the construction site

- (a) had control of the construction site;
- (b) had knowledge of the commission of the offence at the construction site; and
- (c) had permitted the commission of the offence at the construction site.

(3) The presumptions provided for in subsection (2) (b) and (c) shall not be rebutted unless the defendant proves that he had exercised due diligence to prevent the commission of the offence at the construction site.

(4) For the purposes of subsection (3), a defendant shall not be presumed to have exercised due diligence unless he had taken all reasonable measures to prevent the offence from being committed at the construction site, including all the measures prescribed under subsection (5) in respect of the construction site.

(5) For the purposes of subsection (4), the Minister may, by notification in the *Gazette*, prescribe the measures that are required to be taken by the principal contractor of the construction site.

(6) Any person who contravenes subsection (1) shall be guilty of an offence and shall be liable on conviction to the same punishment for an offence under section 14, 15 or 17, as the case may be.

(7) In this section, “principal contractor” means a person who has entered into a contract with an owner, a developer or a lessee of a property or his agent for the purpose of carrying out any construction works on the property.

Study on pollution control

36. (1) The Director may, by notice in writing, require any person intending to carry out any activity that, in the opinion of the Director, is likely to cause substantial pollution of the environment or increase the level of such pollution

- (a) to carry out a study on environmental pollution control and related matters;
- (b) to submit for the Director’s approval, within such time as may be specified by the Director, a proposal for the implementation of such measures for the prevention, reduction or control of pollution of the environment; and
- (c) to implement such measures for the prevention, reduction or control of pollution of the environment as the Director may approve or specify.

(2) The study referred to in subsection (1) shall be conducted in such manner as the Director may, by notice in writing, require, and for this purpose, the Director may issue guidelines for the conduct of such study.

- (3) The Director may, by notice in writing, if he considers it necessary
- (a) require any modification or addition to be made to the measures proposed by the person under subsection (1) (b); or
 - (b) require the person to conduct a further study.

(4) Any person who fails to comply with a notice made under subsection (1) or (3) shall be guilty of an offence.

Self-monitoring and submission of results

37. (1) The Director may, by notice in writing, require the owner or occupier of any premises from which any air impurity, trade effluent or hazardous substance is generated and emitted into the atmosphere, discharged into the public sewerage system or any land, drain or inland waters to install suitable monitoring equipment or system at any point along the line of discharge, to monitor the quality or quantity of such emission or discharge or both.

(2) The owner or occupier of such premises with monitoring equipment or system installed shall

- (a) ensure that such equipment or system is working in a proper and efficient manner;
- (b) keep a proper record of all monitoring results; and
- (c) submit the records to the Director as may be required by the Director.

(3) Any monitoring result which shows that any standard prescribed in the regulations has not been complied with shall, until the contrary is proved, be admissible as evidence in any proceedings against the owner or occupier of such premises for

failure to comply with any provision of this Act or the regulations.

(4) Without prejudice to the generality of subsection (3), the Director may, by notice in writing, require the owner or occupier of such premises to install further suitable devices or systems to prevent the emission of air impurities, discharge of trade effluent or emission or discharge of any hazardous substance, if the level of emission or discharge fails to comply with the prescribed standards or requirements.

(5) Any person who, without the written consent of the Director, alters or causes to be altered any monitoring equipment or system referred to in subsection (1) shall be guilty of an offence.

Regulations for mandatory insurance

38. (1) The Minister may make regulations to require an owner or occupier of industrial or trade premises or a person who handles, stores, transports or uses hazardous substances to take out and maintain policies of insurance in such circumstances and against liabilities for such risks, costs or damages as may be prescribed in the regulations.

(2) Without prejudice to the generality of subsection (1), the regulations may provide for

- (a) the terms and conditions including any minimum limit of indemnity of any policy of insurance required to be taken out or maintained under subsection (1);
- (b) the form of the certificate of insurance; and
- (c) the different terms and conditions in different circumstances.

Power to prohibit work and processes in certain circumstances

39. (1) Where the Minister has reason to believe that the emission of air impurities, the discharge of trade effluent or the emission or discharge of any hazardous substance or toxic substance from any premises is likely to cause pollution of the environment or be injurious to public health or safety, the Minister may by order direct the owner or occupier of the premises

- (a) to cease forthwith the conduct of any trade or industrial process, or operation of any fuel burning equipment or industrial plant, in or on the premises which produces the air impurities, trade effluent, hazardous substance or toxic substance in or for such period as may be specified in the order;
- (b) to cease forthwith the emission of air impurities, discharge of trade effluent, emission or discharge of hazardous substance or toxic substance into the atmosphere or any land, drain or inland waters; or
- (c) to take steps as may be specified in the order to collect, store and treat the trade effluent, hazardous substance or toxic substance either indefinitely or until such steps have been taken as is specified in the order and to treat such trade effluent, hazardous substance or toxic substance before it is discharged into any public sewerage system, drain or inland waters.

(2) The owner or occupier of any premises who fails to comply with an order made under subsection (1) shall be guilty of an offence and shall be liable on conviction to a fine not exceeding \$100,000 or to imprisonment for a term not exceeding 3 months or to both and, in the case of a continuing offence, to a further fine not exceeding \$2,000 for every day or part thereof during which the offence continues after conviction.

(3) Where the owner or occupier of any premises has failed to comply with an order made under subsection (1), the Director may, at all reasonable times, enter upon the premises and take such measures and execute such work as may be necessary to comply with the order.

(4) Any person who is aggrieved by an order made under subsection (1) may, within 30 days from the date of the order, appeal to the High Court which may rescind or vary the order.

(5) Notwithstanding that an appeal has been made under subsection (4), an aggrieved person shall comply with the order pending the outcome of the appeal to the High Court and the Director may exercise the powers conferred under subsection (3).

Advisory and technical committees

40. (1) The Minister may, from time to time, appoint such advisory or technical committees as he thinks necessary for any of the purposes of this Act or the regulations.

(2) The composition of such committees and the terms of appointment of the members shall be determined by the Minister.

PART XI ENFORCEMENT

Default in compliance with notice or order

41. (1) Where a person on whom a notice or order under this Act or the regulations is served fails to comply with the notice or order within the time specified in the notice or order

- (a) he shall, unless he satisfies the court that he has used all due diligence to comply with the notice or order, be guilty of an offence and shall, where no penalty is provided for such default, be liable on conviction to a fine not exceeding \$20,000; and
- (b) the Director or any authorised officer may enter the premises under section 47 and execute the works specified in the notice or order.

(2) Any expenses reasonably incurred by the Director under subsection (1) (b) may be recovered from the person in default and section 51 and, if that person is the owner of the premises, section 53 shall apply in respect of those expenses.

(3) Nothing in this section shall be construed as prohibiting the Director from carrying out any works specified in any such notice or order at the request of a person who has been served with the notice or order upon an undertaking by that person to pay the costs and expenses in executing the works.

Appeal against notice or order

42. (1) Where a person on whom a notice or order referred to in section 41 (1) is served is aggrieved by the notice or order

(a) he may, within 14 days from the date of service of the notice or order and in the prescribed form and manner, appeal to the Minister; and

(b) no liability to a fine under section 41 (1) (a) shall arise nor, except as provided for in this section, shall any proceedings be taken or work done under the notice or order until after the determination or abandonment of the appeal.

(2) Where an appeal is brought under this section, the Minister may dismiss or allow the appeal unconditionally or subject to such conditions as he considers fit, and any decision made by the Minister on the appeal shall be final.

(3) Where an appeal has been brought under this section, and the Minister is of the opinion that

(a) the non-execution of the notice or order will be injurious or dangerous to public health; and

(b) the immediate execution of the notice or order will not cause any injury to the person against whom the notice or order was made which cannot be compensated by damages,

the Minister may authorise the Director immediately to execute the work.

(4) The Director shall, if he carries out the work and the appeal is successful, pay the costs and expenses of the work and any damages sustained by the appellant by reason of the work.

(5) The Director may, if he carries out the work and the appeal is dismissed or abandoned, recover the costs and expenses of the work from the appellant and section 51 and, if the appellant is the owner of the premises in respect of which the notice or order was made, section 53 shall apply to any sum recoverable from him hereunder.

Power to demand names and addresses

43. (1) The Director or any authorised officer may require any owner or occupier of any premises or any principal contractor referred to in section 35 to give his name and address and such other proof of identity, and to furnish such other particulars, as the Director or authorised officer may require for the purposes of this Act.

(2) Any person who, upon being required by the Director or any authorised officer to give his name and address or other proof of identity or to furnish any particulars under subsection (1), refuses to do so or wilfully mis-states his name and address or proof of identity or furnishes false particulars shall be guilty of an offence and shall be liable on conviction to a fine not exceeding \$5,000.

(3) The Director may, by notice in writing, require any person to furnish such other information as may be necessary for the purposes of this Act or the regulations.

(4) Any person who fails without reasonable excuse to comply with any requirement of subsection (3) shall be guilty of an offence and shall be liable on conviction to a fine not exceeding \$5,000.

Powers of Director to examine and secure attendance

44. (1) The Director or any authorised officer may

(a) examine orally any person supposed to be acquainted with the facts and circumstances of matters under this Act or the regulations, and to reduce to writing any statement made by the person so examined; and

(b) require by order in writing the attendance before himself of any person, being within the limits of Singapore, who, from information given or otherwise, appears to be acquainted with the facts and circumstances of matters under this Act or the regulations and that person shall attend as so required.

(2) The person mentioned in subsection (1) (a) shall be bound to state truly the facts and circumstances with which he is acquainted concerning matters under this Act or the regulations, except only that he may decline to make with regard to any fact or circumstance, a statement which would have a tendency to expose him to a criminal charge, penalty or forfeiture.

(3) A statement made under this section by any person shall be read over to him and shall, after correction, if necessary, be signed by him.

(4) If any person fails to attend as required by an order under subsection (1) (b), the Director may report such failure to a Magistrate who may thereupon issue a warrant to secure the attendance of that person as required by the order.

Powers of arrest

45. (1) The Director, an authorised officer or a police officer may arrest any person, whom the Director or officer has reason to believe has committed an offence under this Act or the regulations, if the name and address of the person are unknown to him and

(a) the person declines to give his name and address; or

- (b) there is reason to doubt the accuracy of the name and address, if given.
- (2) A person arrested under this section may be detained until his name and address are correctly ascertained.
- (3) No person so arrested shall be detained longer than is necessary for bringing him before a court.

