

Radiation Protection Act 1991,(Revised version 1992).

An Act to control and regulate the importation, manufacture, sale, disposal, transport, storage, possession and use of radioactive materials and irradiating apparatus and for matters connected therewith.

(1st January 1992)

PART I

PRELIMINARY

Short title.

1. This Act may be cited as the Radiation Protection Act.

Interpretation.

2. In this Act, unless the context otherwise requires —

"approved" means approved in writing by the Chief Executive;

"authorised officer" means any authorised officer appointed under section 3;

"Authority" means the Health Sciences Authority established under the Health Sciences Authority Act 2001;

"Chief Executive" means the person appointed under section 15 of the Health Sciences Authority Act 2001 to be the Chief Executive of the Authority;

"Committee" means the Radiation Advisory Committee established under section 4;

"diagnostic radiologist" means a registered medical practitioner who holds any post-graduate degree, diploma or qualification in diagnostic radiology which is approved by the Minister for the purposes of this Act;

"disposal", in relation to waste, includes its removal, deposit or destruction, and includes its discharge, whether onto land or into water or into air or into a sewer or a drain or otherwise, and also includes its burial, whether underground or otherwise, and "dispose of" shall be construed accordingly;

"export", with its grammatical variations and cognate expressions, in relation to Singapore, means to take or cause to be taken out of Singapore by land, sea or air;

"fuel burning equipment" includes a nuclear fuel plant;

"import", with its grammatical variations and cognate expressions, in relation to Singapore, means to bring, or cause to be brought into Singapore by land, sea or air;

"in transit" means taken or sent from any country and brought into Singapore by land, sea or air whether or not landed or transhipped in Singapore for the sole purpose of being carried to another country either by the same or by another conveyance;

"ionising radiations" means electromagnetic radiations and corpuscular radiations which give rise to the formation of ion pairs on interaction with matter;

"irradiating apparatus" means —

(a) any apparatus that is capable of producing ionising radiation;

(b) any apparatus of a prescribed type that is capable of producing non-ionising radiation; and

(c) any component of or accessory to an apparatus described in paragraph (a) or (b);

"licence" means a valid licence granted under section 9;

"licensee" means the holder of a licence;

"non-ionising radiations" means electromagnetic radiations and fields with wavelengths greater than 100 nanometers and all acoustic radiations and fields with frequencies below 16 Hz and above 16 kHz;

"nuclear medicine specialist" means a registered medical practitioner who holds a post-graduate degree, diploma or qualification in internal medicine or radiology which is approved by the Minister for the purposes of this Act and has two or more years of full-time work experience in an accredited nuclear medical department;

"premises" includes messuages, houses, buildings and lands, whether open or enclosed, and whether public or private, and includes any place underground and any land covered by water;

"prescribed" means prescribed by this Act or by regulations made thereunder;

"radiation" means ionising radiation or non-ionising radiation;

"radioactive material" means any article containing a radioactive substance giving it a specific radioactivity exceeding 74 becquerel per gram and a total radioactivity exceeding 3.7 kilobecquerel;

"radioactive substance" means a radionuclide or mixture of radionuclides, either alone or in chemical combination with other elements;

"radioactive waste" means any waste which consists wholly or partly of —

(a) the substance or article which, if it were not waste, would be radioactive material; or

(b) a substance or article which has been contaminated in the course of the production, keeping or use of radioactive material or by contact with, or proximity to other waste falling within paragraph (a);

"radionuclide" means an isotope of any element which spontaneously emits any ionising radiation;

"registered dentist" means a person whose name appears in the first division of the register kept under section 13 of the Dentists Act 1999;

"registered medical practitioner" means any person who is registered or deemed to be registered as a medical practitioner under the Medical Registration Act;

Cap. 174.

"registered pharmacist" means any person who is registered as a pharmacist under the Pharmacists Registration Act;

Cap. 230.