Director may act in cases of emergency

46. Where the Director considers it necessary in the case of an emergency, he may direct the immediate execution of any work or the doing of any act being any work or act authorised under this Act or the regulations which is in his opinion necessary to prevent injury or danger to public health or serious pollution of the environment.

Power of entry

47. (1) The Director or any authorised officer may, for the purposes of this Act or the regulations, enter at all reasonable hours in the day time any premises with such assistants and workmen as are necessary for the purpose of making any survey, inspection or investigation and executing any work authorised by this Act or the regulations.

(2) Unless the consent of the occupier has been obtained therefor, no person shall enter into any dwelling-house in actual occupation under this section without 6 hours' previous notice to the occupier.

(3) For the purposes of this section, the Minister may declare that any class of premises is liable to night inspection, and thereupon the Director or any authorised officer, with such assistants and workmen as are necessary, may, at any time of the day or night and without notice, enter using such force as may be necessary and search or inspect any premises of the class specified in the declaration.

Power to enter on land adjacent to works

48. (1) The Director or any authorised officer, with such assistants and workmen as are necessary, may enter upon any land, adjoining or being within 100 meters of any works by this Act or the regulations authorised to be executed

- (a) for the purpose of depositing upon that land any soil, gravel, sand, lime, brick, stone or other materials; or
- (b) for any other purposes connected with the formation of those works,

without making any previous payment, tender or deposit and doing as little damage as may be in the exercise of the powers under this subsection.

(2) The Director shall make compensation

- (a) to the owner and the occupier for such temporary occupation or temporary damage of the land from time to time and as often as any such temporary occupation is taken or any such temporary damage done; and
- (b) to the owner for the permanent injury, if any, to the land.

(3) Before the Director makes any use of any land under subsection (1), he shall give 7 days' notice of his intention to the owner and the occupier of the land.

Penalty for obstructing Director in his duty

49. Any person who at any time

- (a) hinders or obstructs the Director or any authorised officer in the performance or execution of his duty or of any thing which he is empowered or required to do under this Act or the regulations;
- (b) interferes with any work authorised to be executed under this Act or the regulations; or
- (c) fails to facilitate by all reasonable means the entry and inspection of any premises by the Director or any authorised officer or the examination of any equipment, industrial plant, container or the making of any tests which the Director or any authorised officer is empowered under this Act or the regulations to make,

shall be guilty of an offence and shall be liable on conviction to a fine not exceeding \$20,000 or to imprisonment for a term not exceeding 3 months or to both and, in the case of a second or subsequent conviction, to a fine not exceeding \$50,000 or to imprisonment for a term not exceeding 3 months or to both.

Powers of search and seizure

50. If the Director has reason to believe that any hazardous or toxic substance is being kept, stored, processed, treated, discharged or deposited, or air impurities are being emitted, or any hazardous or toxic substance or trade effluent is being discharged without his consent, the Director or any authorised officer may

- (a) search the premises and take possession of any substance found therein and reasonably believed to be or contain hazardous substances;
- (b) require the production of records, certificates, notices and documents relating or reasonably believed to relate to any dealing in or with hazardous or toxic substances, emission of air impurities or discharge of trade effluent or toxic substance wherever and by whomsoever kept and whether kept under the provisions of this Act or the regulations or otherwise and take extracts therefrom;
- (c) take samples of any materials whether solid, liquid, gaseous or vapour found in the premises;
- (d) seal the samples and require the owner of the materials to send the samples to an analyst for analysis and bear any costs and expenses arising therefrom;
- (e) require the owner or analyst to submit the results of the analysis to the Director;
- (f) take such photographs as he thinks necessary for the purposes of this Act or the regulations; and
- (g) require any person whom he finds in the premises to produce his identity card or other identification papers for inspection for the purpose of an investigation or inquiry under this Act or the regulations.

PART XII
COMPENSATION, DAMAGES, FEES, COSTS AND EXPENSES

Compensation, damages, fees, costs and expenses to be determined by Magistrate's Court or District Court

51. (1) Except as otherwise provided, in all cases where compensation, damages, fees, costs or expenses are provided under this Act or the regulations to be paid, the amount and, if necessary, the apportionment of the amount and any question of liability shall, in case of dispute, or failure to pay, be summarily ascertained and determined by a Magistrate's Court or, if the amount claimed exceeds the Magistrate's Court limit, by a District Court.

- (2) In any proceeding under subsection (1), the Magistrate's Court or the District Court may
- (a) inquire whether those expenses ought to be borne wholly or in part by some person other than the defendant in the proceedings;
 - (b) make such order concerning the expenses or their apportionment as appears to the Court to be just; and
 - (c) where those expenses were incurred under section 41 (1) (b) by the Director in carrying out any works specified in a notice, inquire whether any requirement specified in the notice was reasonable.

(3) The Magistrate's Court or the District Court shall not order the expenses or any part thereof to be borne by any person other than the defendant in the proceedings unless the Court is satisfied that the other person has had due notice of the proceedings and an opportunity of being heard.

(4) If the amount of compensation, damages, fees, costs or expenses is not paid by the party liable to pay it within 7 days after demand, that amount may be reported to a Magistrate's Court or a District Court and recovered in the same way as if it were a fine imposed by a Magistrate's Court or a District Court.

(5) An appeal shall lie to the High Court from any decision of a Magistrate's Court or a District Court under this section, and the provisions of the Criminal Procedure Code (Cap. 68) shall apply, with the necessary modifications, to all such appeals.

Occupier may execute work where owner defaults in execution of work

52. (1) Whenever default is made by an owner of any premises in the execution of any work required under this Act or the regulations to be executed by him, an occupier of the premises may, with the approval of the Director, cause the work to be executed.

(2) The expense of the work executed under subsection (1) shall be paid to the occupier by the owner of the premises or the amount may be deducted out of the rent from time to time becoming due from him to the owner, and the occupier may, in the absence of any special agreement to the contrary, retain possession until that expense has been fully reimbursed to him.

Recovery of costs and expenses payable by owners

53. (1) All sums payable by or recoverable from an owner of any premises in respect of costs and expenses incurred by the Government in connection with the execution of any work which are under this Act or the regulations recoverable from an owner of any premises shall, subject and without prejudice to any other rights of the Government, be a first charge on the premises in respect of which the costs and expenses were incurred.

(2) In addition to any other remedies conferred by this Act, any such sum may be recovered in the manner provided in this section, and the person or persons liable to pay it shall be the owner or owners at the time when the work was completed.

(3) If any such sum remains unpaid at the expiration of the prescribed time, a notice shall be served upon the person or any one of the persons, if more than one, liable to pay it, calling on him to pay that sum together with a fee of such amount as may be prescribed for the cost of the notice, within 15 days of the date of service of such notice.

(4) Without prejudice to section 66, if no person liable to pay the sum can be found, such notice shall be deemed to have been duly served by the posting thereof at the office of the Director and by fixing a copy thereof on some conspicuous part of the premises in respect of which the costs and expenses were incurred.

(5) At the expiration of the period of 15 days or such further period as may be allowed by the Director, if any such sum or part thereof remains due and unpaid, it shall be deemed to be arrears and may be recovered as provided in section 55.

(6) The charge mentioned in subsection (1) shall attach, and the powers and remedies conferred by subsections (2) to (5) shall become exercisable, as from the date of completion of the work.

(7) Notwithstanding any change in the ownership or occupation of the premises after the completion of the work, the charge and the powers and remedies referred to in subsection (6) may be exercised against the premises or against any movable property or crops for the time being found thereon.

(8) An occupier who, when requested by or on behalf of the Director to state the name of the owner of the premises, refuses or wilfully omits to disclose or wilfully mis-states the name shall, unless he shows cause to the satisfaction of the court for his refusal or mis-statement, be guilty of an offence and shall be liable on conviction to a fine not exceeding \$5,000.

Recovery of costs and expenses by instalments

54. (1) When the Director has incurred costs and expenses in or about the execution of any work, which are, under this Act or the regulations, payable by or recoverable from an owner, the Director may

- (a) recover those costs and expenses in the manner provided in section 53; or
- (b) if he thinks fit, may make an arrangement with the owner for the payment of such instalments as will be sufficient to defray the whole amount of the costs and expenses with interest thereon at the prescribed rate, within a period not exceeding 10 years.

(2) Upon default in payment of any instalment or interest upon the date appointed for payment thereof by any such arrangement, the whole of the balance then outstanding of that amount, together with any interest in arrears, shall immediately become due and payable and, notwithstanding any change in the ownership or occupation of the premises since the date of the arrangement, may be recovered by as provided in section 53.

Proceedings for recovery of arrears

55. (1) For the recovery of arrears, the Director shall have and may exercise, either successively or concurrently, in addition to any other remedies conferred by this Act the following powers:

- (a) the Director may issue a warrant of attachment and may seize by virtue thereof any movable property and crops of any person liable to pay the arrears and may also seize any movable property or crops to whomsoever it belongs which are found on the premises in respect of which the arrears are due and may, after service of the prescribed notice, sell the same by public auction in the prescribed manner;
- (b) the Director may, by notice of sale to be served or published in the prescribed manner, declare his intention to sell, at the expiration of 3 months from the date of the notice of sale, the premises in respect of which the arrears are due and, if, at the expiration of that period, the arrears have not been paid or satisfied, the Director may sell by public auction, in lots or otherwise, the whole of the premises or such portion thereof or such interest therein as he considers sufficient for the recovery of the arrears and costs.

(2) The Director shall not proceed under subsection (1) (b) to sell the premises in respect of which the arrears are due, or any portion thereof or interest therein, where there is or are upon the premises and liable to be seized and sold under subsection (1) (a) any movable property or crops belonging to the owner of a value estimated by the Director to be sufficient to realise the sum required to satisfy the arrears and costs.

(3) Any tenant, sub-tenant or occupier who, in order to avoid the seizure or sale of his property for arrears payable by the owner of the premises, pays the arrears and costs may thereafter, in the absence of any written agreement to the contrary, deduct the amount so paid by him from the rent due or to become due by him to his immediate landlord on account of the premises or such part thereof as is held or occupied by him, and may retain possession until that amount has been fully reimbursed to him whether by deduction from the rent or otherwise.

(4) Any tenant or sub-tenant who has reimbursed, whether by allowing a deduction from his rent or otherwise, any sub-tenant or occupier holding or occupying under him the amount so paid by that sub-tenant or occupier shall have a similar right to deduct the amount from the rent due or to become due to his immediate landlord and to retain possession until similarly reimbursed.

(5) The receipt of any public officer duly authorised in writing by the Director in that behalf for any amount so paid by any such tenant, sub-tenant or occupier shall be deemed an acquittance in full for the like amount of rent.

(6) If any premises in respect of which arrears are due, or any such movable property or crops as are mentioned in subsection (1) or the proceeds of sale thereof are already in the custody of the law under any process of execution whereby the Director is unable to exercise the remedies conferred under subsections (1) to (5), the Director

- (a) may notify the Sheriff or the bailiff of the court concerned of the amount of the arrears; and
- (b) shall be entitled without obtaining a judgment to be paid that amount out of the proceeds of sale of the premises or property in priority to the judgment debtor and to the judgment creditor and to any other creditor except the Government.

(7) A certificate from the Director shall, unless it is disputed by the judgment debtor, be conclusive evidence of the amount of such arrears, and, in case of dispute, the amount shall be summarily determined by a Magistrate's Court.

(8) Where any premises which is not registered land is sold under subsection (1) (b), the Director shall have the power to execute the conveyance and the purchaser of the premises shall not be concerned to inquire whether the provisions of this Act relating to the sale and the conveyance have been complied with nor otherwise to inquire into the regularity or validity of the sale and conveyance.

(9) Section 144 of the Land Titles Act (Cap. 157) shall apply, with the necessary modifications, to any premises sold under subsection (1) (b) which is registered land.

Attachment

56. (1) The attachment mentioned in section 55 (1) (a) may be made by a person appointed for the purpose by the Director who shall give public notice of the attachment in the prescribed manner and shall take an inventory of the property attached.

(2) A person appointed under subsection (1) shall be deemed to be a public servant within the meaning of the Penal Code (Cap. 224).

(3) Such a person may break open in the day time any house or building for the purpose of effecting the attachment.

Application of proceeds of sale

57. (1) The proceeds of a sale under section 55 (1) and (2) shall be applied in the first place in satisfaction of the arrears together with interest thereon at the prescribed rate and costs.

(2) Where there is any surplus remaining, the Director shall

- (a) if satisfied as to the right of any person claiming the surplus, pay the amount thereof to that person; or
- (b) if not so satisfied, shall hold the amount in trust for the person who may ultimately succeed in due course of law in establishing his title thereto.

(3) If no title is established to the surplus within a period of 5 years from the date of the sale, it shall be paid into the Consolidated Fund.

Title acquired by purchaser at sale by Director

58. (1) The purchaser at a sale held under section 55 (1) (b) shall be deemed to have acquired the right offered for sale free from all encumbrances created over it and from all subordinate interests derived from it except such as are expressly reserved by the Director at the time of sale.

(2) The Director shall notify, by an advertisement published in the *Gazette*, the result of the sale and the conveyance to the purchaser of the property or right offered for sale.

Costs of proceedings for recovery of arrears

59. All costs of any proceedings for the recovery of arrears may be recovered as if they formed part of the arrears.

Power to stop sale

60. If any person having any interest in any property liable to be sold at any time previous to such sale tenders to the Director the arrears with interest and costs, the Director shall thereupon desist from all further proceedings in respect of the sale.

Application to Court

61. (1) If any person whose movable property, crop or land has been attached or offered for sale disputes the attachment or sale, he may apply to the High Court or, where the arrears do not exceed the District Court's limit, to a District Court for an order to stay the proceedings.

(2) The High Court or District Court, after hearing the Director and making such further inquiry as is necessary, shall make such order as is just.

Security for payment of arrears

62. No application shall be entertained by the High Court or District Court under section 61 unless the applicant has deposited in Court the amount of the arrears and costs or furnished security for them to the satisfaction of the Court.

Liability of transferor who has not given notice

63. (1) Every person who sells or transfers any property in respect of which costs and expenses have been incurred by the Government in connection with the execution of any work which are, under this Act or the regulations, recoverable from the owner or owners thereof shall continue to be liable for the payment of all the costs and expenses payable in respect of the property and for the performance of all other obligations imposed by this Act or the regulations upon the owner of the property which become payable or are to be performed at any time before such notice of transfer as is required by section 19 of the Property Tax Act (Cap. 254) has been given.

(2) Nothing in subsection (1) shall affect the liability of the purchaser or transferee to pay such costs and expenses in respect of the property or affect the right of the Director to recover such costs and expenses or to enforce any obligation under this Act or the regulations.

Proceedings where occupier opposes execution of work

64. (1) If the occupier of any premises prevents the owner thereof from carrying into effect in respect of the premises any of the provisions of this Act or the regulations after notice of his intention to do so has been given by the owner to that occupier, a Magistrate's Court, upon proof thereof and upon application by the owner, may

- (a) make an order in writing, requiring the occupier to permit the owner to execute all such works with respect to the premises as are necessary for carrying into effect the provisions of this Act or the regulations; and
- (b) if it thinks fit, order the occupier to pay to the owner the costs relating to the application or order.

(2) If after the expiration of 8 days from the date of the order the occupier continues to refuse to permit the owner to execute the works, the occupier shall be guilty of an offence and shall be liable on conviction to a fine not exceeding \$1,000 for every day or part thereof during which he so continues to refuse.

(3) Every such owner shall, during the continuance of such refusal, be discharged from any penalty to which he might otherwise have become liable by reason of his default in executing the works.

**PART XIII
MISCELLANEOUS PROVISIONS**

Notices, orders and other documents may be given by authorised officer

65. (1) All notices, orders, receipts, warrants and other documents of any nature which the Director is empowered to give by this Act or the regulations may, subject to the direction of the Director, be given by any authorised officer on behalf of the Director.

(2) Where any such notice, order, receipt, warrant or document requires authentication, the signature or an official facsimile thereof of the Director or any public officer authorised by the Director affixed thereto shall be sufficient authentication.

Service of notices, etc.

66. (1) Every notice, order, summons or document required or authorised by this Act or the regulations to be served on any person may be served

- (a) by delivering it to that person or by delivering it at the last known place of residence of that person to some adult member of his family or his employee;
- (b) by leaving it at the usual or last known place of residence or place of business of that person in an envelope addressed to that person; or
- (c) by forwarding it by post in a prepaid letter addressed to that person at his usual or last known place of residence or place of business.

(2) A notice, order, summons or document required or authorised by this Act or the regulations to be served on the owner or occupier of any premises shall be deemed to be properly addressed if addressed by the description of the "owner" or "occupier" of the premises without further name or description.

(3) A notice, order, summons or document required or authorised by this Act or the regulations to be served on the owner or occupier of any premises may be served by delivering it or a true copy thereof to some adult person on the premises or, if there is no such person on the premises to whom it can with reasonable diligence be delivered, by affixing the notice, order, summons or document to some conspicuous part of the premises.

(4) When a notice, order, summons or document is to be served on any body corporate, it may be served

- (a) by delivering it to the secretary or other like officer of the body corporate at its registered office or principal place of business; or
- (b) by sending it by registered post addressed to the body corporate at its registered office or principal place of business.

General penalties

67. (1) Any person who is guilty of an offence under this Act (except for an offence under Part VII) for which no penalty is expressly provided shall be liable

- (a) on the first conviction to a fine not exceeding \$20,000 and, in the case of a continuing offence, to a further fine not exceeding \$1,000 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 \$50,000 and, in the case of a continuing offence, to a further fine not exceeding \$2,000 for every day or part thereof during which the offence continues after conviction.

(2) The court before which such conviction is heard may, in addition to such fine, order the person to pay to the Director the amount of any expense in connection with the execution of any work, together with any interest due thereon or any interest certified by the Director to be due from such person at the date of his conviction.

(3) Such amount may be recovered according to any written law for the time being in force for the recovery of fines.

Furnishing of deposits

68. (1) Where any permit, consent or approval is given by the Director under this Act or the regulations for the execution of any work, the Director may require a deposit or other security in lieu thereof to be furnished by the person applying for the permit, consent or approval to secure the execution of the work.

(2) Where any such work is not executed to the satisfaction of the Director, he may utilise the deposit or security or any part thereof to make good the defects.

Inaccuracies in document

69. (1) No misnomer or inaccurate description of any person, premises, building, holding, street or place named or described in any document prepared, issued or served under, by virtue of or for the purposes of this Act or the regulations shall in any way affect the operation of this Act or the regulations as respects that person or place if that person or place is so designated in the document as to be identifiable.

(2) No proceedings taken under or by virtue of this Act or the regulations shall be invalid for want of form.

Evidence of analyst

70. (1) The Director may, by instrument in writing under his hand, appoint persons who in his opinion are qualified to

be analysts for the purposes of this Act.

(2) Subject to subsection (3), a certificate of an analyst appointed under subsection (1) stating that he has analysed or examined a substance and stating the result of his analysis or examination is admissible in evidence in any proceedings for an offence under this Act or the regulations as prima facie evidence of the facts stated in the certificate and of the correctness of the result of the analysis or examination.

(3) A certificate of an analyst referred to in subsection (2) shall not be received in evidence in pursuance of that subsection unless the person charged has been given a copy of the certificate together with reasonable notice of the intention of the prosecution to produce the certificate as evidence in the proceedings.

(4) Where a certificate of an analyst appointed under subsection (1) is admitted in evidence under subsection (2), the person charged may require the analyst to be called as a witness for the prosecution and the analyst may be cross-examined as if he had given evidence of the matters stated in the certificate.

(5) For the purposes of this section, a document purporting to be a certificate referred to in subsection (2) on its production by the prosecution shall, unless the contrary is proved, be deemed to be such a certificate.

Offence by body corporate

71. Where a body corporate is guilty of an offence under this Act or the regulations, and that offence is proved to have been committed with the consent or connivance of, or to be attributable to any neglect on the part of, any director, manager, secretary or other similar officer of the body corporate, or any person who was purporting to act in any such capacity, he as well as the body corporate shall be guilty of that offence and shall be liable to be proceeded against and punished accordingly.

Composition of offences

72. (1) The Director may, in his discretion, compound any offence under this Act or the regulations which is prescribed to be a compoundable offence by accepting from the person reasonably suspected of having committed the offence a sum not exceeding \$5,000.

(2) On payment of such sum of money, no further proceedings shall be taken against that person in respect of the offence except that any compensation, damages, fees, costs or expenses which are provided to be paid under this Act or the regulations shall remain payable.