"sell" includes supplying or otherwise dealing in or disposing of, whether by way of sale, loan or gift, or offering or attempting to sell, or receiving for sale, or exposing for sale, or having in possession for sale, or sending or delivering for sale, or causing to be sold, offered or exposed for sale and also includes barter, and "sale", "buying", "vendor" and "purchaser" shall have corresponding meanings;

"therapeutic radiologist" means a registered medical practitioner who holds any post-graduate degree, diploma or qualification in therapeutic radiology which is approved by the Minister for the purposes of this Act;

"veterinary surgeon" means —

(a) a person who holds a degree, diploma or qualification in veterinary science which is approved by the Minister for the purposes of this Act; or

(b) any veterinary surgeon employed by the Government.

PART II

ADMINISTRATION

Administration of Act and appointment of authorised officers

3. —(1) The Chief Executive shall be charged with the general administration of this Act and the exercise of the powers conferred and duties imposed upon him by this Act.

(2) The Chief Executive may appoint such other persons as he thinks fit to be authorised officers for the purposes of this Act.

(3) Subject to any general or special directions of the Minister or the Chief Executive, the powers conferred and duties imposed on the Chief Executive by this Act or any regulations made thereunder may be exercised or performed by any authorised officer.

Radiation Advisory Committee.

4. —(1) There shall be an advisory committee to be known as the Radiation Advisory Committee whose duty shall be to advise the Minister on —

(a) any matter arising out of the exercise of the powers vested in the Minister and the Chief Executive by this Act which is referred to the Committee by the Minister or the Chief Executive; and

(b) any matter connected with the exercise of those powers on which the Committee at any time thinks fit to advise.

(2) The members of the Committee shall be appointed by the Minister and shall hold and vacate office in accordance with the terms of their appointments and shall be eligible for re-appointment.

(3) Any member of the Committee may, at any time by notice in writing to the Minister, resign his office.

(4) The Minister may at any time revoke the appointment of any member of the Committee without assigning any reason.

(5) The Minister shall appoint a member of the Committee to be chairman of the Committee.

(6) The meetings and the procedure of the Committee shall, subject to the provisions of this Act, be as determined by the members of the Committee.

PART III

USE, MANUFACTURE, SALE OF AND DEALING WITH RADIOACTIVE MATERIALS AND IRRADIATING APPARATUS

Control of importation, possession, manufacture, sale and transport of radioactive materials.

5. —(1) Subject to such exemptions as may be prescribed, no person shall, except under and in accordance with a licence —

(a) import into or export out of Singapore;

(b) keep or have in his possession or under his control;

(c) manufacture, sell or otherwise deal in; or

(d) transport,
any radioactive material.

(2) Subsection (1) shall not apply to any radioactive material —

(a) brought into Singapore in transit; or

(b) carried as part of the stores or equipment of any vessel or aircraft coming into Singapore.

Control of use of radioactive materials.

6. Subject to such exemptions as may be prescribed, no person shall, use any radioactive material unless he is the holder of a licence authorising him to do so, or is a person acting under the supervision or instructions of a person licensed as aforesaid.

Control of importation, sale or disposal of irradiating apparatus.

7. —(1) Subject to such exemptions as may be prescribed, no person shall, except in accordance with a licence —

- (a) manufacture or otherwise produce;
- (b) sell or otherwise deal in or with;
- (c) import into or export out of Singapore; or
- (d) keep or have in his possession or under his control, any irradiating apparatus.

(2) Notice of every sale of irradiating apparatus shall forthwith be given to the Chief Executive by the person selling the apparatus, together with the name and address of the person to whom it was sold.

(3) Notice of every purchase of irradiating apparatus shall forthwith be given to the Chief Executive by the person buying the apparatus, together with the name and address of the person from whom it was purchased.

(4) No irradiating apparatus, whether in a working condition or otherwise, shall be disposed of without the prior written approval of the Chief Executive.

Control of use of irradiating apparatus.

8. Subject to such exemptions as may be prescribed, no person shall use any irradiating apparatus unless he is the holder of a licence authorising him to use irradiating apparatus of the kind to which that apparatus belongs, or is a person acting under the supervision or instructions of a person licensed as aforesaid.

PART IV

LICENCES

Licences.

9. —(1) An application for a licence or a renewal thereof shall be made to the Chief Executive in an approved form and shall be accompanied by the prescribed fee.