(3) Nothing in this section shall prevent the Director from issuing any further notice in respect of the same matter to the person who has paid such sum of money.

Jurisdiction of Courts

73. A District Court or a Magistrate's Court shall have jurisdiction to hear and determine all proceedings under this Act or the regulations and shall, notwithstanding anything to the contrary in the Criminal Procedure Code (Cap. 68), have power to impose the full punishment in respect of any such offence.

Saving of prosecutions under other laws

74. Nothing in this Act shall prevent any person from being prosecuted under any other written law for any act or omission which constitutes an offence under this Act or the regulations or from being liable under that other law to any other or higher punishment or penalty than that provided by this Act or the regulations except that no person shall be punished twice for the same offence.

Exemption

75. The Minister may by notification in the *Gazette*, exempt, either generally or for such time as he may specify, any person, thing, premises or works or any class of person, thing, premises or works from any provision of this Act or the regulations.

Amendment of Schedules

76. (1) The Minister may at any time, by order published in the *Gazette*, amend any Schedule except the Third Schedule.

(2) The Minister may, in any order made under subsection (1), make such incidental, consequential or supplementary provision as may be necessary or expedient.

Regulations

77. (1) The Minister may make regulations

- (a) for or in respect of every purpose which is necessary for carrying out the provisions of this Act;
- (b) for prescribing any matter which is authorised or required under this Act to be prescribed; and
- (c) without prejudice to the generality of paragraphs (a) and (b) for or in respect of the matters specified in the Third Schedule.

(2) The Minister may, in making any regulations, provide that any contravention of or failure to comply with the regulations shall be an offence punishable with a fine not exceeding \$50,000 or with imprisonment for a term not exceeding 2 years or with both and, in the case of a continuing offence, with a fine not exceeding \$2,000 for every day or part thereof during which the offence continues after conviction.

(3) All such regulations shall be presented to Parliament as soon as possible after publication in the *Gazette*.

Transitional provisions

78. (1) Any scheme, contract, document, licence, permission or resolution prepared, made, granted or approved under the repealed Clean Air Act (Cap. 45, 1985 Ed.), the repealed Water Pollution Control and Drainage Act (Cap. 348, 1985 Ed.) (repealed by the Sewerage and Drainage Act (Cap. 293A)) or the Poisons Act (Cap. 234, 1989 Ed.) in relation to poisons specified in the repealed Part II of the Poisons List in the Schedule to the Poisons Act shall, so far as it is not inconsistent with the provisions of this Act and except as otherwise expressly provided in this Act or in any other written law, continue and be deemed to have been prepared, made, granted or approved under the corresponding provisions of this Act.

(2) Any subsidiary legislation made under the repealed Clean Air Act and in force immediately before 1st April 1999 shall, so far as it is not inconsistent with the provisions of this Act, continue in force as if made under this Act until it is revoked by subsidiary legislation made under this Act.

(3) The enactments mentioned in the Fourth Schedule shall have effect subject to the amendments to the extent therein specified (being amendments consequential on the preceding provisions of this Act).

(4) The Minister may, by order published in the *Gazette*, repeal or amend any written law which appears to him to be unnecessary having regard to the provisions of this Act or to be inconsistent with any provision of this Act.

Appendix 2
Rg 5 Environmental Pollution Control (Trade Effluent)
Regulations

Revised Edition 2001 (31.1.2001)

**ENVIRONMENTAL POLLUTION CONTROL ACT
(CHAPTER 94A, SECTION 77 (1))**

**ENVIRONMENTAL POLLUTION CONTROL
(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
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 Pollution Control (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 licence under section 15 of the Act shall furnish the Director
 - (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 may require.
- (2) In his application for a licence, the applicant shall furnish the Director such other information as the applicant considers to be relevant to the consideration of his application.
- (3) A licensee shall not discharge trade effluent into any watercourse or land otherwise than in accordance with these Regulations.
- (4) A licensee 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 has granted the licence, notify the Director in writing of the change in the process or operation, or the layout of the machinery, plant and equipment, as the case may be.
- (5) Any licence granted by the Director to discharge trade effluent into any watercourse or land
 - (a) shall be subject to such conditions as the Director may impose;

- (b) may be revoked, or suspended for any period, by the Director without assigning any reason; and
- (c) shall cease to be valid when the licensee fails to comply with these Regulations or any condition imposed by the Director in granting the licence.

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.

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 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 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 and shall not be altered or changed without his prior approval.

Particulars of trade effluent discharge required by Director

7. A person who discharges trade effluent into any watercourse or land shall, at such times as the Director 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.

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 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 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 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) Total Dissolved Solids	2,000	1,000
(c) Chloride (as chloride ion)	600	400
(d) Sulphate (as SO ₄)	500	200
(e) Sulphide (as sulphur)	0.2	0.2
(f) Cyanide (as CN)	0.1	0.1
(g) Detergents (linear alkylate sulphonate as methylene blue active substances)	15	5
(h) Grease and Oil	10	5
(i) Arsenic	1	0.05
(j) Barium	5	5
(k) Tin	10	5
(l) Iron (as Fe)	20	1
(m) Beryllium	0.5	0.5
(n) Boron	5	0.5
(o) Manganese	5	0.5
(p) 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 concentration 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	0.01
(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 PO₄, 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 200 milligrams per litre where the trade effluent is discharged into a watercourse other than a controlled watercourse and 150 milligrams per litre

- where it is discharged into a controlled watercourse; and
- (e) nitrate, expressed as NO₃, shall not exceed 20 milligrams 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 thinks fit.

Penalty

12. Any person who contravenes or fails to comply with 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 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, Rg4) 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 discharge of trade effluent into a watercourse, until such time when it is revoked by the Director of Environmental Pollution Control.

[G.N. No.S 160/99]

Appendix 3
Rg 8 Environmental Pollution Control (Air Impurities)
Regulations

Revised Edition 2002

**ENVIRONMENTAL POLLUTION CONTROL ACT
(CHAPTER 94A, SECTION 77 (1))**

**ENVIRONMENTAL POLLUTION CONTROL
(AIR IMPURITIES) REGULATIONS**

ARRANGEMENT OF REGULATIONS

Regulation

1. Citation
 2. Dark smoke
 3. Methods of smoke indication
 4. Standards of concentration of air impurities
 5. Testing procedures and requirements
 6. Exemption
 7. Penalties
- The Schedule

[1st January 2001]

Citation

1. These Regulations may be cited as the Environmental Pollution Control (Air Impurities) Regulations.

Dark smoke

2. (1) For the purposes of section 11 of the Act, dark smoke includes smoke of any colour which appears to the Director or any authorised officer

- (a) to be darker than shade No.1 on the Ringelmann Chart;
- (b) when observed or recorded with such instrument or device as the Director may approve, to be darker than shade No.1 on the Ringelmann Chart; or
- (c) to be of such opacity as to cause obscuration to a degree equivalent to smoke darker than shade No.1 on the Ringelmann Chart.

(2) Section 11 of the Act shall not apply to the emission of dark smoke from any chimney where

- (a) the emission of dark smoke is for a duration of less than 5 minutes in any period of one hour in a day; and
- (b) the total number of emissions of dark smoke from that chimney does not exceed 3 times a day.

Methods of smoke indication

3. (1) Every occupier of any industrial or trade premises in or on which any industrial plant or fuel burning equipment is situated shall, if required by the Director to do so, provide or install such instrument, equipment or device in or on the premises in accordance with paragraphs (2) and (3).

(2) The instrument, equipment or device referred to in paragraph (1) must be of such type and installed in such manner as will enable any person in charge of the industrial plant or fuel burning equipment to readily ascertain at all times and without leaving the boiler room, furnace room or control room, whether smoke is being discharged from any chimney on the industrial or trade premises.

(3) The instrument, equipment or device may include one or more of the following:

- (a) a smoke density indicator, recorder and alarm which will provide adequate indication in the boiler room, furnace room or control room of the density of smoke being discharged from the chimney;
- (b) a closed circuit television installation with the receiver located in the boiler room, furnace room or control room; or
- (c) any other instrument, equipment or device approved by the Director.

Standards of concentration of air impurities

4. (1) For the purposes of section 12 of the Act, the standards of concentration of air impurities that must be complied with in the conduct of any trade, industry or process or the operation of any fuel burning equipment or industrial plant shall be those specified in the Schedule.

(2) The concentration of any substance specified in the first column of the Schedule shall be determined in accordance with such method as may be specified by or is acceptable to the Director.

Testing procedures and requirements

5. (1) For the purposes of section 12 of the Act, the Director may specify in any particular case, the point at which the concentration of air impurities shall be measured.

- (2) The point at which the concentration of air impurities shall be measured may be situated at
- (a) the fixed point of emission of any air impurities;
 - (b) the final point of emission of any air impurities; or
 - (c) any other point in or along any flue, duct or chimney located at a place in the premises other than the final point of emission of air impurities.
- (3) Every owner or occupier of any industrial or trade premises shall
- (a) carry out such tests with respect to the emission of air impurities from and the consumption of fuel in or on the premises as may be required by the Director;
 - (b) keep a register of all such tests, specifying the date, nature and results of each test; and
 - (c) ensure that such register is available for inspection by the Director or any authorised officer at all reasonable times.
- (4) Subject to paragraph (5), the results of all tests conducted on boilers, furnaces and incinerators with respect to the emission of air impurities shall be expressed on the basis of flue gas containing 12% by volume of carbon dioxide.
- (5) The results of all tests conducted on waste incinerators with respect to the emission of dioxins and furans shall be expressed on the basis of flue gas containing 11% by volume of oxygen.
- (6) Every owner or occupier of any industrial or trade premises shall, for the purposes of enabling the Director or any authorised officer to exercise his powers under the Act
- (a) provide the Director or the authorised officer with access to such premises, any part thereof and any control equipment, fuel burning equipment, industrial plant or chimney on such premises, at all reasonable times and as often as the Director or the authorised officer considers necessary; and
 - (b) provide the Director or the authorised officer with such assistance and facilities as may reasonably be required by the Director or the authorised officer.
- (7) The assistance and facilities referred to in paragraph (6) (b) shall include, in respect of each chimney serving the premises, the provision of one or more inspection opening or openings and such means of safe and adequate access for the purposes of enabling an authorised officer to inspect and obtain representative samples of any discharge from the chimney.
- (8) In this regulation
- “boiler” means any device in which water or other liquid is heated by any combustible material;
- “furnace” means any chamber, other than a boiler in which combustion takes place;
- “incinerator” means any structure or part of a structure used in any trade, industry or process to dispose of material by burning or heating with any form of energy;
- “waste incinerator” means an incinerator which is used for the purposes of disposing of municipal, industrial or hospital waste.

Exemption

- 6.** (1) Regulation 4 shall not apply to such industrial or trade premises and for such period between 1st January 2001 to 31st December 2003 as the Director may determine.
- (2) The Director may
- (a) require any industrial or trade premises referred to in paragraph (1) to comply with such other emission standards as he may specify; and
 - (b) if he considers it necessary, extend the period of exemption referred to in paragraph (1), subject to such conditions as he may impose.

Penalties

- 7.** (1) Any person who contravenes regulation 3 or 5 (3) or (6) 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 the 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.
- (2) Any offence under these Regulations may be compounded by the Director in accordance with section 72 (1) of the Act.

THE SCHEDULE

Regulation 4

STANDARDS OF
CONCENTRATION OF AIR IMPURITIES

1. The concentration of any substance specified in the first column emitted from any operation in any trade, industry, process, fuel burning equipment or industrial plant specified in the second column shall not at any point before admixture with air, smoke or other gases, exceed the limits specified in the third column.

Chart see "chart 1-5-1" in Chapter 1

2. In this Schedule

"dioxins and furans" means polychlorinated, dibenzo-p-dioxins (PCDD) and polychlorinated dibenzofurans (PCDF), being tricyclic and aromatic compounds formed by 2 benzene rings which are connected by 2 oxygen atoms in PCDD and by one oxygen atom in PCDF and the hydrogen atoms of which may be replaced by up to 8 chlorine atoms;

"mg" means milligram;

"ng" means nanogram;

"Nm³" means normal cubic metre, being that amount of gas which when dry, occupies a cubic metre at a temperature of 0 degree Centigrade and at an absolute pressure of 760 millimetres of mercury;

"TEF" means Toxic Equivalency Factor;

"TEQ" means Toxic Equivalent, being the sum total of the concentrations of each of the dioxin and furan compounds specified in the first column of the table below multiplied by their corresponding TEF specified in the second column thereof:

<i>Dioxin / Furan</i>	<i>TEF</i>
2,3,7,8-Tetrachlorodibenzo-p-dioxin	1
1,2,3,7,8-Pentachlorodibenzo-p-dioxin	1
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	0.1
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	0.1
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	0.1
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	0.01
Octachlorodibenzo-p-dioxin	0.0001
2,3,7,8-Tetrachlorodibenzofuran	0.1
1,2,3,7,8-Pentachlorodibenzofuran	0.05
2,3,4,7,8-Pentachlorodibenzofuran	0.5
1,2,3,4,7,8-Hexachlorodibenzofuran	0.1
1,2,3,6,7,8-Hexachlorodibenzofuran	0.1
1,2,3,7,8,9-Hexachlorodibenzofuran	0.1
2,3,4,6,7,8-Hexachlorodibenzofuran	0.1
1,2,3,4,6,7,8-Heptachlorodibenzofuran	0.01
1,2,3,4,7,8,9-Heptachlorodibenzofuran	0.01
Octachlorodibenzofuran	0.0001

[G.N. Nos.S 595/2000; S11/2001]

Appendix 4
Rg 11 Environmental Public Health (Toxic Industrial Waste)
Regulations

Revised Edition 2000 (31.1.2000)

**ENVIRONMENTAL PUBLIC HEALTH ACT
(CHAPTER 95, SECTION 113)**

**ENVIRONMENTAL PUBLIC HEALTH
(TOXIC INDUSTRIAL WASTE) REGULATIONS**

ARRANGEMENT OF REGULATIONS

**PART I
PRELIMINARY**

Regulation

1. Citation
2. Definitions
3. Application

**PART II
GENERATOR**

4. Commissioner to be notified when toxic industrial waste exceeds permitted level
5. Information to be given to toxic industrial waste collector to enable him to deal with toxic industrial waste properly
6. Generator to keep register
7. Application
8. No use or storage of toxic industrial waste except in certain circumstances

**PART III
TOXIC INDUSTRIAL WASTE COLLECTOR**

9. No person to act as toxic industrial waste collector without licence
10. Alteration of works or method of operation, etc.
11. Toxic industrial waste collector to obtain information on toxic industrial waste
12. Register to be kept by toxic industrial waste collector

**PART IV
LICENCES**

13. Application for toxic industrial waste collector's licence

**PART V
IMPORT OF TOXIC INDUSTRIAL WASTE**

14. Import of toxic industrial waste
15. Collection of toxic industrial waste

**PART VI
TRANSPORT OF TOXIC INDUSTRIAL WASTE**

16. Consignor's responsibility for safe consignment
17. Consignment note
18. Driver to deliver consignment note to consignee
19. Receipt of consignment note
20. Application
21. Collection from several generators
22. Carrier to obtain information on consignment
23. Carrier to be given copy of written approval, etc.
24. Transport documents
25. Instructions for drivers
26. Driver's responsibility
27. Transport routes
28. Hazard warning panels and labels
29. Precaution against fire or explosion
30. Prohibition against overfill
31. Prohibition against carriage of multi-loads of toxic industrial waste
32. Supervision of vehicles carrying toxic industrial waste

PART VII MISCELLANEOUS

33. Supply and sale of toxic industrial waste
34. Storage requirements
35. Mixing of toxic industrial waste
36. Safe storage and dealing
37. Notice requiring removal of toxic industrial waste from premises
38. Emergency action plan to be prepared
39. Analysis of toxic industrial waste
40. Exemption
41. Penalty
 - The Schedule

[6th August 1988]

PART I PRELIMINARY

Citation

1. These Regulations may be cited as the Environmental Public Health (Toxic Industrial Waste) Regulations.

Definitions

2. (1) In these Regulations, unless the context otherwise requires
 - “carrier” means any person undertaking the transport of toxic industrial waste and includes both carriers for hire or reward and carriers on own account;
 - “code of practice” means a standard which
 - (a) sets out the method of installation of equipment and the procedure to be followed for the efficient use and maintenance of such equipment;
 - (b) recommends precautions to be taken in making, using and maintaining such equipment; or
 - (c) specifies the measures or precautions to be taken in designing, planning and constructing such equipment in order to ensure that the requirements laid down in respect of the design, plan and construction of such equipment are complied with;
 - “consignment” means any load or multi-load of toxic industrial waste presented by a consignor for transport;
 - “consignor” means any person who presents a consignment of toxic industrial waste for transport or on whose behalf such consignment is presented;
 - “container” means
 - (a) any vessel, can, drum, barrel or other receptacle; or
 - (b) where such vessel, can, drum, barrel or other receptacle is contained in another container or is wholly enveloped in a covering or coverings of whatever nature, the outermost container or covering, as the case may be,
 but does not include the carrying tank of a road tanker, a tank container or a freight container;
 - “emergency action plan” means such plan of action to be taken in the event of any emergency situation involving any toxic industrial waste as approved by the Commissioner;
 - “freight container” means an article of transport equipment designed to facilitate the carriage of goods by one or more modes of transport without intermediate re-loading of the contents;
 - “generator” includes
 - (a) any person, whose act or process produces toxic industrial waste or whose act first causes toxic industrial waste to become subject to regulation; or
 - (b) the owner or the person having the charge, management or control of a source of toxic industrial waste;
 - “import”, with its grammatical variations and cognate expressions, means to bring or cause to be brought into Singapore by land, sea or air;
 - “multi-load” means a load consisting of 2 or more types of toxic industrial waste in separate compartments or containers (whether or not a waste which is not a toxic industrial waste is being conveyed at the same time);
 - “road” has the same meaning as in the Road Traffic Act (Cap.276);
 - “road tanker” means a goods vehicle as defined in the Road Traffic Act which has a tank that is structurally attached to, or is an integral part of, the frame of the vehicle;
 - “tank” means a container having a total internal capacity exceeding 250 litres for liquids and 500 litres for gases;
 - “tank container” means a tank with a total liquid capacity of 450 litres or more which is
 - (a) used for the conveyance of a liquid, gaseous, powdery or granular substance; and
 - (b) constructed for repeated use and to facilitate the carriage of goods by one or more modes of transport without need of removal of its structural equipment or intermediate re-loading of its contents;
 - “toxic industrial waste collector” means any person who receives or accepts any toxic industrial waste for storage, reprocessing, usage, treatment or disposal but does not include the carrier engaged by the generator or the toxic industrial waste collector to transport toxic industrial waste;

“transport” means transport by road and includes any operation incidental to the whole course of carriage, such as loading, unloading and storage in transit;

“vehicle” means any mechanically propelled vehicle or otherwise intended or adapted for use on roads and includes a road tanker and a trailer which does not form part of the vehicle.

(2) For the purposes of these Regulations, a combination of a vehicle and one or more trailers shall be treated as one vehicle for so long as they remain attached.

(3) A vehicle shall be deemed for the purposes of these Regulations to be used for the transport of toxic industrial waste throughout the period

(a) in the case of a road tanker, from the commencement of loading for the purpose of conveying the waste on a road until the tank or compartment of the tank has been cleaned or purged so that any of the waste or its vapour which remains in it is not sufficient to create a risk to the health or safety of any person; or

(b) in the case of a vehicle carrying a container, tank container or freight container from either

(i) the time at which the container, tank container or freight container containing the toxic industrial waste is placed on the vehicle; or

(ii) if the container, tank container or freight container was placed on the vehicle before loading was commenced, from the commencement of loading,

for the purpose of conveying the waste on a road until either

(A) the container, tank container or freight container is removed from the vehicle; or

(B) the tank container or compartment of the tank container has been cleaned or purged so that any of the waste or its vapour which remains in it is not sufficient to create a risk to the health or safety of any person,

and in either case, whether or not the vehicle is on a road at the material time.

Application

3. These Regulations shall only apply to the toxic industrial wastes which are specified in the Schedule.

PART II GENERATOR

Commissioner to be notified when toxic industrial waste exceeds permitted level

4. Every generator shall forthwith notify the Commissioner of

(a) any change in the type or nature of toxic industrial waste that is being produced or generated in his premises; and

(b) the quantity, volume, concentration or level of any toxic industrial waste that is produced or generated in excess of that prescribed in the second column of the Schedule and the action he intends to take or has taken in respect thereto.