(2) An applicant for a licence shall furnish such information as the Chief Executive may in any case require.

(3) The Chief Executive may in his discretion —

- (a) grant or renew a licence subject to such conditions, limitations and exceptions as may be specified by the Chief Executive;
- (b) during the currency of a licence, revoke or vary any condition, limitation and exception attached to the licence, or attach new conditions, limitations and exceptions to the licence;
- (c) refuse any application for a licence; and
- (d) suspend a licence for such period as he may determine, or cancel a licence.

(4) A licence shall, subject to subsection (3) (*dm*), remain in force for a period of two years, or such lesser period as may be determined by the Chief Executive, from the date of its issue and may from time to time be renewed within the prescribed time for a period not exceeding two years.

Register of licences.

10. —(1) The Chief Executive shall keep or cause to be kept such registers of licences as may be prescribed.

(2) The contents of every such register may be evidenced in any proceedings by a certificate under the hand of the Chief Executive, and every such certificate shall be prima facie evidence of the matters stated therein.

(3) A certificate under the hand of the Chief Executive stating that on a date specified in the certificate any person named therein did or did not appear in any register as the holder of a licence or any specified class of licence shall, until the contrary is proved, be sufficient evidence of the matters specified therein.

PART V

GENERAL PROVISIONS RELATING TO OCCUPATIONAL HEALTH AND SAFETY

Duties of licensees to employees.

11. —(1) Every licensee shall provide and maintain so far as is practicable for employees who are exposed or likely to be exposed to radiations a working environment that is safe and without risks to health.

(2) Without prejudice to the generality of subsection (1), every licensee shall —

(a) protect or cause to be protected all employees from exposure to radiations;

(b) provide such information, instruction, training and supervision to employees as are necessary to enable the employees to perform their work in a manner that is safe and without risks to health;

(c) submit such particulars as the Chief Executive may require regarding every employee who is likely to be exposed to any radiation;

(d) provide any prescribed monitoring equipment or devices and require all employees to wear personnel monitoring devices; and

(e) provide all employees with prescribed medical examinations by approved registered medical practitioners.

(3) The registered medical practitioners performing medical examinations under subsection (2) (e) shall give notice to the Chief Executive in the approved form of all employees whose health is affected, or is reasonably suspected to be affected, by radiations.

(4) If the Chief Executive is satisfied that it is detrimental to the health of any employee if he continues to be exposed to radiations, the licensee shall not permit or require that employee —

(a) to perform any duty which will or is likely to cause the employee to be exposed to radiations; or

(b) to work in any place where the employee will be or is likely to be exposed to radiations.

(5) For the purposes of this section —

(a) “employee” includes an independent contractor engaged by a licensee and any employee of the independent contractor; and

(b) the duties of a licensee shall extend to such an independent contractor and the independent contractor’s employees, in relation to matters over which the licensee —

(i) has control; or

(ii) would have had control but for any agreement between the licensee and the independent contractor to the contrary.

Duties of licensees to third parties.

12. Every licensee shall ensure so far as is practicable that persons (other than the employees

of the licensee) are not exposed to risks to their health or safety arising from the conduct of the undertaking or activities of the licensee.

PART VI

DISPOSAL OF RADIOACTIVE WASTE

Disposal of radioactive waste.

13. Except with the prior consent in writing of the Chief Executive and in accordance with conditions imposed by him, no person shall dispose of or cause to be disposed of any radioactive waste or gas.

Accumulation of radioactive waste.

14. —(1) No person shall accumulate any radioactive waste on any premises without the prior approval in writing of the Chief Executive.

(2) Any approval given by the Chief Executive under this section may be subject to such conditions as the Director may think fit.

(3) Where the disposal of any radioactive waste has been authorised under section 13 and, in accordance with that authorisation, the waste is required or permitted to be accumulated with a view to subsequent disposal thereof, no further authorisation under this section shall be required to enable the waste to be accumulated in accordance with the authorisation granted under that section.