Information to be given to toxic industrial waste collector to enable him to deal with toxic industrial waste properly

5. (1) Any person who supplies or sells or permits to be supplied or sold toxic industrial waste to any toxic industrial waste collector shall give all such necessary information to the toxic industrial waste collector as will enable him to carry out the storage, treatment, reprocessing or disposal of the toxic industrial waste properly and safely.

(2) Any person who supplies any information relating to toxic industrial waste to a toxic industrial waste collector under paragraph (1) shall ensure that the toxic industrial waste collector is a licensed toxic industrial waste collector and that the information is accurate and sufficient for the purposes of that paragraph.

Generator to keep register

6. (1) Every generator shall keep a register which shall contain the following particulars in respect of toxic industrial waste:

(a) the type and quantity generated;

(b) the manner of disposal;

(c) the date and the quantity supplied or sold to a toxic industrial waste collector;

(d) the name and address of the toxic industrial waste collector; and

(e) the quantity held in stock.

(2) The register shall be kept up to date on a weekly basis unless otherwise specified by the Commissioner and shall be kept for such period of time as the Commissioner may direct.

Application

7. Regulations 4, 5 and 6 shall not apply to any generator with on-site disposal facilities established with the permission of the Commissioner for the treatment or recycling of toxic industrial waste produced in the premises whereby no toxic industrial waste need to be transported out of the premises for disposal.

No use or storage of toxic industrial waste except in certain circumstances

8. A generator shall not, on any premises which are used for the purposes of an undertaking carried on by him, keep or use, or cause or permit to be kept or used, toxic industrial waste unless there are on-site disposal facilities established with the permission of the Commissioner or toxic industrial waste collector has been engaged to dispose of the waste.

PART III TOXIC INDUSTRIAL WASTE COLLECTOR

No person to act as toxic industrial waste collector without licence

9. No person shall

- (a) carry on or advertise, notify or state that he carries on or is willing to carry on the business of a toxic industrial waste collector;
 - (b) act as a toxic industrial waste collector; or
 - (c) in any way hold himself out as ready to undertake for payment or other remuneration (whether monetary or otherwise) any of the functions of a toxic industrial waste collector,
- unless he is the holder of a toxic industrial waste collector's licence.

Alteration of works or method of operation, etc.

10. The licensed toxic industrial waste collector shall not, without the written permission of the Commissioner

- (a) install, construct or alter any works for the reprocessing, treatment, storage or disposal of toxic industrial waste or carry out any works on the premises which is the commencement of or any subsequent steps in relation thereto;
 - (b) alter the method of operation of any waste reprocessing, treatment, storage or disposal process involving toxic industrial waste carried on at his premises; or
 - (c) alter the type of toxic industrial waste being reprocessed, treated, stored or disposed of on the premises,
- unless the installation, construction or alteration is done only in the course of and for the purpose of general maintenance.

Toxic industrial waste collector to obtain information on toxic industrial waste

11. A toxic industrial waste collector shall not receive or accept any toxic industrial waste unless he has obtained and verified all relevant information of the waste as will enable him to carry out the storage, treatment, reprocessing or disposal of the toxic industrial waste properly and safely.

Register to be kept by toxic industrial waste collector

12. (1) A toxic industrial waste collector shall prepare and maintain a register in such form as the Commissioner may require.

(2) The register shall be kept for such period of time as the Commissioner may direct and shall be submitted for inspection by the Commissioner at such times as the Commissioner may require.

PART IV LICENCES

Application for toxic industrial waste collector's licence

13. (1) Every application for a toxic industrial waste collector's licence shall be made to the Commissioner in such form as the Commissioner may determine.

(2) Every application shall state the name and address of the applicant.

(3) A toxic industrial waste collector shall receive, accept or deal only in the type of toxic industrial waste for which he is licensed.

(4) A licensed toxic industrial waste collector shall surrender his licence upon its expiry, revocation, cancellation or suspension to a public officer authorised in writing by the Commissioner.

(5) Every licence shall, unless previously revoked, remain in force for such period of time as the Commissioner may specify in the licence.

(6) The fee for the grant or renewal of a licence shall be \$125 except that any person who is licensed as a general waste collector under the Environmental Public Health (General Waste Collection) Regulations (Rg12) shall be exempted from payment of the licence fee.

(7) The fee for the amendment of a licence shall be \$12 per application.

PART V IMPORT OF TOXIC INDUSTRIAL WASTE

Import of toxic industrial waste

14. (1) No person shall, without the written permission of the Commissioner, import or cause any toxic industrial waste to be brought into Singapore.

(2) The Commissioner may, in granting any permission, impose such condition as he thinks fit.

Collection of toxic industrial waste

15. Where any toxic industrial waste is imported and is to be delivered in Singapore, the toxic industrial waste collector or his duly authorised agent shall take delivery of the waste

- (a) at the Woodlands Customs Station if the waste is imported into Singapore by road;
- (b) at a railway station in Singapore if the waste is imported into Singapore by rail;
- (c) at a wharf in Singapore if the waste is imported into Singapore by sea; or
- (d) at an air cargo terminal in Singapore if the waste is imported into Singapore by air.

PART VI TRANSPORT OF TOXIC INDUSTRIAL WASTE

Consignor's responsibility for safe consignment

- 16.** A person shall not consign for transport any toxic industrial waste unless
- (a) he has obtained an approval in writing by the Commissioner in regard to the proposed transport of such waste; and
 - (b) the container, tank container, freight container or road tanker to be used for the transportation of the toxic industrial waste is designed, constructed and maintained in accordance with a code of practice approved by the Commissioner.

Consignment note

- 17.** The generator shall
- (a) prepare 5 copies of the consignment note in such form as may be prescribed by the Commissioner; and
 - (b) give 3 copies of the consignment note to the consignor before transportation of the toxic industrial waste for transmission to the carrier and one copy to the Commissioner within 3 days of the transportation of the waste.

Driver to deliver consignment note to consignee

18. (1) The carrier shall give 2 copies of the consignment note referred to in regulation 17 to the driver for delivery to the consignee.

(2) The consignee shall, upon taking delivery of the waste, obtain 2 copies of the consignment note referred to in paragraph (1) from the driver.

Receipt of consignment note

19. (1) The consignee shall submit one copy of the consignment note referred to in regulation 18 duly completed to the Commissioner within 3 days of the receipt of the toxic industrial waste.

(2) The consignee shall immediately inform the Commissioner of the quantity or type of toxic industrial waste received by or delivered to him if it is different from that shown in the consignment note referred to in regulation 18.

Application

20. Regulation 16 (a), 17, 18 and 19 shall apply only to the transport or consigning for transport of any toxic industrial waste in an amount exceeding the quantities as specified in the third column of the Schedule.

Collection from several generators

21. (1) No person shall transport or collect toxic industrial waste in a vehicle from several generators at any one time unless he is a licensed toxic industrial waste collector or is engaged by a licensed toxic industrial waste collector.

(2) The total cumulated quantity of toxic industrial waste transported or collected per trip shall not exceed the quantities specified in the third column of the Schedule unless the toxic industrial waste collector has obtained an approval in writing by the Commissioner.

Carrier to obtain information on consignment

22. (1) No carrier shall transport any toxic industrial waste unless he has been given a statement prescribed by regulation 24 (1) as will enable him to comply with the requirements of these Regulations and to be aware of the risks created by the waste to the health or safety of any person.

(2) The statement shall be supplied by the consignor or owner of the consignment of toxic industrial waste to the carrier at the latest when the transport order is given, so as to enable the carrier to take all necessary steps to ensure that the driver of the vehicle used to transport the toxic industrial waste is aware of the instructions therein and is capable of carrying them out effectively.

(3) It shall be the duty of any person who supplies any statement relating to toxic industrial waste to a carrier under paragraph (1) to ensure that the information contained therein is accurate and sufficient for the purposes of that paragraph.

Carrier to be given copy of written approval, etc.

23. Notwithstanding regulation 22, no carrier shall transport any toxic industrial waste exceeding the quantities as specified in the third column of the Schedule unless he has been given a copy of the written approval of the Commissioner as prescribed by regulation 16 and copies of the consignment note referred to in regulation 17.

Transport documents

24. (1) The consignor or owner of a consignment of toxic industrial waste shall provide in the transport documents a statement regarding the safety requirements and the actions required to be taken by the carrier which shall include the

following:

- (a) supplementary operational requirements for loading, unloading, transport, storage, handling and stowage or a statement that no supplementary operational requirements are necessary;
- (b) restrictions, if any, on the mode of transport and any necessary routing instructions;
- (c) emergency action plans;
- (d) indication or indications of the general nature of the risk involved and safety precautions when handling the toxic industrial waste; and
- (e) a declaration that the contents of the consignment are properly described by name and are properly marked, labelled and packaged and are in a proper condition for transport.

(2) The declaration made under paragraph (1) (e) shall contain the original or stamped facsimile signature of the consignor or owner of the consignment of toxic industrial waste, as the case may be, together with the date and shall be in such form as may be prescribed by the Commissioner.

Instructions for drivers

25. The carrier shall, before any toxic industrial waste is transported, give the driver of the vehicle used to transport the waste a copy of the statement referred to in regulation 22 (1) and ensure that the driver is adequately trained to carry out the instructions contained in the statement.

Driver's responsibility

26. The driver of a vehicle used for transporting any toxic industrial waste shall

- (a) keep in the vehicle a copy of the statement given to him under regulation 25 at all times when the waste is being transported; and
- (b) comply with all the instructions contained in the copy of the statement given to him under regulation 25.

Transport routes

27. The carrier shall not transport any toxic industrial waste exceeding the quantities as specified in the third column of the Schedule except at such times and along such routes as may be prescribed by the Commissioner.

Hazard warning panels and labels

28. (1) Where any toxic industrial waste is being transported in a road tanker, a freight container or a tank container or in any other vehicle, the carrier shall ensure that such appropriate hazard warning panel or label as prescribed in the code of labelling specified by the Commissioner is displayed on the road tanker, freight container, tank container or on any other vehicle and such panel or label shall

- (a) be weather resistant and indelibly marked;
- (b) be either rigid or fixed to be rigid;
- (c) be marked on or securely attached to the vehicle, freight container or tank container in a substantially vertical plane, and if the means of attachment is by a frame, that frame shall carry no other hazard warning panels; and
- (d) be kept clean and free from obstruction, except that a rear panel or label may be mounted behind a ladder of light construction which does not prevent the information on the panel or label from being easily read.