(4) For the purposes of this section, where any radioactive material is produced, kept or used on any premises and any substance arising from the production, keeping or use of that material is accumulated in any part of the premises appropriated for the purpose, and is retained there for a period of not less than 3 months, that substance shall, unless the contrary is proved, be presumed —

(a) to be radioactive waste; and

(b) to be accumulated on the premises with a view to a subsequent disposal thereof.

Chief Executive may dispose of radioactive waste.

15. —(1) If there is radioactive waste on any premises and the Chief Executive is of the opinion that the waste is unlikely to be lawfully disposed of, the Chief Executive shall have the power to dispose of that radioactive waste in such manner as the Chief Executive thinks fit, and to recover from the occupier of the premises or, if the premises are unoccupied, from the owner thereof, any expenses reasonably incurred by the Chief Executive in disposing of it.

(2) For the purposes of this section, “owner” means the person for the time being receiving the rent for the premises in connection with which the word is used, whether in his own account or as agent or trustee for any other person or who would so receive the rent if the premises were let to a tenant and shall include the person whose name is entered in the Valuation List authenticated under section 15 of the Property Tax Act.

Cap. 254.

(3) Subject to section 17, the decision of the Chief Executive shall be final.

Transport of radioactive waste.

16. —(1) No person shall transport any radioactive waste without the prior consent in writing of the Chief Executive.

(2) Any consent given by the Chief Executive under this section may be expressed to be subject to such conditions as the Chief Executive thinks necessary for the protection of the public.

PART VII

MISCELLANEOUS PROVISIONS

Appeals.

17. —(1) Any person who is dissatisfied with any decision of the Chief Executive under section 9 or 15 may appeal to the Minister in writing with 30 days of the communication to him of the decision of the Chief Executive.

(2) Upon receipt of any appeal, the Minister shall appoint one or more delegates to hear representations made by the appellant and the Chief Executive and, if such delegates think fit, to inspect the premises or irradiating apparatus and to report to the Minister, who shall thereupon determine the appeal as soon as practicable.

(3) In the exercise of his power to determine an appeal, the Minister may —

(a) dismiss such appeal;

(b) require the Chief Executive to issue a licence;

(c) quash any revocation or suspension of a licence or substitute a suspension of a licence for revocation; and

(d) vary or revoke any decision of the Chief Executive and substitute any decision for a decision made by the Director.

(4) The decision of the Minister under this section shall be final.

Powers of Chief Executive and authorised officers.

18. —(1) The Chief Executive or any authorised officer may for the purposes of this Act or any regulations made thereunder enter at all reasonable hours any premises, vehicle, vessel or aircraft in which he has reasonable grounds for believing that there is any radioactive material or irradiating apparatus for the purpose of examining the premises, vehicle, vessel or aircraft and testing the radioactive material or examining or calibrating the irradiating apparatus, as the case may be.

(2) If a Magistrate is satisfied on oath or affirmation by the Chief Executive or an authorised officer that —

(a) entry in exercise of the right conferred by subsection (1) has been refused; or

(b) there are reasonable grounds for suspecting that an offence under any of the provisions of this Act or any regulations made thereunder has been or is being committed in or in connection with any premises, vehicle, vessel or aircraft,

the Magistrate may, by warrant under his hand, authorise any person named in the warrant together with any police officer to enter and search the premises, vehicle, vessel or aircraft, if necessary by force.

(3) Every warrant granted under this section shall continue in force until the purpose for which it was granted has been satisfied.

Taking samples and testing radioactive materials and irradiating apparatus.

19. —(1) The Chief Executive, any authorised officer or a police officer authorised to act under section 18 may —

(a) take without payment such samples of any material which he believes to be a radioactive material as are necessary for the purpose of examination and testing thereof;

(b) examine and calibrate any irradiating apparatus or any apparatus which he believes to be an irradiating apparatus;

(c) examine the premises where such radioactive materials or irradiating apparatus is kept;

(d) examine records, registers and other documents; and

(e) seal, seize and detain any radioactive substance, irradiating apparatus or books and documents found as may be considered necessary.

(2) Any person who refuses, fails or neglects to comply with any demand or requisition made by any person under subsection (1) shall be guilty of an offence and shall be liable on conviction to a fine not exceeding \$2,000.

Obstructing Chief Executive and authorised officers.

20. Any person who —

(a) delays or obstructs the Chief Executive or any authorised officer in the exercise of his powers under this Act; or

(b) fails to facilitate by all reasonable means the entry and inspection of any premises by the Chief Executive or any authorised officer, or the examination of any fuel burning equipment, control equipment or industrial plant, or the making of any tests which the Chief Executive or any authorised officer is empowered under this Act to make, shall be guilty of an offence and shall be liable on conviction to a fine not exceeding \$5,000.

Disclosing information or trade secret.

21. Any person who discloses any information obtained by means of the exercise of powers under this Act, being information with regard to any manufacturing process or trade secret, unless the disclosure was made in accordance with the directions of the Chief Executive, or for the purpose of proceedings for an offence under this Act or any report of those proceedings, shall be guilty of an offence and shall be liable on conviction to a fine not exceeding \$2,000.

Obtaining licence by false means, etc.

22. Any person who for the purpose of obtaining, whether for himself or any other person, the grant of any licence under this Act, or for any other purpose in relation to this Act, makes any declaration or statement which is to his knowledge false in any material particular, or produces or makes use of any document which is not genuine shall be guilty of an offence and shall be liable on conviction to a fine not exceeding \$2,000.

Penalty for offences not otherwise provided for.

23. Every omission or neglect to comply with, and every act done or attempted to be done contrary to, the provisions of this Act, or any breach of the conditions and restrictions subject to, or upon which, any licence is granted under this Act shall be an offence and in respect of any such offence for which no penalty is expressly provided the offender shall be liable on conviction to a fine not exceeding \$5,000 except in the case where the act or omission charged is, in the opinion of the court before which the offender is tried, of such a nature as to amount to culpable negligence which endangered or was likely to endanger human life, then the offender shall be liable on conviction to a fine not exceeding \$10,000 or to imprisonment for a term not exceeding 12 months or to both.

Compounding of offences.

24. The Chief Executive may, in his discretion, compound any offence under this Act or any regulations made thereunder which is prescribed as a compoundable offence by collecting from a person reasonably suspected of having committed the offence a sum not exceeding \$200.

Offences by bodies of persons and by servants and agents.

25. —(1) Where an offence under this Act or any regulations made thereunder has been committed by a company, firm, society or other body of persons, any person who at the time of the commission of the offence was a director, manager, secretary or other similar officer or a partner, of the company, firm, society or other body of persons or was purporting to act in such capacity shall be deemed to be guilty of that offence unless he proves that the offence was committed without his consent or connivance and that he exercised all such diligence to prevent the commission of the offence as he ought to have exercised, having regard to the nature of his functions in that capacity and to all the circumstances.

(2) Where any person would be liable under this Act to any punishment, penalty or forfeiture for any act, omission, neglect or default, he shall be liable to the same punishment, penalty or forfeiture for every such act, omission, neglect or default of any clerk, servant or agent, or of the clerk or servant of the agent provided that the act, omission, neglect or default was committed by the clerk or servant in the course of his employment or by the agent when acting on behalf of that person or by the clerk or servant of that agent when acting in the course of his employment in such circumstances that had the act, omission, neglect or default been committed by the agent his principal would have been liable under this section.

Forfeiture of radioactive materials or irradiating apparatus on conviction.

26.—(1) Where any person is convicted of any offence under this Act or any regulations made thereunder in relation to any radioactive material, the court may, in addition to imposing any penalty under the provisions of this Act or any regulations made thereunder, order that all radioactive materials in respect of which the offence was committed shall be forfeited to the Authority.

(2) Where any person is convicted of any offence under section 8, the court may, in addition to imposing any penalty under the provisions of this Act or any regulations made thereunder, order that the irradiating apparatus in respect of which the offence was committed shall be forfeited to the Authority.

(3) All radioactive materials and every irradiating apparatus forfeited under subsection (1) or (2) shall be disposed of in such manner as the Chief Executive may direct.

(4) There shall be a right of appeal from every order made by the court under this section.

Protection of persons acting under this Act.