(2) Where a multi-load is transported in a compartmented tank container or freight container or, if in a road tanker, in separate tanks or compartments of a tank, the carrier shall ensure that each tank or compartment which contains a toxic industrial waste is provided with and displays the appropriate hazard warning panel or label prescribed in the code of labelling specified by the Commissioner and the requirements of paragraph (1) shall apply to such panel or label.

(3) The carrier shall ensure that such hazard warning panel or label is

- (a) displayed on the road tanker, freight container, tank container or other vehicle at all times when any toxic industrial waste is being transported; and
- (b) removed when the road tanker, freight container, tank container or other vehicle is not used for transporting any toxic industrial waste.

Precaution against fire or explosion

29. (1) Every person engaged in the transport of toxic industrial waste shall

- (a) ensure as far as is reasonably possible that none of the waste is spilt or released; and
- (b) observe all precautions necessary for preventing fire or explosion.

(2) A suitable and efficient fire extinguisher shall be carried in an easily accessible position on any vehicle transporting any toxic industrial waste.

Prohibition against overfill

30. The consignor or owner of a consignment of toxic industrial waste shall ensure that any carrying tank of a road tanker, tank container or freight container in which the toxic industrial waste is transported is not overfilled at the time of consigning for transport.

Prohibition against carriage of multi-loads of toxic industrial waste

31. No person shall transport a multi-load of toxic industrial waste except in accordance with a code approved by the Commissioner.

Supervision of vehicles carrying toxic industrial waste

32. (1) The driver of a vehicle used to transport any toxic industrial waste shall ensure that the vehicle, when not driven, is

- (a) parked in a safe place; or
- (b) supervised at all times by him or by some other competent person above the age of 21 years.

(2) Paragraph (1) shall not apply where any carrying tank of a road tanker, tank container or compartment thereof, which had contained a toxic industrial waste is nominally empty.

(3) In paragraph (2), “nominally empty” means that as much of the toxic industrial waste as is reasonably practicable has been discharged or unloaded from it and that such waste remaining within the carrying tank, tank container or compartment thereof is not sufficient to create a risk to the health and safety of any person.

PART VII MISCELLANEOUS

Supply and sale of toxic industrial waste

33. (1) No person shall supply or sell or permit to be supplied or sold any toxic industrial waste to any unlicensed toxic industrial waste collector.

(2) Paragraph (1) shall not apply to the export of toxic industrial waste from Singapore.

Storage requirements

34. It shall not be lawful to store any toxic industrial waste except in a container

- (a) the design, construction and maintenance of which is in accordance with a code of practice approved by the Commissioner;
- (b) which is in an area to which entry is restricted to authorised personnel; and
- (c) which is labelled with the appropriate hazard warning sign as prescribed in a code of labelling approved by the Commissioner.

Mixing of toxic industrial waste

35. No person shall mix or permit the mixing of different types of toxic industrial waste or mix or permit the mixing of toxic industrial waste with non-toxic industrial waste unless the mixing is part of a process of treatment, use or disposal approved by the Commissioner.

Safe storage and dealing

36. Every generator or toxic industrial waste collector and every agent or employee of such person shall, when storing, using or otherwise dealing with toxic industrial waste, do so in such a manner as not to threaten the health or safety of any person or to cause pollution to the environment.

Notice requiring removal of toxic industrial waste from premises

37. (1) If, in the opinion of the Commissioner, the toxic industrial waste stored in any premises is likely to threaten the health or safety of any person or to cause pollution to the environment, the Commissioner may, by notice in writing, require the owner or occupier of the premises to remove the toxic industrial waste to a disposal facility.

(2) The Commissioner may, by notice in writing, require the owner or occupier upon whom a notice has been served under paragraph (1) to furnish evidence that the industrial waste from the premises has been disposed of at a disposal facility in accordance with the notice.

Emergency action plan to be prepared

38. (1) The generator, toxic industrial waste collector, consignor or owner of any consignment of toxic industrial waste shall

- (a) prepare and keep up to date the emergency action plan detailing how spillage, leakage or accidents which may arise from the transportation, storage, reprocessing or treatment of toxic industrial waste will be dealt with; and
- (b) ensure that his agents or employees have received adequate instruction and training to enable them to implement the emergency action plan in the event of any accident or emergency involving any toxic industrial waste stored, reprocessed, treated or transported.

(2) The Commissioner may by notice in writing require any generator, toxic industrial waste collector, consignor or owner of any consignment of toxic industrial waste to prepare, improve or update the emergency action plan within a reasonable time fixed by him.

Analysis of toxic industrial waste

39. (1) The Commissioner may, by notice in writing, require any person to submit samples of the toxic industrial waste produced in his premises or collected or received by him to any laboratory approved by the Commissioner for chemical analysis.

(2) All analysis reports shall be kept and shall be made available for inspection by the Commissioner.

Exemption

40. The Commissioner may exempt any person or class of persons from any of the provisions of these Regulations.

Penalty

41. A person who contravenes or fails to comply with any of the provisions of these Regulations shall be guilty of an offence and shall be liable on conviction to a fine not exceeding \$2,000 and, in the case of a continuing offence, to a further fine not exceeding \$100 for every day or part thereof during which the offence continues after conviction.

THE SCHEDULE

Regulations 3, 4 (b), 20,
21 (2), 23 and 27

LIST OF TOXIC INDUSTRIAL WASTES

List of Toxic Industrial Wastes	Prescribed Quantity For Generation Per Year	Prescribed Quantity For Transportation Per Trip
<i>Acids</i>		
1. Spent inorganic acids, e.g. hydrochloric acid, sulphuric acid, nitric acid, phosphoric acid, hydrofluoric acid, boric acid and pickling acid	1,000 l	250 l
2. Spent organic acids, e.g. acetic acid, formic acid, benzoic acid and sulphonic acid	1,000 l	250 l
<i>Alkalis</i>		
1. Spent alkaline solutions	1,000 l	250 l
2. Spent ammoniacal solutions	1,000 l	250 l
3. Metal hydroxide sludges and oxide sludges	1,500 kg	300 kg
<i>Antimony and its Compounds</i>		
Spent antimony potassium tartrate	0 kg	0 kg
<i>Arsenic and its Compounds</i>		
1. Timber preservative residues containing arsenic	0 kg	0 kg
2. Wastes containing gallium arsenide	0 kg	0 kg
<i>Asbestos</i>		
1. Asbestos wastes from asbestos/cement manufacturing processes	1,500 kg	300 kg
2. Empty sacks/bags which have contained loose asbestos fibre	1,500 kg	300 kg
<i>Cadmium and its Compounds</i>		
1. Plating effluents and residues containing cadmium	1,000 l	250 l
2. Wastes containing cadmium from Ni/Cd battery manufacturing	0 kg	0 kg
<i>Chromium Compounds</i>		
1. Plating effluents and residues containing chromium	1,000 l	250 l
2. Timber preservative residues containing chromium	0 kg	0 kg
3. Spent and aqueous solutions containing chromic compounds	1,000 l	250 l
4. Tannery effluents and residues containing chromium	1,000 l	250 l
<i>Copper Compounds</i>		
1. Plating effluents and residues containing copper	1,000 l	250 l
2. Spent etching solutions containing copper from printed circuit board manufacturing	1,000 l	250 l
3. Timber preservative residues containing copper	0 kg	0 kg
<i>Cyanides</i>		
1. Plating effluents and residues containing cyanides	0 kg	0 kg
2. Heat treatment residues containing cyanides	0 kg	0 kg
3. Spent quenching oils containing cyanides	0 kg	0 kg
4. Spent processing solutions containing cyanides from photographic processing	0 kg	0 kg
<i>Fluoride Compounds</i>		
1. Timber preservative residues containing fluorides	0 kg	0 kg
2. Spent ammonium bi-fluoride	1,000 l	250 l
<i>Isocyanates</i>		
Spent di-isocyanates, e.g. toluene di-isocyanate (TDI) and methylene di-isocyanate (MDI) from polyurethane foam-making process	1,000 l	250 l
<i>Laboratory Wastes</i>		
1. Obsolete laboratory chemicals	0 kg	0 kg
2. Toxic chemical wastes from chemical analysis	0 kg	0 kg