27. Any person who does any act in pursuance or intended pursuance of any of the provisions of this Act or any regulations made thereunder shall not be subject to any civil or criminal liability in respect thereof, whether on the ground of want of jurisdiction, mistake of law or fact, or any other ground, unless he has acted in bad faith or without reasonable care.

Fees, charges, etc., collected by Chief Executive or authorised officer to be paid to Authority

27A. All fees, charges and other moneys recovered or collected by the Chief Executive or an authorised officer under this Act or any regulations made thereunder (including sums collected for the composition of offences under section 24) shall be paid to the Authority.

Regulations.

28. The Minister may from time to time make such regulations as may in his opinion be necessary or expedient for giving full effect to the provisions of this Act and for the due administration thereof and, in particular, may make regulations for or with respect to —

- (a) the form and manner of applying for and granting, and the fees for licences and renewals thereof, and the matters to be taken into consideration in respect of any application for or for the renewal of a licence or in respect of any proposal to suspend or cancel a licence;
- (b) the granting of different classes or types of licences under this Act;
- (c) the form of the registers to be kept under this Act;
- (d) regulating the sale, purchase or manufacture of, or the dealing with, any radioactive substance and irradiating apparatus;
- (e) regulating the transport, storage, use and disposal of any radioactive substance and irradiating apparatus;
- (f) preventing injury by radiations to any person;
- (g) securing the safe disposal of any radioactive waste products resulting from the manufacture, production, treatment, storage or use of radioactive substances;
- (h) imposing requirements with respect to the construction or structural alteration of buildings used or intended to be used for the manufacture, production, treatment, storage or use of any radioactive substance, or in which irradiating apparatus is used or intended to be used;

- (i) requiring persons who are exposed or are likely to be exposed to the risk of disease due to radiation from any radioactive substance or irradiating apparatus to submit to medical examinations, including blood tests;
- (j) prohibiting the use of any prescribed radioactive substance or any prescribed class or description of irradiating apparatus either generally, or for prescribed purposes or otherwise than for prescribed purposes;
- (k) prescribing the maximum working hours and minimum age of persons engaged in the manufacture, production, treatment, storage, sale or use of radioactive substances or the use, testing or repair of irradiating apparatus, prescribing the minimum holidays to be taken by those persons, and providing for the medical examination of those persons;
- (l) prescribing personnel or area monitoring;
- (m) regulating the use of any radioactive substance for therapeutic or diagnostic purposes;
- (n) regulating the dispensing and compounding of any prescription containing any radioactive substance;
- (o) providing for the making of returns by owners of radioactive materials of the quantities and classes of radioactive materials held by team;
- (p) providing for the keeping by purchasers of radioactive substances of records specifying the purposes to which those substances are put, and for the inspection of those records, and for the making of returns of entries in those records;
- (q) providing for the keeping of records of all application of irradiating apparatus or radioactive substances for diagnostic or therapeutic purposes;
- (r) regulating the registration of mobile radioactive and irradiating laboratories;
- (s) prescribing the fees payable for services rendered by the Chief Executive; and
- (t) all matters which are required or permitted to be prescribed or which are necessary or convenient to be prescribed for carrying out or giving effect to the provisions of this Act.

Saving for other written law.

29. Nothing in this Act shall be construed as to limit or in any way affect the provisions of any other written law.

Transitional.

30.—(1) Where an application made under the Radiation Protection Act repealed by this Act (referred to in this section as the repealed Act) for the grant or renewal of a licence is still pending on 1st January 1992, it shall be deemed to have been made under a corresponding provision of this Act.

Cap. 262, 1985 Ed.

(2) A licence granted under the repealed Act which is in force on 1st January 1992 shall be deemed to be a licence granted under a corresponding provision of this Act.

(3) Any approval or consent granted or given by the Director under section 17, 18 or 20 of the repealed Act shall be deemed to be an approval or a consent granted or given by the Chief Executive under a corresponding provision of this Act.

(4) Where an appeal has been made to the Minister under section 21 of the repealed Act and the appeal has not been dealt with or disposed of immediately prior to 1st January 1992, it may be dealt with in accordance with that section as if this Act had not been enacted.