<i>Lead Compounds</i>		
1. Sludges containing lead oxide/sulphate	1,500 kg	300 kg
2. Spent organo-lead compounds, e.g. tetraethyllead (TEL) and tetramethyllead(TML)	0 kg	0 kg
3. Waste lead-acid batteries, whole or crushed	10,000 kg	1,000 kg
<i>Mercury and its Compounds</i>		
1. Effluents, residues or sludges containing mercury from chlor-alkali industry	0 kg	0 kg
2. Wastes containing mercury from equipment manufacturing involving the use of metal mercury	0 kg	0 kg
3. Spent catalysts from chemical processes containing mercury	0 kg	0 kg
4. Spent organo-mercury compounds	0 kg	0 kg
<i>Metal Catalysts</i>		
Spent metal catalysts from chemical processes and petroleum refining, e.g. catalysts containing chromium and cobalt	0 kg	0 kg
<i>Nickel Compounds</i>		
Plating effluents and residues containing nickel	1,000 l	250 l
<i>Organic Compounds containing Halogen</i>		
1. Spent halogenated organic solvents, e.g. trichloroethylene, 111-trichloroethane, perchloroethylene, methylene chloride, tetra-chloromethane and 112-trichloro-122-trifluoroethane	10,000 l	1,000 l
2. Residues from recovery of halogenated organic solvents	7,500 kg	1,500 kg
3. Packaging materials or residues containing chlorobenzenes and/or chlorophenals and their salts	0 kg	0 kg
<i>Organic Compounds not containing Halogen</i>		
1. Spent non-halogenated organic solvents, e.g. benzene, toluene, xylene, turpentine, petroleum, thinner, kerosene, methanol, ethanol, isobutanol, isopropanol, methyl ethyl ketone, methyl isobutyl ketone, isopropyl ether, diethyl ether, hexane, dimethyl sulphide and dimethyl sulphoxide	10,000 l	1,000 l
2. Residue from recovery of non-halogenated organic solvents	7,500 kg	1,500 kg
<i>Other Wastes</i>		
1. Obsolete/abandoned chemicals and pesticides from storage, manufacturing and trading activities	0 kg	0 kg
2. Used containers, bags and process equipment contaminated by chemicals and pesticides from storage, manufacturing and trading activities	0 kg	0 kg
3. Wastes/residues containing unreacted monomers, e.g. vinyl chloride and styrene monomers, from polymer manufacturing processes	7,500 kg	1,500 kg
4. Tar residues from distilling and tarry materials from refining	7,500 kg	1,500 kg
5. Wastes from toxic waste treatment processes, e.g. wastes and residues from solidification, fixation and incineration processes	7,500 kg	1,500 kg
6. Wastes from toxic chemical drums and tank cleaning activities	1,000 l	250 l
7. Chemical and oil slops from ship tankers	10,000 l	1,000 l
8. Waste from the production, formulation and use of resins, latex, plasticisers, glues/adhesives containing solvents and other contaminants	5,000 l	1,000 l
9. Wastes from the production, formulation and use of inks, dyes, pigments, paints, lacquers, varnish containing organic solvents, heavy metals or biocides	5,000 l	1,000 l
<i>Pathogenic Wastes</i>		
Pathogenic wastes from hospitals	0 kg	0 kg
<i>Phenolic Compounds</i>		
1. Sludges/residues from paint stripping using chemicals containing phenols	1,500 kg	300 kg
2. Residues containing unreacted phenol and formaldehyde from adhesive industry	1,500 kg	300 kg
<i>Polychlorinated Bi-phenyl (PCB) Including Poly-chlorinated Ter-phenyl (PCT)</i>		
1. Spent transformer oil containing PCB and/or PCT	0 kg	0 kg
2. Retrofilled transformer contaminated with PCB and/or PCT	0 kg	0 kg
3. Electrical equipment and parts containing or contaminated with PCB and/or PCT, e.g. capacitors and transformers	0 kg	0 kg
4. Containers and all waste materials contaminated with PCB and/or PCT	0 kg	0 kg
<i>Polyvinyl Chloride (PVC)</i>		
All waste materials containing PVC, e.g. PVC insulated wires, PVC pipes and trunking, PVC parts, PVC upholstery and PVC resins	No Requirement	No Requirement
<i>Silver Compounds</i>		
Spent processing solutions containing silver from photographic processing	1,000 l	250 l

<i>Used, Contaminated Oil</i>		
1. Used material, lubricating and hydraulic oil from machine cylinders, turbines, switch gears and transformers	10,000 l	1,000 l
2. Spent motor oils from petrol and diesel engines	10,000 l	1,000 l
3. Spent quenching oil from metal hardening	10,000 l	1,000 l
4. Oil recovered from solvent degreasers	5,000 l	1,000 l
5. Spent oil water emulsions, e.g. spent coolants from metal working industries	5,000 l	1,000 l
6. Oil water mixtures (mainly oil), e.g. oily ballast water from ship tankers	10,000 l	1,000 l
7. Oil and sludge from oil interceptors	7,500 kg	1,500 kg
8. Tanker sludges and oil sludges/residues from storage tanks	7,500 kg	1,500 kg
9. Oil sludges containing acid from recovery and recycling of used oil	7,500 kg	1,500 kg
<i>Zinc Compounds</i>		
Plating effluents and residues containing zinc	1,000 l	250 l

Appendix 5
Sources of Environmental Information
in Singapore and Japan

1. in Singapore (in no particular order)

(1) Singapore government agencies and other institutions

- 1) Ministry of the Environment : ENV
40 Scotts Road, Environment Building, Singapore 228231
phone +65-6732-7733
fax +65-6731-9456
URL <http://www.env.gov.sg/>
- 2) National Environment Agency : NEA
40 Scotts Road, Environment Building, Singapore 228231
phone 1800-2255 632 / +65-6731-9618 (Pollution Control Department)
fax +65-6235-2611
URL <http://app.nea.gov.sg/> E-mail: Contact_NEA@nea.gov.sg
- 3) Ministry of Trade and Industry : MTI
100 High Street, #09-01 The Treasury, Singapore 179434
phone +65-6225-9911
fax +65-6332-7260
URL <http://www.mti.gov.sg/>
- 4) Economic Development Board : EDB
250 North Bridge Road #24-00, Raffles City Tower, Singapore 179101
phone +65-6336-2288
fax +65-6339-6077
URL <http://www.sedb.com/>
- 5) Standards, Productivity and Innovation Board : SPRING
2 Bukit Merah Central, Singapore 159835
phone +65-6278-6666
fax +65-6278-6667
URL <http://www.spring.gov.sg/>
- 6) Ministry of National Development : MND
5 Maxwell Road, #21-22 Tower Block, MND Complex, Singapore 069110
phone +65-6222-1211
fax +65-6325-7254
URL <http://www.mnd.gov.sg/>
- 7) Housing & Development Board : HDB
480 Lorong 6, Toa Payoh, Singapore 310480
phone +65-6490-1111
fax +65-6397-2070 (international) / 6490-1033 (local)
URL <http://www.hdb.gov.sg/> E-mail: hdbmailbox@hdb.gov.sg
- 8) Urban Redevelopment Authority : URA
45 Maxwell Road, The URA Centre, Singapore 069118
phone +65-6221-6666
fax +65-6227-5069
URL <http://www.ura.gov.sg/>

- 9) Public Utilities Board : PUB
 111 Somerset Road #15-01, Singapore 238164
 phone +65-6235-8888
 fax +65-6731-3020
 URL <http://www.pub.gov.sg/mainpage.htm>
- 10) Jurong Town Corporation : JTC
 The JTC Summit, 8 Jurong Town Hall Road, Singapore 609434
 phone 1800-5687000 / +65-6560-0056
 fax +65-6565-5301
 URL <http://www.jtc.gov.sg/>
- 11) Asia-Pacific Centre for Environmental Law : APCEL
 Faculty of Law, 39 Law Link, Singapore 117589
 URL <http://law.nus.edu.sg/apcel/> E-mail: lawapcel@nus.edu.sg

(2) Japanese government agencies and other institutions

- 1) Embassy of Japan in Singapore
 16 Nassim Road, Singapore 258390
 phone +65-6235-8855
 fax +65-6733-5612
 URL <http://www.sg.emb-japan.go.jp/>
- 2) Japanese Chamber of Commerce & Industry, Singapore : JCCI Singapore
 10 Shenton Way, #12-04/05/06 MAS Building, Singapore 079117
 phone +65-6221-0541
 fax +65-6225-6197
 URL <http://www.jcci.org.sg/> E-mail: info@jcci.org.sg
- 3) JETRO (Japan External Trade Organization) Singapore
 16 Raffles Quay, #38-05, Hong Leong Building, Singapore 048581
 phone +65-6221-8174
 fax +65-6224-1169
 URL <http://www.jetro.go.jp/ova/spr/>
- 4) Representative Office of Kanagawa Prefectural Government in Singapore
 JETRO, Singapore (Japan trade Center) Kanagawa Section, 16 Raffles Quay, Hong
 Leong Building #38-05, Singapore 048581
 phone +65-6221-8174
 fax +65-6224-1169
 URL <http://www.ktpc.or.jp/report/report-sing.html>
- 5) Development Bank of Japan Representative Office in Singapore
 36 Robinson Road, #07-04 City House, Singapore 068877
 phone +65-6221-1779
 fax +65-6221-1142
 URL <http://www.dbj.org.sg/>

2. in Japan (in no particular order)

(1) Japanese government agencies and other institutions

1) Office of Overseas Environmental Cooperation, Global Environment Bureau,
Ministry of the Environment

1-2-2 Kasumigaseki, Chiyoda-ku, Tokyo 100-8975 Japan

phone +81-3-3581-3351

fax +81-3-3581-3423

URL <http://www.env.go.jp/>

2) Japan External Trade Organization: JETRO

2-2-5 Toranomon, Minato-ku, Tokyo 105-8466 Japan

phone +81-3-3582-5511 / +81-3-3582-1775 (library)

URL <http://www.jetro.go.jp/top-j/>

3) Institute of Developing Economies : IDE

3-2-2 Wakaba, Mihama-ku, Chiba-shi, Chiba 261-8545 Japan

phone +81-43-299-9500

URL <http://www.ide.go.jp/Japanese/index4.html>

4) Japan Bank for International Cooperation

1-4-1 Otemachi, Chiyoda-ku, Tokyo 100-8144 Japan

phone +81-3-5218-3101

fax +81-3-5218-3955

URL <http://www.jbic.go.jp/>

5) Development Bank of Japan

1-9-1 Otemachi, Chiyoda-ku, Tokyo 100-0004 Japan

phone +81-3-3244-1900

URL <http://www.dbj.go.jp/>

6) Nippon Keidanren

1-9-4 Otemachi, Chiyoda-ku, Tokyo 100-8188 Japan

phone +81-3-5204-1500

fax +81-3-5255-6233

URL <http://www.keidanren.or.jp/indexj.html>

7) Global Environmental Forum

1-9-7 Azabudai, Minato-ku, Tokyo 106-0041 Japan

phone +81-3-5561-9735

fax +81-3-5561-9737

URL <http://www.gef.or.jp/>

(2) Singapore government agencies and other institutions

1) Embassy of the Republic of Singapore in Japan

5-12-3 Roppongi, Minato-ku, Tokyo 106-0032 Japan

phone +81-3-3586-9111

- 2) **Consulate-General of the Republic of Singapore in Osaka**
14F Osaka Kokusai Building 3-13 Azuchi-machi 2-chome, Chuo-ku, Osaka 541-0052
Japan
phone +81-6-6261-5131

- 3) **Honorary Consulate General of the Republic of Singapore in Nagoya**
9F Daiichi Fuji Building 35-16 Daikancho, Higashi-ku, Nagoya 461-0002 Japan
phone +81-52-932-6393

- 4) **EDB Office in Tokyo (Office of the Counsellor (Industry))**
8th Floor The Imperial Tower, 1-1 Uchisaiwai-cho 1-chome, Chiyoda-ku, Tokyo
100-0011 Japan
phone +81-3-3501-6041
fax +81-3-3501-6060
E-mail: edbto@edb.gov.sg

- 5) **EDB Office in Osaka**
14F Osaka Kokusai Building 3-13 Azuchi-machi 2-chome, Chuo-ku, Osaka 541-0052
Japan
phone +81-6-6261-5131
fax +81-6-6261-0338
E-mail: edbos@edb.gov.sg